

*Confronting Pediatric Health Disparities in Washington, D.C.*

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## *Introduction*

On January 30, 2007, Elizabeth Agnvall, contributor to *The Washington Post*, declared Washington, D.C., “a very good place to grow up, for almost everyone.” The study “Children Left Behind: How Metropolitan Areas Are Failing America’s Children” by the Harvard School of Public Health ranks the District among the top metropolitan areas for children of Hispanic, Asian, and non-Hispanic white children on the basis of five years’ worth of health, housing, economic, crime, and education data. However, African-American children in the D.C. area rank about average on most factors [1].

Another *Post* article from February 21, 2007, draws attention to the dramatic increase in infant mortality in Washington, D.C., as reported by the Child Fatality Review Committee. In 2005 there was a spike in deaths of children under the age of one despite a persistent decrease in infant mortality since 1999. The study traces more than 70 percent of the infant deaths to premature births and complications like low birth weights and attributes another several deaths to “inappropriate sleeping environments.” Moreover, Wards 7 and 8, which are predominately low-income, African-American neighborhoods, had the highest number of infant deaths in 2005, and eight of the 10 infants who died in D.C. were African-American [2].

Articles such as these appear with great frequency in *The Washington Post*, one of the top sources for D.C. news, documenting the dramatic disparities in the health status of children in the District. Moreover, these disparities demonstrated visually on a map show disproportionately worse health outcomes for those living east of the Anacostia River (the Southeast Quadrant of D.C., also referred to as Wards 7 and 8 or zip codes 20032, 20020, and 20019). However, for years, millions of dollars and endless workdays have been spent addressing the gap in health outcomes in D.C., whether through programs and initiatives of the federal government, the

District of Columbia Department of Health, or community-based organizations. Causes and correlations have been drawn to racial, geographical, educational, socioeconomic, and cultural factors which complicate health care access and quality of care. With striking definition, geographical analysis shows the wide disparities between Southeast and the rest of Washington, D.C., in race, education, socioeconomic status, and drug use, which closely resemble similar distributions for childhood asthma, infant mortality, and access to primary care.

Thus, this thesis will explore how health care is administered to low-income youth in Washington, D.C., specifically African-American infants, children, and adolescents living east of the river. I will identify contributing factors to pediatric primary care and evaluate the health care resources available for low-income pediatric patients in Washington, D.C. I propose that the intricately interconnected factors involved in providing primary care to economically marginalized children not only contribute to the disproportionate health outcomes of children in the District, but they also aggravate socioeconomic situations (familial and otherwise), thereby perpetuating the cycle of poverty. After assessing the issues involved, I will offer recommendations for improving the efficacy of primary care for children east of the river.

### *The Reality of Complex Problems in Wards 7 & 8*

Wards 7 and 8, separated from the rest of the District of Columbia by the Anacostia River, is home to approximately 141,454 people, 70,539 in Ward 7 and 70,915 in Ward 8, as reported by NeighborhoodInfo DC [3]. Life east of the river, in neighborhoods such as Anacostia, Fort Dupont, and Washington Highlands, holds seemingly never-ending challenges for residents below or near the federal poverty level. From inadequate housing to low quality education and from high crime and drug use rates to high numbers of single parent homes, the

living situation for residents, in general, in Wards 7 and 8 is filled with obstacles, forcing them to face the reality of stifling structural violence everyday.

Children make up 28% of the population in Ward 7 and 36% of the population in Ward 8, making these two wards the highest in percentage of children [3]. Children, or those of 18 years of age or younger, are particularly vulnerable because they are dependent on parents, guardians, and, in essence, their community and the larger societal context in which they develop. All of these factors interplay and contribute to the disproportionately worse health status of children in Wards 7 and 8.

### *Race and Poverty*

There are two measuring sticks for assigning federal poverty status: the first of which are the poverty guidelines as set by the Department of Health and Human Services (DHHS). These poverty guidelines are more commonly used for administrative purposes such as measuring eligibility for federal government assistance such as Head Start, food stamps, and certain parts of Medicaid [4]. The other method of measuring poverty is to assign a poverty threshold which is determined by the Office of Management and Budget for individuals and families and is used by the United States Census Bureau for statistical purposes. The poverty thresholds do not vary geographically, but are updated annually to account for inflation [5].

However distinct these two measurements may seem, the numbers set forth do not differ significantly when identifying economically marginalized individuals, families, and populations. For instance, in 2006, the poverty guideline of the DHHS for an individual in the 48 contiguous states and the District of Columbia was \$9,800, and \$16,600 for a family of three [6]. That same year, the poverty thresholds of the OMB were as follows: for an individual under the age of 65,

the threshold was \$10,488; for an individual over 65, \$9669, and for a family of three with two related children under the age of 18, \$16,242 [7]. Thus, though most of the statistics used later in this paper reference the poverty threshold used by the U.S. Census Bureau, these same individuals, families, and populations are the same that qualify for federal aid.

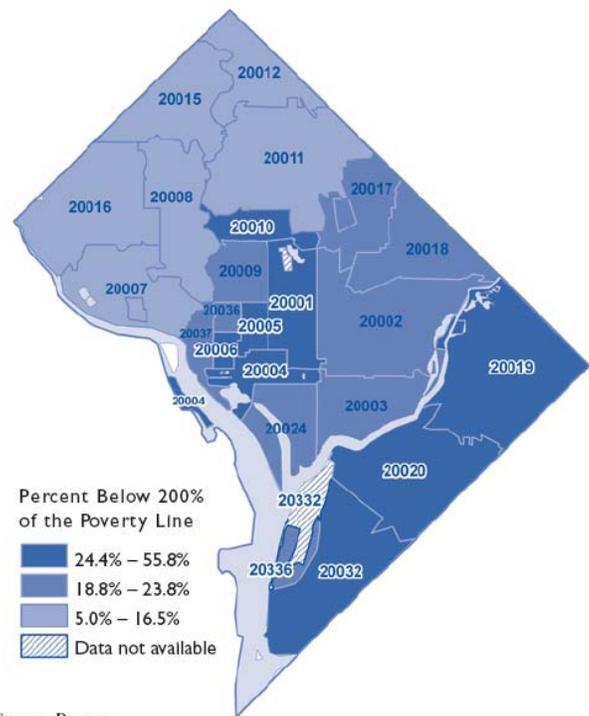
Nationally, African-Americans are shown to have a lower financial status and a higher poverty status. In 2004, according to the U.S. Census Bureau, the median income for African-Americans was significantly less than that of Caucasians: \$46,697 Caucasians as opposed to \$30,134 for African-Americans. Similar numbers were also found for 2003. Also the 2004 poverty rate for African-Americans was at 24.7% whereas for non-Hispanic Whites the poverty rate was 8.6%. Among all racial groups, African-Americans consistently have the highest poverty rates [8].

