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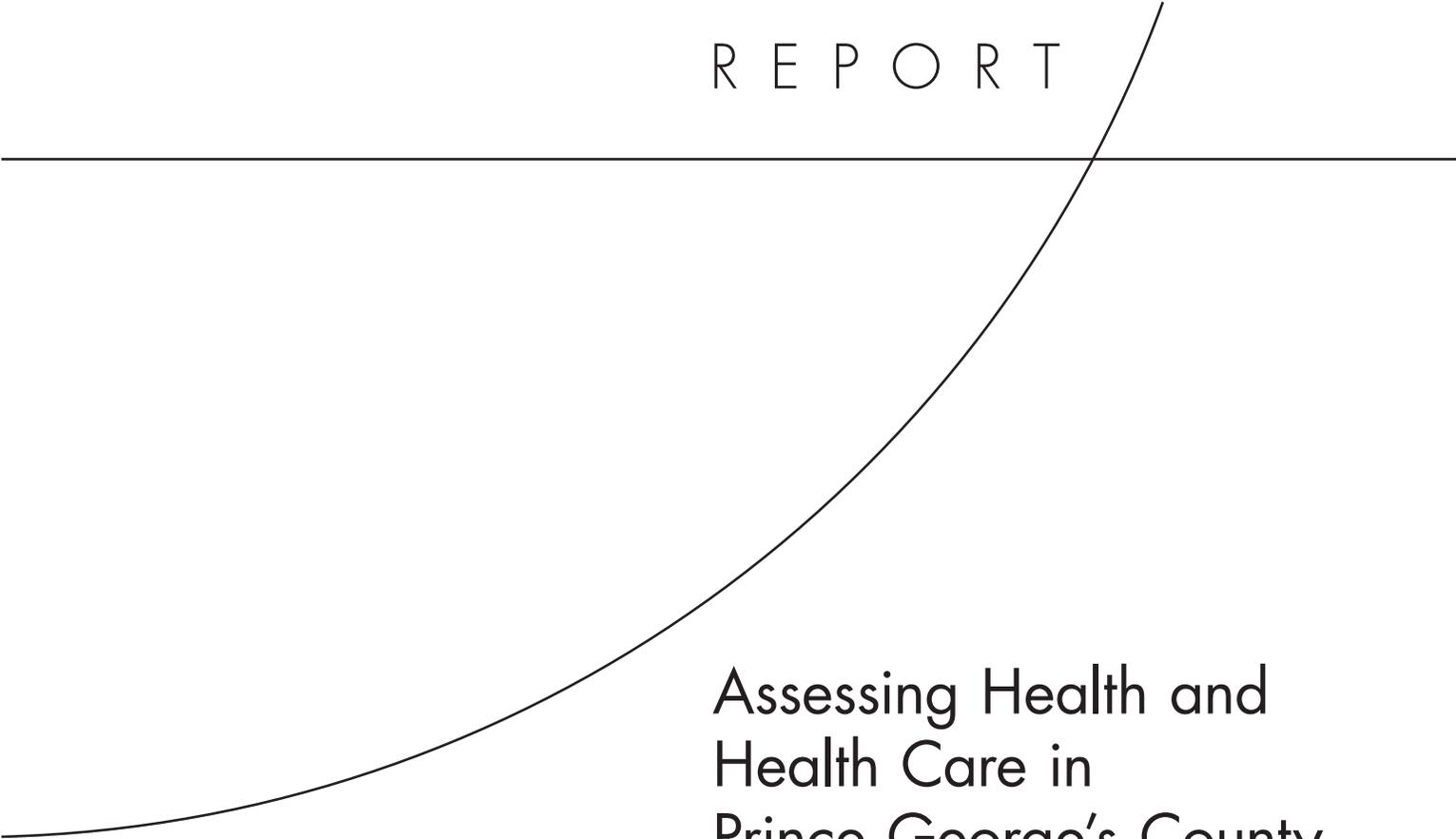
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R E P O R T



Assessing Health and Health Care in Prince George's County

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Preface

Like most counties in the United States, Prince George's County, Maryland, faces the ongoing challenge of ensuring the health of its residents in the context of severe fiscal constraints. This challenge has grown more complex in the past decade, as the County's population has become increasingly diverse, demographically and sociodemographically.

To gain a clearer understanding of these challenges and how they might be addressed, the Prince George's County Council contracted with the RAND Corporation in 2008 to study the changing health care needs of County residents and the capacity of the County's health care system to meet these needs. A team of RAND researchers reviewed existing studies and conducted original data analyses in three areas:

1. the demographic and health characteristics of Prince George's County residents
2. health care system access and capacity
3. patterns of hospital and emergency department use.

In conducting these analyses, the team also considered County health and health care dynamics against the background of surrounding jurisdictions, including other Maryland counties and the District of Columbia.

This technical report describes the results of our analysis. This report is divided into two parts. The report begins with a summary of findings and conclusions that is targeted toward a non-technical audience. In a series of technical chapters following the summary we provide detailed analyses, data descriptions, and descriptions of methodological approaches.

Comments are welcome and may be addressed to Dr. Nicole Lurie (email: Nicole_Lurie@rand.org; phone: (703) 413-1100, x5127). A profile of RAND Health, abstracts of its publications, and ordering information can be found at www.rand.org/health.

Executive Summary

Like most counties in the United States, Prince George's County, Maryland, faces the ongoing challenge of ensuring the health of its residents in the context of severe fiscal constraints. This challenge has grown more complex in the past decade, as the County's population has become increasingly diverse, demographically and sociodemographically.

To gain a clearer understanding of these challenges and how they might be addressed, the Prince George's County Council contracted with the RAND Corporation to study the changing health care needs of County residents and the capacity of the County's health care system to meet these needs. A team of RAND researchers reviewed existing studies and conducted original data analyses in three areas:

1. the demographic and health characteristics of Prince George's County residents
2. health care system access and capacity
3. patterns of hospital and emergency department use.

In conducting these analyses, the team also considered County health and health care dynamics against the background of surrounding jurisdictions, including other Maryland counties and the District of Columbia.

Demographic and Health Characteristics

Prince George's County is relatively affluent and highly diverse. Prince George's County is home to a large number of upper-income black residents. Compared with neighboring jurisdictions, Prince George's County also has the largest proportion of Hispanic residents and non-English-speaking residents, second to Montgomery County.

Many Prince George's residents commute outside the County. Three in five employed residents work outside Prince George's County. Compared with neighboring jurisdictions, County residents are the least likely to live and work in the same county and most likely to work outside the state and to commute 60 or more minutes to work.

The health status of Prince George's residents varies widely. Residents with less education are more likely to report a chronic condition than those with more education. At the same time, whites and blacks and people with household incomes above and below \$50,000 per year self-reported having a chronic condition at similar rates. Among Prince George's residents, relatively high rates of asthma, obesity, HIV/AIDS, and homicide are additional areas of concern.

The health behaviors and use of preventive care by adults within Prince George's varies widely. County residents who are poor and less educated are more likely to drink

heavily, smoke, not exercise, and not use seatbelts. Preventive care use among uninsured residents of Prince George's is sharply lower than among insured residents.

Capacity and Access in the County Health Care System

Prince George's residents are uninsured at relatively high rates. An estimated 80,000 County adult residents are uninsured, more than twice as many as neighboring Howard County and roughly one-third more than in Montgomery County.

Primary care physicians are in short supply in Prince George's County. Prince George's County has a substantially lower per capita number of primary care physicians compared with neighboring jurisdictions.

Prince George's appears to have adequate hospital capacity. Hospital capacity in Prince George's County appears to have kept pace with population growth. However, the County has a relatively low per capita supply of medical/surgical, obstetric, pediatric, psychiatric beds compared with neighboring counties. Prince George's appears to have a relatively low per capita supply of emergency department (ED) treatment slots compared with other jurisdictions. At the same time, County residents used ED capacity more intensively than residents of other jurisdictions.

Prince George's lacks a primary care safety net. The County's capacity to provide safety-net care, beyond hospital and emergency care, is limited. Relatively few primary care physicians practice in poorer areas of the County. Moreover, the County has only one federally qualified health center—Greater Baden Medical Services, Inc., which serves uninsured and low-income patients. Catholic Charities and Prince George's Hospital Center also run clinics that provide care to the uninsured. Together these clinics provide care for only a small proportion of the roughly 80,000 uninsured County adult residents.

Patterns of Hospital and Emergency Department Use

Ambulatory care-sensitive hospitalizations and emergency department admissions are concentrated in poor regions of Prince George's County. Ambulatory care-sensitive hospitalizations and ED visit rates by Prince George's residents under age 65 are highest for residents who lived in the southern portions of the County. Adult primary care physicians and specialists licensed in Prince George's County appear to practice in areas closer to the County's six hospitals and not in areas experiencing high numbers of ambulatory care-sensitive hospitalizations and ED visits.

A substantial proportion of Prince George's residents leave the County for hospital and emergency care. Patients from Prince George's County are more likely to cross jurisdictional borders to use hospitals and EDs compared with residents of Montgomery County and the District of Columbia. More than 50 percent of inpatient discharges and

more than 25 percent of ED visits by uninsured Prince George's residents are to hospitals located outside of the County.

Policy Implications

Strengthening the Prince George's ambulatory care safety net is an urgent priority.

The County lacks a well-functioning ambulatory care safety net. This finding, combined with daytime commuting patterns, suggests that more-affluent Prince George's County residents are able to use primary care providers outside of the County, either by necessity or preference. Use of care outside of the County is a less viable option for poor residents. The absence of a safety net threatens to perpetuate health disparities and lead to greater preventable use of care in expensive hospital settings. Options for expanding the County's capacity to care for poor and uninsured residents include strengthening and expanding existing safety-net capacity, investing in new infrastructure, expanding the primary care workforce, and stepping up efforts to screen and enroll individuals into Medicaid. The close proximity of many underserved residents to the District and Montgomery County suggests the possibility of regional partnerships.

Understanding the economic consequences of out-of-County use of inpatient and emergency care by Prince George's residents. The fact that a high proportion of residents work and receive medical care outside the County suggests that out-of-County use is driven by resident preferences, convenience, and provider referral patterns. Out-of-County use by insured residents results in lost revenue to County hospitals, lost revenue to local businesses serving them, and lost jobs for County residents. Likewise, out-of-County use by uninsured residents can increase political tensions to the extent that uncompensated costs are not subsidized by federal and state governments. Formulating appropriate policy responses requires a deeper understanding of the underlying causes of out-of-County use. If, for instance, County residents perceive the quality of out-of-County hospitals to be better, then anticipated economic growth in Prince George's may perpetuate existing demand patterns. If on the other hand, residents prefer to use care inside the County but are unable because of out-of-county commuting, then strategies aimed at building a stronger physician referral network, increasing the number of primary care physicians in the County, and increasing the availability of care on weekends and before- and after- hours may keep more patients in the County.

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Summary Report

Introduction

Officials of Prince George’s County face the ongoing challenge of ensuring the health and well-being of County residents in a fiscally constrained environment. This challenge has grown more complex in the past decade, as the County’s population has become more ethnically and socioeconomically diverse. In particular, State and County officials have encountered challenges with the financial viability of Prince George’s Hospital Center (Washington Post Editorial Board, 2007) and the adequacy of the region’s health care workforce to meet the needs of its residents (Boucher & Associates, 2008). At the same time, the capacity of the health care system in the broader National Capital Region to meet the needs of its low-income residents has also changed following the 2001 closure of the region’s traditional safety-net provider, DC General Hospital (Levine and Helderman, 2007).

To gain a clearer understanding of these issues, the Prince George’s City Council contracted with the RAND Corporation to study the changing health care needs of County residents and the capacity of the County’s health care delivery system to meet these needs.

Study Purpose and Approach

In order to describe and assess the health care needs of County residents and the capacity of the County’s health care delivery system, the RAND research team conducted two types of activities.

1. We reviewed existing studies on the health and health service utilization of Prince George’s County residents and synthesized the findings.
2. We conducted original analyses of data about residents’ health behaviors, the County’s physician workforce, and hospital discharges.

In conducting this analysis, the team also considered County health and health care dynamics against the background of surrounding jurisdictions, including other Maryland counties and the District of Columbia. In the sections below, we discuss our findings and identify potential areas for policy attention in three main areas:

1. demographic and health characteristics of County residents
2. health care system access and capacity
3. patterns of hospital and emergency department use.

In the technical report that follows, we provide detailed descriptions of data sources, our evaluation approach, analytic strategies, findings, and supplementary analyses (presented in appendixes).

Key Findings—Demographic Characteristics

The health care profile of Prince George’s County residents—their health status, access to health care services, and health care utilization—is closely connected to residents’ demographic characteristics, including age, gender, race/ethnicity, and income.

In examining the demographic and health characteristics of Prince George’s County residents and comparing them with surrounding jurisdictions, two salient points emerged: first, that the County is increasingly affluent but still highly diverse, both ethnically and socioeconomically; and second, that a relatively high proportion of County residents work outside the County and spend a substantial amount of time commuting.

Prince George’s County is relatively affluent and highly diverse.

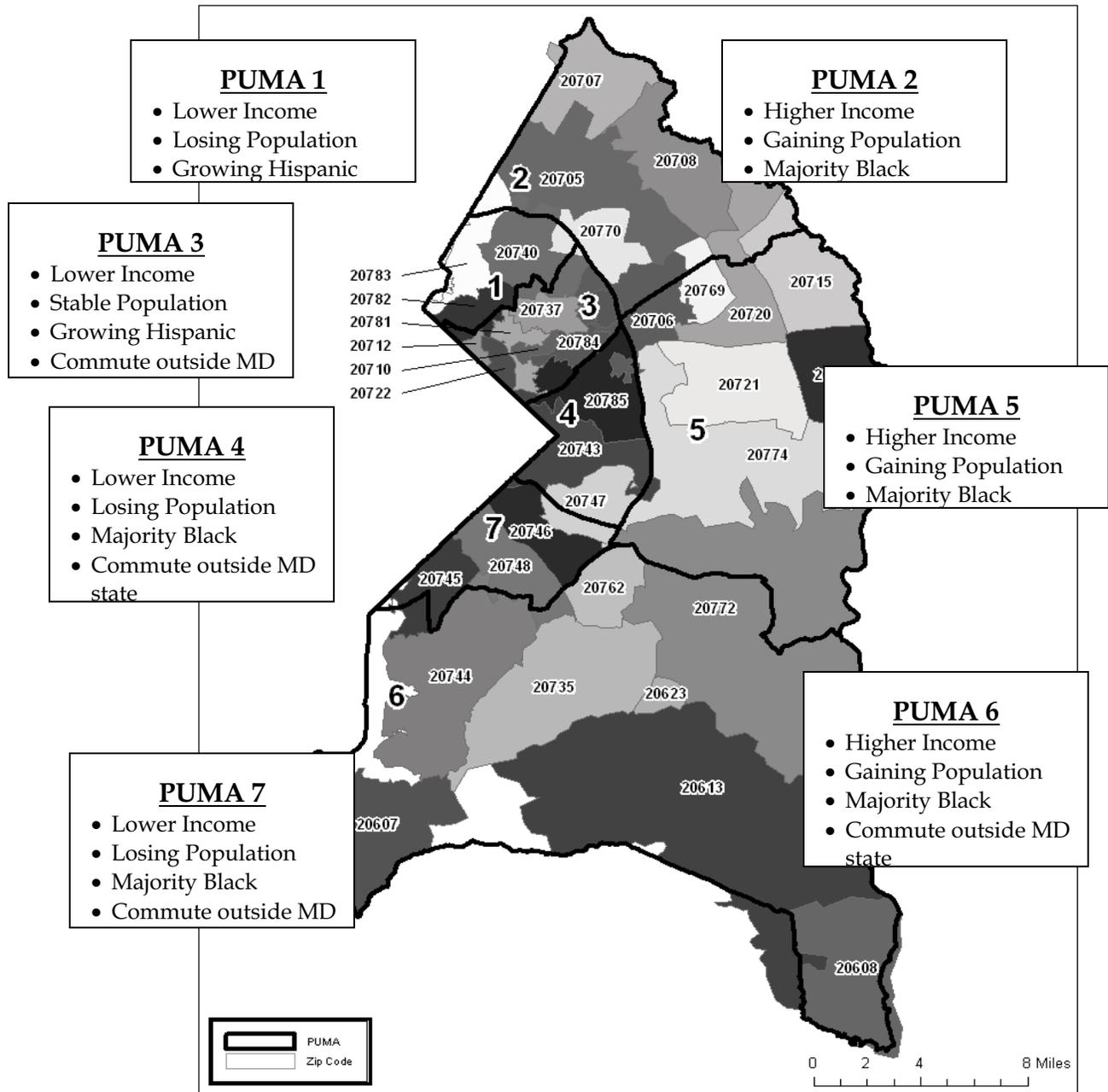
Residents living in the northern regions of Prince George’s County located inside the Beltway have the highest poverty rates and lowest educational attainment. Residents living outside the Beltway are substantially more affluent and more highly educated (see Figure S.1).

- Prince George’s County is home to a large number of upper-income black residents.
- Compared with neighboring jurisdictions, Prince George’s County has the largest proportion of Hispanic residents and non-English-speaking residents, second to Montgomery County, mostly due to a large influx of Hispanics to the northern region of the county located inside the Beltway.

Many Prince George’s residents commute outside the County.

- Three in five employed residents work outside of Prince George’s County and one in five commute more than 60 minutes to work (see Figure S.2).
- Compared with neighboring jurisdictions, Prince George’s County residents are the least likely to live and work in the same county and most likely to work outside the state and to commute 60 or more minutes to work.
- Residents living in the southern regions of the County spent the longest time commuting, and are most likely to work outside of Maryland.

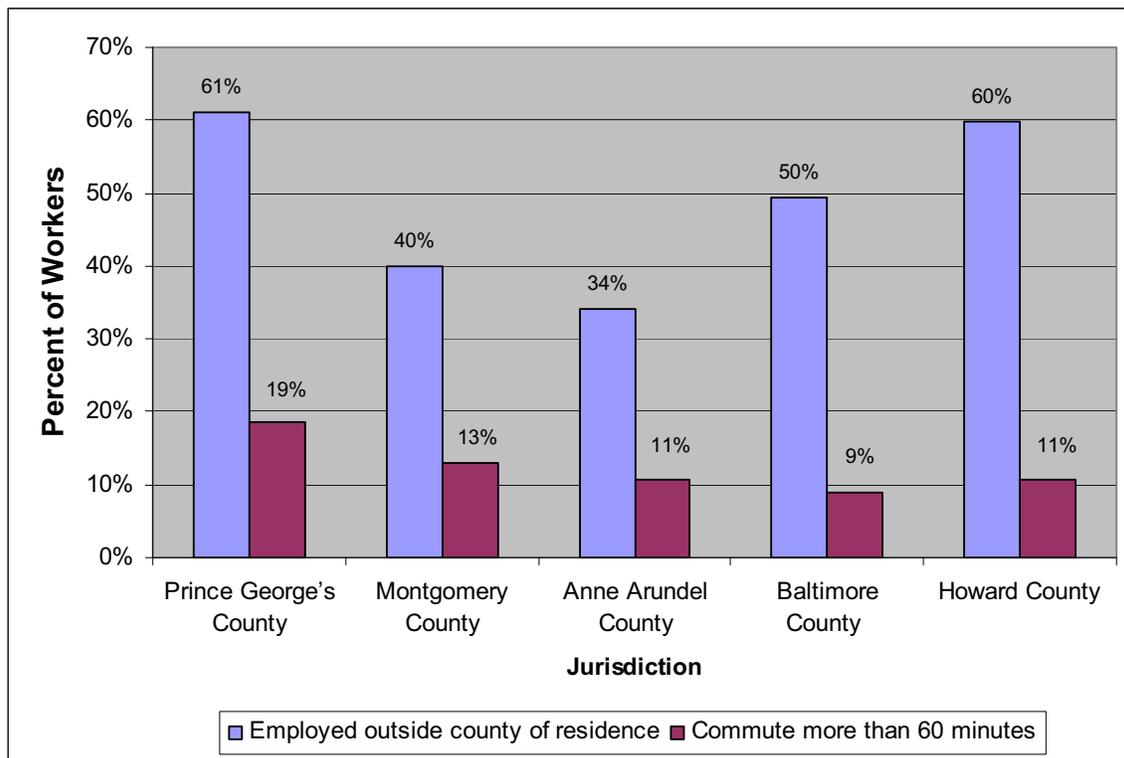
Figure S.1 Demographic Characteristics in Prince George’s County Public Use Microdata Areas (PUMAs)



SOURCE: American Communities Survey, 2006.

NOTE: To examine variation in demographic characteristics within Prince George’s County, we rely on geographic areas defined by the U.S. Census Bureau, called Public Use Microdata Areas (PUMAs). There are seven non-overlapping PUMAs within Prince George’s County. Each PUMA contained approximately 100,000 people at the time of the 2000 Census. The seven PUMA boundaries and ZIP code boundaries are shown in the figure. The region of Prince George’s County located inside Interstate 495 (the “Beltway”) is divided into four PUMAs; the part located outside of the Beltway is divided into three PUMAs. The larger geographic size of PUMAs located outside the Beltway reflects their lower population density.

Figure S.2 Percentage of Workers Employed Outside the County in Which They Reside and Commuting More Than 60 Minutes to Work by Jurisdiction (2006)



SOURCE: American Communities Survey 2006.

Key Findings—Health Status and Health Behaviors

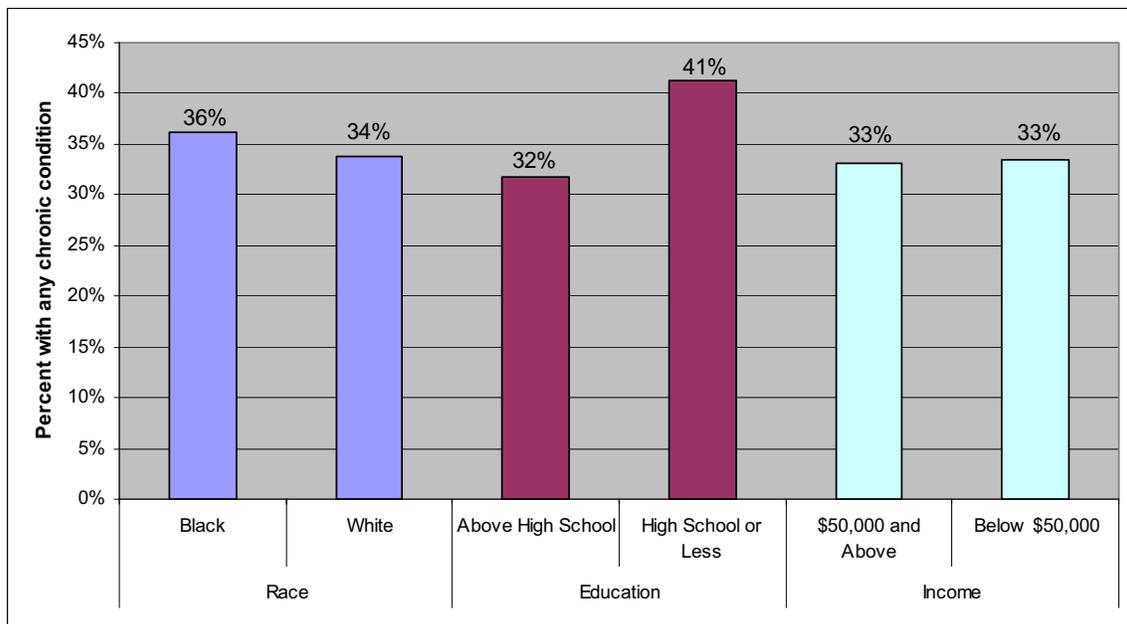
There are many ways to characterize the health of a population. Measures of the prevalence of major chronic conditions, such as asthma, heart disease, and hypertension, and rates of mortality, especially infant mortality, are commonly used indicators of population health. Other measures include the prevalence of health behaviors that are associated with reducing the risk of disease, such as not smoking or getting enough exercise. The health of a population is affected by a number of factors including non-medical determinants of health (e.g., socioeconomic conditions, the built environment), health behaviors, and the effectiveness of the public health and health care systems.

