

RESEARCH REPORT

# Health Needs in the Washington Metropolitan Area

## Potential Initiatives for Investment by CareFirst

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# Contents

<b>Acknowledgments</b>	<b>iv</b>
<b>Introduction</b>	<b>1</b>
<b>Methods</b>	<b>2</b>
<b>Health, Health Care, and Social Determinants of Health across the Six Jurisdictions</b>	<b>5</b>
<b>Needs Assessments Covering the Six Jurisdictions</b>	<b>11</b>
Disparities in Access to Care and Health	11
Mental Health	13
Risk-Taking Behaviors	14
<b>Community-Based Interventions</b>	<b>15</b>
Access to Care	15
Community-Based Programs to Reduce Disparities in Chronic Disease	18
School-Based Mental Health Services	22
<b>Conclusions</b>	<b>27</b>
<b>Appendix A. Recommendations from Needs Assessments</b>	<b>28</b>
From “District of Columbia Health Needs Assessment”	28
From “District of Columbia Community Health Needs Assessment”	29
From “Health and Health Care among District of Columbia Youth”	31
From “Assessing Health and Health Care in Prince George’s County”	33
From “Transforming Health in Prince George’s County, Maryland: A Public Health Impact Study”	33
From “A Snapshot of Human Development in Alexandria: A Needs Assessment of the Alexandria Human Services System”	34
From “Strategies for Building a Healthier Arlington”	36
<b>Notes</b>	<b>37</b>
<b>References</b>	<b>38</b>
<b>About the Authors</b>	<b>41</b>
<b>Statement of Independence</b>	<b>42</b>

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# Introduction

In December 2014, the District of Columbia (DC) Department of Securities and Banking determined that the cash reserves held by CareFirst BlueCross BlueShield were “excessive” and ordered the company to spend \$56 million on community health needs in DC. Regulators estimated CareFirst’s excess reserves to be \$268 million, with about a fifth of the surplus attributable to DC and the remaining portion attributable to Maryland and Virginia. CareFirst was required to submit a plan to the DC Department of Securities and Banking to distribute the surplus applicable to DC to community health reinvestment in a fair and equitable way.

In this report, we draw on existing community health needs assessments and other public data for DC and surrounding jurisdictions in Maryland (Montgomery and Prince George’s Counties) and Virginia (Arlington County, Fairfax County, and the city of Alexandria) to identify community health needs in the area served by CareFirst. We describe the health and demographic characteristics of each area, identify community health needs and recommendations from extant sources, and provide examples of some potential types of community investments CareFirst could make.

CareFirst could invest in numerous interventions to improve the health of the communities it serves. We identified several evidence-based interventions that could be implemented to improve access to care in underserved areas, reduce disparities in chronic disease, and improve the mental health of adolescents. We focus on these particular areas because they were identified in the needs assessments across the jurisdictions. Potential investments by CareFirst should be developed in partnership with the community to ensure that they meet the most pressing needs of area residents and do not duplicate existing efforts.

# Methods

We obtained data from several sources for this report. We analyzed the health and demographic characteristics of the different areas by using both the Robert Wood Johnson Foundation's County Health Rankings and the Health Resources and Services Administration's Area Health Resource File, which draws data from more than 50 sources and contains more than 6,000 variables related to health care access at the county level. We identified 12 community health needs assessments that have been conducted since 2008 (table 1). Some of these needs assessments were conducted by health departments, others by independent contractors, and one by a hospital system. The needs assessments varied in terms of their content, with all but one containing some type of data analysis and most also including the perspective of relevant stakeholders, community perspectives, and recommendations. One of the needs assessments that we relied upon heavily for information on children is a report that was released in 2009 and is therefore less current than the others. To the extent possible, we tried to validate from other sources that the picture presented in that report is still current.<sup>1</sup> Importantly, the data available for DC were much more comprehensive than those for the other jurisdictions, in part because DC is treated as a state for the purpose of national surveys designed to produce state-specific estimates. Recommendations from seven of the needs assessments can be found in appendix A.

Based on the assessments reviewed, we focused the literature scan for possible community interventions on three health topics: access to care, disparities in chronic disease, and adolescent mental health. We conducted targeted reviews of select compilations of research on these topics. We present a selection of evidence-based interventions for each topic area to illustrate the variety of options available rather than a comprehensive catalogue of possibilities.

TABLE 1

## Community Health Needs Assessments Conducted since 2008 in the Metropolitan Washington, DC, Area

Location	Title of report	Who conducted study	Subject of study	Year of study	Analysis of data?	Stakeholder perspective present?	Community Perspective present?	Recommendations present?
District of Columbia	Health and Health Care among District of Columbia Youth	Rand	Health and health care needs of children (0-21) in DC	2009	X	X	X	X
	District of Columbia Community Health Needs Assessment	Rand	Health and health care needs of DC community	2013	X	X	X	X
	District of Columbia Community Health Needs Assessment	District of Columbia Department of Health	Health and health care needs of DC community	2014	X			X
	District of Columbia Youth Risk Behavior Survey	DC Office of the State Superintendent of Education in collaboration with DC Department of Health	Summary of results of Youth Risk Behavior Survey	2012	X			
Prince George's County	Assessing Health and Health Care in Prince George's County	Rand	Health and health care needs of Prince George's County	2009	X			X
	Transforming Health in Prince George's County, Maryland: A Public Health Impact Study	University of Maryland School of Public Health	Health and health care needs of Prince George's County	2012	X	X	X	X
	Community Health Needs Assessment Prince George's Hospital Center	University of Maryland School of Public Health, Health Services Administration	Community health needs assessment of hospital's catchment area	2012	X	X	X	X

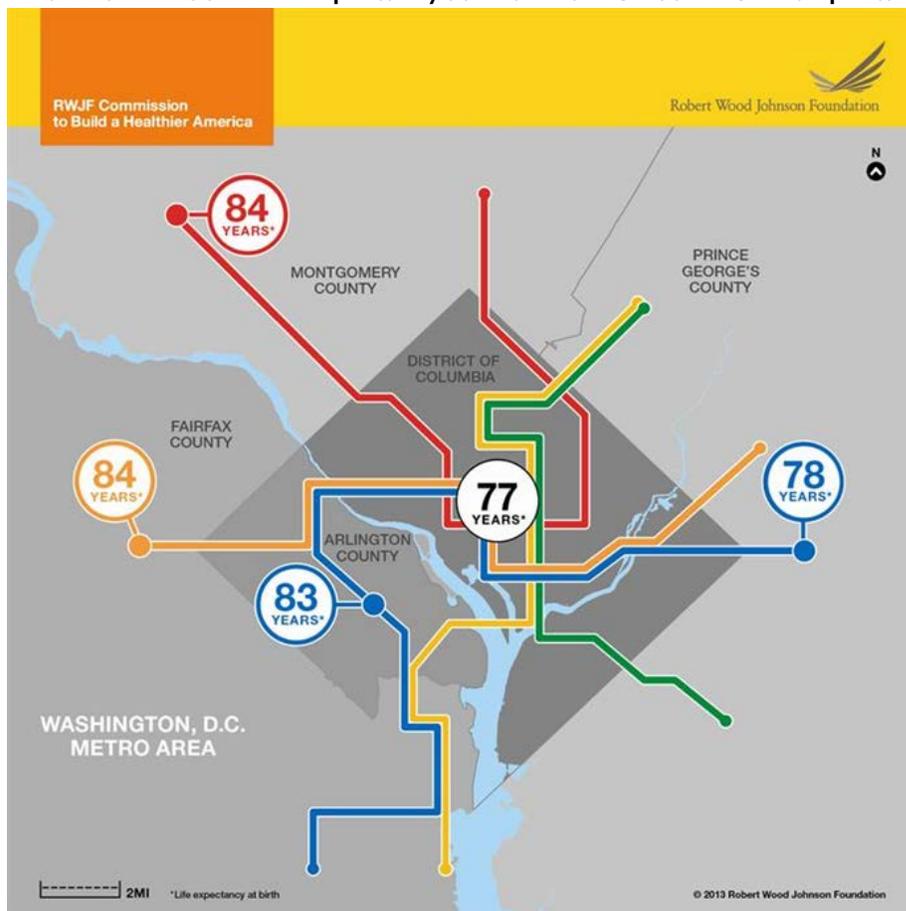
Location	Title of report	Who conducted study	Subject of study	Year of study	Analysis of data?	Stakeholder perspective present?	Community Perspective present?	Recommendations present?
City of Alexandria	Community Health Needs Assessment	Prepared for Inova Alexandria Hospital by Verite Healthcare Consulting, LLC	Health and health care needs of Alexandria	2013	X	X	X	
	A Snap Shot of Human Development in Alexandria: A Needs Assessment of the Alexandria Human Services System	Braintree Solution Consulting, Inc.	Health and health care needs of Alexandria	2008		X	X	X
Arlington County	Strategies for Building a Healthier Arlington	Arlington Division of Public Health	Health and health care needs of Arlington	2009	X	X	X	X
Fairfax County	Community Health Status Assessment Community Report	Partnership for a Healthier Fairfax	Health and health care needs of Fairfax County	2011	X			
Montgomery County	Healthy Montgomery	Montgomery Department of Health and Human Services	Health and health care needs of Montgomery County (only quantitative analysis)	2008	X			