Specifically in the District of Columbia, the United States Census reported in 2005 that of the 515,118 District residents, more than half of this population is African-American, 56.8%. In 2000, the numbers were similar, with the total population of the District at 572,059, and 60% being African-American (343,312). For D.C. in general in 2000, 21.3% of District residents were below the poverty line as well as 19,365 families. However, of the 109,500 individuals below the federal poverty level, 84,098 were African-American, meaning an astounding 76.8% of the individuals below the federal poverty level in D.C. were African-American. Similarly, of the 19,365 families in D.C. under the poverty line, 16,753 were African-American families, or 86.5%. Thus, the majority of both the individuals and the families in the District reported to be under the federal poverty level is of African-American descent [9].

Narrowing down the field even more, the neighborhoods east of the Anacostia River are predominately African-American. Ward 7 was reported to be 97% African-American in 2000,

and Ward 8 was 93%. These same wards have high poverty and unemployment rates, which have shown increases from 1980 to 2000. In Ward 7, the poverty rate rose from 19% in 1990 to 25% in 2000, and the unemployment rate jumped from 8.1% in 1990 to 14% in 2000. In Ward 8, the poverty rate increased from 27% in 1990 to 36% in 2000; the unemployment rate similarly rose from 13% in 1990 to 22% in 2000. The numbers for both of these wards in Southeast D.C. were all well above average for the city as a whole. These numbers stand in stark contrast in comparison with Ward 2, in which Georgetown University is located. In 2000, Ward 2 was reported to be 61% White non-hispanic and 20% African-American, with the poverty rate at 19% and the unemployment rate at 8.3% [3]. A visual representation of the geographic disparity of poverty rates, according to zip code, in the District can be seen in Figure 1.

In 2003, the Fannie Mae Foundation reported that D.C. as a whole was experiencing a downward trend for the poorest of the poor, which was the opposite of national trends which indicated a decrease in the average percentage of the poor living in extreme-poverty tracts in the 100 largest metropolitan areas. Focusing on high-poverty tracts, defined as areas in which more than 30% of the residents are poor, and extreme-poverty tracts, defined as areas in which more than 40% of the residents are poor, Fannie Mae found that



Source: U.S. Census Bureau

Figure 1. Percent of District residents living below 200% of the federal poverty threshold by ZIP cod, 2000. Image taken from [1].

both the number of geographical areas and the number of residents themselves living in high-poverty and extreme-poverty tracts increased. Based on U.S. Decennial Censuses from 1990 and 2000, the study documented an increase in the number of high-poverty tracts from 26 in 1990 to 43 in 2000, and similarly, the number of extreme-poverty tracts more than doubled, from 10 to 23. Between 1990 and 2000, the number of residents living in high-poverty tracts increased 19%, and the number of residents living in extreme-poverty tracts more than tripled. This study also demonstrated that several, but not all, of the city's high-poverty tracts are located east of the river and also that an even higher percentage of the city's extreme-poverty tracts are east of the river. Finally, not only did the number of high- and extreme-poverty tracts and the number of residents living in those areas increase, but the extent of poverty for high-poverty tracts deepened in the 1990's, especially for neighborhoods east of the Anacostia River. With nine of 14 tracts falling from below 30% into high-poverty status whereas only two tracts rising out of their high-poverty status, "the neighborhoods east of the Anacostia River are much more solidly high poverty than they were in 1990" [10].

As with the national report by the U.S. Census Bureau and the local report by NeighborhoodInfo DC, this Fannie Mae study of high- and extreme-poverty tracts in Washington, D.C. also sites a correlation between the population in poverty and the African-American population. Despite the District's increasing racial and ethnic diversity, the high-poverty tracts remain to be predominately African-American. Thus, it can be seen that, for the population of D.C. living east of the Anacostia River, poverty hits dramatically closer to home than for African-Americans on a national level and in other areas of the District. Moreover, the picture is not seeing any improvements as the number of high- and extreme-poverty tracts increases and as high-poverty tracts degenerate to extreme-poverty tracts in Wards 7 and 8.

Though these numbers paint a bleak picture for Wards 7 and 8 in general, children east of the river are particularly in need. Firstly, more than one-third of the District's children live in poverty, meaning that children are twice more likely than adults to live in poverty [11]. In addition, more African-American children live in poverty than other racial and ethnic groups, at 41.6%. Using the poverty guidelines as set forth by the DHHS to illustrate the geographic disparity in the District, exactly 50% of the children who applied and were eligible for food stamps in D.C. in 2006 lived east of the river, with 23% in Ward 7 and 27% in Ward 8. Both these numbers individually overshadow by a large amount those numbers of each of the other six wards in the city [11]. In this way, it can be seen that the African-American children in Wards 7 and 8 are disproportionately worse-off than those residing elsewhere in the city.

In addition, the experience of poverty for African-American children in particular varies from that of children of other races and ethnicities and also bears different repercussions on their health and well-being. A 15-year study of poverty patterns found that African-American children had a much higher risk of being persistently poor than Caucasian children. In this study, the average African-American child spent 5.5 years in poverty, whereas the average non-African-American child spent only 0.9 years in poverty. Moreover, of the children who lived in poverty for at least ten of the fifteen year study, 90% were African-American. Within this same sample population, a separate study found that 55% of African-American children born into poverty were likely to remain in poverty for at least six of the first ten years of their lives [12]. Thus, the link between race and poverty influences the lives and the health of children living east of the river.

*Poverty's Confounding Factors*

Besides race, other factors characteristic of poverty-stricken individuals, families, and neighborhoods and influential in child health include single-parent households, unemployment, food insecurity, and high crime rates. The multitude of confounding factors imply the deeply-seeded institutionalization of poverty and illuminated the reasons why poverty is a crippling cycle and indisputable, almost irremovable fact of life for a large portion of our society today, such as the poor in the District living east of the River.

In 2000, the Census Bureau found that, nationally, 48.34% of African-American children under 18-years-old lived with only their mothers. Thus, almost half of African-American children live in single parent households whereas 16.10% of white children were reported to live only with their mothers [13]. According to the 2005 Kids Count Fact Book, in 2004, 6 out of 10 children in the District of Columbia lived in a household headed by a single person, with 5 out of the 10 living with a single woman. Of these children living with a single woman, 52% were determined to be poor. Studies have shown that many single women do not have the resources to secure the support they need both for themselves and for their children [11].