To understand the health status of County residents, we used publicly available survey data to examine the health status of different populations within the County and to compare the overall health status of County residents to that of residents in other neighboring jurisdictions.

Residents in poor health are concentrated in the southwestern regions of Prince George’s County; but the overall health status of County residents is comparable to those living in many neighboring jurisdictions.

- Rates of self-reported health status, heart disease, asthma, hypertension, cerebrovascular disease, and disability for Prince George’s residents are comparable to those of residents of many neighboring jurisdictions.
- Among Prince George’s residents, those with less education are more likely to report a chronic condition compared with those with more education (see Figure S.3). At the same time, whites and blacks and people with household incomes above and below \$50,000 per year self-report having a chronic condition at similar rates.

Figure S.3 Percentage of Prince George’s County Residents Self-Reporting a Chronic Health Condition by Race, Education, and Income (2005 and 2006)



SOURCE: Authors’ analysis of data from the 2005 and 2006 Behavioral Risk Factor Surveillance Surveys.
 NOTE: The sample was not large enough to support a separate estimate for Hispanics. Educational difference was significant at the $p < .01$ level.

- Following national trends in racial disparities, site-specific mortality rates from cancer tended to be relatively high for blacks, while incidence rates for blacks were relatively low (See Table 1). Low incidence rates and high mortality rates can indicate poor screening and detection rates for blacks compared with whites as well as poorer quality treatment once cancer is identified.
- High mortality among young and middle age adults is an indicator of poor underlying health status. Mortality among adults age 18–64 is particularly high in southwestern regions of the County (PUMAs 4, 6, and 7 in Figure S.1). High

mortality in this region is particularly pronounced for those age 45–64 with heart disease, diabetes, and cerebrovascular disease.

Table S.1 Cancer Incidence and Mortality Rates per 100,000 Prince George’s Residents, by Race and Type of Cancer, 2006

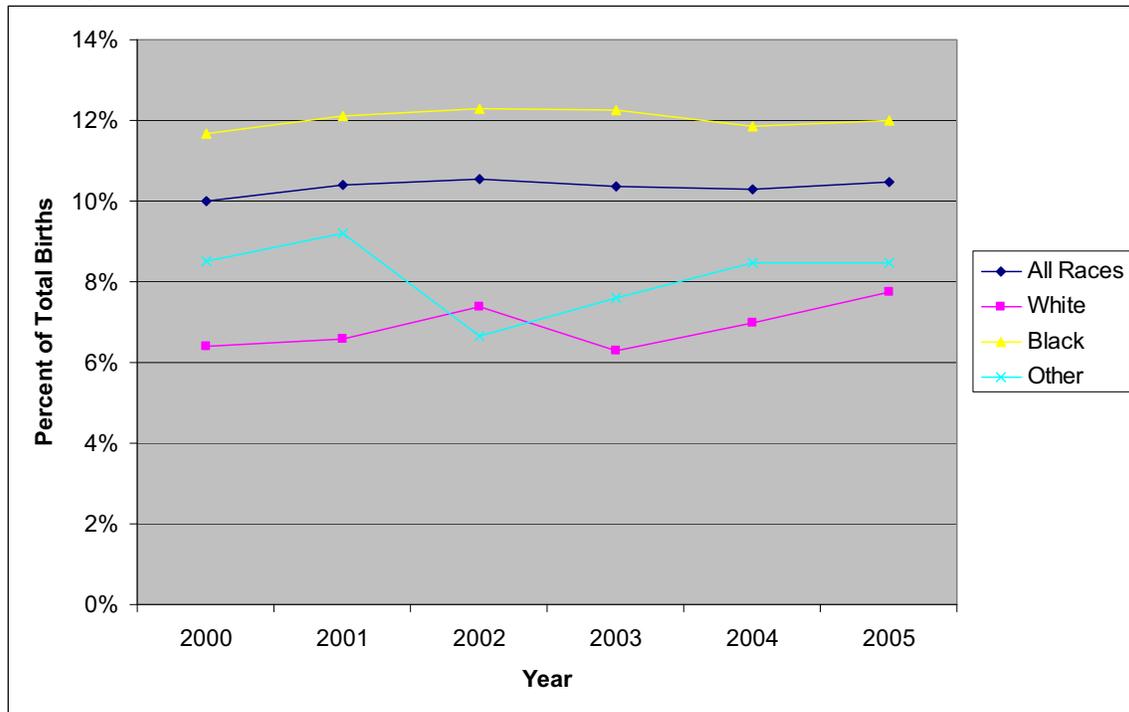
Type of Cancer	White		Black		Other	
	Incidence	Mortality	Incidence	Mortality	Incidence	Mortality
All Sites	—	215.1	—	226.4	—	108
Lung & Bronchus	62.5	58.6	50.5	55.6	34.8	27.3
Colorectal	49.1	24.3	50.7	27.7	46.4	14.1
Female Breast	123.9	27.3	107.9	31.7	99.2	10.8
Prostate	150.6	27.7	221.1	59.9	129.9	12.6

SOURCE: Maryland Cigarette Restitution Fund Cancer Report, 2006.

NOTES: Rates are age-adjusted to the standard U.S. 2000 population.— indicates data not available.

- Infant mortality rates in Prince George’s dropped steeply in 2004 after being at levels comparable to Baltimore City and the District of Columbia during the early part of the decade.
- During the early part of the decade, rates of low birth weight infants were consistently higher among black babies born in Prince George’s. In 2002 and 2003, low birth weight rates among whites and other racial groups began to increase (see Figure S.4).
- Among Prince George’s residents, relatively high rates of asthma, obesity, HIV/AIDS, and homicide are additional areas of concern.

Figure S.4 Percentage of Total Births at Low Birth Weight in Prince George’s County by Race and Year



SOURCE: Governors Office for Children (<http://www.ocyf.state.md.us/>) and DC Department of Health (<http://doh.dc.gov/doh/cwp/view,a,1374,q,602031.asp>).

NOTE: Low birth weight = less than 2,500 grams at birth.

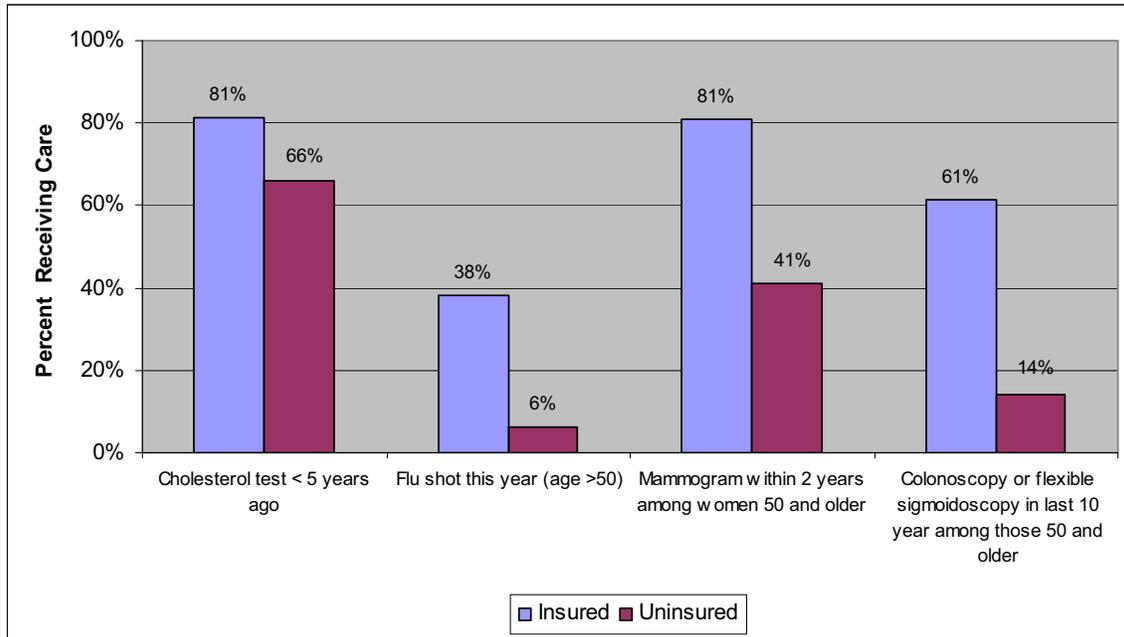
The health behaviors and use of preventive care by adults within Prince George’s varies widely, but are comparable overall to those residing in other jurisdictions.

Population health is also affected by health behaviors, such as smoking, physical exercise, and diet. Modifying the behaviors that contribute to injuries and chronic disease can improve the quality of life for individuals and save money for the health care system. In this context, the pattern of health behaviors in a defined population reflects the ability of individuals to maintain their own health and the effectiveness of the public health and the medical care systems to maintain good population health.

- Compared with residents of neighboring jurisdictions, Prince George’s County residents are less likely to drink, more likely to smoke, and less likely to exercise. County residents receive a range of screening tests at rates comparable to residents of neighboring jurisdictions.
- Within the County, residents who are poor and less educated are more likely to drink heavily, to smoke, to not exercise, and to not use seatbelts.
- With respect to preventive care, black Prince George’s County residents are less likely than whites to report being vaccinated with the flu and pneumococcal vaccines, but more likely to report being tested for HIV, have received a mammogram within the last two years, and have had a cholesterol test within the last five years.

- Rates of preventive care use among uninsured residents of Prince George’s were sharply lower than for insured residents (See Figure S.5).

Figure S.5 Preventive Health Care Self-Reported by Prince George’s County Residents Age 18 and Older by Health Insurance Status, 2005–2006 Combined



SOURCE: Authors’ analysis of data from the 2005 and 2006 Behavioral Risk Factor Surveillance Surveys.
 NOTE: Insurance status differences were significant at the $p < .05$ level.

Key Findings—Capacity and Access in the County Health Care System

Access to health care depends on affordability (which is affected by insurance status), the availability of health care providers when and where care is needed, and the acceptability of providers to patients (Penchansky and Thomas, 1981, Girt, 1973, Haynes, 1991, Love and Lindquist, 1995, Nemet and Bailey, 2000, Allard, Tolman and Rosen, 2003, Hadley and Cunningham, 2004, Gregory et al., 2000). Our examination of access and barriers to care uncovered some potential problem areas in this respect: (1) rates of uninsurance in Prince George’s County are relatively high compared with surrounding jurisdictions, and (2) the County is undersupplied with primary care physicians. By contrast, hospital capacity appears to be adequate. Overall, the County also appears to lack an adequate safety net to help its residents get access to care.

Prince George’s residents are uninsured at relatively high rates.

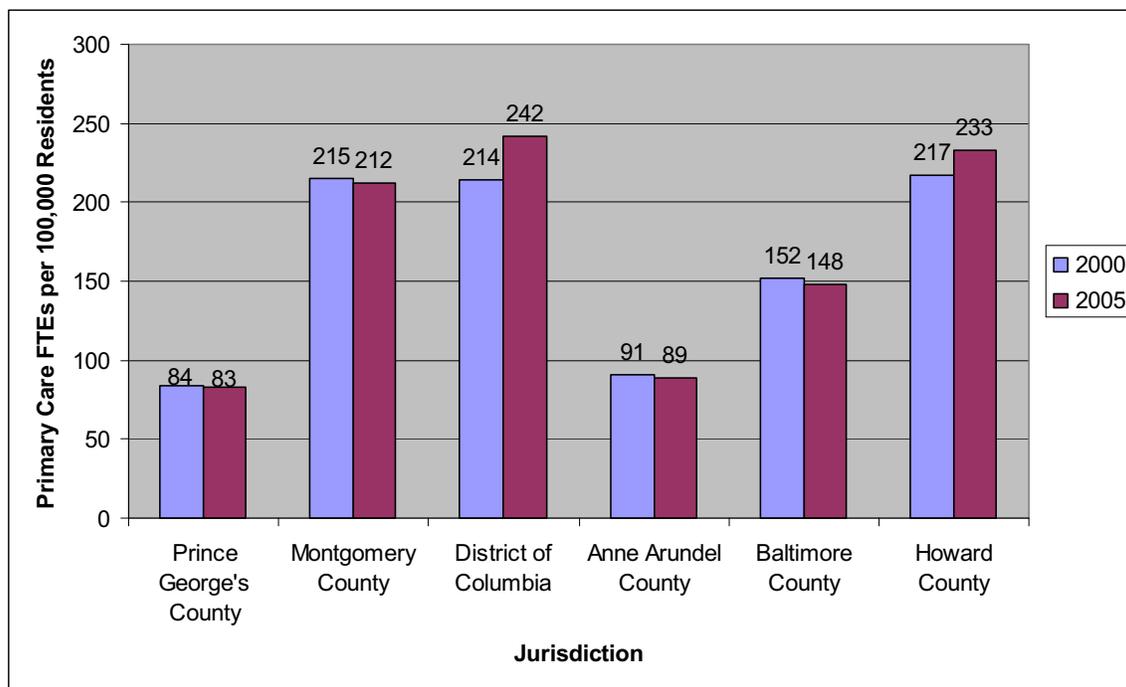
- Prince George’s County residents are more than twice as likely to report being uninsured compared with those in Howard County and roughly one-third more likely to report being uninsured compared with Montgomery County residents. We estimate that about 80,000 County adult residents are uninsured.

- Despite higher rates of the uninsured, Prince George’s County residents did not report encountering barriers to care at disproportionately higher rates than those in surrounding jurisdictions.
- However, as was the case with preventive care, Prince George’s residents who lack health insurance are more likely than those with insurance to have no regular source of care, to miss care because of cost, and to have gone more than five years since their last dental exam.
- Within Prince George’s residents, there are no obvious racial differences in access to care, although blacks are less likely to have had a dental exam within the last five years.

Primary care physicians are in short supply in Prince George’s County.

- Prince George’s County has a substantially lower per capita number of primary care physicians compared with neighboring jurisdictions (see Figure S.6).

Figure S.6 Licensed Primary Care Physician Full-Time Equivalents per 100,000 Residents by Jurisdiction, 2000 and 2005



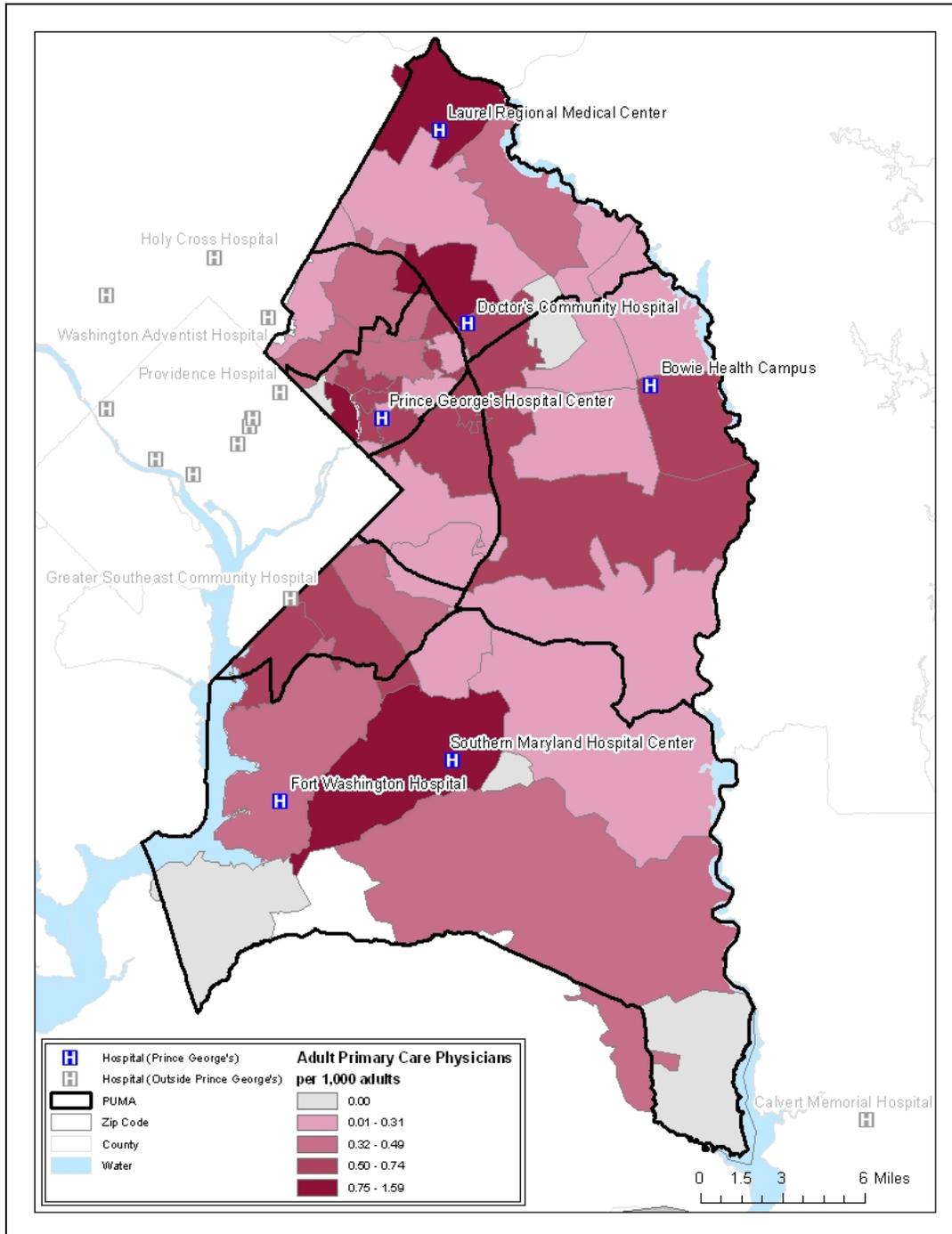
SOURCE: Area Resource File 2000 and 2005 <http://www.arfsys.com/> and U.S. Census Bureau 2000 and 2005.

- The County’s per capita number of physician specialist and subspecialists is comparable to neighboring jurisdictions.
- Adult primary care physicians and specialists licensed in Prince George’s County appear to practice in ZIP codes located in close proximity to the County’s six

hospitals, not in areas of the County that are experiencing high numbers of potentially preventable hospitalizations and emergency room visits (for further discussion, see “Key Findings—Patterns of Health Care Use” below) (see Figure S.7).

- Pediatrician practices appear to be concentrated in relatively affluent regions of the County located outside the Beltway and in ZIP codes that include or are adjacent to Doctors Community Hospital and Southern Maryland Hospital Center.

Figure S.7 Adult Primary Care Physicians per 1,000 Adult Prince George's County Residents by ZIP Code, 2007

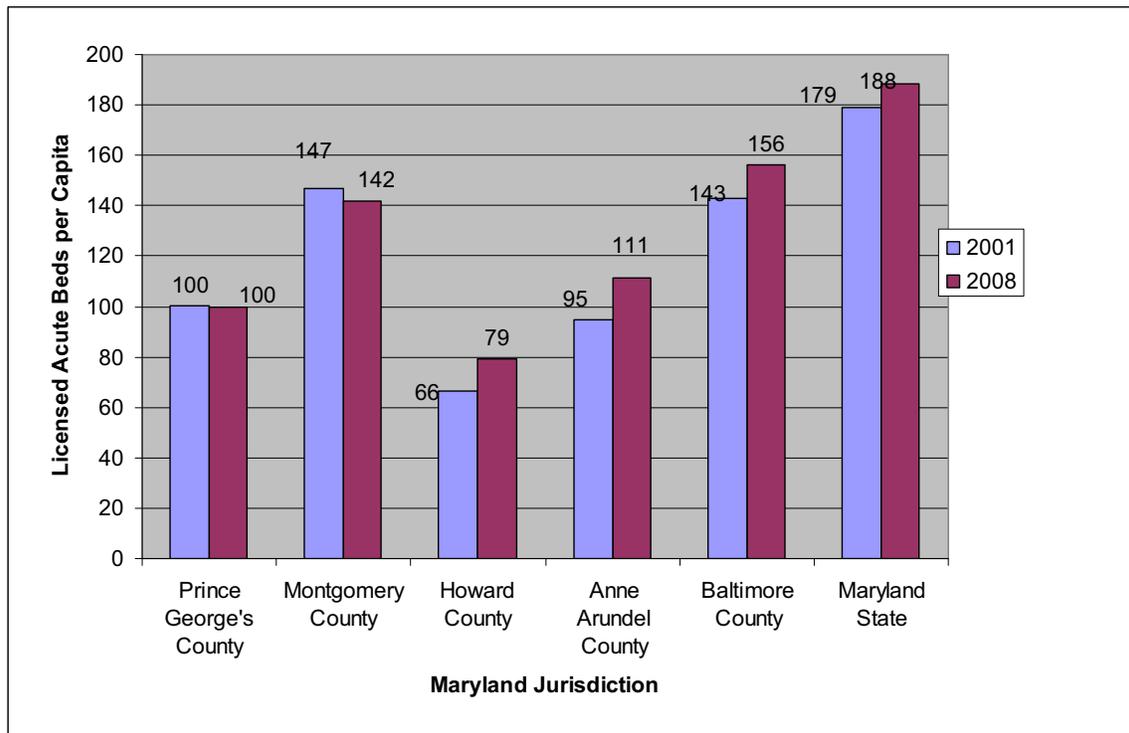


SOURCE: Authors' calculation based on data from Boucher & Associates 2007; 2005 Area Resource File; and 2005 American Communities Survey.

Prince George's appears to have adequate hospital capacity.

- Hospital capacity in Prince George's County appears to have kept pace with population growth (See Figure S.8).
- Prince George's appears to have a relatively low per capita supply of medical/surgical, obstetric, pediatric, and psychiatric beds compared with neighboring counties. However, based on State definitions (which consider patient volume) Prince George's County has three or more times the per capita number of excess beds than neighboring counties.
- Prince George's appears to have a relatively low per capita supply of ED treatment slots compared with other jurisdictions. At the same time, County residents used ED capacity more intensively than residents of other jurisdictions measured in terms of per capita visit frequency and visits per treatment slot.

Figure S.8 Licensed Acute Care Hospital Beds per 100,000 Residents by Jurisdiction, 2000 and 2008



SOURCE: Author's calculation based on data from the 2000 U.S. Census and 2006 American Communities Survey and Maryland Health Care Commission, 2008, Annual Report on Acute Care Hospital Services and Licensed Bed Capacity.