# Health, Health Care, and Social Determinants of Health across the Six Jurisdictions

Despite their close geographic proximity, DC and its surrounding counties vary considerably in terms of health, the supply of health care providers, and the social determinants of health. As figure 1 shows, life expectancy at birth varies considerably across the area, with a life expectancy of 77 years for DC residents and 78 years for those living in Prince George's County compared to 83 years for those living in Arlington County and 84 years for residents of Fairfax and Montgomery Counties.

FIGURE 1

Metro Rail Lines and Life Expectancy at Birth in the Greater DC Metropolitan Area



Source: Robert Wood Johnson Foundation.

Similar patterns can be seen across other health outcomes, including mortality, morbidity, and health behaviors (table 2). DC and Prince George's County have much higher rates of years of potential life lost before age 75 compared to the national average; in contrast, the city of Alexandria and Arlington, Fairfax, and Montgomery Counties have far fewer years of potential life lost compared with the nation. DC and Prince George's County also have poorer birth outcomes: compared with the national average, rates of infants born at low birth weight are higher, while rates in the other jurisdictions are lower than the national average. In Prince George's County, 34 percent of all adults are obese, a rate higher than the national average and much higher than the rate for the other jurisdictions, which fall substantially below the national average of 28 percent. Physically and mentally unhealthy days among adults are somewhat higher in DC and Prince George's County than the other jurisdictions, but they are still lower than the national average.

Health behaviors also vary across the six jurisdictions. Thirty percent of adults are physically inactive nationally compared with much lower rates in the DC region, with the highest rate of inactivity in Prince George's County at 23 percent. In contrast, the share of adults who report excessive drinking is much higher in four of the six jurisdictions in the DC area compared with the nation as a whole. The lowest rates of excessive drinking are in Prince George's and Montgomery Counties at 10 and 14 percent, respectively. Smoking rates in the DC area are lower than the national average of 18 percent, with the highest rates in DC at 16 percent and the lowest in Montgomery County at 8 percent. The teen birth rate is higher than the national average in DC, the city of Alexandria, and Prince George's County, but much lower in Montgomery, Arlington, and Fairfax Counties. The violent crime rate is three times the national average in DC and almost twice that in Prince George's County, whereas the other jurisdictions have rates that are much lower than the national rate.

The health care system and extent of health insurance coverage also vary across the jurisdictions. There are about 114 primary care physicians per 100,000 people in DC and 135 in Montgomery County, but there are only 100 per 100,000 people in Fairfax County, 69 per 100,000 in the city of Alexandria, and 56 per 100,000 in Prince George's County. Similar patterns exist for dentists and mental health providers. With the exception of Prince George's County and Alexandria, provider supply relative to the population is higher than the national average in the DC metropolitan area. Although many individuals in the DC metropolitan areas cross county borders to seek health care, the large differences across the jurisdictions point to variation in access to providers. There is also variation in the share of federally qualified community health centers per 10,000 people living in poverty across the jurisdictions. DC has the highest rate at 3 per 10,000 persons in poverty, followed by the city of Alexandria at 2, and less than 1 for the other jurisdictions (data not shown).

Access to care, especially for those with low incomes, is facilitated by insurance coverage. The share of individuals under age 65 who were uninsured in the area is lower than the national average; the highest rate of uninsurance among the six jurisdictions is in Prince George's County at 14.2 percent in 2012. The lower than national rate of uninsurance is due to the high rates of employer-sponsored coverage in the area and the high rates of Medicaid coverage in DC and Maryland. Differences across the jurisdictions in uninsurance, especially among the poor, are likely to increase given that both Maryland and DC chose to expand their Medicaid program under the Affordable Care Act, but Virginia did not. This difference can be seen from the data for 2014, which reflect the early implementation phase of the Affordable Care Act.

Social and economic determinants of health also vary across the six DC jurisdictions with patterns that are consistent with the variation in health status. Generally, median household income and the share of people living in poverty in the DC metropolitan area are higher than national averages, the exception being that the share of people living in poverty in DC is higher than the national average. At the same time, the cost of living in the metropolitan areas is also higher than average, and tremendous variation exists across the jurisdictions. Median income ranges from \$107,000 in Fairfax County to just below \$70,000 in Prince George's County and DC. The share of the population living in poverty follows a similar pattern, with only 7 percent of those residing in Fairfax County living in poverty compared with 19 percent in DC. The share of the population with at least some postsecondary education is also much higher in the DC metropolitan area than in the nation, except in Prince George's County, where only 59 percent of the population has gone beyond high school in their education.

The variation in health, health care, and the social determinants of health across DC and its surrounding counties and cities points to potential places for community benefit investment. But the needs assessments reviewed for this project also show how these city- and county-level patterns can mask large disparities and areas of poor health, as well as the underlying need for community investment.

TABLE 2

## Health Outcomes and Determinants in the Greater DC Metropolitan Area

Variable	Description	DC	Montgomery County	Prince George's County	Arlington County	Fairfax County	Alexandria city	United States	Source	Year
<b>Health</b>										
Years of potential life lost rate	Years of potential life lost before age 75 per 100,000 population	8,239.14	3,524.72	7,191.66	3,387.6	3,479.85	4,620.62	6,811	National Center for Health Statistics, mortality files	2010–2012
Fair or poor health	Adults reporting fair or poor health (%)	12.2%	9.2%	12.8%	8.2%	7.4%	10.4%	12.40%	Behavioral Risk Factor Surveillance System	2006–2012
Physically unhealthy days	Average number of reported physically unhealthy days per month	2.9	2.5	2.9	2.4	2.2	2.6	3.7	Behavioral Risk Factor Surveillance System	2006–2012
Mentally unhealthy days	Average number of reported mentally unhealthy days per month	2.9	2.6	3	2.2	2.1	2.1	3.5	Behavioral Risk Factor Surveillance System	2006–2012
Low birth weight	Births with low birth weight (< 2500 g) (%)	10.5%	7.9%	10.3%	6.6%	7.0%	7.4%	8.10%	National Center for Health Statistics, natality files	2006–2012
Infant mortality	Infant mortality rate	11.30	5.80	9.90	3.90	4.60	4.70	6.62	Health Indicators Warehouse	2004–2010
Obesity	Adults reporting BMI ≥30 (%)	21.5%	18.8%	33.8%	17.5%	19.5%	20.4%	28%	CDC Diabetes Interactive Atlas	2011
<b>Health behaviors</b>										
Smoking	Adults reporting currently smoking (%)	15.7%	7.9%	13.9%	10.1%	11.1%	9.2%	18.10%	Behavioral Risk Factor Surveillance System	2006–2012
Excessive drinking	Adults reporting excessive drinking (%)	19.6%	14.2%	10.1%	18.7%	20.3%	21.8%	15%	Behavioral Risk Factor Surveillance System	2006–2012