Exacerbating the difficulties of being a single mother, unemployment remains to be a problem in the District of Columbia. Economic security affects food security, educational quality, and almost any other aspect in quality of life. In D.C., 2001 marked the start of a downward trend in the number of employed District residents. However, in 2005, this number increased but only enough to reverse the decrease from 2003 to 2004, a return to the number of 277,000 employed District residents, up from 274,000 in 2004. Though this increase in employed residents is good news, Wards 7 and 8 had disproportionately higher unemployment

rates at 9.4% and 15.6%, respectively, compared with only 2.9% and 1.4% in Wards 2 and 3, respectively [31].

The rate of teenage pregnancies is an indicator of inadequate sexual education information and poor access to birth control, which is increased in poverty-stricken areas. In D.C. fortunately the number of teen births has decreased consistently from 1994-2001 for all adolescents, from under 15 to age 19. Moreover, Ward 8 has the highest occurrence of teen pregnancy (10-19 years old) at over 200 in 2002. Ward 7 is next highest with over 150. Nonetheless, both of these Wards are keeping with the District-wide decrease in teen pregnancy [31].

Other common indicators associated with poverty are increased rates in crime and in drug use. The number of juvenile cases for offenses against persons increased slightly in 2005 for the third year in a row, making it the highest number since 1997. There were a total 1073 acts against persons, 25% of which were robberies. Still the majority of juvenile acts against persons was comprised of assault cases. Though the number of juvenile cases in the D.C. Superior Court for acts against public order and for acts against property declined, the number of violent deaths to teenagers increased to levels matching those in the late 1990s [11].

Alcohol and drug use also adversely affect adolescent well-being. In 2003, the number of lifetime and current alcohol use among the adolescents in the District increased for the first time since 1993. It was reported in 2003 that 66.1% of adolescents had ever used alcohol in their lifetimes and 33.8% had recently used alcohol, in the past thirty days. Similarly to alcohol use, marijuana use for adolescents in the District increased in 2003 ending the constant decrease since 1997. Of adolescents in grades 9-12 in 2003, 41.7% had used marijuana in their lives, and almost 1 out of 4 had used the drug in the past 30 days.

These factors characteristic of poverty-stricken neighborhoods are indicators of continued needs in access to resources such as quality education and after-school programs. In addition to being indicators, they are also contributing factors to why people are poor in the first place and to perpetuating poverty within neighborhoods and through several generations of families. Thus, poverty can be seen to be a multifaceted issue affecting all aspects of one's life. The following section of this thesis will focus on poverty's affects on child health.

### *Poverty, Race, and Health Disparities*

Poverty and its vast confounding factors have, understandably, been shown in various studies to negatively influence child health, starting from effects on birth outcomes [12]. Inequality in financial status is reflected in the health outcomes of children. These health disparities, as has been established, run along both geographic and racial lines. In this thesis, it is obvious that the disparities run along geographic, racial, and financial lines, negatively affecting the health outcomes of the residents of Wards 7 and 8. Thomas LaVeist writes in his book *Minority Populations and Health: An Introduction to Health Disparities in the United States* that health disparities can exist due to social risk factors (e.g. racism, socioeconomic status, housing quality, residence in a neighborhood with a high crime rate), characteristics of the culture of an ethnic group, and societal factors that constrain an individual's ability to engage in protective health behaviors. LaVeist describes the constraining societal factors as correlative. "For example, a person's race may lead to lower socioeconomic status, which may lead to underutilization of health services." Therefore, the health outcome is more closely linked to social class than to race [13]. This thesis will focus on social risk factors and constraining societal factors as pathways through which health disparities form.

As LaVeist writes, the U.S. Bureau of the Census projects that by the middle of the 21<sup>st</sup> century, the United States will be a “majority-minority” country where whites will make up less than 50% of the nation’s population, and racial/ethnic groups which are now considered minorities will total more than 50%. Thus, in addition to the pursuit of eliminating health disparities, analyzing and addressing the health statistics of African-Americans, and other minorities, will grow in importance in the coming years as the populations of various minorities increase[13].

Common indicators of child well-being include low-birth weights, infant mortality, avoidable hospitalizations, asthma rates, and immunization statistics. These indicators are measured and monitored by the D.C. Department of Health, the D.C. Primary Care Association, the U.S. Bureau of the Census, and other reliable District and federal sources.

Starting with birth outcomes, according to the 13<sup>th</sup> Annual Fact Book 2006: Every Kid Counts in the District of Columbia, published by the D.C. Children’s Trust Fund, the percent of mothers with adequate prenatal care changed for the worse since 2004, as did the percent of low birth weight infants and the infant mortality rate. However, the percent of low-birth weight infants only worsened by no more than 1% [14]. Low birth weight is defined as weighing less than 2500 grams or 5 pounds, 5 ounces at birth. Very low birth weight infants weigh less than 1500 grams or 3pounds, 5 ounces at birth [31]. Low birth weight could be influenced by the age and health of the mother, high-order multiple births, and premature births [31]. Low birth weight has been demonstrated to correlate with increased risk of death or persisting disabilities including cerebral palsy or mental retardation [15].

Moreover, the Institute of Medicine identifies race as a risk factor for low birth weight. Young, African-American, and poorly-educated mothers are less likely to receive adequate

prenatal care and are more likely to give birth to low birth weight and very low birth weight infants [16]. In the District, the D.C. DOH points out, that the low birth weight percentage is significantly higher for African-American, non-Hispanic women than for any other racial or ethnic group. Between 1998-2002, the percent of low birth weight infants among African-Americans was over double that of Caucasians, the former ranging from 14.2% to 16.5% and the latter from 5.8% to 7%. Geographic disparities for low birth weight infants were also documented. According to the D.C. DOH, Wards 7 and 8, along with Ward 5, had the highest proportions of low birth weight incidents [31]. Notable for the numbers for low weight births in 2004 are the percentages in Eastland Gardens/Kenilworth neighborhoods in Ward 7 at 20.8% (the highest in the city) and in North Cleveland Park/Forest Hills/Van Ness neighborhoods in Ward 3 at 2.4% (the lowest in the City) [11].