NOTE: Acute care beds provide medical, surgical, addiction, gynecology, obstetric, pediatric, and psychiatric care. The number of bed licensed by the state of Maryland is based on an algorithm that assumes hospitals operate at an annual occupancy rate of 71.4 percent.

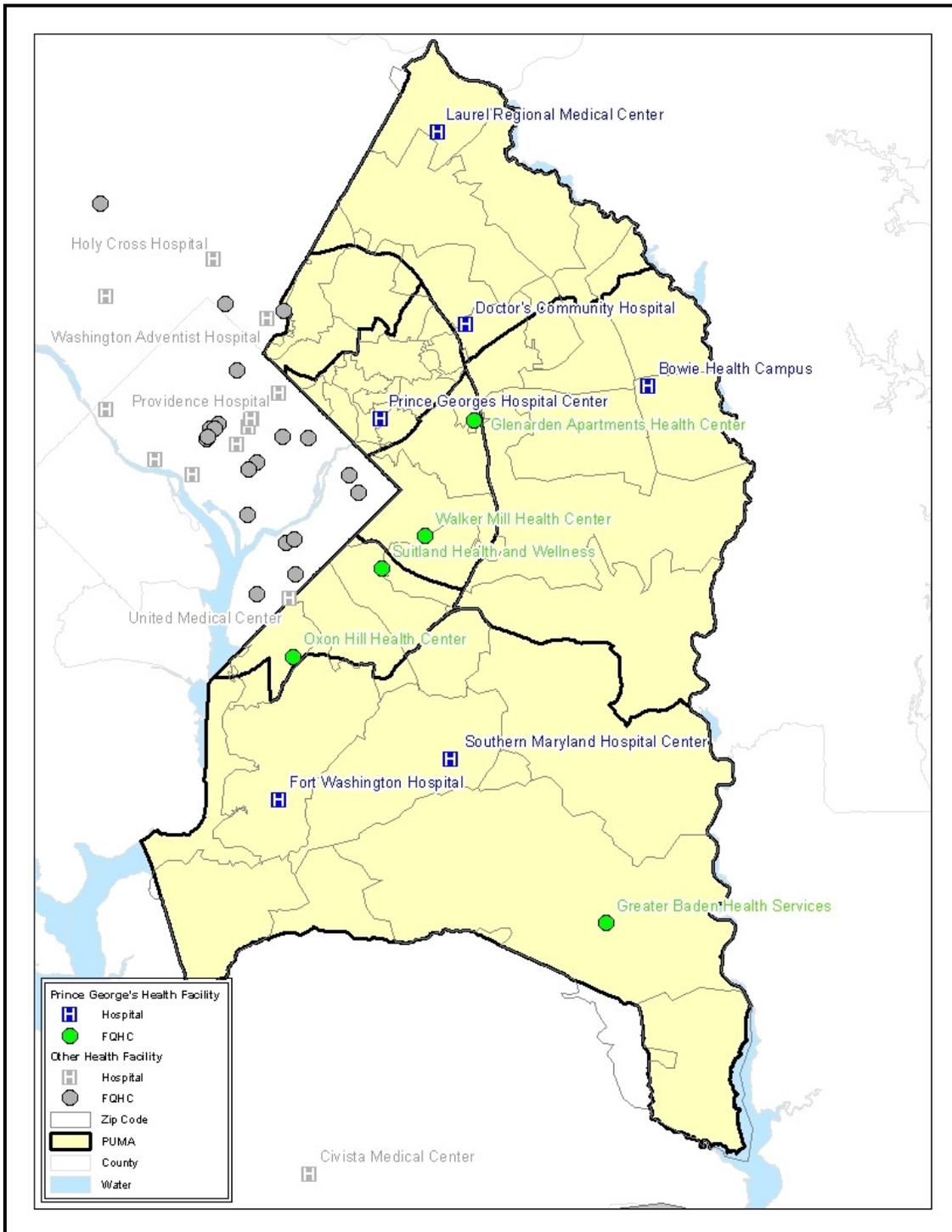
Prince George's appears to lack a primary care safety net.¹

The County's capacity to provide safety-net care, beyond hospital and emergency care, appears severely limited. As mentioned above, relatively few primary care physicians practice in poor regions of the County. Moreover, the County has only one federally qualified health center² (FQHC) Greater Baden Medical Services, Inc. (GBMS) that serves uninsured and low-income patients in several locations throughout the County (See Figure S.9). In 2007, GBMS provided care for approximately 5,200 uninsured patients (GBMS report). Prince George's County is home to two other community clinics that do not have an FQHC designation but serve several thousand uninsured residents annually. GBMS together with these two clinics care for only a small proportion of the roughly 80,000 uninsured Prince George's County adult residents. A number of FQHCs operate in Montgomery County and the District of Columbia in close proximity to the border with Prince George's County. While an exact number is not available, they appear to treat thousands of uninsured Prince George's residents.

¹ The term "safety net" provider refers to individual clinicians or delivery organizations whose caseloads consist of a substantive portion of individuals without health insurance who cannot otherwise afford to pay for the care they receive. Safety net providers typically rely on funding from Medicaid and Medicare programs, Disproportionate Share Hospital payments, the Maternal and Child Health Care Services Block Grant, federal research grants, state and local sources, private insurance payments, private donations, and patient payments. In many cases they offer specialized or essential services not offered by other providers, including intensive medical services for indigent individuals, public health services (e.g., health education, vaccines), and support services (e.g., transportation, child care).

² A federally qualified health center (FQHC) is an important source of safety-net care. To be designated an FQHC, a community health center must (1) be located in an area designated as Medically Underserved; (2) have a governing board with consumers as the majority of members; (3) provide comprehensive primary care and services to support access to care (e.g., transportation); and (4) serve patients regardless of their ability to pay (i.e., using a sliding fee scale).

Figure S.9 Location of Federally Qualified Health Centers in Prince George's County and Surrounding Jurisdictions



SOURCE: Health Resources and Services Administration, 2008.

Key Findings—Patterns of Hospital and Emergency Department Use

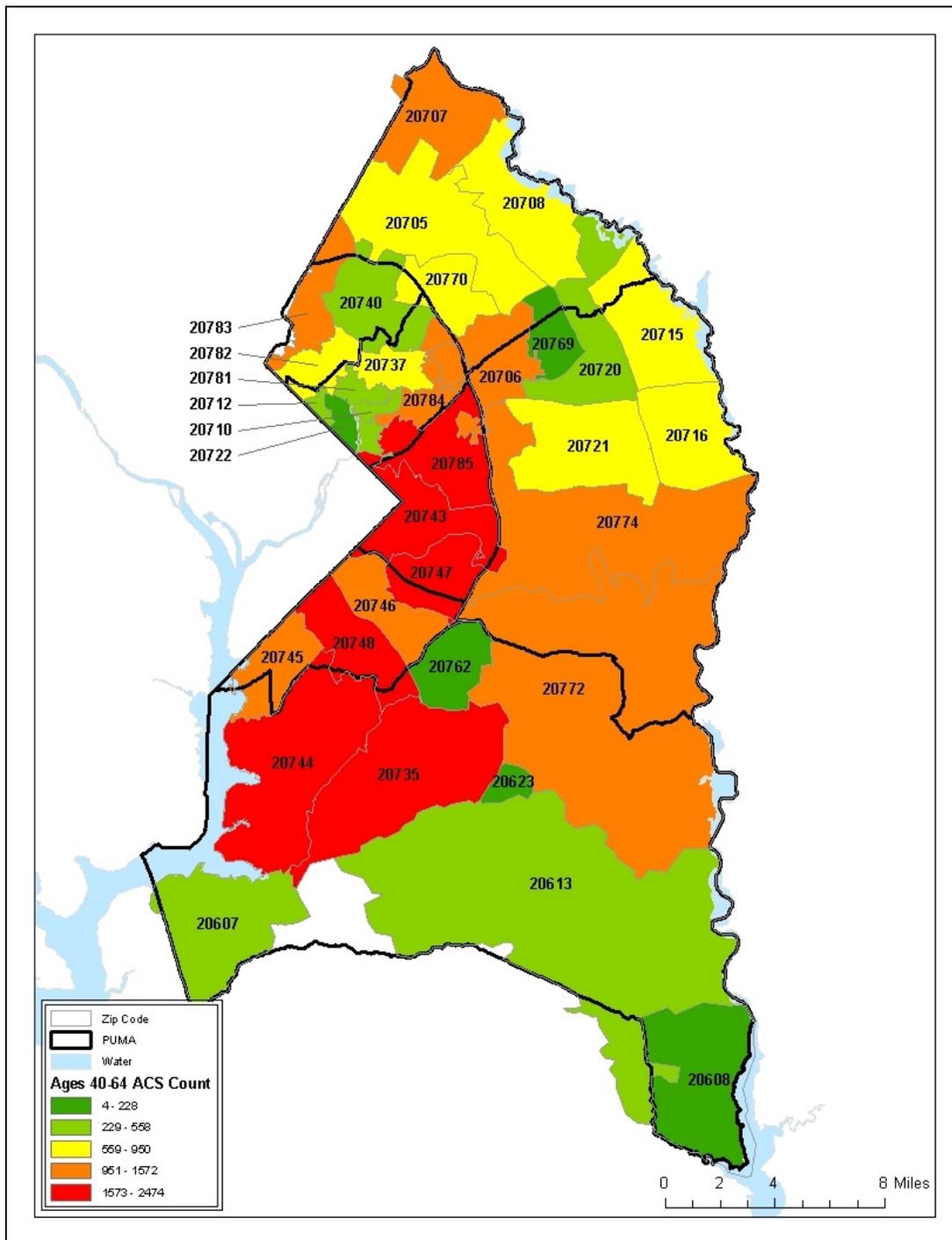
This section presents results on patterns of hospital and emergency department use. While there is no optimal pattern of use against which to benchmark the patterns we observed, understanding use patterns from a regional perspective can inform (1) the business case for investments in the health care infrastructure that a given jurisdiction may wish to consider, and (2) implications for taxpayers about the costs of uncompensated care. Ultimately, it may inform ways in which the jurisdictions might work together to care for their underserved populations.

Our analysis on utilization patterns highlighted two areas of potential concern. First, a relatively high proportion of residents leave the County for both hospital and ED services. Second, Prince George’s County hospitals experienced a relatively high number of ambulatory care–sensitive hospitalizations—that is, patients were admitted for conditions that could have been treated equally or better in primary care at less expense.

Prince George’s County had higher rates of ambulatory care–sensitive hospitalizations and emergency department visits than surrounding jurisdictions; and these were concentrated in poor regions of Prince George’s County.

- Despite trending upward over time, rates of ambulatory care–sensitive hospitalizations of children in Prince George’s are lower than for neighboring jurisdictions. By contrast, rates of ambulatory care–sensitive ED visits for Prince George’s County adults are higher compared with those in neighboring jurisdictions in Maryland.
- Ambulatory care–sensitive hospitalizations and emergency department visit rates by Prince George’s residents under age 65 are highest for residents who lived in the southwestern portions of the County (PUMAs 4, 6, 7 in Figure S.1). These areas overlap to a great extent with those regions experiencing high mortality rates among adults 18–64.
- Adult primary care physicians and specialists licensed in Prince George’s County appear to practice in ZIP codes located in close proximity to the County’s six hospitals and not in areas of the County experiencing high numbers of ambulatory care–sensitive hospitalizations and ED visits (Figures S.7 and S.10).

Figure S.10 Number of Ambulatory Care–Sensitive Hospitalizations of Adults Age 40–64 by ZIP Code (2006)



SOURCE: Maryland Health Services Cost Review Commission, 2006.

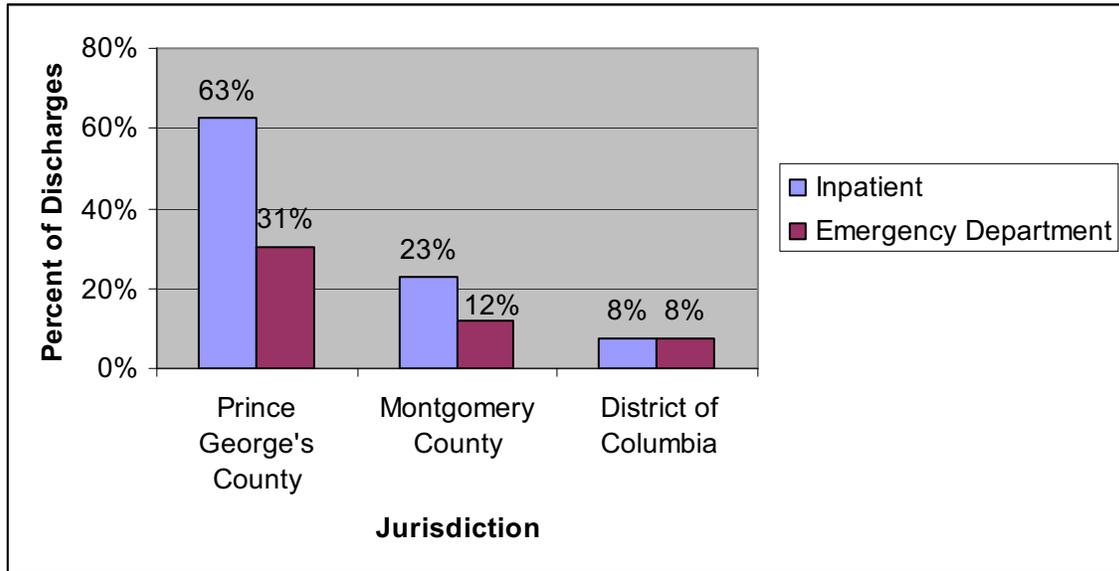
A substantial proportion of Prince George’s residents leave the County for hospital and emergency care.

Travel distance plays an important role in patients’ choice of hospital. Patterns of hospital use across jurisdictions are also influenced by factors related to patient need, accessibility of appropriate preventive care, hospital capacity, physician referral patterns, geographic barriers (e.g., rivers), patient preferences, and patient beliefs about hospital quality. The flow of patients across governmental jurisdictions can have important economic and political consequences. Concentrations of uninsured patients place a burden on local resources, such as individual physicians, philanthropic organizations, and hospital ownership. At the same time, well-insured patients generate income for hospitals and physicians, and tax revenue for local governments.

- Patients from Prince George’s County were more likely to cross jurisdictional borders to use hospitals and EDs compared with those residing in Montgomery County and the District of Columbia (see Figure S.11). This border crossing occurred regardless of payer status.
- More than 50 percent of inpatient discharges and more than 25 percent of ED visits by uninsured Prince George’s residents were to hospitals located outside of Prince George’s County (see Figure S.12).
- Both Prince George’s Hospital Center and Providence Hospital discharged a disproportionate share of Medicaid patients, suggesting that the two hospitals are serving as “de facto” safety-net providers.
- Prince George’s children using inpatient care were *more* likely than adults to be discharged from Prince George’s hospitals. By contrast, Prince George’s children using ED care were *less* likely than adults to be discharged from Prince George’s hospitals (see Table S.2).
- More than one-third of inpatient discharges of Prince George’s children were from Montgomery County hospitals. More than a quarter of ED visits by Prince George’s children were to hospitals located in the District of Columbia (See Table S.2).

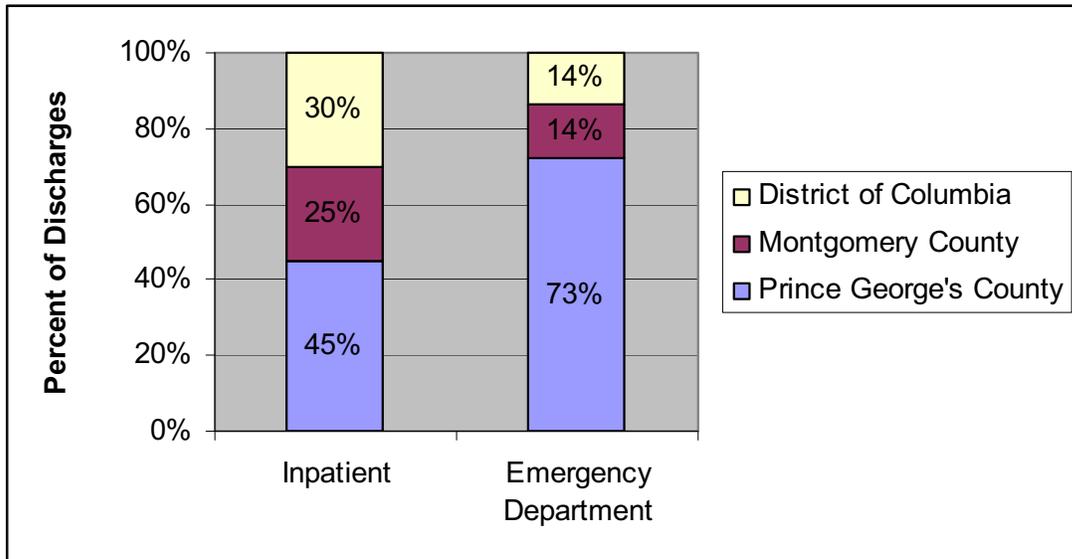
Substantial use of outside hospitals by Prince George’s residents may (1) reflect the effect of daytime commuting patterns on the propensity of Prince George’s residents to establish relationships with physicians whose referral network does not include hospitals and doctors in Prince George’s; (2) help to explain relatively high excess bed capacity in the County; (3) suggest that the use of physicians practicing outside of Prince George’s may either be the cause or the effect of low primary care physician supply in the County.

Figure S.11 Percentage of Hospital Inpatients and Emergency Department Patients Discharged from Hospitals Located Outside the Jurisdiction of Residents by Jurisdiction, 2006



SOURCE: Maryland Health Services Cost Review Commission, 2006.

Figure S.12 Discharge Location of Uninsured Prince George’s County Hospital Inpatients and Emergency Department Patients, 2006



SOURCE: Maryland Health Services Cost Review Commission, 2006.

Table S.2 Location of Hospital and Emergency Department Discharges of Prince George’s County Residents, by Age, 2006

Discharge Jurisdiction	Patient Age (%)					
	0–17		18–64		65+	
	Inpatient	ED	Inpatient	ED	Inpatient	ED
Prince George’s County	44.7	61.6	33.7	71.6	39.3	73.2
Montgomery County	38.5	8.7	25.2	11.4	17.0	12.7
District of Columbia	16.8	29.7	41.1	16.9	43.7	14.1

SOURCE: Maryland Health Services Cost Review Commission, 2006.

Study Limitations

Our ability to create a comprehensive picture of health and health care in the County was limited by the availability of relevant data. We describe these gaps in more detail below.

Subcounty Data. Reflecting the design of federal and state data collection efforts, the scope and detail of our study was limited by the dearth of information about health and health care within Prince George’s County. We used subcounty data when available, but we were not able to aggregate the data in ways that reflect natural boundaries between neighborhoods or provider catchment areas.

Data on Children’s Health. We were unable to identify recent population-based data on the health and well-being of children in Prince George’s County. Epidemiologic data sets, such as the Behavioral Risk Factor Surveillance Survey (BRFSS), contain data on adults age 18 and older. The most recent data we identified were collected in 2002 by the Maryland Department of Health and Hygiene.

Data on Health Insurance. Most information about the health of Prince George’s residents comes from the BRFSS. This survey on adults asks whether an individual has health insurance and not about the source or generosity of coverage.

Data on Use of Outpatient Care and Use by Underserved Populations. We did not analyze data on the use of outpatient care by Prince George’s residents. Such data come from a variety of sources, such as private health insurers, Medicaid, Medicare, and safety-net clinics in the County and in neighboring jurisdictions that treat County residents.

Data on Consumer Experiences and Perceptions. Beyond hospital satisfaction data, we did not analyze data on the experiences of Prince George’s County health care consumers and their perceptions of the health care options available to them.

In addition to data gaps, other limitations should also be kept in mind when considering our results:

Timeliness. Although the perception is widespread that factors influencing the health care system in Prince George’s County are recent developments and are rapidly changing, we provide analyses of data whose timeliness sometimes lags behind current health trends. Thus, we report statistics from the most recently available, cleaned data, yet acknowledge that the most recent data may not be sufficient to reflect very recent changes.

Statistical Reliability. In many cases, it is not possible to assess the reliability of the data we present because studies conducted by each government or health care agency differ in their methods of data collection, quality assurance, and statistical analysis. This limitation particularly holds when we draw on previously published reports. In our analyses, we conducted appropriate statistical tests when practically feasible, and we present the reliability of published data when available. Consequently, we do not draw conclusions

based on any single measure or comparison, but rather, examine broad patterns and trends in data.

Policy Implications

Our findings have policy implications in three key areas. Formulating and prioritizing policy options in each area requires feedback from stakeholders to gauge political viability, analysis of the potential costs and health impacts of various strategies, and identification of funding sources. We describe these areas below and discuss some of the considerations surrounding them.

1. Strengthening the Prince George's ambulatory care safety net is an urgent concern.

Even in the absence of utilization and case-mix data, our findings suggest that the County lacks a well-functioning ambulatory care safety net. Findings in two areas generate this concern: (1) health disparities in health and access between affluent and non-affluent residents and (2) a relative lack of primary care physicians in the eastern and southeastern regions of the County, which generate the greatest number of potentially preventable hospitalizations and ED visits. These findings, combined with daytime commuting patterns, suggest that more-affluent Prince George's County residents are able to use primary care providers outside of the County, either by necessity or as a reflection of patient preferences. Use of care outside of the County is a less viable option for poor residents.

The absence of a safety net threatens to perpetuate existing health disparities and lead to preventable use of care in expensive inpatient and emergency settings. Options for expanding the County's capacity to care for poor and uninsured residents include strengthening and expanding existing safety-net capacity, investing in new infrastructure, expanding the primary care workforce, and stepping up efforts to screen and enroll individuals in Medicaid.

The close proximity of many underserved residents of Prince George's County to the District and Montgomery County suggests that it may be possible to achieve improved access and cost savings through regional partnerships. Analysis of data describing the geographic distribution of and utilization patterns for residents without health insurance and enrolled in Medicaid will be required to estimate the cost of capacity expansions and potential savings resulting from reductions in inpatient and ED visits. We did not conduct these types of analyses as part of this study, but it would be appropriate to do so in the future.

2. Out-of-County use of inpatient and emergency care by Prince George's residents has economic and political consequences.

We found that a sizable portion of inpatient and emergency care provided to Prince George's County residents occurs outside the County in the absence of obvious constraints on the County's hospital and ED capacity. We also found that a large proportion of residents commute outside the County to work. Taken

together, these findings suggest that out-of-County use is driven by such factors as resident preferences, convenience, and provider referral patterns.

Out-of-County use by insured residents results in lost revenue to County hospitals, lost revenue to local businesses serving them, and lost jobs for County residents. Likewise, out-of-County use by uninsured residents can increase political tensions to the extent that uncompensated costs are not subsidized by federal and state governments. More detailed analysis of hospital discharge data can help to quantify revenue losses and cross-border subsidies associated with out-of-County use. However, formulation of appropriate policy responses requires a deeper understanding of the underlying causes of out-of-County use. If, for instance, County residents perceive the quality of out-of-County hospitals to be better, then anticipated economic growth in Prince George's may serve to perpetuate existing demand patterns. If on the other hand, residents would prefer to use care within the County but are unable because of out-of-county commuting, then strategies aimed at building a stronger physician referral network, increasing the number of primary care physicians practicing in the County, and/or increasing the availability of care on weekends and before- and after-hours may be viable strategies for keeping more patients in the County.