Variable	Description	DC	Montgomery County	Prince George's County	Arlington County	Fairfax County	Alexandria city	United States	Source	Year
Teen birth rate	Teen births/females ages 15–19 * 1,000	46.45	18.84	34.16	20.13	14.61	41.17	31	National Center for Health Statistics, natality files	2006–2012
Violent crime rate	Violent crimes/population * 100,000	1259.42	181.80	624.17	150.29	89.96	180.35	387	Uniform Crime Reporting, FBI	2010–2012
Physically inactive	Adults reporting no leisure-time physical activity (%)	17.5%	17.0%	22.8%	13.9%	15.2%	15.3%	30.0%	CDC Diabetes Interactive Atlas	2011
<b>Health systems</b>										
Primary care provider rate	(number of primary care providers/population)* 100,000	113.9	135.0	56.2	69.7	99.6	69.0	73.8	Area Health Resource File/American Medical Association	2012
Dentist rate	(number of dentists/population)* 100,000	116.5	115.2	58.4	55.6	93.5	73.2	60.1	Area Health Resource File/National Provider Identification file	2013
Mental health provider rate	(number of mental health providers/population)* 100,000	420.3	264.0	105.8	125.4	145.4	253.9	132.8	CMS, National Provider Identification file	2014
Federally qualified health center rate	Number of federally qualified health centers/100,000 poor population	31.3	6.0	5.5	5.6	1.5	23.4	12.6	Area Health Resource File	2013–2014
<b>Access to care</b>										
Uninsured	People 18–64 in 2012 without insurance (%)	7.8%	16.8%	21.1%	13.9%	17.2%	17.7%	20.6%	American Community Survey	2012
Uninsured	People 18–64 in 2014 without insurance (%)	6.7%	13.7%	17.5%	10.6%	13.4%	17.7%	16%	American Community Survey	2014

Variable	Description	DC	Montgomery County	Prince George's County	Arlington County	Fairfax County	Alexandria city	United States	Source	Year
<b>Socioeconomic determinants</b>										
Household income	Median household income (\$)	65,231	94,365	69,258	99,255	106,690	80,942	51,939	Area Health Resource File	2013-2014
Poverty rate	People with incomes at or below federal poverty level (%)	18.8%	6.6%	10.3%	8.0%	6.0%	8.6%	14.5%	Area Health Resource File	2013-2014
Income ratio	Ratio of household income at 80th percentile to income at 20th percentile	6.95	4.18	3.67	3.96	3.79	4.03	4.60	American Community Survey	2009-2013
Some college	People 25-44 with some postsecondary education (%)	78.5%	76.9%	59.3%	88.0%	79.7%	81.6%	63%	American Community Survey	2009-2013

Source: County Health Rankings and Area Health Resource File.

Notes: BMI = body mass index; CDC = Centers for Disease Control and Prevention; CMS = Centers for Medicare and Medicaid Services; DC= the District of Columbia; g = grams.

# Needs Assessments Covering the Six Jurisdictions

We reviewed 12 needs assessments covering DC and its surrounding counties that were written between 2008 and 2014. Our review revealed a variety of concerns that were consistent across jurisdictions. In particular, we found extensive discussion relating to disparities in access to care and health outcomes based on race, place, and insurance status; unmet need for mental health services; and high rates of risky behaviors that affect health. Here, we summarize findings in each of these three areas.

## Disparities in Access to Care and Health

Many of the health statistics presented above mask substantial variation, within cities and counties, between different groups of people. Residents of the DC metropolitan area experience vastly different levels of access to care, rates of chronic disease, health outcomes, and life expectancies. In this section, we describe how these indicators vary by residents' race, their location, and their insurance status based on the needs assessments that were reviewed.

### Disparities by Race

Racial and ethnic health disparities can be seen across the DC region, most notably in life expectancy, which in DC varies from 68.8 years for black males to 85.2 years for non-Hispanic white women and 88.9 years for Hispanic women (District of Columbia Department of Health 2015).

Disparities in life expectancy are mirrored in other health conditions throughout the area. In many cases, these disparities begin at birth or in childhood and grow throughout the life course. For example, low birth weight and infant mortality rates are higher in nonwhite populations in Alexandria and DC. Rates of childhood and adult overweight and obesity are significantly higher among blacks in DC compared with other racial and ethnic groups. Nearly two-thirds of DC's black residents are overweight or obese, compared with 40 percent of the white population. Black residents also report lower levels of vigorous exercise. DC's black residents have higher rates of heart disease, arthritis, chronic obstructive pulmonary disease, and asthma compared with white residents (Chandra, Blanchard, and Rudder 2013).

Compared with the United States as a whole, the disparity in cancer incidence between blacks and whites is wider. Overall cancer incidence was 59 percent higher among black residents compared with white residents in DC, but it was only 11 percent higher across the United States. Furthermore, needs assessments in DC and Alexandria found mortality rates for certain cancers to be higher for black residents than white residents. A needs assessment in Alexandria, for example, found black residents had higher mortality rates for chronic liver disease and cirrhosis than whites. These findings suggest black residents are not receiving appropriate screening and preventive care or are not accessing treatment to the same extent as other racial groups.

## Disparities by Place

Where people live can have a major impact on their health, as evidenced by the findings in the needs assessments we reviewed. Issues with access to care, the prevalence of chronic disease, insurance coverage, and access to other resources vary by wards within DC and each county. In DC, infant mortality rates are highest in Wards 5 and 8. Residents of Wards 7 and 8 have higher rates of obesity, heart disease, and diabetes compared with other wards. District residents in 10 zip codes (in Wards 1, 4, 5, and 8) account for 83 percent of hospital discharges in DC but a little less than half of the population (District of Columbia Department of Health 2015). Access to healthy food options also varies by ward. Fewer than 10 percent of DC grocery stores are located in Wards 7 and 8, even though 50 percent of the city's youth live there (Chandra et al. 2009).

In Prince George's County, the most serious primary care shortages are located within the beltway and in the southernmost regions of the county. Furthermore, analysis in Prince George's County indicates that in the areas where the supply of primary care providers is lower, the rates of hospital admissions for myocardial infarction and asthma are higher (University of Maryland School of Public Health 2012). In Alexandria around Mount Vernon and Fort Belvoir, residents who rely on Medicaid or who are uninsured have difficulty finding specialty care, and they also face barriers accessing care due to transportation difficulties. In addition, there is a lack of affordable food options in these areas (Verite Healthcare Consulting 2013). In West Alexandria, Lincolnia/Bailey's Crossroads, and Mount Vernon, areas with high shares of black and Hispanic residents and people living in poverty, there are relatively higher rates of uninsurance.

Most of the needs assessments examined identified access to care as a concern. For example, 12 percent of parents in DC had difficulty obtaining specialist care for a child, versus 8 percent nationally, with the greatest difficulty in Ward 7 (31.5 percent). In particular, parents noted difficulty accessing

dental care, mental health care, and developmental assessments. Mental health care providers are especially lacking east of the Anacostia River in Wards 7 and 8. Among children who are publicly insured in DC, rates of office-based health care use (such as seeing a primary care physician) were below national rates (Chandra et al. 2009).

## Disparities in Insurance Status

Insurance affects an individual's ability to access health services for both the prevention and treatment of disease. As mentioned above, uninsurance rates are relatively low in DC (7.7 percent) compared with the nation (18 percent) (District of Columbia Department of Health 2015). Nonetheless, there are significant racial/ethnic disparities in coverage. Black residents in DC are three times more likely than white residents to be uninsured (Chandra, Blanchard, and Rudder 2013). Unsurprisingly, uninsured individuals were more likely to report having no regular source of care, and they were less likely to get preventive services such as cancer screenings.

## Mental Health

As is the case nationally, there is a clear need for expanded mental health services across DC and its surrounding counties, especially for children. In DC, 72 percent of adolescents in Medicaid managed care diagnosed with depression had an unmet need for depression care (Chandra, Blanchard, and Rudder 2013). Among children in DC enrolled in Health Services for Children with Special Needs (a health, social, and educational care management program that is part of DC's Medicaid program), one-third of those with episodic mood disorder, three-fourths of those with an emotional disturbance, two-thirds of those with developmental or adjustment disorders, and more than half of those with depressive disorders did not have a mental health visit during the prior year (Chandra et al. 2009). Among DC high school students, self-reported rates of attempted suicide are double the national average (District of Columbia Department of Health 2015). In Prince George's County, two of every five children ages 6 through 19 experienced one or more mental health risks (such as anxiety, difficulty sleeping, or depression) (Chandra et al. 2009). Fairfax County students have depression and suicide contemplation rates higher than the national rates, and suicide is the leading cause of death among youth there (Partnership for a Healthier Fairfax 2011). One in 14 Montgomery county adolescents reports having a major depressive episode in the past year (Montgomery County Department of Health and Human Services 2011).