Along with birth weight, an important indicator of child health—and on a broader scale, of society's development—is infant mortality [12]. In accordance with the Every Kid Counts report that infant mortality worsened, *The Washington Post* stated that, in 2005, the number of babies who died in the District rose 19% in 2005, after a previous decline in infant mortality since 1999. Of children younger than 1 year old, there were 81 deaths in the District, up from 68 in 2003 and 2004. More than 70% of the deaths in 2005 were due to premature births and complications such as low birth weight. Wards 7 and 8 had the highest number of infant fatalities, with 13 and 35, respectively, and 80% of the infants who died were African-American [17]. Later, *The Post* also reported that the infant mortality rates for the years from 2001 to 2004 were adjusted upward. Howard University Hospital, Washington Hospital Center, Greater Southeast Community Hospital, and Children's Hospital were fined for keeping the remains of deceased fetuses beyond the 30-day limit and for failing to document newborn deaths for several

consecutive years. However, despite the addition of 13 deaths in this time period, city officials claimed the increases in the rates were “not significant” [18].

In the 2005 report by the D.C. DOH Maternal and Family Health Administration, between 1998 and 2002, infant mortality rate for African-American decreased by 6%. 2002 was the first year that the District’s infant mortality rate for African-Americans was below the national African-American mortality rate [31]. Hence, during the years of infant mortality decline in the District, that rate for African-Americans was fortunately also declining. However, the trends for the infant mortality in D.C. both generally and for African-Americans in Ward 7 and 8 particularly, as we have seen, have started to reverse since 2005.

Another indicator of general child health is the rate of Sudden Infant Death Syndrome. According to the D.C. DOH, Sudden Infant Death Syndrome (SIDS) is the diagnosis given to a sudden death of an infant under one year of age that remains unexplained after a thorough autopsy, crime scene investigation, and review of the infant’s health status before dying. SIDS is that number one cause of infant deaths nationally. In the time period from 1994 to 2002, the number of SIDS deaths in the District decreased from 18 to 4 per year. However, Wards 7 and 8 in addition to Ward 1 led in the number of SIDS deaths, and SIDS deaths disproportionately affected low-income and African-American infants. The importance of measuring SIDS deaths reflects the pressing need to educate women about infant care, sensitive to cultural and familial beliefs [31].

During the development of children, consistent health care is critical to assure good health. For homeless and low-income housed children who are frequently uninsured or underinsured and do not have this consistent primary care, research documents delays in routine screening and immunizations, high rates of acute and chronic illness, nutritional problems, and

high rates of emergency room use [19]. Newacheck, *et al.* helped to establish the breadth of unmet health needs for children, an indicator of access problems. Studying 97,206 children under the age of eighteen in four years of National Health Interview Survey data, Newacheck found that, from 1993-1996, 4.7 million of children under the age of eighteen experienced at least 1 unmet need for health care each year. They maintain that unmet health needs indicate barriers to care, including lack of health insurance and limited availability of providers.

Moreover, unmet health needs occurred in all fields of health care namely dental, medical, and optical care as well as prescription medications. Surprisingly, the research showed that the percentage of African-American children with unmet health needs does not differ significantly from the percentage of Caucasian children with unmet health needs, 7.5% for African-Americans and 7.1% for Caucasians. This number could be deceiving, however, because the literature does not reveal what the sample size was for each race and ethnicity separately. Nonetheless, the research did demonstrate that near-poor children, defined as those under 199% of the poverty level, were 3 to 4 times as likely to have an unmet health need as children living in middle or higher income households. In addition, children in single-parent homes or in homes where the family reference person did not attend college were at greater risk of having an unmet health need [20].

Unmet health needs often lead to what health professionals refer to as avoidable, or ambulatory care sensitive, hospitalizations. The term “avoidable hospitalizations” covers a range of conditions for which hospitalization should be avoidable, provided that individuals have access to timely and effective primary care. They are the hospital episodes that could be treated in a primary care setting, if individuals are able to access these facilities at the appropriate time and if the appropriate care is prescribed [21]. The DCPCA reported that, among children 0-17

years of age, the avoidable hospitalization rate (per 1000 children) for the years 2000-2003 was highest in all ZIP codes east of the river, with two other ZIP codes in other parts of the city in the same grouping, with 13-14 avoidable hospitalizations per year [51]. However, in 2004, the rates for the area east of the Anacostia dramatically changed with ZIP codes 20032 and 20020 improving the rate of avoidable hospitalizations by more than 47% [22].

The DCPCA also analyzed the data according to degree of poverty. Low poverty designated ZIP codes in which 20% of the residents are poor; medium poverty, 20-39.9%; and high poverty, at least 40%. For low poverty children 0-17, the rate of avoidable hospitalizations has remained relatively steady from 2000 to 2004 at about 8 per 1000 children per year. The data for medium and high poverty ZIP codes demonstrated more promising numbers, with the rates of avoidable hospitalization admissions approximately cut in half from 2000 to 2004. For medium poverty areas, the rate of avoidable hospitalization admissions steadily decreased from 12 in 2000 to 6 in 2004. Similarly, the rate in high poverty neighborhoods went from 16 in 2000 to 8 in 2004 [22].

Despite these improvements, it is undeniable that, with delayed and inconsistent health care, conditions leading to avoidable hospitalizations could degenerate into chronic diseases or illnesses including asthma, diabetes, and hypertension [23]. As Newacheck writes, “untreated physical, psychological, and behavioral problems put children at risk for developing life-long chronic conditions” [20]. Asthma is a leading concern for children in urban areas, and it causes about 5000 deaths per year nationally [31]. In his book *Amazing Grace* documenting the lives of children in the South Bronx, Jonathan Kozol recognized that “asthma is the most common illness among children here. Many have to struggle to take in a good deep breath” [24]. The scene is not so different in Southeast D.C. The D.C. DOH claims that asthma is the number one cause of

school absenteeism and that it affects the very young, the minorities, and the poor disproportionately. From 1998 to 2001, the number of asthma hospital admissions among D.C. residents under 19-years-old has fluctuated in the range of 467-538 per year. In 2002, the number dropped to 358, despite a national trend of increasing hospital emergency room visits due to asthma. Nonetheless, the incidences of asthma case discharges are disproportionately high in ZIP codes 20032, 20020, and 20019, which are the three ZIP codes east of the River [31].

Perhaps the most important preventative health needs for children are vaccinations. The Centers for Disease Control and Prevention (CDC) recommends that by the time children reach two years of age, they should be vaccinated against most vaccine-preventable diseases, with vaccines such as polio, *H. influenzae* type b (Hib), measles/mumps/rubella (MMR), hepatitis B, varicella, and diphtheria/tetanus/pertussis (DTP). In 2003, over 90% of children aged 19-35 months in the District received all of these vaccinations, except only 89% of the children in this age range received the varicella immunization. With several of these vaccines requiring as many as four doses each, completion of the treatment is difficult to attain with marginalized populations who have poor access and/or inadequate if any health insurance. The combination of DTP, polio, MMR, and Hib vaccines are collectively called the 4:3:1:3 series [31].