3. Improving the health status of Prince George's County residents will require a variety of strategies, including improvements to the public health system. While the focus of our report is the personal health care system, our research is clear that changes to the health care system alone are unlikely to be sufficient to improve the overall health of the population. Thus, policymakers should also examine opportunities to improve health status of County residents by strengthening the public health system and by addressing other, non-medical determinants of health.

Additional Considerations

Prince Georges' County is at an important crossroads in determining what actions it might take to further shape its health care system and improve health of its residents. While specific recommendations are beyond the scope of this report, we identify several potential opportunities.

1. 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.

2. 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 the District of Columbia 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.

3. 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.

Abbreviations

ACS-ED	ambulatory care–sensitive emergency department visit
ACS-IP	ambulatory care–sensitive hospitalization
ACSY	American Community Survey
AMA	American Medical Association
BHC	Bowie Health Care Center
BRFSS	Behavioral Risk Factor Surveillance Survey
CDC	Centers for Disease Control and Prevention
CHF	congestive heart failure
CI	confidence interval
CMS	Centers for Medicare and Medicaid Services
DC	District of Columbia
DCHA	District of Columbia Hospital Association
DHHS	U.S. Department of Health and Human Services
ED	emergency department
EMS	emergency medical service
FPL	federal poverty level
FQHC	federally qualified health center
FTE	full-time equivalent
GBMS	Greater Baden Medical Services, Inc.
HCAHPS	Hospital Consumer Assessment of Healthcare Providers and Systems
HRSA	Health Resources and Services Administration
HSCRC	Health Services Cost review Commission
LBW	low birth weight
MDVSA	Maryland Department of Health and Mental Hygiene’s Vital Statistics Administration
MHA	Maryland Hospital Association
NSDUH	National Survey of Drug Use and Health
PUMA	Public Use Microdata Area

Chapter 1: Introduction

Overview

Officials of Prince George's County face the ongoing challenge of ensuring the health and well-being of its residents in a fiscally constrained environment. During the past decade, the County's demographic profile has been influenced by continued net in-migration of blacks, as well as net in-migration of Latinos and net out-migration of whites, in particular those with higher incomes, who are moving to neighboring Maryland counties (DeRenzis and Rivlin, 2007). The capacity of the health care system in the region surrounding Prince George's County to meet the health care needs of its low-income residents has also changed over this period with the 2001 closure of the region's traditional safety-net provider, DC General Hospital (Levine and Helderman, 2007). At the same time, State and County officials have encountered challenges with the financial viability of Prince George's Hospital Center (Washington Post Editorial Board, 2007) and the adequacy of the region's health care provider workforce to meet the needs of residents (Boucher & Associates, 2008).

The Prince George's County Council contracted with the RAND Corporation to study the changing health care needs of County residents and the capacity of the County's health care delivery system to meet these needs. Building on RAND's ongoing studies of health and health care delivery capacity throughout the National Capital Region, including Montgomery County and the District of Columbia, this report seeks to describe and assess:

1. the health of Prince George's County residents
2. the quality and accessibility of health care to Prince George's County residents
3. the capacity of the physician workforce and hospitals in Prince George's County and
4. the flow of hospital inpatient and emergency room visits across jurisdictions neighboring Prince George's County.

This technical report will provide key background information to support the formulation of policy options for strengthening the County's capacity to meet the health care needs of its residents. A summary of key findings and a detailed discussion of policy implications can be found in the preceding summary report.

Approach

In order to describe and assess the health care needs of County residents and the capacity of the County's health care delivery system, we undertook two types of activities:

1. We reviewed existing studies on the health and health service utilization of Prince George’s County residents and synthesized their findings. These studies were conducted by a variety of organizations using federal, state, and County data sources. These sources include the Maryland Department of Health and Mental Hygiene’s Vital Statistics Administration (MDVSA), the National Survey on Drug Use and Health (NSDUH), the Maryland Department of Health and Mental Hygiene Cancer Report, the Maryland Health Care Commission, and Boucher and Associates Study on the physician workforce in Maryland.
2. We carried out original analyses of data from the Behavioral Risk Factor Surveillance Survey (BRFSS), physician workforce data from the Area Resource File (ARF), and hospital discharge data collected and maintained by the Maryland Healthcare Services Cost Review Commission and the District of Columbia Hospital Association. We provide an overview and detailed descriptions of the data sources used in these original analyses in Tables A1.1 and A1.2.

We present within-County data on Prince George’s County residents and also make comparisons with neighboring jurisdictions, including the District of Columbia, Montgomery, Anne Arundel, Baltimore, and Howard Counties, and Maryland state.³

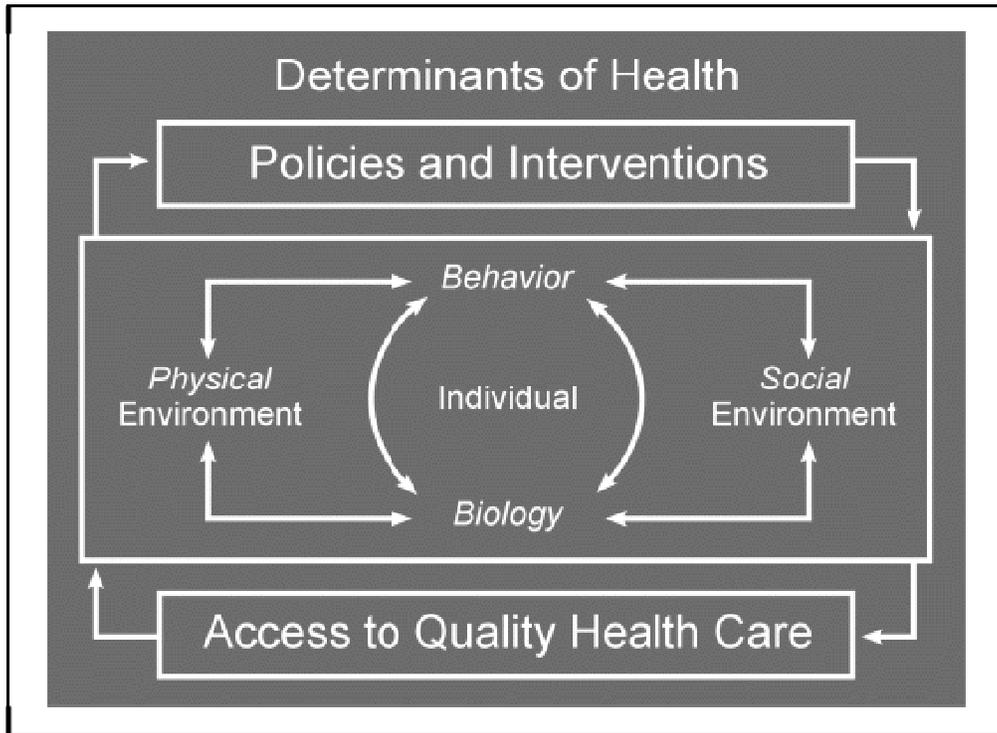
Our focus on the health care delivery system is not meant to understate the importance of other factors, such as the County’s public health system, in determining the well-being of a population. Instead, this focus reflects the specific interest of the Prince George’s County leadership in understanding the changing health care needs of its residents and in optimizing investments aimed at improving the County’s delivery system.

A Conceptual Model for Understanding Population Health and Local Health Care Capacity

Complex relationships among many factors influence the overall well-being of a given population. We conceptualize well-being as a function of health status, physical function, and socioeconomic well-being. Following Healthy People 2010 (U.S. Department of Health and Human Services, 2000), health and well-being are determined by a range of individual factors, including biology, and health behaviors. Individual factors influence health through interactions with each other and with the larger context of the social and physical environments in which people live. Policies and interventions seek to improve health by targeting health behaviors, environments, and access to health care. These relationships are illustrated in Figure 1.1.

³ We include Baltimore City when public use data were readily available, and when permitted through data-use agreements.

Figure 1.1 Conceptual Model of the Determinants of Health



SOURCE: Healthy People, 2010.

Given the unique status of Prince George’s County, the relationships between race/ethnicity, health status, and patterns of health care use are especially important. Prior studies have identified racial/ethnic disparities in health status, use of health care, outcomes of care (Kaul et al., 2005, Epstein et al., 2003, Ibrahim et al., 2003, Fincher et al., 2004, Sarker, Jatou and Becher, 2007), continuity of care (Sentell, Shumway and Snowden, 2007, Hargraves and Hadley, 2003, Doescher et al., 2001, Kirby, Taliaferro and Zuvekas, 2006), health insurance status (Liu et al., 2007, Wherry and Finegold, 2004), and trust in physicians (Armstrong et al., 2007).

Because individuals have multiple characteristics, however, it can be misleading to draw inferences about the underlying health behaviors of populations based on a single characteristic, such as race or income. It is important to keep this complexity in mind while assessing the health care needs of Prince George’s County residents who, in general, have relatively high incomes and educational status, and who are disproportionately black.

Existing Studies

Our study also builds on and extends existing studies of the health and well-being of Prince George's County residents. These studies were undertaken by both private and public organizations to assist local and regional policymakers in resource allocation and planning, and in the development of effective programs for improving the health of County residents. They have covered a range of topics, including child and adolescent health in the County, migration to the County, demographic changes within the County, racial and ethnic disparities in access to health care, physician workforce issues, and the health status and health care utilization of Prince George's County residents in neighboring District of Columbia. We summarize these studies briefly below and in more detail in Appendix 2.

- **Demographic Trends.** Analysis by the Brookings Institution (DeRenzis and Rivlin, 2007) found that migration in to and out of the County had little effect on overall population size from 1993 to 2004. In-migrants tended to have slightly lower incomes compared with non- and out-migrants; however, the County's median household income has remained fairly stable. In-migrants were more likely to be black and to be born outside the United States, resulting in a net increase in the proportion of blacks and foreign-born residents in the County.
- **Child and Adolescent Health.** A study commissioned by the Maryland Department of Health and Mental Hygiene (Professional Research Consultants, 2002) found high rates of obesity among children and adolescents in Prince George's County in 2002. Children and adolescents used health care at rates comparable to national averages, but there were access problems, especially among those living inside the Beltway and those with low incomes.
- **Access to Care for Racial and Ethnic Minorities.** Adventist HealthCare analyzed state and national survey data (e.g., Behavioral Risk Factor Surveillance System) by gender, race, and insurance type. Health indicators included lack of prenatal care, low birth weight, lung cancer, colorectal cancer, breast cancer, diabetes, heart disease, and hypertension. The study found that, across the state and in Prince George's, Montgomery, and Frederick Counties, blacks and Hispanics had poorer health status, had less access to care, and used less recommended care compared with whites (Adventist Health Care Center on Health Disparities, 2007). For a wide range of access and health status measures, the degree of racial/ethnic disparity in Prince George's County was lower than that in the state or the two comparison counties. One likely contributing factor is the fact that, in Prince George's County, whites were relatively socioeconomically disadvantaged and blacks relatively advantaged.
- **Physician Workforce.** In 2008, the Maryland Hospital Association and the Maryland State Medical Society (MedChi) commissioned a study on the physician workforce in Maryland (Boucher & Associates, 2008). Although physician shortages were apparent throughout the state, these were among the least severe in the National Capital Region (including Prince George's and Montgomery Counties) compared

with the rest of the nation. However, the study did not provide estimates at the subcounty level.

- **Interdependence of Regional Health Systems.** In 2008, the RAND Corporation conducted a comprehensive assessment of the health care needs of District of Columbia residents (Lurie et al., 2008). The study found that a substantial proportion of inpatient and emergency department (ED) discharges from District hospitals were from Prince George’s County residents. However, only a small fraction of District hospital patients were uninsured Prince George’s County residents (<1 percent).

Organization of the Report

Expanding upon these studies with existing data and original analyses, we present our findings in the following sections. Chapter 2 describes the demographics of Prince George’s County residents in comparison to neighboring jurisdictions. Chapter 3 reports the health status of County residents and surrounding jurisdictions, followed by their health behaviors and use of preventive care in Chapter 4. We describe the health care system in the context of barriers to accessing health care in Chapter 5. Chapters 6 and 7 describe the capacity of Prince George’s County’s health system to meet its residents’ health care needs in the context of physician supply in Chapter 6 and hospital and ED capacity in Chapter 7. Chapter 8 discusses hospital quality for hospitals in the National Capital Region compared with hospitals across Maryland and the United States. Chapter 9 then describes preventable hospitalizations and ED visits and Chapter 10 presents patient flow patterns in hospitals and emergency rooms. Chapter 11 summarizes key findings to provide a picture of the health status and health needs of Prince George’s County, and discusses policy recommendations for future health care–related decisions that influence the County’s ability to detect, treat, and prevent disease.

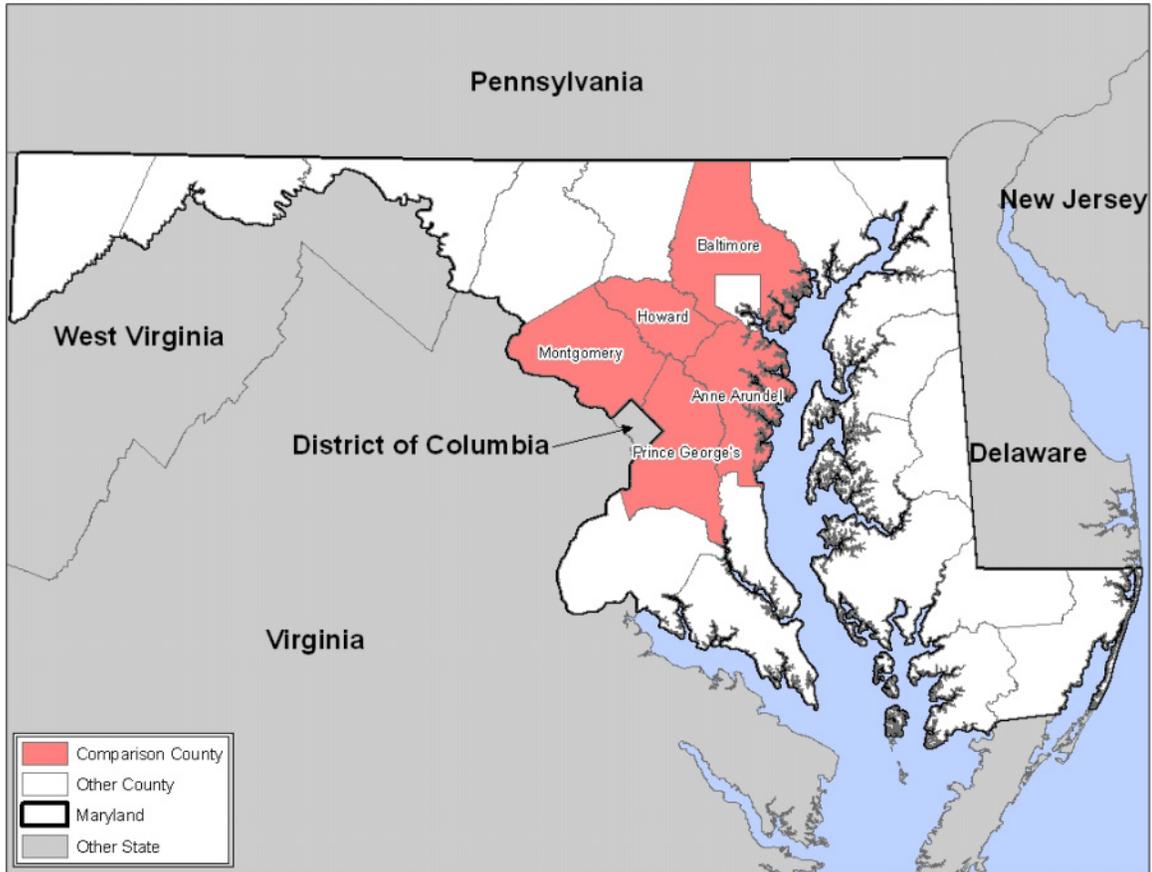
Chapter 2: Demographic Characteristics of Prince George's County Residents

Nationally, health status, access to health care services, and health care utilization are associated with demographic characteristics, such as age, gender, race/ethnicity, and income (Goodell and Escarce, 2007). In this chapter, we describe the demographic characteristics of Prince George's County residents and compare them with those of residents of surrounding jurisdictions using data from the 2000 U.S. Census and the 2006 American Community Survey (ACSY), a national survey conducted every year in between each decennial Census. Appendix 1 describes these data sources in more detail.

Specifically, we compare the demographic composition of Prince George's County with that of the state of Maryland, the District of Columbia, and four Maryland counties surrounding or in close proximity to Prince George's County. These four counties are Montgomery, Howard, Anne Arundel, and Baltimore.⁴ These jurisdictions are shaded in the map shown in Figure 2.1.

⁴ Although not adjacent to Prince George's County, we include Baltimore County in our analysis. Like Prince George's County, Baltimore County borders a metropolitan city with a large population of low-income, minority residents.

Figure 2.1 Maryland Counties and the District of Columbia



To examine variation in demographic characteristics within Prince George’s County, we rely on geographic areas defined by the U.S. Census Bureau called Public Use Microdata Areas (PUMAs). There are seven non-overlapping PUMAs within Prince George’s County. Each PUMA contained approximately 100,000 people at the time of the 2000 Census. The seven PUMA boundaries and ZIP code boundaries are shown in Figure 2.2. The region of Prince George’s County located inside Interstate 495 (the “Beltway”) is divided into four PUMAs; the part located outside of the Beltway is divided into three PUMAs. The larger geographic size of PUMAs located outside the Beltway reflects their lower population density. Figure 2.3 shows major regional transportation routes as a frame of reference.

Figure 2.2 Public Use Microdata Areas and ZIP Codes within Prince George's County

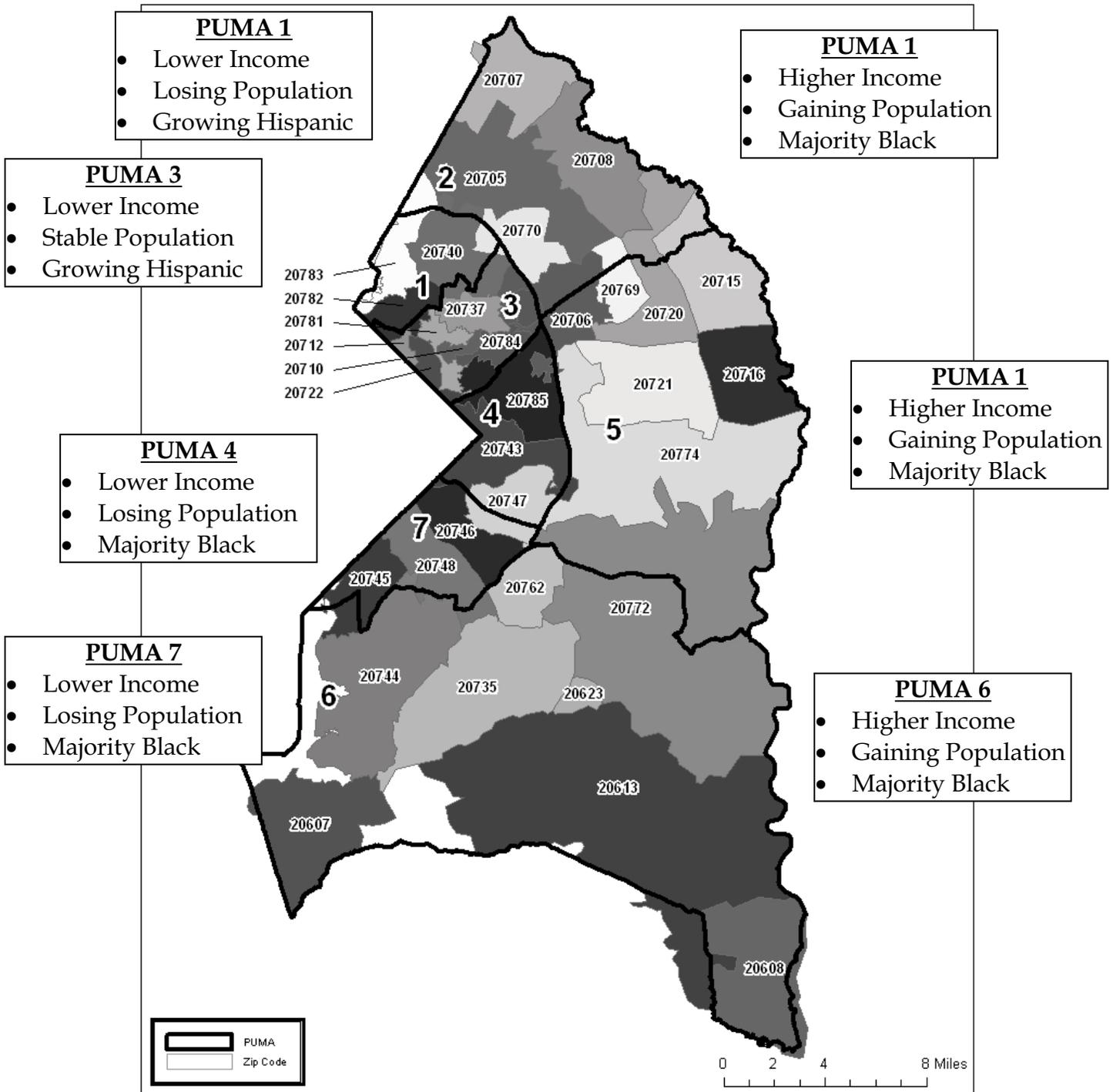
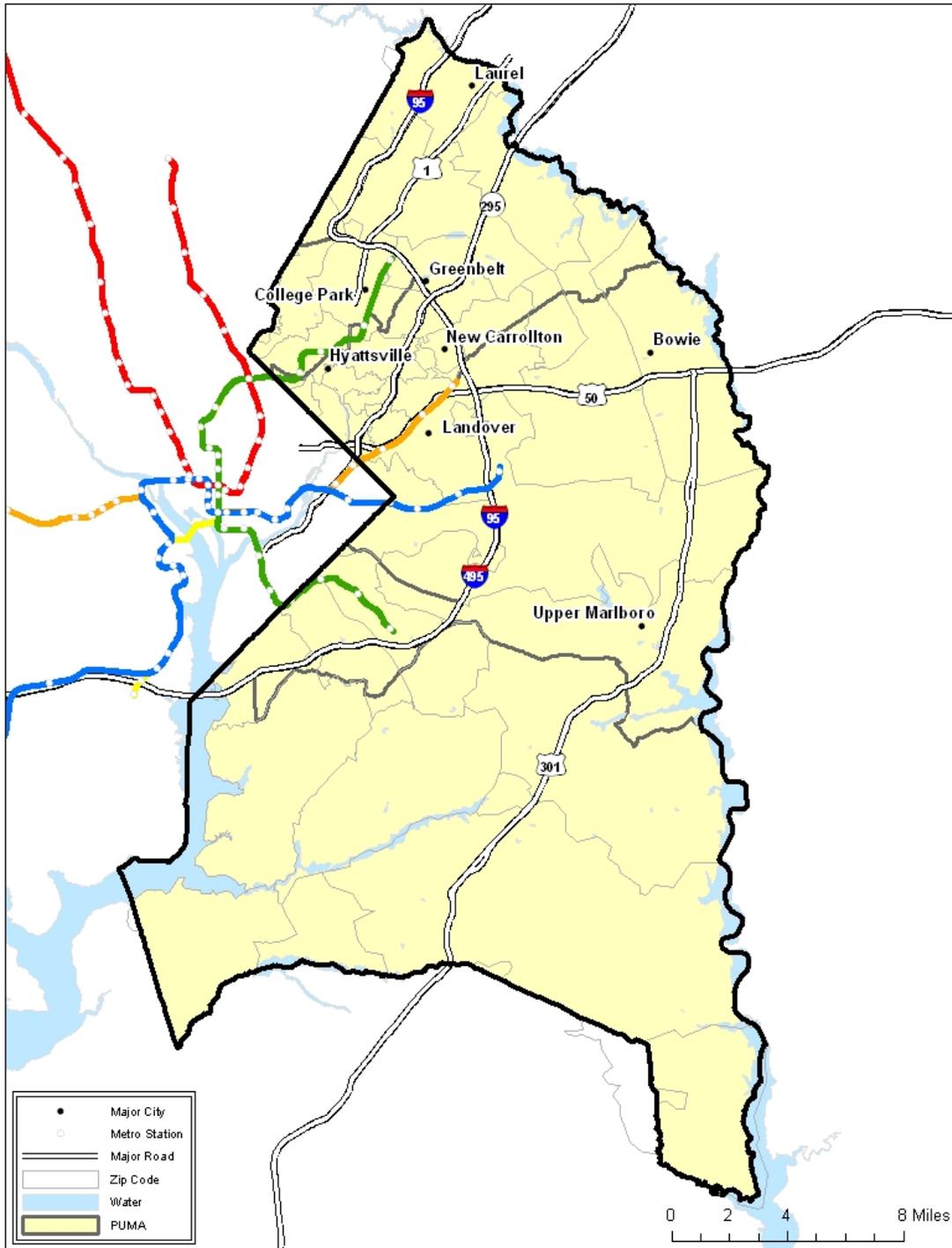


Figure 2.3 Public Use Microdata Areas and Major Transportation Routes Within Prince George's County



Population

With 841,315 residents in 2006, Prince George's County comprises roughly 15 percent of all Maryland residents, making it the 2nd most populous county in the state after Montgomery County (see Table 2.1). Between 2000 and 2006, the population of Prince George's County grew by approximately 5 percent (from 801,551 in 2000). This rate of growth was comparable to that of Montgomery, Anne Arundel, and Baltimore Counties, and the state as a whole, but substantially less than that of Howard County, which grew by almost 10 percent over the same period.