In DC, 60 percent of adults enrolled in Medicaid managed care with a diagnosis of depression have an unmet need for depression care (Chandra, Blanchard, and Rudder 2013). Additional unmet needs for mental health services are seen in both Prince George's County and Alexandria (University of Maryland School of Public Health 2012; Verite Healthcare Consulting 2013). Arlington now connects individuals with mental health and/or substance abuse problems coming into the criminal justice system with the appropriate social services (Verite Healthcare Consulting 2013).

## Risk-Taking Behaviors

Smoking is less common in DC than nationwide: 15.7 percent of DC residents are smokers compared with 18 percent nationally. In contrast, rates of binge drinking (25 percent) and heavy drinking (18 percent) in DC are higher than those of the rest of the country (10 and 6 percent, respectively; Verite Healthcare Consulting 2013). Nearly one-quarter of Fairfax County 12th graders reported binge drinking in the last two weeks (Partnership for a Healthier Fairfax 2011). The city of Alexandria and Fairfax County reported high rates of heavy drinking in the community compared with that of the United States (Verite Healthcare Consulting 2013). Racial differences also exist in substance use behaviors: more white residents report binge or heavy drinking compared to black residents (Chandra, Blanchard, and Rudder 2013).

Violence is another public health problem in DC that manifests through various health outcomes. The violent crime rate is considerably higher than surrounding counties and nearly four times higher than the national average. The homicide rate is also significantly higher than national averages. Although homicides in DC reached a record low in 2012, the number of homicides increased substantially in 2013 and 2014, and the 2014 rate was surpassed in August 2015. Further, 15 percent of high school students in 2015 reported intimate partner violence in the past 12 months compared to 9 percent nationwide (Chandra, Blanchard, and Rudder 2013).

# Community-Based Interventions

In this section we present evidence-based interventions that could be considered as investments to begin to address issues of access to care in targeted geographic locations, disparities in chronic disease, and adolescent mental health. We do not try to present a comprehensive strategy for addressing the problems identified in the needs assessments that we reviewed. Rather, we present a sampling of the types of community-based interventions that could be first steps along the path of addressing the needs of the communities served by CareFirst.

When selecting an intervention, CareFirst could consider initiatives that are evidence based or contribute to an evidence base; that target populations early in life; that invest in efforts that respect and advance the community's own priorities; and that invest in people, places, or systems that have been traditionally underserved or unattended.<sup>2</sup> As these and other interventions are considered for implementation, it will be critical that the interventions are designed to foster stability and continuity at the neighborhood and community level and to transform and/or bridge major service systems, including nonhealth systems. Finally, consistent with recommendations for community health improvements, any investments made should include a planning process that involves the community and the implementation of a system of monitoring and evaluation so that innovative efforts that are successful become part of the evolving evidence base (Rosenbaum 2013).

## Access to Care

The relatively high rates of insurance coverage in the DC metropolitan area help ensure access to care for many of the area's residents. The Affordable Care Act greatly expanded health insurance coverage for low- and moderate-income individuals, which should improve access for those who were previously uninsured. Although Maryland and DC opted to expand their Medicaid program to cover adults under the Affordable Care Act, Virginia did not, which leaves most poor residents in that state without access to coverage. But even with insurance coverage, access can still be problematic for those in areas where there are few providers, or where few providers accept Medicaid or other types of insurance coverage. In this section, we focus on interventions that can improve access to care in underserved areas by increasing provider supply through scholarship and loan repayment and through the use of community health workers. These types of interventions could increase access to care for individuals in the community who are covered by CareFirst as well as those who are not.

## Scholarships and Loan Repayment

One of the main strategies for addressing shortages of health care providers is to offer scholarships or loan forgiveness to providers who practice in underserved areas. Physicians, dentists, certified nurse midwives, nurse practitioners, and physician assistants are eligible for scholarships through the National Health Services Corps in return for service after graduation at specified sites located in underserved areas. In addition, loan repayment programs are available to licensed primary care physicians, dentists, and mental and behavioral health providers in exchange for service at a National Health Services Corps site. Both DC and Maryland have their own loan repayment programs with specific requirements and different repayment strategies. The state of Virginia does not have one of these programs at this time.

A 2009 review found evidence to suggest that financial incentives such as loan repayment and other incentives, for physicians and other providers can be effective at increasing the supply of providers in underserved areas (Bärnighausen and Bloom 2009). The review included 43 studies, 34 of which were conducted in the United States, and all of which were observational. The authors concluded that US financial incentive programs have resulted in increasing the number of providers in underserved areas and that program participants were more likely than nonparticipants to work in underserved areas in the long run. However, several studies found that physicians obligated to a financial-incentive program were more likely to leave their assigned site at the conclusion of their obligation, compared to “nonobligated” physicians working in comparable areas.

Another study evaluated the effects of all 69 state programs operating in 1996 that provided financial support to medical students, residents, and practicing physicians in exchange for practicing with certain underserved populations. The study compared scholarships, service-option loans, loan repayment, direct financial incentives, and resident support programs and found that physicians who received loan repayment and/or direct incentives were significantly more likely than a control population to practice in underserved areas. Additionally, retention of a practice in an underserved area was slightly higher in this group compared to nonobligated physicians (Pathman et al. 2004). Another study found that 48 percent of surveyed students reported they would be more likely to return to their home state if loan repayment programs were available in areas of need (Miller and Crittenden 2001).

In related research, several studies found that programs that focused on recruiting providers who were from rural or urban underserved areas themselves, paired with providing rotations in these types of settings and (in some cases) modest financial support, were associated with an increased likelihood

that a graduate would choose to practice in those areas (Halaas et al. 2008; Ko et al. 2005; Rabinowitz et al. 1999).

Targeted investments in scholarships or loan repayment programs in exchange for service in identified underserved areas could improve access to care in areas identified as having provider shortages. Investments such as these could be done either through a new program or possibly in conjunction with the DC and Maryland programs. Scholarships to physicians and other health professionals beginning their training will take time to produce providers that can be placed in underserved areas. However, loan repayment programs can be used to place eligible providers at health facilities in underserved areas that are currently recruiting providers.

## **Community Health Workers**

Given the health workforce shortage in rural and underserved urban communities, some policymakers and health care providers are using nonphysician health care workers to provide preventive and other basic care, with the intention to prevent costlier care later. One example of this concept is the idea of using “community health workers” to conduct a range of activities with community members including basic health services, preventive care, interpreter services, and health education. Community health workers typically come from the community they aim to serve and have a deep understanding of local strengths and needs. Wide variation in the type of services provided renders controlled evaluations difficult, but there is some evidence to suggest that community health workers can be effective tools in addressing unmet need in certain areas.

For example, studies in urban populations found that community health workers were effective in promoting decreased exposure to indoor asthma triggers (Krieger et al. 2005), increased pap smear screening rates and cervical cancer knowledge (O’Brien et al. 2010), control of hypertension (Brownstein et al. 2005), and increased receipt of mammograms (Wells et al. 2011). Several studies indicated that use of community health workers could result in cost savings by, for example, optimizing health care use by preventing avoidable urgent care (Krieger et al. 2005; Whitley, Everhart, and Wright 2006). A systematic review of 75 studies suggested that community health worker interventions have the potential to achieve positive health outcomes and/or cost savings, especially for socially or linguistically isolated populations, including Asian Americans, Native Hawaiians, and Pacific Islander communities (Islam et al. 2015).

However, other studies failed to produce clear evidence that community health workers were associated with desirable outcomes. A systematic review of 53 studies related to outcomes and costs of community health worker interventions found 5 studies that suggested community health worker interventions increased knowledge among target populations, and there was only low to moderate evidence that the interventions increased appropriate health care use (Viswanathan et al. 2010). Another review concluded that although community health worker interventions have the potential to support increased knowledge, behavioral change, and ultimately improve outcomes, there is a need for better documentation and further studies (Swider 2002).

Overall, community health worker interventions seem to show promise for increasing knowledge and improving certain health behaviors, but more systematic research is needed to elucidate their effectiveness in improving health outcomes and their potential to address certain aspects of workforce shortages. Designing and testing targeted community health worker programs in areas of need could serve to improve access to care, health behaviors, and/or health outcomes, and it could also build the evidence base for community health workers. Given DC's high rates of chronic disease and mortality from cancer, community health worker programs that target cancer screening could be a good investment. These types of programs could be beneficial to both CareFirst enrollees and other community residents not enrolled in CareFirst.