Encouragingly, there was an increase in the number of children receiving the recommended doses of vaccines between 1999 and 2003. Across the board, the immunization rates have improved since 1993 with significant strides made in the varicella vaccination rate (increased 14%) and in the 4:3:1:3 series (increased 7% from 2002 to 2003) [31]. Moreover, in 2005, the CDC for the first time found no statistically significant difference in national vaccination rates among African-American, white, Asian, and Hispanic children aged 19-35 months. The District's vaccination rates agreed with this national trend. Thus, it can be seen

that regardless of race and ethnicity, all children in the District, and in the nation as a whole, are equally vaccinated against childhood diseases [11].

Nonetheless, despite this finding about immunization rates, it is evident that substantial health disparities exist in the District, predisposing low-income, African-American children, particularly those living east of the Anacostia River. Recognizing the existence of health disparities, in 2000, the District of Columbia DOH and former D.C. Mayor Anthony Williams introduced the Healthy People 2010 plan, as part of a national effort to improve the health of all Americans by 2010. Setting broad goals with help from health professionals and community representatives, the D.C. Healthy People 2010 aimed to “close the gap in health status” between races [25]. This set of goals for the District of Columbia focuses on good preconception and prenatal care for mothers. However, it does specify some post-birth interventions such as breastfeeding and proper placement of infants while sleeping to prevent SIDS. With specific goals such as reducing the infant mortality rate to no more than eight deaths per 1000 live births, the D.C. Healthy People 2010 Plan provides incentives to both professional and lay audiences to improve the quality of life for all District residents [26].

#### *Access to Health Care Providers*

Access to care for low-income, uninsured, and underinsured patients is a major issue in the delivery of health care and in the bridging of the gaps of health care disparities. Improving access is one of the goals of the D.C. Healthy People 2010 Plan. Access to health care involves a variety of factors including the ability to find, obtain, and pay for health care [27]. One way of measuring access is to look at physical proximity, referring to the first factor listed above of being able to find a health care provider. Distance to health care providers has historically been

a documented and immediate obstacle to health care access [28]. Moreover, for African-Americans, access to and availability of health care resources poses a larger problem than for other minority populations, for whom language or alternative medicines may be a barrier [29].

According to the District of Columbia Primary Care Association (DCPCA), as a city, D.C. has the highest ratio of physicians to population in the country, but over half of District residents living in neighborhoods deemed “medically underserved” and/or “health professional shortage areas” (HPSAs) by the federal government [30]. An additionally 30% residents live in federally designated “medically underserved areas,” closely correlating with both the distribution of residents living in poverty and the distribution of African-American residents [31]. With only ten doctors’ offices in Ward 7 and 29 in Ward 8, the wards east of the river are once again the two lowest ranking wards in the District. Having a total of 39 doctors’ offices combined, in comparison with the 252 in Ward 2 and the 675 total, it is evident that the lower-income, predominately African-American neighborhoods east of the Anacostia lack geographical proximity to primary care providers [38]. Susan Levine writes about “the reality of most neighborhoods east of the Anacostia River” in *The Washington Post* “where an acute shortage of doctors” [32] bringing the needs of Wards 7 and 8 to the attention of a broader audience. Thus, it is a well-established fact that geographical barriers to access exist for those living east of the Anacostia.

Moreover, there are fewer and smaller, based on the number of patients, health centers east of the river [38]. D.C. General Hospital at Massachusetts Avenue and 19<sup>th</sup> Street, SE, discharged its last inpatient and closed in June of 2001. D.C. General had previously served the District’s underserved for 195 years as the cornerstone to the D.C. hospital system taking in the indigent and uninsured [33]. Since the closing of D.C. General, other District hospitals, Mayor

Anthony A. Williams, and the D.C. Council struggled to offer adequate services to the uninsured and the underinsured especially in the Southeast Quadrant of the city. D.C. General served the residents of Ward 7 most frequently. Now, there are three hospitals in the eastern part of the city which Steven Pearlstein of *The Washington Post* describes as “too small and too limited in the services they offer, with not enough private doctors sending insured (read: paying) patients their way” [34]. These three hospitals are, if not on the verge of closing, inadequate to serve the large number of uninsured and underinsured patients east of the river. At 1310 Southern Ave, SE, the Greater Southeast Community Hospital, this hospital has struggled in patient care, layoffs, and threats of cutbacks [35]. Just recently, in January of 2007, the medical staff tipped off District health officials, warning them of deteriorating conditions [35]. The two other hospitals east of the river have been experiencing similar difficulties: Howard University Hospital has had problems with service quality and patient volume, and Providence Hospital has undergone drastic staff cuts [34]. Thus, the few hospitals focused on providing care to the underserved in the District are struggling to remain reliable and functioning.

With respect to pediatricians in particular, many children enjoy excellent access to health care, with an already-generous and continually growing supply of pediatricians. In fact, the growth rate of the number of pediatricians has been much larger than the growth rate in the number of children in the U.S. From 1970 to 1985, the number of pediatricians grew by 89% whereas the children under 10 increased by only 21% [36]. However, for all socioeconomic levels across the United States, the geographic distribution of pediatricians is inconsistent with the geographic distribution of the child population [28]. The District of Columbia was ranked number 1 in 1992 in pediatrician-to-child population ration, with 208 pediatricians. This ranking was unchanged from 1982 [37]. However, the health care providers serving the uninsured and

underinsured children of the District demonstrate a much graver situation. In terms of numbers, as of 2004, there are only 6 pediatric community health care centers, serving the uninsured and underinsured, in all of Washington, D.C., two of which are east of the Anacostia River. There are also three school-based health centers, all of which are in Northeast [38]. Moreover, Guagliardo, *et al.* calculated pediatrician-to-child population ratios for the District, measuring spatial accessibility. Simply comparing the maps of primary care pediatricians per 100,000 children and of percent African-American children (Figure 2), it is evident that the African-American children living east of the river have significantly poorer accessibility than those children residing in other areas of the city.