Table 2.1 Demographic Characteristics, by Jurisdiction, 2000 and 2006

	Prince George's County		Montgomery County		DC		Baltimore City		Anne Arundel County		Baltimore County		Howard County		Maryland	
	2000	2006	2000	2006	2000	2006	2000	2006	2000	2006	2000	2006	2000	2006	2000	2006
Population (thousands)	802	841	873	932	572	582	651	631	490	509	754	787	248	272	5,296	5,616
Age (%)																
0 to 17 years	26.8	25.7	25.4	24.6	20.1	19.7	24.8	24.8	25.2	24.1	23.6	22.5	28.1	25.8	25.6	24.3
18 to 39 years	35.1	32.8	30.3	27.8	38.5	37.6	33.1	30.9	32.2	29.7	30	29.1	31.2	27.4	31.4	29.8
40 to 64 years	30.4	32.9	33	35.7	29.2	30.4	29.0	32.3	32.6	35.5	31.7	34.1	33.3	38.2	31.7	34.4
65 years and older	7.7	8.6	11.2	11.9	12.2	12.3	13.2	12.1	10	10.7	14.6	14.3	7.5	8.6	11.3	11.5
Household type (%)																
1+ people <18 years	41	37.5	37.2	37.2	24.6	21.3	32.7	28.1	38.3	34.3	33.4	33.1	42.1	40.9	37.3	35.6
1+ people 65 years and over	16	17.4	21.2	22.4	21.5	21.7	25.5	24.4	19.5	20.5	26	25.4	14.3	16.2	21.7	22
Socioeconomic status (%)																
Bachelors degree or higher	27.2	30	54.6	56.8	39.1	45.9	19.1	23.3	30.6	35.2	30.6	34.3	52.9	57.5	31.4	35.1
Unemployed	4.1	5	2.2	2.8	6.8	5.6	6	6.5	2.1	2.7	2.8	3.2	1.8	—	3.2	3.6
Median household income (\$)	66,860	65,851	86,577	87,624	48,554	51,847	36,394	36,031	74,739	79,160	61,307	59,995	89,742	94,260	63,970	65,144
Individuals below 100% FPL	7.7	7.7	5.4	4.6	20.2+	19.6	22.9	19.5	5.1	4.6	6.5	8.4	3.9	4.2	8.5	7.8
Families below 100% FPL	5.3	4.8	3.7	3.3	16.7+	16.3	18.8	15.8	3.6	2.7	4.5	5.5	2.5	3.2	6.1	5.3
Individuals below 185% FPL	17.5	17.9	12.7	11.2	33.8+	31.4	41.5	38.5	12.8	11.8	15.8	17.8	9.5	8	18.7	17.7
Families below 185% FPL	13.8	14	9.3	8.9	29.6+	27.7	36.2	32.5	9.8	†	12.2	13.4	6.9	†	14.6	13.6

Table 2.1 continued

	Prince George's County		Montgomery County		DC		Baltimore City		Anne Arundel County		Baltimore County		Howard County		Maryland	
	2000	2006	2000	2006	2000	2006	2000	2006	2000	2006	2000	2006	2000	2006	2000	2006
Population (thousands)	802	841	873	932	572	582	651	631	490	509	754	787	248	272	5,296	5,616
Race and Ethnicity (%)																
White alone	24.3	18	59.5	54.9	27.8	31.6	31	29.8	79.8	76.5	73.4	67.3	72.6	65.4	62.1	58.3
Black or African American alone	62.2	64.2	14.8	15.9	59.4	54.9	64	64.1	13.4	14.3	19.9	24.2	14.3	16	27.7	28.7
Asian alone	3.8	3.8	11.3	13.3	2.6	3.4	1.5	1.9	2.3	3	3.2	4.2	7.7	10.9	4	4.9
Two or more races	2	1.8	2.4	1.6	1.7	1.3	1.3	1.4	1.4	2.2	1.2	1.2	1.9	2.2	1.6	1.6
Hispanic or Latino	7.1	11.7	11.5	13.8	7.9	8.2	1.7	2.4	2.6	3.7	1.8	2.7	3	4.3	4.3	6
Immigration and Language (%)																
Native: Born outside the United States	1.2	1.4	1.4	1.7	14.1	14	0.7	1	1.9	1.7	0.7	0.9	1.6	1.1	1.1	1.2
Foreign: Entered prior to 5 years ago	10	12.3	19.7	20.7	8.6	6.3	3.2	3.5	3.7	4.2	5.3	5.6	8.6	11.6	7.3	8.3
Foreign: Entered within past 5 years	3.8	6.7	6.9	8.6	4.2	4.3	1.3	2.6	1	1.9	1.8	3.2	2.7	4.9	2.5	3.9
Language other than English	15.9	19.7	31.6	35.5	16.8	15.3	7.8	8.4	7.3	8.6	9.6	11.2	14	19.4	12.6	14.9

SOURCE: Census 2000 & American Communities Survey 2006.

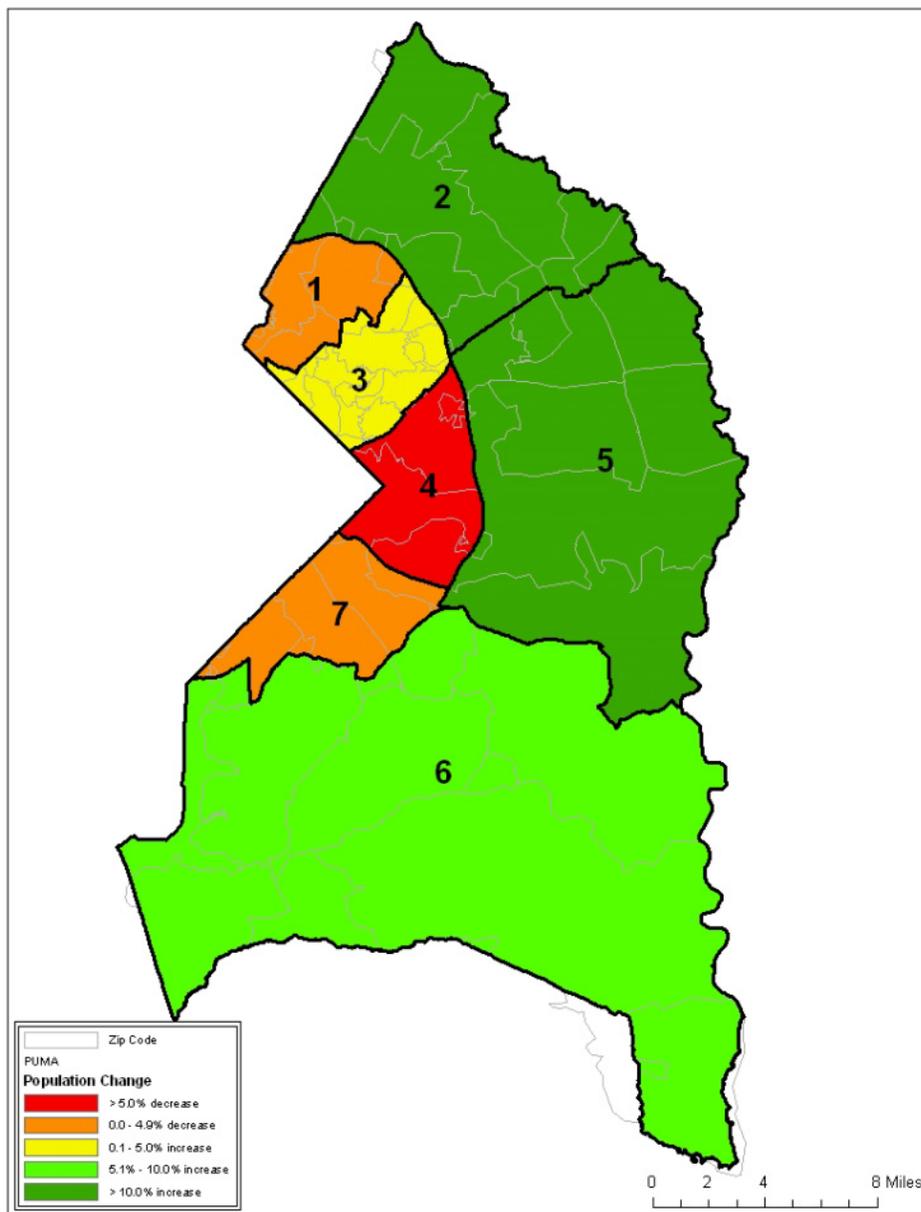
NOTES: Median household income for 2000 was calculated based on 1999 dollars that were inflation-adjusted to 2006 dollars. FPL = federal poverty level.

+ Denotes income data from 1999.

† Data were not reported for families below 185 percent FPL in 2006 for Anne Arundel and Howard Counties.

Population growth across Prince George's County has not been uniform, reflecting trends in residential real estate development in the regions outside of the Beltway (Prince George's County Planning Department Information Center, 2004). Table 2.2 shows that areas of Prince George's County located outside of the Beltway (PUMAs 2, 5, and 6) have grown at a substantially faster pace than the more densely populated areas inside the Beltway (PUMAs 1, 3, 4, and 7), some of which lost population between 2000 and 2006 (Figure 2.4).

Figure 2.4 Change in Population Within Prince George's County from 2000 to 2006, by PUMA



A prior study suggests that migration in and out of Prince George's County had little effect on the County's population size from 1993 to 2004 (DeRenzis and Rivlin, 2007). Thus, overall changes in population size have been primarily a function of the difference between births and deaths. However, as we highlight below, migration has influenced changes in the socioeconomic and racial/ethnic composition of the County's population. These changes are also summarized in Figure 2.2.

Age and Household Type

The average age of Prince George's County residents has increased over time, but County residents are relatively young compared with those in surrounding jurisdictions. Mirroring aging trends throughout the region, the proportion of Prince George's County residents age 65 and older grew from 7.7 percent to 8.6 percent between 2000 and 2006 (see Table 2.1). Over the same period, the proportion of County residents under age 18 declined from 26.8 percent to 25.7 percent. Compared with Prince George's County, only Howard County experienced a more rapid decline in the proportion of younger residents and a more rapid increase in the proportion of middle age and elderly residents. In 2006, Prince George's County continued to have a greater proportion of residents under age 40 (58.5 percent) than any other Maryland jurisdiction shown here, despite the increase in the proportion of older residents.

In 2006, the geographic distribution of young and old age groups was fairly similar across Prince George's County, with the exception of PUMA 1, where roughly half of the residents were between the ages of 18 and 39 (Table 2.2). Generally, the southern area of Prince George's County (PUMAs 4, 5, 6, and 7) had greater increases between 2000 and 2006 in the proportion of older residents than the northern area (PUMAs 1, 2, and 3). By contrast, the proportion of residents age 18 and under grew only in the northern area of the County located outside the Beltway (PUMA 2), and the proportion of residents age 18–39 grew slightly in PUMAs 1 and 3. These changes in age distribution are somewhat reflected in the data on household type. Households with at least one person age 65 or over grew in the southern PUMAs, as well as PUMA 2. The proportion of households with at least one person under 18 declined in all PUMAs except PUMA 2.

**Table 2.2 Prince George's County Demographic Characteristics, by Public Use
Microdata Area, 2000 and 2006**

	Inner Beltway								Outer Beltway					
	North PUMA 1		North central PUMA 3		South Central PUMA 4		South PUMA 7		North PUMA 2		Central PUMA 5		South PUMA 6	
	2000	2006	2000	2006	2000	2006	2000	2006	2000	2006	2000	2006	2000	2006
Population (thousands)	104	100	101	105	101	94	105	105	117	135	139	162	133	141
Age (%)														
0 to 17 years	21.9	20.3	27.5	26.9	31.5	29.5	29.1	26.2	24.0	25.2	26.7	25.3	26.9	26.7
18 to 39 years	48.3	48.8	34.8	35.0	32.6	30.9	34.0	33.8	37.7	32.9	31.0	28.2	29.8	25.3
40 to 64 years	22.5	24.7	29.4	28.7	28.5	29.7	29.8	31.7	30.3	33.3	34.5	37.9	35.1	38.7
65 years and older	7.2	6.2	8.3	9.4	7.3	9.9	7.1	8.2	7.9	8.6	7.8	8.6	8.2	9.3
Household type (%)														
1+ people <18 years	37.0	32.1	40.3	38.5	47.4	39.9	42.3	36.8	34.6	36.0	42.1	38.1	43.9	40.2
1+ people 65 years and over	17.0	14.7	17.4	16.7	16.2	20.3	14.4	15.6	14.5	17.1	15.8	17.6	17.4	19.3
Socioeconomic status (%)														
Bachelors degree or higher	27.7	24.6	21.9	25.1	12.2	14.9	15.4	19.3	38.3	38.7	38.8	42.6	27.6	30.4
Unemployed	6.3	5.6	4.4	4.4	6.1	7.8	5.4	6.0	2.7	6.4	2.2	2.7	3.0	3.6
Median household income (\$)	†	50,032	†	50,699	†	51,628	†	52,419	†	68,184	†	91,621	†	91,558
Individuals below 100% FPL	13.3	15.7	10.6	11.6	12.7	13.1	9.0	9.3	5.8	6.0	2.7	3.0	3.4	2.1
Families below 100% FPL	7.8	—	7.7	9.5	10.4	10.9	7.3	6.1	3.8	—	1.5	—	2.4	—
Individuals below 185% FPL	29.6	30.8	24.2	27.6	26.6	27.2	20.6	20.4	14.2	17.3	6.2	7.2	8.8	7.2
Race/Ethnicity (%)														
White alone	27.2	23.5	22.1	16.1	4.8	4.1	7.3	6.0	42.6	27.3	32.5	23.0	27.3	18.9
Black or African American alone	37.8	36.4	57.6	50.9	91.3	87.6	87.5	84.2	40.3	51.1	60.6	68.2	63.3	71.4
Asian alone	6.6	5.3	3.3	3.0	0.6	1.4	1.4	1.3	8.3	7.9	2.3	3.0	4.2	3.7
Two or more races	2.7	1.8	2.2	1.4	1.5	1.3	1.4	1.9	2.6	2.2	1.8	1.7	2.0	2.2
Hispanic or Latino	25.1	32.4	14.2	27.3	1.4	5.5	2.0	6.4	5.6	10.9	2.3	3.7	2.4	3.6
Immigration and Language (%)														
Native: Born outside the United States	0.9	2.2	1.2	1.4	0.7	—	0.8	0.9	1.8	1.9	1.2	1.3	1.7	1.4
Foreign: Entered prior to 5 years ago	24.3	20.2	17.0	20.0	2.5	—	3.1	5.7	13.8	18.9	6.0	9.6	5.6	7.5
Foreign: Entered within past 5 years	11.9	19.3	6.9	12.5	1.2	—	1.0	3.0	5.0	7.2	1.2	3.8	0.9	1.6
Language other than English	39.2	43.0	25.1	33.9	5.7	—	6.6	8.7	20.7	29.2	8.9	11.3	8.9	10.8

SOURCE: Census 2000 & American Communities Survey 2006

† Data on household income not available at the PUMA level.

Socioeconomic Status

In 2006, Prince George's County residents had a median household income of \$65,850, which was comparable to the state-wide median income, but lower than that of Montgomery and Howard Counties. In Prince George's County, approximately 18 percent of residents in 2006 lived at 185 percent below the federal poverty level, an indicator frequently used to determine eligibility for social services. This percentage was similar to the percentage in Baltimore County, and comparable to the percentage of residents living 185 percent below the federal poverty level across the entire state. However, the County's proportion of residents (18 percent) below 185 percent of the federal level was substantially lower than the 31 percent of residents living at the same poverty level in the District of Columbia and the nearly 39 percent of residents living in poverty in City of Baltimore.

There is considerable socioeconomic diversity within Prince George's County. Within the County, the outer-Beltway regions had dramatically higher median household incomes compared with the inner-Beltway regions. PUMAs 5 and 6 in the outer and central south regions have median incomes higher than \$91,000. The inner-Beltway northern PUMAs 1 and 3 have the lowest median incomes, at approximately \$50,000. Similarly, the individual and family poverty rates in the inner-Beltway PUMAs were considerably higher than those in PUMAs outside the Beltway. For example, 31 percent of individuals in PUMA 1 were below 185 percent of the federal poverty level, whereas only 7 percent of residents in PUMAs 5 or 6 lived in poverty at the same threshold.

Although the proportion of residents with a bachelor's degree or higher increased by 2.7 percentage points between 2000 and 2006, only 30 percent of Prince George's County residents had a bachelor's degree or higher in 2006—a proportion lower than in any nearby jurisdiction. Within the County, residents in the PUMAs inside the Beltway had relatively less education, and the proportion with a bachelor's degree or more in PUMA 1 declined over this time period. As might be expected given its residents' levels of educational attainment, Prince George's County had a higher unemployment rate than any other jurisdiction other than the District of Columbia. Within Prince George's County, the unemployment rate increased from 2000 to 2006 for PUMAs 4 and 7 inside the Beltway, but also for PUMAs outside the Beltway, albeit from much lower levels.

The socioeconomic patterns we observed in our analysis of Census data were consistent with the Brookings Institution's analysis of migration and demographic change in Prince George's County (DeRenzis and Rivlin, 2007). The study found that 47 percent of migrants between 1995 and 2000 from the District of Columbia settled in PUMAs 4 and 7, just across the border from Southeast DC. These in-migrants had lower incomes than those from other origins. Out-migrants from the County to DC had even lower incomes, but were fewer in number than the in-migrants. Almost two-thirds of migrants from

Montgomery County settled in the adjacent northernmost PUMAs 1 and 2 and also had relatively low incomes.

Racial and Ethnic Composition

Prince George's County is unique both nationally and regionally for having a large portion of wealthy black residents (Dent, 1992). Prince George's County had a larger proportion of black residents (64.2 percent) than any of the comparison jurisdictions in 2006 (see Table 2.1), compared with the proportion of blacks across the entire state (28.7 percent), and compared with the proportion of blacks across the entire nation (12.4 percent), as determined by the 2006 ACSY. Indeed, between 2000 and 2006, the proportion of black residents in Prince George's County continued to increase, from 62.2 to 64.2 percent, although this increase was relatively modest compared with that experienced in Anne Arundel, Howard, and Baltimore Counties. Within Prince George's County, the proportion of blacks living in PUMAs inside the Beltway declined in the range of 1.5 to more than 6 percentage points, even though in-migrants from the District of Columbia, who tended to settle inside the Beltway, were predominantly black (DeRenzis and Rivlin, 2007). By contrast, the proportion of blacks living in the more affluent areas of the County located outside the Beltway increased by 7 to 11 percentage points.

Although the proportion of Asians in Prince George's County remains below 4 percent, the County has recently become more diverse as a result of increases in the number of Hispanics. This increase has been particularly rapid in Prince George's County compared with other jurisdictions. Between 2000 and 2006, the proportion of Hispanic residents in the County grew from 7.1 to 11.7 percent. By 2006, the proportion of Hispanic residents in Prince George's County exceeded that of all other jurisdictions except Montgomery County. This pattern likely parallels the relatively rapid pace at which the foreign-born and non-English-speaking populations of Prince George's County grew between 2000 and 2006. By 2006, the proportions of foreign-born and non-English-speaking residents in the County were higher than those in all other jurisdictions, again except for Montgomery County.

Table 2.2 shows that all areas of Prince George's County, particularly the northern PUMAs, experienced increases in the proportion of Hispanic residents. Between 2000 and 2006, the proportion of Hispanics grew from 25.1 to 32.4 percent in PUMA 1, from 5.6 to 10.9 percent in PUMA 2, and from 14.2 to 27.3 percent in PUMA 3. This change no doubt reflects, in part, the characteristics of in-migrants from Montgomery County, who recently tended to settle in the northern PUMAs and about a quarter of whom were neither black or white and presumably were primarily Hispanic (DeRenzis and Rivlin, 2007).

Commuting Patterns

Across all jurisdictions, approximately 50 percent of the total population reported being employed and over age 16 (Table 2.3). Among these working residents over age 16 in Prince George's County, 61 percent left the County for work. This proportion is higher than in any of the nearby Maryland jurisdictions. The vast majority of employees leaving Prince George's County were commuting to jobs outside of Maryland (e.g., to Virginia or DC). Compared with other jurisdictions, Prince George's County workers also had the highest percentage of commute times that were 60 minutes or longer.