## Community-Based Programs to Reduce Disparities in Chronic Disease

The needs assessments pointed to disparities in cardiovascular disease, obesity, and diabetes prevalence by race. Cardiovascular disease, the leading cause of death in this country, disproportionately affects blacks and Hispanics. Risk factors for cardiovascular disease include high blood pressure, high cholesterol, and smoking, as well as obesity, diabetes, and poor diet. Interventions targeted at minority and other communities with a high risk of cardiovascular disease and its causes could reduce disparities in disease risk, prevalence, and consequences. We present three options that were highlighted in *A Compendium of Proven Community-Based Prevention Programs* (New York Academy of Medicine and Trust for America's Health 2013). These options, described below, are consistent with recommendations from the "Chronic Disease Prevention State Plan for the District of Columbia 2014-2019" (District of Columbia Department of Health 2014) and the "Prince George's County Health Improvement Plan 2011 to 2014" (Prince George's County Health Department 2011).

## Shape Up Somerville

Obesity is a significant risk factor for cardiovascular disease and diabetes. Moreover, children who are obese are at risk for cardiovascular disease in childhood and obesity in adulthood. Shape Up Somerville is an example of a comprehensive community-based program in Somerville, Massachusetts, that targeted children in first through third grade.<sup>3</sup> It is a multisector initiative that included a Healthy Eating and Active Time curriculum that was incorporated into school and after-school curricula, changes in the food services provided in schools (which the city later funded with a federal grant), parent and community outreach, school nurse education, the development of a walkability and safe routes to school program (funded by the Robert Wood Johnson Foundation), and a healthy restaurant approval rating system.

Shape Up Somerville was initially implemented in one community, and researchers used two similar cities in Massachusetts to track progress over time between the intervention and comparison cities. After the first year of the intervention, there was a 0.10 reduction in the BMI-z score for children in Somerville relative to the comparison cities, which translates to about a one-pound relative reduction in weight gain for a child at the 75th percentile of weight and 50th percentile of height (Economos et al. 2007). In the second-year study, there was a 0.06 reduction in BMI-z scores for children in the intervention communities and a reduction in the prevalence of being overweight or obese (Economos et al. 2013). There is also some evidence that Shape Up Somerville was associated with a reduction in BMI for parents of children targeted by the program (Coffield et al. 2015). After the study was completed, the city of Somerville adopted the program and it has evolved over time.

The results of Shape up Somerville are consistent with the findings of a Cochrane review on interventions for preventing obesity in children (Waters et al. 2011). The review examined 55 studies and suggested that many of the attributes of Shape Up Somerville held promise for reducing childhood obesity. Promising practices included school curriculum on healthy eating and physical activity, increased sessions for physical activity during the school week, improvements in the quality of food served in schools, practices to support and encourage healthy eating and being active during the day, support for school employees to implement health promotion strategies, and parent support and home activities. Some element of each of these practices was a key component of Shape Up Somerville.

## Diabetes Prevention Program

Twelve percent of adults 20 years of age and older have diabetes, and another 37 percent are prediabetic (Centers for Disease Control and Prevention 2014). The Diabetes Prevention Program was a multicenter randomized controlled trial conducted at 27 medical clinics across the country. Individuals who were at high risk for diabetes (having a BMI of 24 or over and elevated but prediabetic levels of glucose) were randomly assigned to receive a placebo twice daily plus standard lifestyle recommendations, metformin (an oral diabetes medication) twice daily plus standard lifestyle recommendations, or an intensive program of lifestyle modification. The goals of the intensive program of lifestyle modification were to achieve and maintain a weight reduction of at least 7 percent of initial body weight through a low-fat, low-calorie diet and engagement in moderate physical activity, such as brisk walking for 150 minutes per week. The program included a 16-lesson curriculum covering diet, exercise, and behavior modification. The curriculum was taught one on one by case managers in the first six months after enrollment in the program, and both individual (monthly) sessions and group sessions with case managers were provided over time to encourage and reinforce behavior change.<sup>4</sup>

Results of the clinical trial found that the cumulative incidence of diabetes over an average of 2.8 years was 11.0 percent for individuals who received the placebo, 7.8 percent for those who received metformin, and 4.8 percent for those who received the lifestyle intervention over the course of the study. The incidence of transitioning to having diabetes from a pre-diabetic state was 58 percent lower in the lifestyle intervention compared to the placebo intervention. Participants who were assigned to the lifestyle intervention also had greater weight loss and greater increases in leisure physical activity than those who received either metformin or the placebo (Knowler et al. 2002). There was a similar reduction in mean fasting glucose and having normal fasting glucose levels for the metformin and lifestyle-intervention groups relative to the placebo. The lifestyle intervention was more effective than the metformin and placebo interventions in restoring normal postload glucose levels.

The lifestyle intervention program has been tested in other settings (Jackson 2009). For example, the protocol was modified to include group-based instead of individual-based education in urban medically underserved communities, with similar cost-effective results (Piatt et al. 2012; Seidel et al. 2008). In 2013, the Diabetes Prevention Program was being offered for a modest cost through 92 YMCAs at 614 locations in 36 states.

## Cardiovascular Health Awareness Program

The Cardiovascular Health Awareness Program (CHAP) was an intervention tested in 39 medium-sized communities in Ontario, Canada. Communities were randomly assigned to participate in CHAP or to have no intervention. CHAP consists of a 10-week period during which three-hour blood pressure and cardiovascular risk assessments and education sessions are conducted at pharmacies in each community. The focus of the program was on people age 65 and older, but individuals of all ages could participate. Volunteers administered blood pressure tests to participants who attended sessions and screened them for other chronic diseases. Results from these tests were shared with participants and (with participants' consent) with their physicians. Volunteers also supported participants in self-management by reviewing their risk assessment with them; providing education materials specific to their risk profile, including information about modifiable risk factors; and giving them information about and referring them to local resources.<sup>5</sup> A community health nurse was on call for each of the sessions to assess individuals with very high or very low blood pressure on site.

CHAP was implemented through local organizations that bid to take the lead to coordinate the intervention in each community. Local lead organizations included senior centers and hospitals, as well as community support organizations. Physicians and pharmacies in the intervention communities were asked to participate by the local lead organization. For pharmacies, participation meant hosting the CHAP sessions and having a pharmacist available for support. For physicians, participation meant reaching out to patients 65 years of age and older in their practice through mailings and other avenues to encourage them to attend a CHAP session. The local lead organization also recruited and trained the peer volunteer who conducted the training sessions.

The evaluation of CHAP focused on reductions in hospital admission rates of patients with a primary diagnosis of acute myocardial infarction, congestive heart failure, or stroke and a composite measure of all three admission diagnoses for residents age 65 and older in the intervention communities compared to rates in communities without the intervention (Kaczorowski et al. 2011). After adjustment for rates of admission in the year before the intervention, exposure to CHAP was associated with a 9 percent relative reduction in the composite measure of admissions, a 13 percent relative reduction in admissions for acute myocardial infarction, and a 10 percent relative reduction in admissions for congestive heart failure. There was also a 10 percent relative increase in the start of antihypertensive treatments, but no reduction in admissions due to stroke.

## School-Based Mental Health Services

Given the extensive mental health needs of school-aged children both nationally and in the DC metropolitan area, efforts within schools to improve the mental health of students can be a powerful lever for improving the overall health of a community. Research spanning the past 20 years consistently demonstrates the positive impacts on educational and mental health outcomes of efforts that integrate mental health services into schools. Outcomes include improvements in behavioral and emotional symptoms, as well as increases in social competency, standardized reading and math test scores, commitment to school, school attendance, and grade point average. School-based mental health programs may also help improve service access and use. Equally importantly, all students can benefit from interventions that promote social, emotional, and behavioral health, foster a positive school climate, and prevent school violence and dropout (Reinke, Herman, and Jalongo 2012).

As recognition of the need for school-based mental health services grows, so too has the vision for what these services should include and might look like in context. Weist and Murray (2008) argue for an expanded model of school mental health services based on equitable partnerships between schools, communities, and families: “[School mental health] provides a full continuum of mental health promotion programs and services in schools, including enhancing environments, broadly training and promoting social and emotional learning and life skills, preventing emotional and behavioral problems, identifying and intervening in these problems early on, and providing intervention for established problems. School mental health promotion programs should be available to all students, including those in general and special education, in diverse educational settings, and should reflect a shared agenda—with families and young people, school and community partners actively involved in building, continuously improving, and expanding them.”