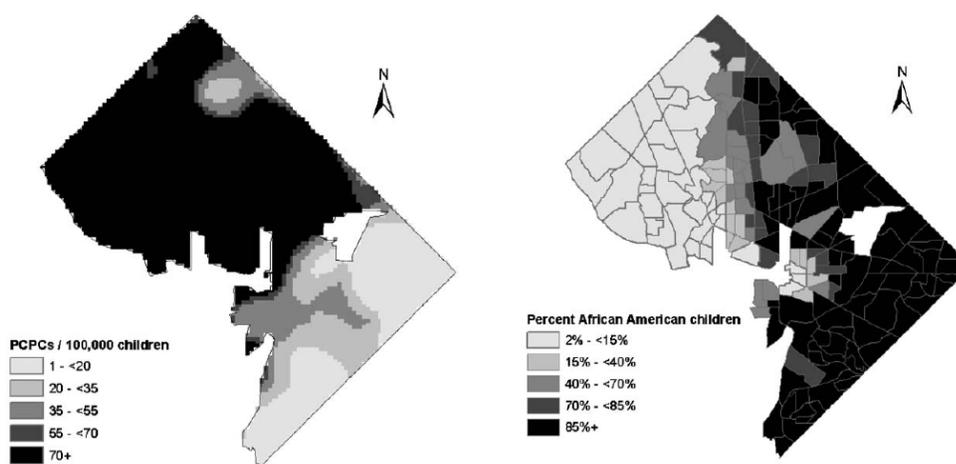


Figure 2. (a., left) Physician-to-child population ratios. (b., right) Percent of children who is African-American by consensus tract. Image taken from [28].

When addressing the health needs of children, school-based health centers are important. It has been shown that school health centers have the ability to play a successful role in preventative care and diagnosing as well as in tracking adequate care and support of overall health for students. Moreover, there is the added benefit of enhancing a student's academic achievement in maintaining positive psychological and physical well-being [39]. The CDC

explains that “a comprehensive school health program should fully integrate the efforts and resources of education, health and social service agencies to provide a set of activities and services to promote health and prevent chronic diseases and their risk factors among young people” [40].

The District of Columbia Department of Health (D.C. DOH) and other District agencies have recently begun the plan for school-based health centers. D.C. has only three school-based health centers, none of which are located east of the river. One is Brightwood Elementary School and the other two are based in senior high schools, Eastern and Woodson. These are operated by Mary’s Center for Maternal Child Care, Unity Health Care and the D.C. DOH, respectively. In January of 2006, the Maternal and Family Health Administration under the D.C. DOH proposed a plan for coordinated school-based health efforts, modeled after one in New York City. By increasing staffing to include not only nurses but also nurse practitioners, mental health providers, and part-time pediatricians and other clinicians like dentists, the ability of school-based health centers to serve prevention, intervention, and primary care services will greatly increase. The efficacy of these health centers rests in their ability to provide several different kinds of services in one place: both referrals and transportation will be deemed unnecessary and the clinicians can help educate parents and students while consulting teachers [40]. D.C. is currently in the process of expanding the school-based health care system by first evaluating the existent programs, implementing new IT software systems and training of nurses, and finalizing billing and reimbursement arrangements between Medicaid health plans and current SBHCs [41].

To further address the need for greater accessibility, there are a two pediatric health mobile vans which roam the city, one based out of Georgetown University Hospital and the other

from Children's National Medical Center. The Georgetown University Hospital Kids Mobile Medical Clinic opened in 1992 after pediatric providers in D.C. sought out an institution to provide care to the medically underserved children of the District, a financially risky venture [42]. Directed by Dr. Matthew Levy and staffed by medical students, residents, physicians, and social workers, the Georgetown University Hospital Kids Mobile Medical Clinic delivers primary medical care to children, birth to 21 years, without cost to their caregivers. Five days a week, the van drives into federally designated health professional shortage areas, including seven public housing areas (an estimated 2000 children), an Emergency Homeless Shelter (more than 100 children monthly), and two public high schools namely Spingarn and Anacostia Senior High Schools (about 1800 adolescents) [43, 44].

The Children's National Medical Center's Mobile Health Services is run by Dr. Gloria WilderBrathwaite. As part of the initiative started by singer Paul Simon and New York pediatrician Irwin Redlener which developed into the Children's Health Fund, the Children's Health Project of D.C. was also started in 1992 and serves its patients at no cost to their caregivers. On a weekly basis, this mobile van visits eight sites in national health professional shortage areas, focusing on Wards 5, 6, 7, and 8, in addition to going monthly to Grandma's House, which houses children who are in District custody. These sites are as follows: (in Southeast) AME Allen Chapel Church, Atlantic Terrace Apartments, Parkland Apartments, Ferebee Hope, Congress Park Apartments, and Fort Dupont Community Center; and in Northeast, Brentwood Apartments [45].

A popular option for improving accessibility for Eastern Washington is the construction of a healthplex at Reservation 13. The money is a one-time fund of \$212 million, which was in part gained from a 1998 settlement with the tobacco industry to major U.S. cities as

compensation for the care of persons made ill by tobacco use [46]. This plan primarily involves investment in ambulatory care and health care system improvement as opposed to primarily focusing funds in additional or improved capacity at hospitals, including the Greater Southeast Community Hospital. Reservation 13 is the 67 acres of land surrounding what previously was D.C. General Hospital. According to the Mayor's Health Care Task Force, the term healthplex refers to a comprehensive facility which offers outpatient services such as emergency care, primary and specialty care physician offices, ambulatory surgery, diagnostic imaging, laboratory tests, and health education. To ensure access to more intensive inpatient treatment, formal partnerships with hospitals are made. The plan which won the majority of votes from Task Force members also includes lesser renovations for Greater Southeast as well as investment in systems improvement such as trauma transport and emergency medical services issues [47]. However, with Mayor Adrian Fenty taking over it remains to be seen what direction his administration will pursue to address this need for improved accessibility in Southeast.

For the uninsured and the underinsured, quality primary care tends to be administered at smaller, community-based health providers, which are commonly referred to as medical homes. The benefit of smaller, community-based organizations providing social services in general has been widely-documented. Some benefits have been outlined by the Corporation for National and Community Service, which runs programs such as AmeriCorps which brings individuals into intensive service at nonprofits, public agencies, and faith-based and community-based organizations [48]. The advantages of community-based organizations, of which community clinics are a part, relate to the physical location and credibility in particular neighborhoods and with the clients they serve including the following: trust; integrated personal relationships within the community; experience with directly serving those in need; desire to help those in need

within their community; established leadership within the community; experience in volunteer recruitment, management, and retention; and resources such as space and equipment [49].

Funded by public and private grants in addition to donations and assisted by volunteers, the programs and initiatives of community-based organizations are more likely to be in tune with the needs of the community and also more likely to get better participation rates by those in the need, thus, in terms of health care, improving the primary care net with invaluable extensions reaching out to the indigent.