Table 2.3 Commuting Patterns, by Jurisdiction, 2006

Commuting Patterns	Prince George's County	Montgomery County	Baltimore City	Anne Arundel County	Baltimore County	Howard County	Maryland
Total population (thousands)	841	932	631	509	787	272	5,616
Place of Work, % of total population							
Total worked outside county of residence	31.1	20.8	15.8	22.7	25.1	32.3	23.4
Worked outside Maryland state	22	15.5	1.1	5.6	1.3	5.6	8.7
Worked in another Maryland county	9.1	5.3	14.7	17.1	23.8	26.6	14.7
Employed and over 16 yrs (thousands)	428	485	258	263	400	147	2,813
(% of total population)	(50.9)	(52.1)	(40.9)	(51.5)	(50.8)	(53.8)	(50.1)
Place of Work, % of employed, age 16+							
Total worked outside county of residence	61.2	40.0	38.7	34.1	49.5	59.9	46.7
Worked outside Maryland state	43.3	29.7	2.7	10.9	2.6	10.5	17.3
Worked in another Maryland county	17.9	10.3	36.0	33.2	46.9	49.4	29.4
Commute Time, % of employed, age 16+							
< 30 minutes	39.3	44.6	59.2	60.5	57.9	54.8	52.4
30 to 59 minutes	42.2	42.4	31.1	28.8	33.3	34.6	34.5
≥ 60 minutes	18.5	13	9.6	10.7	8.8	10.6	13.1

SOURCE: American Communities Survey 2006.

Within Prince George's County, the percentage of all residents in each PUMA who commuted to jobs outside the County ranged from 28 percent to 35 percent (Table 2.4). Commuting patterns varied widely within the County. Residents living in the southern regions of the County (PUMAs 4, 6, and 7) were the most likely to work outside of Maryland state, and residents living in the northern regions of the County were most likely to work in another Maryland County outside of Prince George's County. Residents in the southern PUMAs 4, 6, and 7 had the longest commutes times at, or exceeding 60 minutes.

Table 2.4 Commuting Patterns of Prince George’s County Residents, by PUMA, 2006

Commuting Patterns	Inner Beltway				Outer Beltway		
	North PUMA 1	Central PUMA 3	South Central PUMA 4	South PUMA 7	North PUMA 2	Central PUMA 5	South PUMA 6
Total population (thousands)	100	105	94	105	135	162	141
Place of Work, % of total population							
Total—worked outside Prince George’s County	34.1	27.7	28.4	35.1	28.8	30.1	33.7
Worked outside Maryland state	19.9	19.6	23.4	30.4	13.4	20.8	27.9
Worked in another Maryland county	14.2	8.1	5.0	4.7	15.4	9.3	5.8
Employed and over 16 yrs (thousands)	54	50	40	52	71	89	72
(% of total population)	(54.4)	(47.6)	(42.8)	(49.6)	(52.2)	(54.7)	(51.6)
Place of Work, % of employed, age 16+							
Total—worked outside Prince George’s County	62.8	58.2	66.5	70.8	55.2	54.9	65.5
Worked outside Maryland state	36.6	41.1	54.7	61.4	25.7	38.0	54.2
Worked another Maryland county	26.2	17.1	11.8	9.4	29.5	16.9	11.3
Commute Time, % of employed, age 16+							
< 30 minutes	40.9	46.5	35.9	36.2	50.2	39.2	26.5
30 to 59 minutes	42.0	42.1	42.6	43.2	36.4	44.3	44.9
≥ 60 minutes	17.1	11.4	21.5	20.6	13.4	16.5	28.6

SOURCE: American Communities Survey 2006.

Chapter 3: Health Status

The health status of a population reflects its demographic and sociodemographic composition and the need for and effectiveness of its health care delivery system and public health infrastructure. In this chapter, we use mortality data from Maryland’s Vital Statistics Administration, the Behavioral Risk Factor Surveillance Survey, and the National Survey of Drug Use and Health to generate a picture of the overall health of residents of Prince George’s County, to compare their health with that of residents in surrounding jurisdictions, and to present disparities in health status measures by subgroups within the County. We describe these data sources in Appendix 1 and the methodology used in our data analyses in Appendix 3.

Self-Reported Health Status: Adults

Self-Reported Health Status in Prince George’s County and Surrounding Jurisdictions

- General reports of fair or poor health were not significantly greater in Prince George’s County residents compared with those in other jurisdictions.
- When more-specific reports of health are compared, Prince George’s County respondents appeared to be less healthy than residents of Howard and Montgomery Counties and similar in health to residents of Anne Arundel and Baltimore Counties and the District of Columbia (Table 3.1).
- Prince George’s County residents were significantly more likely to report that a health care provider had told them that they had a chronic condition, diabetes in particular, compared with those in Howard and Montgomery Counties and Maryland State.
- Prince George’s County residents also were significantly more likely to report cerebrovascular disease, asthma, and a disability⁵ than those in Howard County
- Prince George’s County residents were more likely to be overweight or obese (as indicated by reported weight and height) than those in the District, Maryland state, and Baltimore, Montgomery, and Howard Counties.
- Nonetheless, compared with Baltimore City, Prince George’s residents had lower rates of chronic conditions such as hypertension.

⁵ The BRFSS defines disability as any limitations in performing activities due to any physical, mental, or emotional problems.

Table 3.1 Self-Reported Health Status for Adults Age 18 and Older, by Jurisdiction, 2005–2006 Combined

Health Status Measure (%)	Prince George's County	Montgomery County	DC	Baltimore City	Anne Arundel County	Baltimore County	Howard County	Maryland
Self-rated health: fair or poor	13.1	10.4	12.9	14.3	9.8	16.4	8	12.4
Any chronic condition (2005)	34.8	29.9*	37.1	41.8**	39.2	35.9	28.9*	35.9
Heart disease	6.2	5.6	4.8	7.4	7.3	5.5	4.3	6.6
Hypertension (2005)	24.4	21.8	27.1	29.3*	28.9*	27.7	21.3	26.0
Cerebrovascular disease	2.1	2.3	2.8	2.8	3.3	3.6	0.7*	2.5
Diabetes	10.5	4.9*	8.1	10.1	10.2	8	5.5*	7.8*
Asthma	9.7	9.9	10	9.4	6.8	10.7	4.6*	8.9
Overweight or obese	68.3	49.8*	54.6**	67.6	63.1	60.3*	50.7*	60.7*
Disability	17.2	16.9	16.3	17.6	20.5	18.8	12.0*	17.7

SOURCE: Authors' analysis of public use data from the 2005 and 2006 Behavioral Risk Factor Surveillance Surveys

NOTE: We define any chronic condition as any of the conditions: heart disease, hypertension, cerebrovascular disease, diabetes, or asthma.

* indicate a significant difference from Prince George's County rate at the p= 0.10 level.

** indicates a significant difference at the p=0.05 level.

Variation in Health Status by Demographic and Socioeconomic Characteristics

As expected, younger Prince George's County residents, age 18–64, reported significantly better health than those age 65 and older, except in the case of asthma (Table 3.2).

- The health status of males and females in the County was similar, although males were more likely to report heart disease and overweight/obesity.
- The only significant racial differences were that whites were over twice as likely to report heart disease, and over three times as likely to report cerebrovascular disease, as blacks.

There were more significant socioeconomic differences in health status (Table 3.2).

- Prince George's County residents with an educational attainment above high school reported significantly more favorable health status on every measure except hypertension and overweight/obesity.
- Heart disease, cerebrovascular disease, and disability were more common among those with household incomes lower than \$50,000.
- Although having health insurance was generally associated with better health behaviors, greater access to health care, and use of preventive services, having health insurance was associated with poorer health status. The inverse relationship between health and insurance status may be due to two factors: younger, healthier adults are less likely to be insured, and disability status may be used to determine eligibility for public health insurance programs, such as Medicare, Medicaid, and Veteran's Administration benefits.

Table 3.2 Health Status Self-Reported by Prince George’s County Residents Age 18 and Older, by Selected Demographic and Socioeconomic Characteristics, 2005–2006 Combined

	% of County Residents	Self-Rated Health: Fair or Poor	Any Chronic Condition	% Reporting						
				Heart Disease	Hypertension	Cerebrovascular Disease	Diabetes	Asthma	Overweight or Obese	Disability
Demographic Characteristics										
Age										
Age 18–64	85.6	9.1**	29.0**	2.7**	16.6**	1.1**	3.0**	10.4	48.6*	14.7**
Age 65+	14.4	17.5**	61.8**	21.8**	49.9**	8.9**	14.9**	7.5	56.2*	29.4**
Sex										
Female	52.4	10.5	28.1	3.8**	19.6	1.9	4.2	10.9	38.9**	17.0
Male	47.6	10.3	31.8	7.3**	24.1	2.7	5.5	8.9	59.9**	16.8
Race										
Black	51.2	12.7	36.2	5.2**	25.9	1.5**	11.5	10.5	69.5	17.4
White	37.4	15.8	33.8	12.6**	25.0	5.6**	10.2	10.5	65.2	22.5
Socioeconomic Characteristics										
Educational Attainment										
Above High School	65.0	10.4	31.7**	3.7**	23.1	1.5*	7.7**	7.8*	65.5	14.6*
High School or Less	35.0	18.2*	41.2**	11.0**	26.9	3.4*	15.8**	13.3*	73.4	22.4*
Household Income										
\$50,000 and Above	39.0	8.2	33.1	2.4**	23.2	0.7**	7.8	9.3	73.7**	13.0**
Below \$50,000	41.0	14.8	33.4	10.5*	24.2	3.8**	11.6	8.5	64.4*	21.7**
Health Insurance Status										
Insured	86.7	12.5	32.1	3.9	21.5	0.9**	8.9	10.3	68.1	17.1*
Uninsured	13.8	8.3	25.1	3.9	18.0	0.0**	5.7	5.2	64.8	9.0*

SOURCE: Authors’ analysis of public use data from the 2005 and 2006 Behavioral Risk Factor Surveillance Surveys, unless noted otherwise.

* Indicates significant difference at the p= 0.10 level between categories.

** Indicates a significant difference at the p=0.05 level.

Self-Reported Mental Health Problems and Drug Use Disorders

Mental health problems and substance use disorders are increasingly recognized as conditions that can be detected and treated in primary care settings (Garnick et al., 2007, Druss, Rask and Katon, 2008, Weaver, Jarvis and Schnoll, 1999, Skultety and Rodriguez, 2008). Table 3.3 shows estimates of the self-reported prevalence of mental health and drug problems from the 2002–2004 NSDUH.⁶

- There were no statistically significant differences between residents in Prince George’s County and those in other jurisdictions (with exception of Baltimore City) in self-reported serious psychological distress and dependence on alcohol and illicit drugs.
- Baltimore City residents had a significantly higher rate of dependence on alcohol compared with Prince George’s County residents.

⁶ The NSDUH does not provide subcounty data.

Table 3.3 Mental Health Problems and Substance Use Disorders, by Jurisdiction, 2002–2004 Combined

Jurisdiction	Serious Psychological Distress [†]		Dependence on Alcohol [‡]		Dependence on Illicit Drugs [‡]	
	%	95% CI	%	95% CI	%	95% CI
Prince George’s County	8.6	(6.58–11.14)	3.7	(2.68–5.21)	2.1	(1.40–3.01)
Montgomery County	7.6	(5.67–10.07)	3.2	(2.29–4.42)	1.5	(1.04–2.12)
District of Columbia	9.4	(8.07–11.00)	5.2	(4.19–6.32)	2.8	(2.23–3.61)
Baltimore City	8.4	(6.34–11.07)	4.7	(6.36–10.60)	2.5	(2.24–4.21)
Anne Arundel County	8.1	(6.07–10.73)	3.2	(2.32–4.46)	1.9	(1.36–2.71)
Maryland	8.3	(7.01–9.80)	3.5	(2.83–4.34)	2.0	(1.55–2.44)

SOURCE: National Survey on Drug Use and Health, 2002–2004.

<http://www.oas.samhsa.gov/substate2k6/HTML/MD.htm>

<http://www.oas.samhsa.gov/substate2k6/HTML/DC.htm>

NOTE: CI = confidence interval. Estimates are based on a survey-weighted hierarchical Bayes estimation approach, and the 95 percent CIs are generated by Markov Chain Monte Carlo techniques. Rates for Howard and Baltimore Counties are not reported. All 95 percent CIs overlap with those of Prince George’s County and are therefore rates are not significantly different between counties, at a level of $p=0.05$.

Serious psychological distress is measured following Kessler et al. (2003). (Kessler et al., 2003) Dependence measure is based on criteria established in the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). (American Psychiatric Association Task Force on DSM-IV, 2005) “Illicit drugs” include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or non-medical use of prescription-type psychotherapeutics.

[†] Respondents age 18 and older.

[‡] Respondents age 12 and older.

Mortality

The Maryland Department of Health and Mental Hygiene's Vital Statistics Administration (MDVSA) maintains records of resident births and deaths. For comparisons of mortality rates and changes over time in mortality rates between Prince George's County, surrounding counties, Baltimore City, and Maryland state, we extracted mortality data from MDVSA reports published in 2000 and 2006 (Maryland Department of Health and Mental Hygiene Vital Statistics Administration, 2002). For within-county comparisons at the PUMA level, we conducted original analyses from data obtained directly from the MDVSA. To protect confidentiality, the MDVSA provided RAND with death counts for each PUMA, aggregated into three broad age categories, 18–44, 45–64, and 65 and over. We calculated mortality rates using these data and population counts from the 2000 U.S. Census and the 2006 American Communities Survey. Because the subcounty data obtained from MDVSA did not permit further age adjustments within broad age groups, the mortality rates in the subcounty section are not comparable to county-level age-adjusted mortality rates.

Mortality in Prince George's County and Neighboring Jurisdictions

We compare age-adjusted mortality rates for Prince George's County residents of all ages with those in the state of Maryland and neighboring Maryland jurisdictions, and we assess change over time in mortality in these jurisdictions. Age-adjusted rates are standardized to the 2000 U.S. population and are expressed as rates per 100,000 individuals.

- Overall, age-adjusted mortality rates indicate that, compared with residents of Maryland state and those in neighboring jurisdictions except Baltimore City, Prince George's County residents were more likely to die from all reported causes combined, from five of the ten leading causes of death (heart disease, diabetes, accidents, septicemia, and kidney diseases), and from homicide and HIV/AIDS (Table 3.4).
- At the same time, Prince George's County residents had among the lowest death rates for cerebrovascular disease, chronic lower respiratory disease, influenza and pneumonia, and suicide.
- There were declines in mortality rates in Prince George's County between 1999–2000 and 2004–2006 for all causes combined and for the specific causes shown in Table 3.4 except accidents, septicemia, and Alzheimer's disease.
- Mortality from accidents among Prince George's County residents increased by 16 percent, almost triple the statewide increase of 5.9 percent.

- Mortality rates from Alzheimer’s disease in Prince George’s County increased by 49.6 percent between 1999–2000 and 2004–2006.⁷
- Prince George’s County experienced a 7.1 percent decline in mortality due to HIV/AIDS. This decline in HIV/AIDS mortality was slower than the statewide decline of 12.7 percent and substantially slower than the decline in Montgomery County of 21.9 percent.

⁷ This increase in Alzheimer’s disease–related death may reflect increasing trends in attributing Alzheimer’s disease as a cause of death. Although pneumonia is usually the primary cause of death secondary to Alzheimer’s disease, an increase in the notation of the presence of dementia on death certificates may have, in part, resulted in this increase.

Table 3.4 Age-Adjusted Mortality Rates per 100,000 in 2004–2006 for Leading Causes of Death, by Cause and Jurisdiction

	Prince George's County	Montgomery County	Baltimore City	Anne Arundel County	Baltimore County	Howard County	Maryland State
All causes	822.4	566.8	1,099.40	805.7	793.3	662.3	789
Ten Leading Causes							
Heart diseases	233.2	143.3	278.9	201.7	200.1	169.4	205.7
Malignant neoplasms	185.4	140.4	229.2	196	192.6	155.4	186.6
Cerebrovascular disease	42.6	33.5	52.9	53.7	49.7	44.7	45.9
Chronic lower respiratory disease	25.7	21.6	38.3	43.1	36	29.6	34.9
Diabetes	32.8	14.9	37	26	20.7	19	24.5
Accidents	29.7	17.2	27.1	22.2	22.3	18.9	25
Influenza and pneumonia	20	20.4	26.1	22.8	21.4	19.7	20.8
Septicemia	20.7	14.5	37.1	15.6	19.9	13.9	18.9
Alzheimer's disease	18.7	12.1	10.1	20	16.1	22.6	16.9
Kidney diseases+	15.7	8.7	21.5	13.9	12.8	8.2	13.4
Selected Other Causes							
Homicide+	17.3	3.2	38.7	5	7.1	**	10.2
HIV/AIDS	10.4	2.5	45.5	3.1	6.1	**	8.9
Suicide+	6.1	5.9	7.3	10.6	9.7	8	8.5

SOURCE: Maryland Department of Health and Hygiene, <http://www.vsa.state.md.us/html/reports.html>

NOTES: Rates are age-adjusted to the standard U.S. 2000 population.

+ Deaths from kidney diseases, homicide, and suicide were not reported in vital statistics reports issued in 2000.

** Death rates or change in rates are not calculated when counties had fewer than 20 deaths in 2004–2006.

Mortality Within Prince George's County

Tables 3.5–3.7 report mortality rates per 100,000 residents in each Prince George's PUMA. We report mortality rates from all causes and for each of the top five leading causes of death in 2006 within each age group. Each broad age category is presented separately because the five leading causes of death differ across age categories.

- Overall, mortality rates from health-related causes for all age groups were highest in the southern portions of the County and inside the Beltway.

Mortality in the 18–44 Age Group

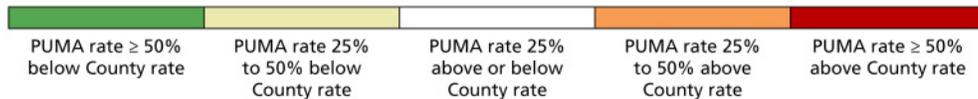
- For Prince George's County residents ages 18 to 44, the top five leading causes of death for 2006 in descending order were homicide, accidents, cancer, heart disease, and HIV/AIDS (Table 3.5).

- The southern areas (PUMAs 4 and 7 inside the Beltway and PUMA 6 outside the Beltway) had the highest mortality rates for all causes combined and for each of the top five except accidents. Nevertheless, the mortality rate from accidents was extremely high for PUMA 6 alone: 70.3 per 100,000 in comparison to 44.9 per 100,000 in PUMA 2, the second highest rate.

Table 3.5 Unadjusted Mortality Rates per 100,000 for All Causes, Top Five Leading Causes of Death, and Remaining Other Causes Among Adult Prince George’s Residents Age 18–44 in 2006

Region		All Causes	Homicide	Accidents	Cancer	Heart Disease	HIV/AIDS	Other Causes	Total Population, Age 18–44
Prince George’s County		194.1	42.4	37.7	25.0	15.6	13.1	60.3	275,697
Inside Beltway	North PUMA 1	102.4	16.4	26.6	8.2	8.2	2.1	40.9	48,832
	North Central PUMA 3	187.6	35.3	43.5	19.0	16.3	13.6	59.9	36,791
	South Central PUMA 4	344.2	96.4	34.4	48.2	34.4	24.1	106.7	29,057
	South PUMA 7	263.1	90.5	31.1	34.0	17.0	17.0	73.5	35,348
Outside Beltway	North PUMA 2	130.3	15.7	44.9	18.0	9.0	2.3	40.4	44,505
	Central PUMA 5	136.0	32.9	17.5	28.5	6.6	11.0	39.5	45,604
	South PUMA 6	286.8	39.4	70.3	30.9	28.1	30.9	87.2	35,560
Total number of deaths in county, Age 18–44		535	117	104	69	43	36	166	

SOURCE: Deaths—Maryland Department of Health and Hygiene Vital Statistics Administration, <http://www.vsa.state.md.us/html/reports.html>; Population denominator for mortality rate calculation—2006 American Community Survey.



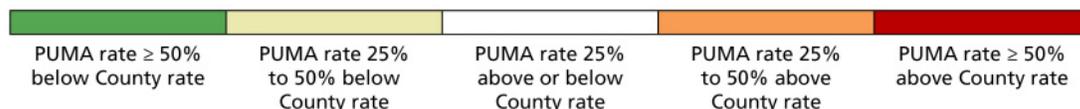
Mortality in the 45–64 Age Group

- Compared with their younger counterparts, County residents ages 45 to 64 were more likely to die from cancer, heart disease, and diabetes, and less likely to die from homicide, accidents, and HIV/AIDS (Table 3.6).
- Similar to those 18 to 44, mortality rates from all causes and rates for all specific causes except accidents were highest for PUMAs 4 and 7, which are in the southern regions inside the Beltway.
- The mortality rate for accidents was highest in PUMA 3, the North Central region inside the Beltway.

Table 3.6 Unadjusted Mortality Rates per 100,000 for All Causes, Top Five Leading Causes of Death, and Remaining Other Causes Among Adult Prince George’s Residents Age 45–64 in 2006

Region		All Causes	Cancer	Heart Disease	Diabetes	Cerebrovascular Disease	Accidents	Other Causes	Total Population, Age 45–64
Prince George’s County		476.6	156.2	119.0	19.9	18.4	15.5	147.6	276,547
Inside Beltway	North PUMA 1	332.0	113.4	76.9	16.2	28.3	8.1	89.1	24,701
	North Central PUMA 3	538.1	169.4	109.6	26.6	6.6	33.2	192.7	30,105
	South Central PUMA 4	805.5	232.7	225.6	39.4	35.8	10.7	261.3	27,932
	South PUMA 7	678.2	217.0	183.9	30.1	30.1	15.1	202.0	33,175
Outside Beltway	North PUMA 2	320.3	100.1	64.5	13.3	17.8	15.6	109.0	44,963
	Central PUMA 5	350.7	132.2	76.7	16.3	8.2	8.2	109.1	61,292
	South PUMA 6	474.5	165.5	136.1	11.0	14.7	18.4	128.8	54,379
Total number of deaths in county, Age 45–64		1318	432	329	55	51	43	408	

SOURCE: Deaths—Maryland Department of Health and Hygiene Vital Statistics Administration, <http://www.vsa.state.md.us/html/reports.html>; Population denominator for mortality rate calculation—2006 American Community Survey.



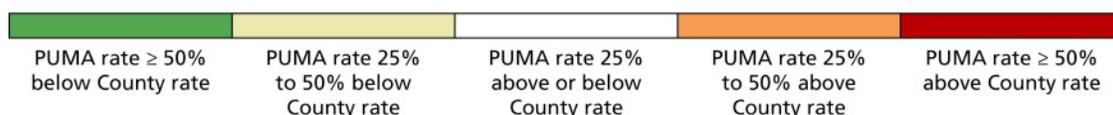
Mortality in the 65 and Older Age Group

- For County residents age 65 and older, the top five leading causes of death in 2006 were heart disease, cancer, cerebrovascular disease, diabetes, chronic lower respiratory disease (see Table 3.7).
- Following the pattern of residents younger than 65, mortality rates for all causes and for heart disease, cancer and diabetes were generally highest in the southern portion of the County (PUMAs 4 ,7, and 6).
- However, the highest death rates for cerebrovascular disease and chronic lower respiratory disease were in PUMA 2 in the southern region outside the Beltway.