The Substance Abuse and Mental Health Services Administration maintains a National Registry of Evidence-Based Programs and Practices (NREPP) that includes hundreds of programs and is designed to provide the public with reliable information on mental health and substance abuse interventions. All entries meet NREPP’s minimum requirements for review, and the programs effects on individual outcomes are independently assessed and rated by certified NREPP reviewers. A number of the programs in NREPP’s registry look promising for DC given its high rates of depression and risky behavior among school-aged youth. Here we present three interventions, all of which are school-based and have a high research quality rating by NREPP (3 or 4 on a scale of 1 to 4).

## Interpersonal Psychotherapy for Depressed Adolescents

Interpersonal psychotherapy for depressed adolescents (IPT-A)<sup>6</sup> is a short-term, outpatient treatment intervention that focuses on the current interpersonal problems of adolescents ages 12 to 18 years with mild to moderate depression severity. IPT-A is delivered by a therapist in school-, community-, or hospital-based outpatient clinics over a 12-week period (weekly sessions last between 35 and 50 minutes). An experimental study that randomly assigned adolescents to IPT-A or “usual care” in five school-based health clinics found that at 16 weeks the students who had received IPT-A were significantly less likely to be depressed and enjoyed higher overall levels of mental health and social functioning.

## Coping and Support Training

Coping and support training (CAST)<sup>7</sup> is a high school-based suicide prevention program for youth ages 14 to 19. CAST provides life-skills training and social support in small groups of six to eight students. Twelve sessions lasting 55 minutes each are led by trained high school teachers, counselors, or nurses with extensive school-based experience. CAST has three overall goals—increased mood management for depression and anger, improved school performance, and decreased drug involvement—and is a follow-up program for youth who have been screened as being at high risk for suicide. The sessions themselves focus on group support, goal setting and monitoring, self-esteem, decision-making skills, managing anger and depression, “school smarts,” and controlling drug use and relapse. A randomized control study of CAST found significantly greater declines relative to usual care in two of the four suicide risk factors: depression symptoms, feelings of hopelessness, anxiety in females, and anger and drug problems. The study also documented significant increases in problem-solving and coping skills.

## Project ALERT

Project ALERT<sup>8</sup> is a school-based prevention program for middle-school students focusing on alcohol, tobacco, and marijuana use. Its goal is to prevent nonusers from experimenting with these drugs and to prevent students who are already experimenting from becoming more regular users or abusers. The program consists of 11 lessons in the first year and 3 lessons in the second year, with small-group activities, question-and-answer sessions, role playing, and rehearsing new skills. The lessons are designed to help students understand the consequences of drug use, recognize the benefits of nonuse, build norms against use, and identify and resist prodrug pressures. Several randomized controlled trials

have found that Project ALERT has lasting positive outcomes for students from a variety of socioeconomic backgrounds who were at low, moderate, or high risk for alcohol, tobacco, or marijuana use. Both attitudes and resistance skills related to alcohol, tobacco, and other drugs increased significantly.

## Multi-Tiered Systems of Support

In addition to specific interventions such as those described above, two important clusters of school-based interventions are evolving in the field: positive behavioral interventions and supports and socioemotional learning efforts. The two are especially effective when deployed in combination with one another (Cook et al. 2015), but as with many evidence-based programs, a great deal of care must be given to how they are implemented (Fixsen et al. 2005; Kutash, Duchnowski, and Lynn 2006). Positive behavioral support is a general term that refers to the application of behavioral analysis to achieve functional behavior changes; positive behavioral interventions and supports are often based on functional behavioral assessments and involve long-term strategies designed to reduce inappropriate behavior, teach more appropriate behavior, and provide supports necessary for successful outcomes. When implemented properly, positive behavioral interventions and supports set the stage for schools to provide and connect individual students with a variety of other specific mental health services, such as SPARCS (structured psychotherapy for adolescents responding to chronic stress), mental health first aid, trauma-focused cognitive behavioral therapy, multisystemic therapy, and functional family therapy.<sup>9</sup> Ensuring there are trained providers in the community who are willing and able to deliver these services is, of course, critical to making sure that young people receive the care they need. Schools need to work with the health care system to ensure these providers are available and to help connect them with students and families. Consequently, these types of interventions would require partnerships with school districts and individual schools but also with appropriate mental health providers.

Originally an alternative to traditional behavioral approaches for students with severe disabilities who engaged in extreme forms of self-injury and aggression, positive behavioral interventions and supports are now used both schoolwide for all students (tier 1) as well as for groups of students identified for more targeted prevention programs (tier 2) and for individual students for whom specific intervention is clearly indicated (tier 3). Schoolwide interventions include things like evaluating the school environment—classrooms, hallways, cafeteria—to determine where and when problems are likely to occur; creating strategies to prevent identified problems; teaching all students rules and routines to encourage desirable behavior; responding to inappropriate student behavior with

correction and reteaching procedures; establishing behavior support teams to monitor the effectiveness of prevention strategies; and using data collection (direct behavioral observation, office discipline referrals, interviews with staff and family members) and analysis to identify students who are at risk for school failure and other behavioral problems. More intensive, individualized interventions include drawing on functional behavioral assessments to monitor and modify behavior plans as necessary (the responsibility of behavior support teams); ensuring that all adults in the school understand what skills these students are learning so that all settings in the school environment can be arranged in ways that reduce problem behavior and encourage appropriate behavior; and delivering effective instructional strategies, aggression replacement training, counseling, and classroom supports. Students with chronic or intense behavioral problems might also receive “wraparound” services that coordinate services and input from home, community, and school. Box 1 lists specific evidence-based programs for the three tiers.

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#### BOX 1

##### **Evidence-Based Programs for Tiers 1 to 3**

Tier 1, promotion/universal: Good Behavior Game, PATHS to PAX, Social and Emotional Foundations of Early Learning (SEFEL), Olweus Bullying Prevention

Tier 2, prevention/selected: Coping Power, FRIENDS for Youth/Teens, The Incredible Years, Second Step, SEFEL and DECA Strategies and Tools, Strengthening Families Coping Resources Workshops, PracticeWise

Tier 3, intervention/indicated: cognitive behavioral intervention for trauma in schools, Coping Cat, trauma-focused CBT, interpersonal therapy for adolescents (IPT-A), PracticeWise

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The research base for positive behavioral interventions and supports is still evolving (Horner, Sugai, and Timothy 2015). The field has a bold vision for what needs to be done, and lists of evidence-based practices, available through registries (e.g., NREPP, discussed above) and other sources (e.g., Blueprints for Healthy Youth Development and Office of Juvenile Justice and Delinquency Prevention Programs) are growing. In practice, however, efforts have been incomplete and unsustainable, and the impacts short-term and narrow in spread. These results are in part because schools lack a formal implementation structure, do not make use of data to drive their planning and activities, and have tier 1 services (universal mental health promotion) that are disconnected from tier 2 and tier 3 services. In short, schools are often at a loss with respect to selecting, implementing, and monitoring tiered

programs, and therefore miss out on important opportunities to intervene effectively with students and staff.

## **Interconnected Systems Framework**

To overcome these limitations, an interconnected systems framework provides schools with a structure and process for installing mental health services within schools. Key stakeholders in education and mental health systems must have the authority to reallocate resources, adopt new policies, and change the roles and functions of staff. Together they use data to determine which evidence-based practices are needed, at what levels, and for which students. They monitor progress for both fidelity and impact, and actively involve youth, families, and other school and community stakeholders.<sup>10</sup>

# Conclusions

Residents of DC and its surrounding counties have better health, on average, than the nation as a whole. At the same time, profound unmet needs were identified in DC and in the surrounding counties of Maryland and Virginia. Some of these needs are broad based: the area has higher than average rates of alcohol and substance abuse, teenagers have high levels of depression and suicidal ideation, and access to a broad range of mental health services is in short supply for certain populations. There are also large disparities in both access to care and health based on where people live, the source of their insurance coverage, and their race/ethnicity. These disparities affect those who are covered by CareFirst and many who are not. CareFirst has an opportunity to make a substantial contribution to improving the health of residents of the national capital area.