In the District, according to the D.C. Primary Care Association (DCPCA), there are forty safety net health centers, which are essentially community clinics, including three mobile vans (two of which were previously described). Eight of these are located in Southeast D.C., six of which are operated by Unity Health Care, Inc. (UHC). Two, namely Whitman-Walker's Max Robinson Clinic and Unity Health Care, Inc.'s (UHC) Phoenix Center, are devoted specifically to HIV patients. Family and Medical Counseling Services provide workers, HIV patients, and substance abusers with the counseling support necessary as well as psychiatric and family counseling. The other five UHC clinics are all health centers providing social services in addition to primary and specialty care, including pediatrics. These clinics are as follows: Congress Heights, Good Hope Road, Stanton Road, Woodland Terrace, and Anacostia. Moreover, Hunt Place (UHC), East of the River (UHC), and Woodson Adolescent Wellness Center (another school-based facility), though in Northeast D.C., are nonetheless in ZIP code 20019, or Ward 7. There are other clinics outside of Southeast which provide care to underserved pediatric patients. Two of the exclusively maternal and/or pediatric health clinics in the District are the D.C. Developing Families Center (NE) and the Eastern Student Health Center (an UHC school-based facility also in NE) [50]. Thus, for the fast-growing population of

children in Wards 7 and 8, there are, in addition to the two mobile pediatric clinic vans, eight community clinics for pediatric and adolescent patients directly in their Wards, which have the capabilities to do both well- and ill-child care, though the majority of patients come in during periods of sickness.

In order to better coordinate these community health centers, to ensure quality care for patients, and to prevent pre-mature closing of clinics serving the indigent, the DCPCA is spearheading the Medical Homes D.C. program. A medical home is “a primary care practice where a patient’s health history is know, where a patient is seen regardless of ability to pay, and where a patient routinely seeks medical care” [51]. Medical homes are essential to the health of children in particular because constant primary care is essential to monitor child development. Pediatric medical homes also maintain continuity of care at this critical point in life when small health problems if left untreated could affect the rest of one’s life [52].

Working with the Brookings Institution, Greater Washington Research Program, and funded by a Healthy Communities Access Program grant from the Health Resources Services Administration of the Federal Government and by the Government of the District of Columbia, this program has awarded various clinics money for planning, design and development, and/or construction of projects to improve access to primary care. These initiatives should be able to provide for 200,000 patient visits per year [51]. Moreover, Medical Homes D.C. plans to raise \$90 million from public and private funds in order to allow clinics to spread or renovate in areas where doctors are scarce. Current collaborators include the D.C. mayor and D.C. Council, D.C. Department of Health, Howard University College of Medicine and Hospital, and the Health Working Group of the Washington Regional Association of Grantmakers. Recognizing that D.C. has the lowest proportion of uninsured residents in the nation, the Medical Homes D.C.

program aims to increase the number of physicians in underserved neighborhoods [53]. In Wards 7 and 8, award winners include Community of Hope, Family and Medical Counseling Service, Inc., Anacostia (UHC), Hunt Place (UHC), and Whitman-Walker Clinic [51].

In this way, collaborative efforts throughout the District are underway to improve access to primary care including pediatrics. These projects aim at increasing the number of physicians in underserved areas and improving facilities in clinics in order to prevent residents from waiting to receive necessary medical attention until their conditions turn grave or to prevent them from receiving care at emergency rooms where they cannot receive preventative or continual care [53]. Whether through improving hospital capacity or planning for a healthplex, whether extending the reach of primary care through mobile clinics or supporting community clinics, the District's government, health advocates, and residents are actively working to address the access needs of the large child population in the neighborhoods east of the Anacostia River.

### *Health Insurance*

Another factor in access to care besides physical proximity is health insurance coverage. It has been demonstrated in several studies that health insurance coverage improves access to services, ultimately improving health outcomes [54]. However, uninsurance and underinsurance are persistent problems in our health care system nationwide. Across the United States, an estimated 45.8 million people were reported to be without health insurance coverage, private or government, in 2004, an increase of 800,000 people from 2003. Moreover, 8.3 million, or 11.2% of children under the age of 18 were uninsured in 2004, with children in poverty more likely to be uninsured than all children at a rate of 18.9%. Rate of uninsurance gradually increases as children get older. In 2004, 10.1% of children under 6-years-old were uninsured, along with

11.0% of those 6-11, and those 12-17-years-old had the highest rate of uninsurance at 12.5%. In terms of race and ethnicity, African-American children were second most likely to be uninsured, with an uninsurance rate of 13.0% in 2004, behind Hispanic children at 21.1%., compared with only 7.6% for Caucasians [8]. Despite the fact that, in comparison to the rest of the country, D.C. has the lowest proportion of uninsured residents in the nation, adequate health insurance continues to be a major factor on the agendas of health officials in the District. In D.C. in particular, the uninsurance rate decreased from 16.0% in 2000 to 9.0% in 2003 [31]. However, the vast majority of uninsured children under 19 living in the District are African-Americans. In 1998, African-American children comprised 75.8% of all uninsured children in the District [55].

Extending health insurance coverage to all children is an important public policy goal because undetected and inadequately treated childhood health problems may face severe consequences later in life. Childhood is a critical time when cognitive, physical, behavioral, and emotional development require early and frequent monitoring [52]. Very young children are at increased risk for acquiring preventable conditions if they are uninsured. Immunizations are likely to be late or incomplete, and children in school tend to suffer if medical needs go untreated. As uninsured children become adolescents, there is increased risk of unmet health needs in the areas of substance abuse, sexually transmitted infections, and mental health [56]. Newacheck found that uninsured children were about 5 times as likely as privately insured children to have at least one unmet health need per year [20]. To address the needs of the uninsured, over the past 15 years, federal and state initiatives have significantly expanded health insurance for uninsured children [52].

It is undeniable that Medicaid does indeed play a large role in providing a safety net of children. Medicaid is the largest public insurer of children [57]. In the ten-year period from

1977-1987, there was a downward trend in employer-based coverage of children. This lack of private coverage contributed significantly to the 40% increase in the proportion of uninsured children. However, between 1988 and 1992, there was a slight decrease in the number of children without any health insurance largely do to the expansion and elastic nature of the Medicaid program for children [58]. During the 1980s and early 1990s, Congress expanded the Medicaid program to extend eligibility to almost all poor children [52]. In 1998, the D.C. DOH reported that nearly 60.2% of children under the age of 19 living in the District are covered under Medicaid [55]. Additionally, the drop in avoidable hospitalizations among children coincides with the expansion of enrollment in Medicaid for children ages 0-17 in the District of Columbia, with significant declines, over 45% in avoidable hospitalizations in Wards 7 and 8 [59].