Table 3.7 Unadjusted Mortality Rates per 100,000 for All Causes, Top Five Leading Causes of Death, and Remaining Other Causes Among Adult Prince George’s Residents Age 65 and Older in 2006

Region		All Causes	Heart Disease	Cancer	Cerebro-vascular Disease	Diabetes	Chronic Lower Respiratory Disease	Other Causes	Total Population, Age 65+
Prince George’s County		4380.7	1418.0	1005.0	213.4	174.8	155.6	1413.9	72,637
Inside Beltway	North PUMA 1	4361.2	1453.7	985.3	129.2	242.3	145.4	1405.3	6,191
	North Central PUMA 3	4154.8	1446.0	916.5	173.1	152.8	142.6	1323.8	9,820
	South Central PUMA 4	4743.6	1570.5	1121.8	170.9	267.1	160.3	1453.0	9,360
	South PUMA 7	4429.4	1503.7	1119.0	221.5	244.8	128.2	1212.2	8,579
Outside Beltway	North PUMA 2	3854.1	1023.7	808.7	301.1	103.2	189.3	1428.1	11,624
	Central PUMA 5	4160.4	1215.2	1072.3	214.5	150.1	135.8	1372.5	13,989
	South PUMA 6	4948.8	1759.2	1024.9	229.5	137.7	175.9	1621.6	13,074
Total number of deaths in county, Age 65+		3182	1030	730	155	127	113	1027	

SOURCE: Deaths--Maryland Department of Health and Hygiene Vital Statistics Administration, <http://www.vsa.state.md.us/html/reports.html>; Population denominator for mortality rate calculation—2006 American Community Survey.



Cancer Incidence and Mortality

Cancer is the second leading cause of death in Maryland (Maryland Department of Health and Mental Hygiene Vital Statistics Administration, 2002) and in the nation after heart disease (National Center for Health Statistics, 2007). Improved screening technology and treatment have contributed to earlier diagnosis and longer survival (Welch, Schwartz and Woloshin, 2000). Thus, population-based data on cancer incidence and mortality reflect underlying health status influenced in part by genetic susceptibility and environmental exposures, in addition to improved detection and access to cancer screening and treatment.

Table 3.8 compares age-adjusted cancer incidence and mortality rates for Prince George's County with those for nearby jurisdictions and Maryland.

- In 1999–2002, Prince George's, Anne Arundel, and Baltimore Counties had similar mortality rates across all cancer sites.
- The rates in these three counties were somewhat higher than the statewide all-site rate of 206 per 100,000 residents and roughly 50 percent higher than those in Howard and Montgomery Counties.
- In comparison with all other jurisdictions, Prince George's County had the second-highest mortality rates from colorectal, prostate, and cervical cancer, after Baltimore City.
- However, Prince George's County residents had the second-lowest incidence rates of lung and bronchus cancer (after Montgomery County).
- Prince George's County had the second-highest incidence and mortality rate of prostate cancer after Baltimore City. This may reflect, in part, the disparity in prostate cancer incidence and mortality by blacks nationwide (Jemal et al., 2008).
- Although the breast cancer incidence rate was the lowest of all the jurisdictions, mortality from breast cancer in Prince George's County was relatively high. This suggests that breast cancer may be detected at a later stage and not as effectively treated in Prince George's County.

Table 3.8 Age-Adjusted Cancer Incidence (1998–2002) and Mortality Rates (1999–2002) per 100,000 Prince George’s County Residents of All Ages, by Site and Jurisdiction

Type of Cancer	Prince George’s County		Montgomery County		Baltimore City		Anne Arundel County		Baltimore County		Howard County		Maryland State	
	Incid	Mort	Incid	Mort	Incid	Mort	Incid	Mort	Incid	Mort	Incid	Mort	Incid	Mort
All Sites	—	215.9	—	145.3	—	267.3	—	213.5	—	215.4	—	167.6	—	206
Specific sites														
Lung and Bronchus	56.2	56.1	42.4	32.7	90.5	81.3	74.4	63.2	74.5	64	58.1	45	68	58.1
Colorectal	50.9	25.8	39.8	14.4	57.6	29.1	53.1	20	58.1	23.6	50.5	17.4	53.3	22.5
Female Breast	115.5	29.7	129.3	22.6	124.3	36.1	134.5	30.6	139.3	29	128.9	24	128.2	28.2
Prostate	190.5	38.9	173.6	22.8	197.4	50.3	163.2	26	186	28.2	172.7	25.4	179.3	32.1

SOURCE: Maryland Cigarette Restitution Fund Cancer Report, 2006, http://www.fha.state.md.us/cancer/surveillance/html/data_reports.cfm

NOTES: Rates are age-adjusted to the standard U.S. 2000 population. Incid = incidence; Mort = mortality.

— Indicates data not available.

Table 3.9 shows comparisons by race and by gender in cancer incidence and mortality rates for each cancer site.

- Following national trends in racial disparities, site-specific mortality rates from cancer tended to be relatively high for blacks (except for melanoma and oral cancers—data not shown), while incidence rates for blacks were relatively low. Low incidence rates and high mortality rates can indicate poor screening and detection rates for blacks compared with whites, as well as poorer quality treatment once cancer is identified.
- Site-specific cancer mortality rates were uniformly higher for men than for women, as were site-specific incidence rates.

Table 3.9 Age-Adjusted Cancer Incidence (1998–2002) and Mortality (1999–2002) per 100,000 Prince George’s County Residents of All Ages, by Sex and Race

Type of Cancer	Male		Female		White		Black		Other	
	Incid	Mort	Incid	Mort	Incid	Mort	Incid	Mort	Incid	Mort
All Sites	—	270.9	—	182.2	—	215.1	—	226.4	—	108.0
Specific Sites										
Lung and Bronchus	73.7	76.0	44.1	42.5	62.5	58.6	50.5	55.6	34.8	27.3
Colorectal	60.6	30.8	44.1	22.4	49.1	24.3	50.7	27.7	46.4	14.1
Female Breast	—	—	—	—	123.9	27.3	107.9	31.7	99.2	10.8
Prostate	—	—	—	—	150.6	27.7	221.1	59.9	129.9	12.6

SOURCE: Maryland Cigarette Restitution Fund Cancer Report, 2006, http://www.fha.state.md.us/cancer/surveillance/html/data_reports.cfm

NOTES: Rates are Age-Adjusted to the standard U.S. 2000 population. Incid = incidence; Mort = mortality.

**Death rates not calculated for counties with fewer than 20 deaths. — Indicates data not available.

Children's Health

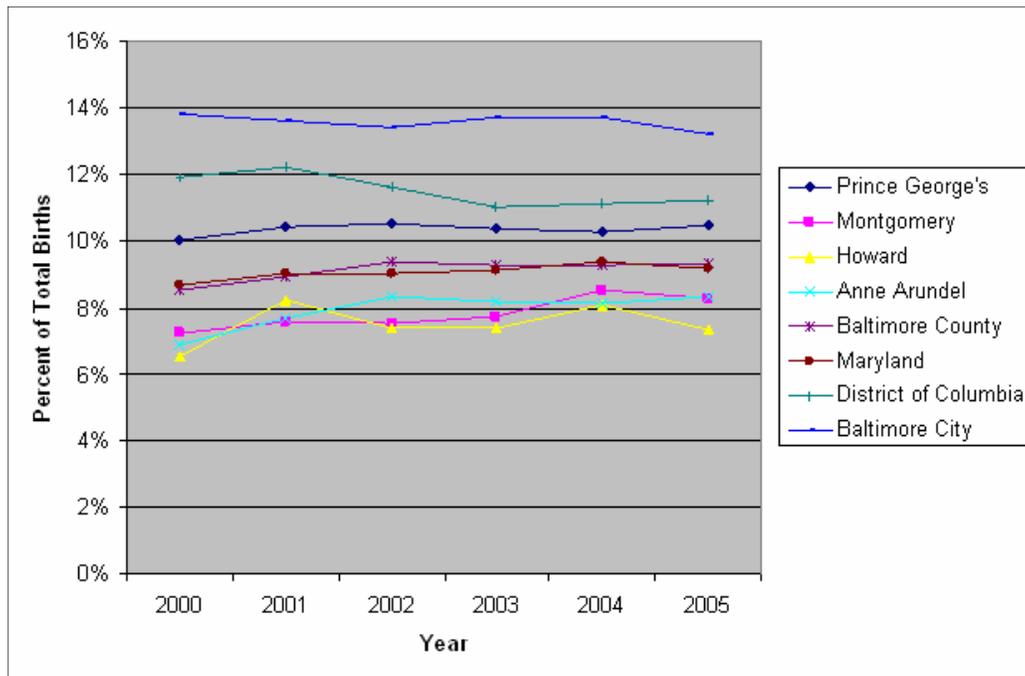
Only a handful of data sources are useful for comparing the health of children in Prince George's County to that of children in surrounding jurisdictions. We present health indicators monitored by the State of Maryland at the county level, namely, low birth weight and infant mortality (Maryland Governor's Office for Children, 2006).

Low Birth Weight

Research suggests that infants with low birth weight (LBW), defined as weighing less than 2,500 grams at birth, are more likely to experience a host of physical and mental health problems in later life, including developmental and intellectual impairments (Vohr et al., 2000, Msall and Tremont, 2002), learning problems (Stein, Siegel and Bauman, 2006), visual and auditory problems (Mikkola et al., 2005, Engdahl and Eskild, 2007, Courage et al., 1994), mental and behavioral disorders (Wiles et al., 2005, Hack et al., 2004, Anderson and Doyle, 2003, Bhutta et al., 2002), respiratory problems (Stevenson et al., 1998), and other chronic conditions (Stein, Siegel and Bauman, 2006). Nationally, LBW babies are disproportionately born to black mothers (CDC, 2002) and those of lower socioeconomic status (Bird and Bogart, 2003).

- Between 2000 and 2005, the District of Columbia had the highest proportion of total births that were LBW babies (Figure 3.1). Prince George's County had the second-highest rate of LBW babies compared with all other jurisdictions.
- The rates for all jurisdictions were fairly stable over time, although Montgomery County appears to have experienced a slight increase in the proportion of LBW births.
- Within Prince George's County, blacks had the highest percentage of LBW babies from 2000 to 2005 (Figure 3.2).

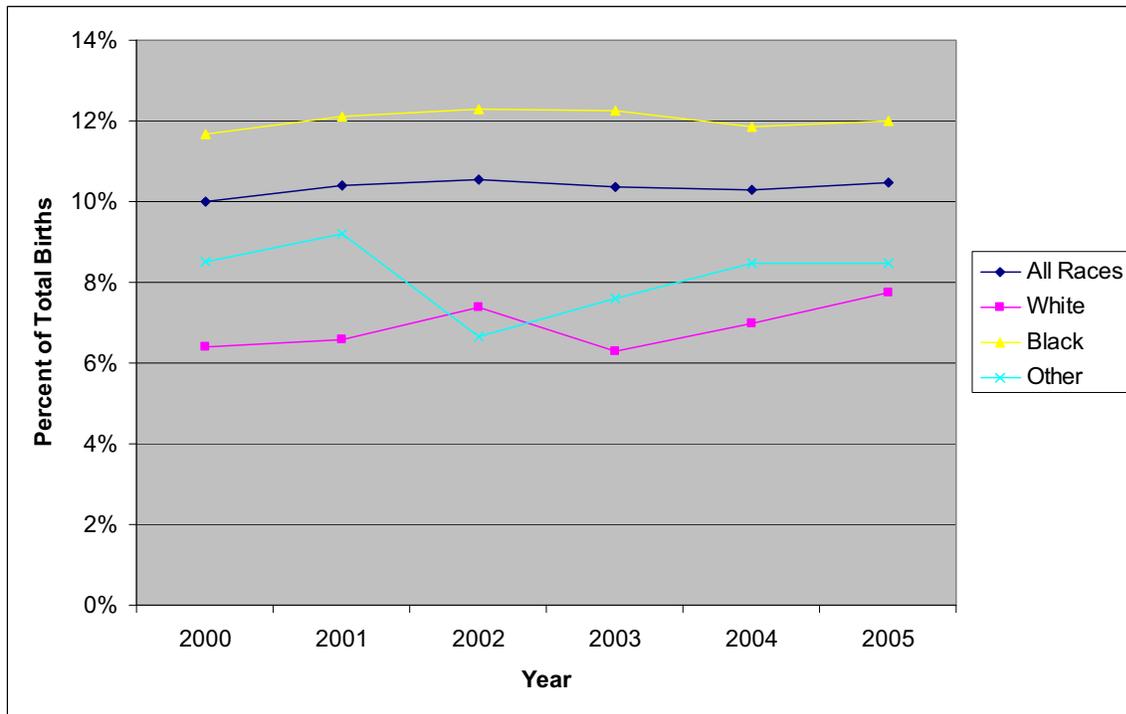
Figure 3.1 Percentage of Total Births at Low Birth Weight, by Jurisdiction and Year



SOURCE: Governors Office for Children (<http://www.ocyf.state.md.us/>) and DC Department of Health (<http://doh.dc.gov/doh/cwp/view,a,1374,q,602031.asp>)

NOTE: Low birth weight = Less than 2,500 grams at birth

Figure 3.2 Percentage of Total Births at Low Birth Weight in Prince George’s County, by Race and Year



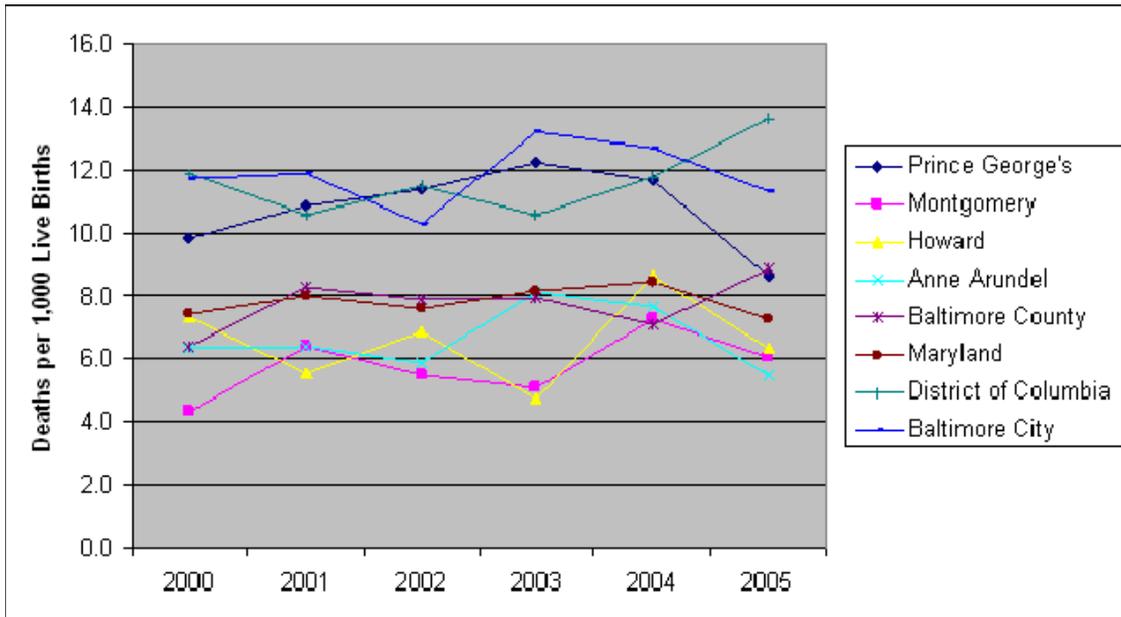
SOURCE: Governors Office for Children (<http://www.ocyf.state.md.us/>) and DC Department of Health (<http://doh.dc.gov/doh/cwp/view,a,1374,q,602031.asp>)

NOTE: Low birth weight = Less than 2,500 grams at birth

Infant mortality is associated with a variety of factors, including congenital malformations, disorders related to short gestation, low birth weight, sudden infant death syndrome, infections, and obstetrical practices (Kung et al., 2007). As such, infant mortality rates reflect both the underlying health of pregnant women and infants and the overall effectiveness of the health care system in preventing and treating health problems.

- Compared with other jurisdictions, Prince George’s County and DC had the two highest infant mortality rates between 2000 and 2005 (Figure 3.3), both higher than the U.S. infant mortality rate of 6.86 per 1,000 births in 2005 (Mathews and MacDorman, 2008). In general, infant mortality rates in Prince George’s County were similar to the rates in DC, although in 2005, the infant mortality rate in DC was substantially higher.
- Within Prince George’s County, infant mortality rates for blacks were one-half to two times as high as those for whites between 2000 and 2005, although both groups observed declines in infant mortality rates from 2004–2005 (Figure 3.4). This overall decline in rates may reflect public health interventions to reduce infant mortality, such as breastfeeding and safe sleep education, and reproductive health care interventions to adolescents, whose infants are at higher risk of dying (Olausson, Cnattingius and Haglund, 2005).

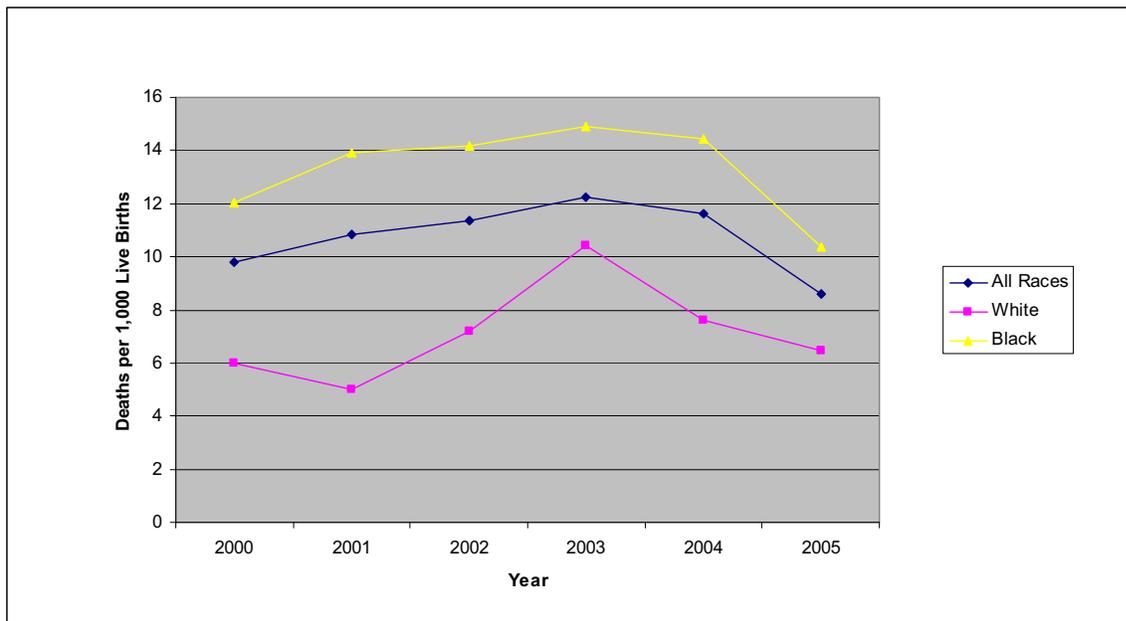
Figure 3.3 Infant Mortality Rates, by Jurisdiction and Year



SOURCE: Governors Office for Children (<http://www.ocyf.state.md.us/>) and DC Department of Health (<http://doh.dc.gov/doh/cwp/view,a,1374,q,602031.asp>)

NOTE: Mortality rate is measured by the number of deaths per 1,000 live births surviving to one year.

Figure 3.4 Infant Mortality Rates in Prince George's County, by Racial Group and Year



SOURCE: Governors Office for Children (<http://www.ocyf.state.md.us/>) and DC Department of Health (<http://doh.dc.gov/doh/cwp/view,a,1374,q,602031.asp>)

NOTE: Mortality rate is measured by the number of deaths per 1,000 live births surviving to one year.

Chapter 4: Health Behaviors and Use of Preventive Care

Health Behaviors

There is growing recognition that health behaviors, such as smoking, physical exercise, and diet, affect health. Health behaviors can be modified through public health interventions that promote healthy lifestyles and direct counseling provided during encounters with health care providers [59–69]. Preventable causes of death, including tobacco use, poor diet, physical inactivity, and alcohol misuse, are estimated to be responsible for nearly 40 percent of annual deaths in the United States [70, 71]. As a consequence, policymakers are increasingly evaluating how well public health agencies and public and private health care systems perform in identifying patients who engage in poor health behaviors and their success in modifying them [13, 72, 73]. In this context, the pattern of health behaviors in a defined population indicates (1) the ability of individuals and health care systems to maintain good population health and (2) the degree to which interventions are needed to improve individual and population health.

Prior studies suggest that health behaviors vary widely by gender, education, income, race/ethnicity, and culture. For example, lower socioeconomic status is associated with poor health behaviors, such as smoking (Gilman et al., 2008), physical inactivity among adolescents (Gordon-Larsen, McMurray and Popkin, 2000), and a lack of seatbelt use (Beck et al., 2007). In addition, race, ethnicity, and other cultural factors are associated with the use of tobacco, alcohol, and drugs (Wallace et al., 2002, Bolen et al., 2000), (Patoock-Peckham et al., 1998, Koenig et al., 1998); poor diet (Lindquist, Gower and Goran, 2000); physical inactivity (Gordon-Larsen, McMurray and Popkin, 2000, McGruder et al., 2004, Bolen et al., 2000); and risk-taking behaviors (such as seatbelt use) (Briggs et al., 2006).

Self-reported survey data are the primary means of assessing the prevalence of health behaviors because they are not often reported in medical records or administrative claims data. We analyzed data from the combined 2005–2006 BRFSS, a U.S. telephone survey of health conditions and risk behaviors in individuals ages 18 and older. The BRFSS provides self-reported data on alcohol use, smoking, exercise, and seatbelt use. We also report estimates of alcohol and drug use published by the U.S. Substance Abuse and Mental Health Services Administration that are based on data from the NSDUH. Appendix 1 describes the BRFSS and NSDUH in more detail.

The BRFSS and NSDUH can be used to generate prevalence estimates at the county level, but neither data source supports assessments of variation in health behaviors across geographic areas within Prince George's County. Nonetheless, we assessed the potential magnitude of variation in health behaviors within Prince George's County indirectly by describing associations between health behaviors and socioeconomic well-being.

Self-Reported Health Behaviors

Table 4.1 shows general health behavior measures from the 2005–2006 BRFSS for Prince George’s County and surrounding jurisdictions. Table 4.2 shows self-reported alcohol use in the past month, binge drinking, and perceived risk associated with heavy drinking for two age groups—12–20 and 12 and older—from the combined 2002 to 2004 NSDUH across jurisdictions.

Table 4.1 Health Behaviors Self-Reported by Adults Age 18 and Older, by Jurisdiction, 2005–2006 Combined

Health Behavior (%)	Prince George’s County	Montgomery County	DC	Baltimore City	Anne Arundel County	Baltimore County	Howard County	Maryland
Heavy Drinker	1.7	5.4**	5.3**	6.0**	7.0**	6.0**	2.6	4.7**
Current Smoker	17.2	9.3**	17.9	26.0**	16.9	20.4	12.6	17.7
No Exercise in past month	23.2	17.1**	22.1	27.7	19.9	25.7	13.9**	23
Wear Seatbelts—Sometimes, Seldom, or Never	5.4	3.2	5.4	7.9	3.1	5.4	3.3	4.8

SOURCE: 2005 and 2006 Behavioral Risk Factor Surveillance Surveys.