In writing about the Affordable Care Act's community health needs assessment provisions, Rosenbaum (2013) points to principles necessary to affect community health improvement that are relevant to CareFirst as it considers potential investments. She argues that investments should include multisector collaborations that support shared ownership of all phases of community health improvement; proactive, broad, and diverse community engagement; a broad definition of community that includes communitywide interventions and allows for a targeted focus on disparities between subpopulations; maximum transparency to develop community engagement and accountability; use of evidence-based practices and encouragement of innovative practices that show potential; and evaluation of interventions to inform a continuous improvement process.

We have outlined a variety of evidence-based initiatives through which CareFirst could make investments, but there are many more options and strategies than those we touched on. Importantly, public health departments routinely develop health needs assessments, and nonprofit hospitals are now required to conduct community health needs assessments with input from the community. CareFirst should collaborate with public health agencies, nonprofit hospitals, school systems, and community groups to better understand the main health issues that need to be addressed in each of the different jurisdictions, to determine what would be the best use of additional resources, and to implement and evaluate any new initiatives. This type of collaboration will help ensure that CareFirst's investment will meet the needs of the community.

# Appendix A. Recommendations from Needs Assessments

## From “District of Columbia Health Needs Assessment”

The following recommendations are from the District of Columbia Department of Health (2015).

- **Behavioral health.** Behavioral health services are limited for persons with Medicaid and persons for whom English is not their primary language. In particular, there are limited transitional services available to persons with behavioral health needs, especially among non-English-speaking populations. More services are needed to help support community-based independent living for persons with behavioral health needs.
- **Obesity and nutrition.** There are few programs targeting obesity and promoting healthy eating. In particular, more programs should be developed that focus on the entire family.
- **Preventive health services.** Focus group participants felt that hospitals in DC tended to focus on acute treatment services rather than preventive health care services. Hospitals should work with social service agencies to promote more programs that support healthy behaviors.
- **Specialty services.** There is a particular need for specialty services, such as pain management services and oncology services. The shortage of specialty services is greatest in Wards 7 and 8. Participants recommended provider practice incentives (such as loan repayment) and partnerships between hospitals and community-based health organizations to provide needed specialty services in areas where there are shortages.
- **Elder care and end-of-life services.** District residents who are primary caregivers for elderly family members have little support to help them provide effective home-based care. Case management efforts should focus on supporting elder care. In addition, residents are often not aware of hospice and end-of-life services available in the community.
- **Disability services.** There are limited services available to support persons with disabilities in the city. Furthermore, health care providers are often ill equipped to treat this population due

to a lack of medical education in this area. An expansion in the number of health and social service programs for persons with disabilities is needed.

- **Information technology.** There is little linkage of information systems across health care settings, often leading to duplicative services. More investment in a regional health information system is needed to help address this problem.

## From “District of Columbia Community Health Needs Assessment”

The following recommendations are from Chandra, Blanchard, and Rudder (2013).

TABLE A.1

### Key Findings and Recommendations from Focus Groups

Service	Findings	Recommendations
Behavioral health	Behavioral health services are limited for persons with Medicaid, as well as for persons for whom English is not a primary language.	More support services are needed for persons with behavioral health issues, particularly for persons with Medicaid and for whom English is not a primary language.
	Few transitional services exist for persons with behavioral health needs.	More supportive services are needed to support independent living among persons with behavioral health needs.
	Treatment options for comorbid medical conditions associated with behavioral health issues are limited.	More skilled nursing beds are needed for persons with behavioral health needs.
Obesity and nutrition	There is a shortage of family-targeted interventions that address obesity and promote healthy eating.	Family-based programs targeting obesity are needed, such as healthy shopping and family-oriented education programs.
Preventative health services	Hospitals focus mainly on treatment services instead of preventative health services.	Programs that support healthy behaviors are needed.
	There is a lack of coordination between health and social service agencies to work in concert to provide preventative services.	Hospitals should engage social service organizations in developing and promoting preventative health programs.

Service	Findings	Recommendations
Specialty services	Lack of specialists, especially in Wards 7 and 8, leads to delays between diagnosis and treatment for certain conditions, particularly oncology care and pain management services.	Provider incentives and partnerships, such as loan repayment programs and specialists in community-based health organizations as part of their training experience, may help provide needed specialty services in areas where there are shortages.
	Health is viewed as a lower priority among residents who are faced with poverty and unemployment.	The medical community needs better awareness of social determinants that affect health.
Social determinants and social services	Immigrants are uncomfortable using services due to fear of documentation requirements.	Cultural competency training is needed for providers to help address the needs of residents from diverse backgrounds.
	Cultural competency is lacking among health care providers.	Health care organizations must form partnerships with social organizations and build on the existing social capital within a community.
	Language services can be difficult to provide due to prohibitive costs.	Hospitals and federally qualified community health centers should go into the community to educate residents about health resources.
	Wards 7 and 8 have few health and social services, and residents are often not well informed about those services that do exist.	A centralized resource list of available community-based health and social services is needed.
	There is inadequate housing support for homeless individuals, particularly those with special needs.	Expanded housing options for the homeless are needed.
	Interventions often are not tailored to address persons with varying literacy levels.	Messages must be tailored to address residents of all literacy levels.
	Residents have little trust in District hospitals.	
Elder care and end-of-life services	Family members who care for elderly relatives have little support.	More resources to help families who care for the elderly are needed, including expanded case management services.
	Residents are not well informed about hospice and end-of-life care services.	
Disability services	Adequate services for persons with disabilities are lacking in the city.	Programs should provide health and social services for persons with disabilities at all life stages.
	Health care providers are not comfortable treating persons with disabilities.	Providers should be better educated to address the unique health care needs of persons with disabilities.

Service	Findings	Recommendations
Information technology	Lack of linkage of information technology systems across health care organizations results in duplicative services.	There is a need for linkage of medical records across hospitals and outpatient clinics similar to that of the previously existing DC Regional Health Information System (RHIQ)
	Hospitals and clinics do not offer convenient hours or co-located services.	Greater case management services are needed to link residents across medical services across hospitals and with medical homes in the community.
Case management	There is little linkage of case management services across hospital sites to provide continuity of care for residents who use services at multiple sites; there is also little linkage of residents to medical homes at discharge.	Patient navigation should be expanded to help direct residents to services for a number of chronic diseases and for children as they transition into adulthood.
	Few resources exist to link children with chronic health needs from pediatric to adult providers as they transition into adulthood.	

Source: Chandra, Blanchard, and Rudder (2013).

## From “Health and Health Care among District of Columbia Youth”

The following recommendations are from Chandra and colleagues (2009)

- **Continue DC’s commitment to health insurance coverage.** While child insurance rates are commendable, insurance continuity was an issue raised by parents and providers. In light of recent budget slowdowns, maintaining this coverage is essential.
- **Implement strategies to increase children’s access to and use of primary and specialty care.** Continuing to build primary care capacity includes increasing the network of providers through better and more expedient reimbursement, reimbursement for case managers, and such incentives as support for electronic health record implementation. Incentives to increase the specialty care supply include loan repayment for providers and strategies such as “e-referrals” to reduce the need for specialty care appointments. The reported quality of services also limits the accessibility of ambulatory care. Issues such as lack of provider respect could be addressed

by performance-based accountability systems that regularly include client input on health care experiences and cultural competency trainings for providers.

- **Focus interventions on children with particular health conditions.** Prevalent conditions among children using the majority of health services include asthma, mental health disorders, sickle cell anemia, HIV/AIDS, and obesity. These findings call for greater focus on early intervention. Expanding asthma management programs for children, improving the distribution of mental health providers, addressing the stigma related to mental health, and increasing healthy food options are important places to start. Further, it is essential to identify policies that will increase the availability of antiretroviral therapy in order to slow the quick progression of HIV to AIDS among pediatric populations.
- **Implement strategies that emphasize prevention and wellness.** Data also suggest that the experience of and exposure to violence, general mental health, and sexual health issues continue to be problems for DC youth. Comprehensive health education is a long overdue prevention investment. For example, DC needs more investment in emotional wellness programs, violence prevention programs that address school safety issues, and sexual health interventions that combine discussions of risky sex with life-skills training.
- **Target investments and interventions to children residing in particular areas within DC.** The variability of health and health care outcomes of children residing in different parts of the city suggests that targeting interventions based on location may be an efficient and effective way to reach the children most in need. Consider the benefits of place-based interventions or wellness zone models that emphasize multilevel, cross-sector intervention.
- **Increase efforts to continuously and more comprehensively monitor children's health.** Ongoing monitoring of children's health and health care access is crucial to identifying emerging health issues, evaluating the effect of policy or local changes, and ensuring appropriate and timely response to identified needs. More data on health care capacity and environmental health risks, annual or biennial assessment of child health, and routine analysis of administrative data are needed. Consideration of youth not reflected in current surveys should be addressed.
- **Improve pediatric health through investments outside the health care delivery system.** Investments in education, housing, neighborhood safety, the natural environment, and the like must be viewed as additional if not equally critical levers for improving children's health.