One of the measures Congress passed was the Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) program. This program falls under Title V of the Social Security Act of 1935, which seeks to provide health services for all women and children. The Title V Maternal and Child Health Services Block Grant, administered by the Health Resources and Services Administration, continues to financially support these efforts throughout the United States. Those that receive Title V grants must assist with coordination of EPSDT, the coordination of state Medicaid programs, provide a toll-free number for families seeking Medicaid providers, provide outreach to eligible children and pregnant women, share data collection responsibilities, and provide services for children with special health care needs and disabilities not covered by Medicaid. EPSDT is Medicaid's child health component that since 1967 seeks "to discover, as early as possible, the ills that handicap our children" and to provide "continuing follow up and treatment so that handicaps do not go neglected" [60]. In D.C., of the children and adolescents eligible for EPSDT, 60.3% of those aged 10-14 had one initial or

periodic screen in 2003. However, this number decreases with age with only 49.6% of those between 15 and 18 receiving the services [31].

In 1997, Congress created the State children's Health Insurance Program (SCHIP) for children in families with incomes too high to qualify for Medicaid, but who still cannot afford private insurance. SCHIP is part of the Balanced Budget Act of 1997 under Title XXI of the Social Security Act. SCHIP was recognized as a bipartisan effort to expand health care coverage to low-income children living in families whose income was too high to qualify for Medicaid, but who largely unable to afford private insurance. Congress allocated about \$40 billion for the program which should last through 2007. SCHIPS allows the states flexibility in designing their own SCHIP programs and was never intended to be an entitlement program. Instead, it was encouraged that SCHIP be marketed as a commercial product in order to avoid the stigma of programs like Medicaid and welfare. Moreover, SCHIP programs seek to improve on the principles and practice of Medicaid by increasing outreach and both facilitating and simplifying the enrollment process [57]. D.C.'s SCHIP plan included eligibility for children living in families determined as near-poor, or also called the working poor, defined as up to 200% of the federal poverty level. D.C. had both people who dropped their expensive private insurance and previously uninsured children enroll in SCHIP program [55]. D.C. is allotted \$12 million federal dollars each year under SCHIP, and D.C. has three years to use their SCHIP allocation. In addition, since SCHIP is a partnership with state and federal government, for every \$1 spent on DC SCHIP, 79¢ comes from the federal government and 21¢ from D.C. government [61]. However, according to the 2006 Kids Count Fact Book, the number of children who applied for and eligible fore Medicaid/SCHIP decreased for the first time in five years, though only by 1.3% [11].

Nevertheless, SCHIP has thus far been successful providing health coverage to about 6 million children nationwide. However, with the authorization period ending this year for SCHIP, politics may wind up getting the best of the program. The nonpartisan Congressional Budget Office claims the program needs the current \$5 billion a year plus another \$13-15 billion increase over the next five years in order to keep covering the same number of children. However, President George w. Bush only plans to add \$4.8 billion over the five years, in addition to the current \$5 billion a year budget. He also says the program should only focus on the neediest kids. Some members of the Democratic party, on the other hand, want to extend coverage to more children and therefore increase the funding level to as much as \$50 billion over the next five years [62]. Therefore, it will be interesting to see how this battle in Congress pans out in the coming months.

In D.C. the Medicaid and SCHIP rank among the nation's highest in shares of populations covered. In addition to these programs, Mayor Williams developed a locally-funded public, private collaboration, called the D.C. Health Care Alliance. The Alliance, like the D.C. SCHIP, offers eligibility to uninsured residents with incomes up to 200% of the federal poverty level and is a pioneering managed-care program [54]. When the city closed D.C. General Hospital in 2001 as an inpatient facility, it created the D.C. Health Care Alliance which provides services to those ineligible for other public health insurance programs. However, it primarily serves low-income adults without children. Nonetheless, the Alliance has helped to strengthen the financial wherewithal of nonprofit health centers [63].

Private-sector insurance efforts have also sought to extend subsidized coverage to otherwise uninsured children [52]. Yet despite these efforts to expand health insurance coverage, low-income children still disproportionately suffer from almost every disease and

show higher rates mortality. Though the number of children with some type of insurance coverage has increased, parents have not reported improved health status. This disconnect between efforts and results can be related to noninsurance barriers to care including personal and family factors such as cultural attitudes and beliefs and geographic barriers as described in the previous section [52]. In addition to the personal and family factors, coverage does not always translate into care or improved health status because low Medicaid payments discourage pediatricians from participating in the program [27]. Moreover, even with Medicaid and SCHIPS, publicly insured children still experience a greater frequency of unmet health needs than privately insured children [20] and publicly insured children are twice as likely to report a lack of a regular source of care [58]. Thus, the recent efforts have been made to extend health insurance coverage by both federal and District governments, and the efforts and results have been substantial. But still much is needed to bridge the gap between the publicly insured and the privately insured and also to reach out to the children that remain uninsured.

### *Translating Efforts and Plans into Results*

Thus, we are faced with an urgent situation, equipped with the opportunity to positively impact the health of the children living east of the Anacostia River and children living in similar situations throughout our nation. The major scientific advancements made in disease surveillance, development of more vaccines, and up-and-coming information technology strategies [64] are overshadowed by the inability of low-income children to receive adequate health care. The impact of poverty and its confounding factors, such as unemployment, single female headed households, crime, and drug use, have negative effects on child health and

development predisposing children in Wards 7 and 8 of the District to avoidable illnesses and worse health outcomes than children in other parts of the city.

Efforts to improve child health have come from both the federal and D.C. governments as well as from community-based organizations. These initiatives in the areas of geographic distribution of health professionals and of health insurance coverage have resulted with mixed degrees of success but are nonetheless critical to get the ball rolling in bridging the gaps of health disparities in the District. Programs such as Healthy People 2010 target both individual and community improvements. However, implementation of ideas must include sensitivity for the non-financial barriers to care, including intangibles such as cultural competency and the ability of guardians to read and write. Moreover, these policies and programs must form in conjunction with the systematic obstacles low-income children face. Knowing that the causes and contributing factors of poverty are based within socioeconomic, race, education, and other broad societal issues, progress in addressing health disparities will only be accomplished in a broader context of social justice, which would include all of these other facets of life. The critical nature of child health as a reflector of community health for future generations impresses the importance of addressing the needs of the marginalized populations east of the river. The preliminary improvements such as expansion of Medicaid eligibility and the creation of SCHIPS initiatives provides evidence that efforts can be met with positive results. The opportunity for significant change is magnified with the recent induction of Mayor Fenty who could bring fresh perspective on the issue. Thus, though the District still has strides to make in providing equal health care for all, precedence has been set and the door is open for successful improvements in the health of children living in Wards 7 and 8.



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