## From “Assessing Health and Health Care in Prince George’s County”

The following recommendations are from Lurie and colleagues (2009).

- **Determine resident satisfaction with the current health care system.** A substantial proportion of county residents commute out of the county for work and likely receive some of their medical care outside of the county. A clearer understanding of their preferences for receiving care near their work or near their home might inform decisions about how much effort and investment to make in strengthening certain aspects of the health care system within the county.
- **Examine regional approaches to strengthening the safety net.** Anecdotal evidence suggests that a substantial number of low-income and uninsured county residents may be relying on safety net clinics in Montgomery County and DC for care. These clinics are supported by a combination of philanthropic and taxpayer-supported dollars. The county may wish to explore regional financing models that make efficient use of scarce health care dollars while providing access to care for its residents.
- **Use the county’s purchasing power to help shape the health care system.** Because the county purchases health insurance for its employees, it has the ability to work with insurers to ensure the availability and quality of care most appropriate for its residents. For example, the county might assess whether the choices for outpatient and inpatient care available to employees is satisfactory to them, and if not, work with insurers to expand the options. Similarly, the county may wish to ask the insurers with which it contracts to provide performance data on patient satisfaction and experiences with care or on quality of hospital and outpatient care. Given the racial/ethnic diversity in the county, the county might also consider requesting this information stratified by race/ethnicity. Should disparities exist, the county and insurers may be able to develop strategies to address them.

## From “Transforming Health in Prince George’s County, Maryland: A Public Health Impact Study”

The following recommendations are from the University of Maryland School of Public Health (2012).

- Establish a high-quality, academically affiliated regional medical center with a strong and collaborative prevention-focused ambulatory care network.
- Develop a county-led process to improve public health, expand access to high-quality primary care, and support systems integration.
- Delineate lead roles and create an inclusive central planning process.
- Coordinate efforts to maximize the impact of the Affordable Care Act in Prince George’s County by emphasizing improved access, health equity, health literacy, prevention, population health, and delivery innovation.
- Address areas of high primary care need within the county with a particular focus on workforce development, community-based health facilities, and outreach programs.
- Support innovation in health care, prevention, and public health delivery.
- Develop a clear brand that promotes a high-quality health care system, encourages residents to return to the county for care, and contributes to a successful and thriving system.

## From “A Snapshot of Human Development in Alexandria: A Needs Assessment of the Alexandria Human Services System”

The following recommendations are from Braintree Solution Consulting (2008).

- **Improve resource awareness.** A major issue identified through the needs assessment is the need to provide service providers and the public at large with information regarding the programs and services available in Alexandria. One strategy to accomplish this task is for ACHSO (Alexandria Council of Human Service Organizations) to enhance and promote the 211 call line and website and the data contained in other referral services.
- **Improve public education and awareness.** An issue related to the awareness of resources is the need to educate the public in ways that enhance their access to and utilization of these programmatic resources. These programs affect their skills as parents, their access to workforce development, youth access to programs, and the overall demand for human services. Here again, a strategy to accomplish this task is for ACHSO to enhance and promote the 211

call line and website and other referral services. This could include more “face-to-face” efforts to engage human service consumers and providers to use 211 and other resources.

- **Increase availability of community-based human resource centers.** While there are examples of community-based systems of care organizations, their availability has been identified as an area worth greater investment and replication. Alexandria residents have strong preferences—and often transportation challenges—that indicate a need for locally based programs to provide access to a wide array of services. The availability of more co-located services, both city and nonprofit services, might also ameliorate some stakeholder concerns regarding a lack of coordination among service providers who share clients and constituencies.
- **Increase business and employer involvement and investment.** Alexandria and northern Virginia as a whole possess a wide variety of businesses and industries. Their involvement and support, both internally to their organization with regard to workforce readiness and family-friendly policies, and externally as allies to create political will and investment in human services, are critical to the success of ACHSO’s efforts. However, activities to engage the business community would be best serviced through regional cooperation in northern Virginia.
- **Consolidate and merge planning groups and commissions.** The city of Alexandria has a significant number of planning groups and other collaborative activities (both public and private) that provide an opportunity for collaboration and feedback among service providers and clients. Indeed, this culture of collaboration is among the strengths of the human services system. However, many stakeholders believe there is room for streamlining these groups. ACHSO and city partners should examine the status of various commissions and determine which groups, if any, can be merged or realigned. This would help address the issue of “planning/meeting fatigue” noted by some stakeholders.
- **Unify strategic planning and advocacy efforts among human service organizations.** One of the themes communicated by stakeholders in Alexandria is the desire for improved unity among public and private human service organizations to “speak with one collective voice” for change and investment by the city and other local investors. While multiple advocacy efforts can operate simultaneously, especially those that pertain to population-specific issues such as early childhood or immigrant policy, some stakeholders commented that advocacy efforts are too often in competition rather than cooperation.

# From “Strategies for Building a Healthier Arlington”

The following recommendations are from Arlington County Public Health Division (2009).

- Access to health care
  - › Increase access to a medical home for Arlingtonians by 2017.
  - › Prevent the development of high-risk drinking and use of drugs by 2017
  - › Increase access to mental health and substance abuse services in Arlington by 2017
  
- Prevention of communicable disease
  - › Reduce the incidence of sexually transmitted infections (STIs) in Arlington by 2017.
  - › Increase the number of individuals who receive seasonal influenza vaccine annually in Arlington by 2017.
  
- Prevention of chronic disease
  - › Reduce the prevalence of overweight and obesity in Arlington by 2017.
  - › Reduce tobacco use in Arlington by 2017.

# Notes

1. See, for example, Ost and Maurizi (2013) and DC Action for Children (2012).
2. Laudan Aron, November 7, 2014, "Guiding Principles for Community Investments That Promote Health," *Urban Wire*, accessed December 31, 2015, <http://www.urban.org/urban-wire/guiding-principles-community-investments-promote-health>.
3. For more information on the intervention, see "Research Activities and Impact," Tufts University Friedman School of Nutrition Science and Policy, accessed May 18, 2016, <http://www.nutrition.tufts.edu/index.php?q=research/shapeup-somerville>; and "Shape Up Somerville," city of Somerville, accessed May 18, 2016, <http://www.somervillema.gov/departments/health/sus>.
4. For more information on the Diabetes Prevention Program, see "Diabetes Prevention Program Outcomes Study," accessed May 18, 2016, <https://dppos.bsc.gwu.edu>.
5. More information can be found about CHAP at "Cardiovascular Health Awareness Program," accessed May 18, 2016, <http://chaprogram.ca>.
6. For more information, see "Interpersonal Psychotherapy Depressed Adolescents (IPT-A)," Substance Abuse and Mental Health Services Administration, National Registry of Evidence-Based Programs and Practices, accessed May 18, 2016, <http://legacy.nreppadmin.net/ViewIntervention.aspx?id=198>.
7. For more information, see "Coping and Support Training," Child Trends, accessed May 19, 2016, <http://www.childtrends.org/?programs=coping-and-support-training>.
8. For more information, see "Project ALERT," Substance Abuse and Mental Health Services Administration, National Registry of Evidence-Based Programs and Practices, accessed May 18, 2016, <http://legacy.nreppadmin.net/ViewIntervention.aspx?id=62>.
9. For more information on positive behavioral interventions and supports, see "Advancing Education Effectiveness: Interconnecting School Mental Health and School-Wide Positive Behavior Support," Positive Behavioral Interventions and Supports, accessed May 18, 2016, <https://www.pbis.org/school/school-mental-health/interconnected-systems>.
10. Ibid.

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