NOTES: Current Smokers are defined as having smoked ≥ 100 cigarettes in their lifetime and are now smoking every day or on some days. Heavy Drinkers are defined as an average daily alcohol consumption of more than one drink for women, and more than two for men, in the past 30 days.

* Indicates significant difference at the $p=0.10$ level between county rate and Prince George’s.

** Indicates a significant difference at the $p=0.05$ level.

Table 4.2 Self-Reported Alcohol Use in Past Month and Binge Alcohol Use in Past Month, by Age Category and Jurisdiction, 2002–2004 Combined

Jurisdiction	Past Month Alcohol Use (%)		Past Month Binge Alcohol Use (%)		Perceive Great Risk in Having Five or More Drinks of an Alcoholic Beverage Once or Twice a Week (%)
	Age 12–20	Age 12 and Older	Age 12–20	Age 12 and Older	Age 12 and Older
Prince George’s	21.5	44.3	12.8	19.5	46.7
Montgomery	30.0	60.8+	17.4	19.7	43.7
District of Columbia	31.3	56.4+	17.3	25.4+	44.9
Baltimore City	23.9	44.4	13.2	22.7	47.6
Anne Arundel	29.8	55.3	19.3	20.8	39.6
Maryland State	28.2	53.4+	17.1	20.7	43.2

SOURCE: National Survey on Drug Use and Health, 2002–2004.

<http://www.oas.samhsa.gov/substate2k6/HTML/MD.htm>,

<http://www.oas.samhsa.gov/substate2k6/HTML/DC.htm>

NOTE: Estimates are based on a survey-weighted hierarchical Bayes estimation approach. Binge alcohol use is defined in the NSDUH as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least one day in the past 30 days.

+Indicates 95 percent confidence intervals that do not overlap that of Prince George’s County.

Exercising and Wearing Seatbelts

- Prince George’s County residents were more likely to report not exercising within the last month than residents of all other jurisdictions except Baltimore County and Baltimore City (Table 4.1).
- Although most residents wear seatbelts regularly, Prince George’s residents were less likely to use seatbelts than those in Montgomery, Howard, or Anne Arundel Counties.

Drinking and Smoking

- In 2005–2006, 1.7 percent of adults in Prince George’s County between the ages of 18 and older drank heavily⁸ in the past year.
- This rate is less than heavy drinking rates reported by residents of all other comparison jurisdictions.
- In contrast to their relatively low rates of heavy drinking, almost one-fifth of Prince George’s County residents reported current smoking⁹ in 2005–2006.

⁸ Heavy drinking is defined as an average daily alcohol consumption of more than one drink for women, and more than two for men, in the past 30 days.

⁹ Current Smokers are defined as having smoked 100 or more cigarettes in their lifetime and now smoking every day or on some days.

- This rate of smoking is comparable to that of Maryland as a whole, but lower than in Baltimore City, and higher than in Montgomery County.
- Prince George’s County residents of all ages are less likely to use alcohol compared with their counterparts in other jurisdictions (see Tables 4.1 and 4.2).
- Teenagers and young adults in Prince George’s County engaged in binge drinking at relatively low rates. However, binge drinking rates among all Prince George’s residents over age 12, though less than those in the District of Columbia, were comparable to rates throughout the state and in neighboring Anne Arundel and Montgomery Counties.

Illicit Drug Use

- Illicit drug use is comparable between residents in Prince George’s County and those in other jurisdictions (Table 4.3).

Table 4.3 Self-Reported Use of Illicit Drugs in Past Year for Persons Age 12 and Older, by Jurisdiction, 2002–2004

Jurisdiction	Marijuana (%)	Cocaine (%)	Pain Relievers Used Nonmedically (%)
Prince George’s County	11.6	1.8	2.9
Montgomery County	9.0	1.4	3.1
District of Columbia	14.5	3.2	3.2
Baltimore City	13.8	3.5	4.9
Anne Arundel County	10.8	2.0	4.0
Maryland	10.4	2.0	3.7

SOURCE: National Survey on Drug Use and Health, 2002–2004.

<http://www.oas.samhsa.gov/substate2k6/HTML/MD.htm>,

<http://www.oas.samhsa.gov/substate2k6/HTML/DC.htm>

NOTE: Estimates are based on a survey-weighted hierarchical Bayes estimation approach. There are no statistically significant differences between drug use in Prince George’s County and those in other jurisdictions based on 95 percent confidence intervals reported by the Substance Abuse and Mental Health Services Administration.

Variation in Health Behaviors by Demographic and Socioeconomic Characteristics

We used BRFSS data to estimate associations between health behaviors self-reported by Prince George’s County residents and demographic characteristics such as age, gender, race, income, education, and insurance status.

- Lower socioeconomic status was associated with higher rates of heavy drinking, current smoking, lack of exercise, and lack of seatbelt use, though these differences were not statistically significant in all cases (Table 4.4).
- County residents between the ages of 18 and 64 were more likely to exercise than those age 65 and older, but otherwise reported similar behaviors.
- Females were less likely to exercise and smoke than males.
- Health behaviors in Prince George’s County reported by blacks and whites were generally similar.

Table 4.4 Health Behaviors Self-Reported by Prince George’s County Residents Age 18 and Older, by Selected Demographic and Socioeconomic Characteristics, 2005–2006 Combined

	% of County Residents	Heavy Drinker	Current Smoker	% Reporting No Exercise in the Last Month	Sometimes/Seldom/Never Wear Seatbelt
Demographic Characteristics					
Age					
Age 18–64	85.6	1.8	17.7	20.9**	5.4
Age 65+	14.4	1.3	14.6	36.8**	5.0
Sex					
Female	52.4	1.6	14.0**	26.9**	2.6
Male	47.6	1.8	20.8**	19.1**	8.5
Race					
Black	51.2	1.6	17.8	22.3	5.7
White	37.4	2.4	15.9	23.3	2.6
Socioeconomic Characteristics					
Educational Attainment					
Above High School	65.0	1.2	15.6	18.0**	2.3**
High School or Less	35.0	2.6	19.6	32.9**	11.3**
Household Income					
\$50,000 and Above	39.0	1.4	15.8	15.5**	3.9
Below \$50,000	41.0	2.4	23.0	30.1**	5.6
Health Insurance Status					
Insured	86.7	1.2	17.2	19.0	6.1
Uninsured	13.8	5.4	24.1	31.0	2.3

SOURCE: Authors’ analysis of public use data from the 2005 and 2006 BRFSS, unless noted otherwise.

NOTES: Current Smokers are defined as having smoked 100 or more cigarettes in their lifetime and now smoking every day or on some days. Heavy Drinkers are defined as an average daily alcohol consumption of more than one drink for women, and more than two for men, in the past 30 days.

* Indicates significant difference at the $p=0.10$ level between categories.

** Indicates a significant difference at the $p=0.05$ level.

Use of Preventive Care

The goal of preventive care is to prevent disease or injury through routine physical examinations, immunizations, and screening tests. Empirical evidence suggests that many measures of preventive care may improve the health of populations, reduce mortality, and greatly reduce future health care costs (Maciosek et al., 2006). Using BRFSS data, we report demographic and socioeconomic variation in self-reported use of preventive care for Prince George's County residents and those of surrounding jurisdictions for 2005–2006. Preventive care services include the flu and pneumococcal (pneumovax) vaccines and cholesterol, HIV, and cancer screening tests. Our findings reported in Table 4.5 include the following

- **Flu shots.** Prince George's County residents were the least likely to report receiving a flu shot in the last year after Baltimore City.
- **Pneumococcal vaccine.** Prince George's County residents were the least likely to report having received a pneumococcal vaccine in the last year after the District of Columbia.
- **Mammograms.** Women age 50 and over living in Prince George's County were significantly less likely to have had a mammogram in the preceding two years than similar women in Baltimore and Howard Counties.
- **HIV testing.** Fifty-six percent of residents under age 65 in the County had been tested for HIV, which is the third-highest rate, after with nearly 64 percent in DC and 61 percent in Baltimore City.
- **Other screening.** For other age- and sex-indicated screening tests (cholesterol test, Pap smear, and colonoscopy), Prince George's County residents received screening services at rates comparable to those in other jurisdictions.

Table 4.5 Preventive Health Care Self-Reported by Adults Age 18 and Older, by Jurisdiction, 2005–2006 Combined

Utilization Measure (%)	Prince George's County	Montgomery County	DC	Baltimore City	Anne Arundel County	Baltimore County	Howard County	Maryland
Cholesterol test < 5 years ago	80.2	80.1	79.3	78	76.6	81.4	85	79.7
Flu shot this year (age >50)	42.9	56.6**	48.8*	43.7	54.2**	46.4	60.0**	50.6**
Pneumovax (age >65)	53.5	68.1**	52	65.1	69.7**	64.9*	81.1**	66.0**
HIV test (age <65)	56.1	40.6**	63.7**	61.2	42.5**	44.8**	33.8**	44.0**
Mammogram within 2 years among women 50+	81.3	83.8	84.4	78.9	85.4	87.4*	89.1*	83.6
Pap smear within 3 yrs among women 18–64 with no hysterectomy	90.7	89.3	90.5	88	90.3	89.6	91.7	89.7
Any history of PSA among men 50+	80.8	78.2	78.1	81.1	89.3	85.1	79.1	80.3
Colonoscopy or flexible sigmoidoscopy in last 10 yrs (age 50+)	63	62.9	60.8	51.3	68.9	60.3	70.2	61.4

SOURCE: Authors' analysis of public use data from the 2005 and 2006 Behavioral Risk Factor Surveillance Surveys, unless noted otherwise.

* Indicates significant difference at the p=0.10 level between county rate and Prince George's

** Indicates a significant difference at the p=0.05 level.

Variation in Preventive Care by Demographic and Socioeconomic Characteristics

Preventive care is usually applicable to older individuals at risk for health conditions, and thus, is not compared by age group in Table 4.6.

- Female residents of Prince George's County were more likely than male residents to have had their cholesterol checked.
- Male and female residents received flu and pneumococcal vaccines, HIV tests, and colorectal cancer screening at similar rates.
- Black residents were less likely than whites to report being vaccinated with the flu and pneumococcal vaccines, but more likely to report having a cholesterol test within the last five years and being tested for HIV.
- Overall, Prince George's County residents received preventive care at roughly equivalent rates regardless of education or income level.

- However, women with higher education were more likely to receive a mammogram and Pap smear compared with less educated women, and County residents with higher household incomes were more likely to receive cholesterol testing and Pap smears.
- In contrast to education and income, there were substantial differences in the use of all preventive care among Prince George's County residents based on their health insurance status. The most notable disparities by insurance status were observed in insured residents, who were over six times as likely to report receiving a flu shot, four times more likely to receive a colonoscopy, and two times more likely to have a mammogram, compared with uninsured residents.

Table 4.6 Preventive Health Care Self-Reported by Prince George’s County Residents Age 18 and Older, by Selected Demographic and Socioeconomic Characteristics, 2005–2006 Combined

	% of County Residents	Cholesterol test < 5 years ago	Flu shot this year (age >50)	Pneumovax (age >65)	HIV test (age <65)	% Reporting Mammogram within 2 years among women 50+	Pap smear within 3 yrs among women 18–64 with no hysterectomy	Any history of PSA among men 50+	Colonoscopy or flexible sigmoidoscopy in last 10 yrs (age 50+)
Demographic Characteristics									
Sex									
Female	52.4	83.4*	40.5	58.3	55.5	81.3	90.7	-NA-	62.1
Male	47.6	76.4*	46.3	46.1	56.7	-NA-	-NA-	80.8	64.3
Race									
Black	51.2	85.0*	31.6**	44.5*	62.2**	83.8	90.9	80.0	63.7
White	37.4	78.2*	55.6**	64.6*	42.8**	77.6	90.1	82.9	66.7
Socioeconomic Characteristics									
Educational Attainment									
Above High School	65.0	81.2	43.8	56.0	59.4	85.1*	93.2*	83.5	63.2
High School or Less	35.0	78.1	40.0	48.0	49.3	74.7*	85.7*	76.2	61.3
Household Income									
\$50,000 and Above	59.0	83.7*	42.6	52.2	56.5	84.2	95.4**	76.2	66.5
Below \$50,000	41.0	76.1*	43.9	53.6	59.9	74.6	86.4**	85.7	61.7
Health Insurance Status									
Insured	86.7	81.4**	38.0**	-NA-	59.1	81.1**	92.1	75.8	61.3**
Uninsured	13.8	65.8**	6.3**	-NA-	44.3	41.0**	79.9	52.5	14.0**

SOURCE: Authors’ analysis of public use data from the 2005 and 2006 BRFSS.

* Indicates significant difference at the p= 0.10 level between categories.

** Indicates a significant difference at the p=0.05 level.

Chapter 5: Barriers to Health Care Access and Utilization for Adults

Access to health care depends on affordability (which is affected by insurance status), the availability of health care providers when and where care is needed, and the acceptability of providers to patients (Penchansky and Thomas, 1981, Girt, 1973, Haynes, 1991, Love and Lindquist, 1995, Nemet and Bailey, 2000, Allard, Tolman and Rosen, 2003, Hadley and Cunningham, 2004, Gregory et al., 2000). Thus, access to care depends on a range of characteristics of individuals and health care systems, such as medical conditions, physical disabilities, cultural norms, travel costs, provider hours, and patient work schedules (Aday and Andersen, 1974). Because these characteristics are costly and time-consuming to measure, access to care is typically assessed by asking survey respondents to report financial barriers to needed care and receipt of medical services. The use of medical services is one way to measure contact with primary care health care providers. Using the 2005–2006 BRFSS and the 2002–2004 NSDUH, we describe self-reported information on financial barriers to care, including not having insurance, having a usual source of care, receiving routine care, and unmet treatments needs. Detailed descriptions of these two data sources can be found in Appendix 1.

Access Barriers and Delays in Getting Routine Care

- In 2005–2006, an estimated 14 percent of adult Prince George’s County residents age 18–64 reported being uninsured (Table 5.1).
- Ten percent of residents missed needed care because the cost was too high.
- Nearly 16 percent of residents reported having no regular source of care.

Table 5.1 Self-Reported Access to Health Care by Adults Age 18 and Older, by Jurisdiction, 2005–2006 Combined

Access Measure (%)	Prince George's County	Montgomery County	DC	Baltimore City	Anne Arundel County	Baltimore County	Howard County	Maryland
Uninsured (age 18–64 only)	13.8	8.3*	9.8	17.1	9.5	14.8	5.2**	11.8
Missed needed care within the last year because of cost	9.9	9.7	20.0	13.8	6.1	11.3	8.8	9.6
No regular source of care	15.6	17.2	10.0	18.0	12.8	11.5	11.9	14.2
Last routine checkup 2+ years ago	11.4	13.5	8.9	8.1	14	12.4	12.8	12.6
Last dental exam 5+ years ago	11.4	4.2**	8.2	11.3	6.9*	10.0	4.3**	8.6

SOURCE: Authors' analysis of public use data from the 2005 and 2006 Behavioral Risk Factor Surveillance Surveys, unless noted otherwise.

* Indicates significant difference at the p= 0.10 level between county rate and Prince George's.

** Indicates a significant difference at the p=0.05 level.

Comparison in Access Barriers and Delays with Surrounding Jurisdictions

- With a few exceptions, Prince George’s County residents did not experience barriers to care at disproportionately higher rates than those in surrounding jurisdictions (Table 5.1).
- In particular, County residents missed needed care, went without a regular source of care, and had delays in routine checkups at rates similar to those in the District, Maryland State, and neighboring counties.
- However, residents of Prince George’s County were more than twice as likely to report being uninsured compared with residents of Howard County and roughly one-third more likely to report being uninsured compared with Montgomery County residents. Only Baltimore County and Baltimore City exceeded Prince George’s County uninsured rate.
- In addition, Prince George’s County residents were more than twice as likely to report having their last dental exam more than five years ago compared with residents of Howard and Montgomery Counties and roughly one and half times as likely to have a recent dental exam compared with residents of Anne Arundel County.

Variations in Access Barriers and Delays, by Demographic and Socioeconomic Characteristics

Access barriers and delays in getting routine care were not evenly distributed across Prince George County residents.

- Those between age 18 and 64 were substantially more likely to experience access barriers compared with those age 65 and above, who are almost universally insured through the federal Medicare program (Table 5.2).
- There were vast differences in access by gender; 26 percent of males reported having no regular sources of care, a rate that was over four times as high as females, and nearly 18 percent of males reported a routine checkup more than two years ago compared with 6 percent of women.
- Black residents were statistically as likely as whites to be uninsured or miss needed care because of cost. However, over 17 percent of black reported having no usual source of care, compared with 10 percent of whites.
- Barriers to access appear to be highly concentrated among Prince George’s residents of lower socioeconomic status (Table 5.3).

- Residents without education beyond high school and those with household incomes under \$50,000 were much more likely than more advantaged residents to be uninsured, to have no regular source of care, to miss care because of cost, and to have had a dental exam more than five years ago.
- Particularly notable is that those with incomes under \$50,000 are seven times more likely than those with higher incomes to be uninsured.
- As shown in the bottom panel of Table 5.3, Prince George's County residents without health insurance are two to ten times more likely to report not having a usual source of care, missing care due to cost, and not having recent checkups and dental exams.

Table 5.2 Self-Reported Access to Care by Prince George’s County Residents Age 18 and Older, by Selected Demographic and Socioeconomic Characteristics, 2005–2006 Combined

	% of County Residents	Uninsured (age 18–64 only)	No regular source of care	% Reporting Missed needed care within the last year due to cost	Last routine check-up 2+ years ago	Last dental exam 5+ years ago
Demographic Characteristics						
Age						
18–64	85.6	13.8	17.4**	10.5	12.6**	10.0*
Age 65+	14.4	-NA-	5.3**	6.6	4.5**	19.5*
Sex						
Female	52.4	11.4	6.3**	8.9	5.7**	10.2
Male	47.6	16.3	26.0**	11.1	17.7**	12.6
Race						
Black	51.2	13.6	17.3*	9.4	9.6	14.2
White	37.4	11.3	9.9*	8.4	15.2	8.3
Socioeconomic Characteristics						
Educational Attainment						
Above High School	65.0	8.1**	11.3**	7.7	9.2	7.5**
High School or Less	35.0	25.3**	24.0**	14.2	15.7	17.7**
Household Income						
\$50,000 and Above	59.0	4.0**	11.9**	3.6**	10.6	7.5*
Below \$50,000	41.0	28.1**	24.3**	21.1**	10.9	15.1*
Health Insurance Status						
Insured	86.7	-NA-	13.8**	4.6**	8.9**	8.4*
Uninsured	13.8	-NA-	42.6**	47.3**	37.6**	22.4*

SOURCE: Authors’ analysis of public use data from the 2005 and 2006 Behavioral Risk Factor Surveillance Surveys.

* Indicates significant difference at the p= 0.10 level between categories.

** Indicates a significant difference at the p=0.05 level.

Table 5.3 Proportion of Residents Needing but Not Receiving Treatment for Illicit Drugs or Alcohol in the Past Year, by Jurisdiction 2002–2004 Combined

Jurisdiction	Alcohol		Illicit Drugs	
	%	95% CI	%	95% CI
Prince George’s County	6.3	(4.8–8.1)	2.4	(1.8–3.2)
Montgomery County	6.0	(4.8–7.7)	1.9	(1.4–2.5)
District of Columbia	9.1	(7.8–10.6)	3.1	(2.5–3.9)
Baltimore City	7.1	(5.5–9.2)	3.1	(2.2–4.4)
Anne Arundel County	6.7	(5.1–8.6)	2.7	(2.0–3.6)
Maryland	6.5	(5.6–7.6)	2.5	(2.1–3.0)

SOURCE: National Survey on Drug Use and Health,
<http://www.oas.samhsa.gov/substate2k6/HTML/MD.htm>

Unmet Need for Alcohol and Drug Treatment

The NSDUH asks respondents age 12 and older whether they needed but did not receive treatment for a problem with illicit drugs or alcohol in the past year. These data show that, in 2002–2004, Prince George’s County residents were equally likely to report unmet need for drug treatment as their counterparts in neighboring jurisdictions.

Chapter 6: Physician Supply

Physicians influence population health through prevention, diagnosis, and treatment of illness. Physicians not only provide care; they also direct and manage care provided by others medical professionals, such as nurses, nurse practitioners, and physician assistants. Assessing the adequacy of the physician workforce within a geographic region involves considering the supply of two types of physicians: primary care physicians and specialists. Primary care physicians include those trained in family and general medicine, internal medicine, pediatrics, and obstetrics and gynecology. Primary care physicians diagnose and treat chronic medical conditions, manage complex illnesses, and provide preventive care. While some patients with each of these conditions may also require specialty treatment, an adequate supply of primary care physicians can reduce rates of complications that can result in high-cost ED visits and hospitalizations. Studies suggest that the supply of primary care physicians is positively associated with population health and with the equitable distribution of health across population subgroups (Starfield, Shi and Macinko, 2005), (Forrest, 2006). The relationship between population health and the supply of specialists is less clear (Starfield et al., 2005, Forrest, 2006). A relatively large number of specialists in a geographic area may indicate high levels of access to care but could also indicate that the area has an undeveloped primary care infrastructure.

The U.S. Department of Health and Human Services (DHHS) Health Resources and Services Administration (HRSA) considers an area to have a shortage of primary care physicians if the physician to population ratio is less than 1:3,500 (or less than 28.6 physicians per 100,000 residents) (U.S. Department of Health and Human Services Health Resources and Services Administration, 2008). HRSA also considers a psychiatrist to population ratio of less than or equal to 1:20,000 (or 5 psychiatrists to 100,000 residents) to be one of several indicators of a shortage of mental health care providers within a defined area. There is no widely accepted benchmark for assessing the supply of specialists for a population, though a number of factors should be considered, such as the age of the population and the burden of chronic illness.

Measurement Approach

We calculated the number of physicians per capita (see Appendix 4 for a description of the methodology) in Prince George's County and used this calculation to:

- Compare the physician supply in Prince George's County from 2005 to 2007 with (1) physician supply in surrounding jurisdictions; (2) the medical workforce in the

United States in 2000–2002¹⁰ (Weiner, 2004); and (3) the staffing levels for three large managed care organizations operating in the United States during 2000–2002¹¹ (Weiner, 2004).

- Examine variation in physician supply by ZIP codes within Prince George’s County. To compare physician supply across jurisdictions, we used data from the 2005 Area Resource File on the number of physician full-time equivalents (FTEs) practicing within each county. Based on these data, we calculated ratios of the number of FTEs per 100,000 residents using population estimates derived from the 2005 ACSY.

Demographic data presented in Chapter 2 showed that, in Prince George’s County, a large proportion of workers commute more than 30 minutes to jobs outside the County (see Table 2.3). Commuting patterns may cause the residents of one jurisdiction to visit physicians located in other jurisdictions. However, we did not adjust our physician supply estimates for differences in the day and nighttime populations given the absence of data on the number of Prince George’s residents that commute to each surrounding jurisdiction. To the extent that Prince George’s residents commute to, and seek care in, the District and Baltimore City, physician supply estimates in Prince George’s County will be somewhat conservative. Likewise, the physician supply estimates for the District of Columbia will be somewhat overstated compared with the actual number of individuals served by those physicians.

Physician Workforce in Prince George’s County and Surrounding Jurisdictions

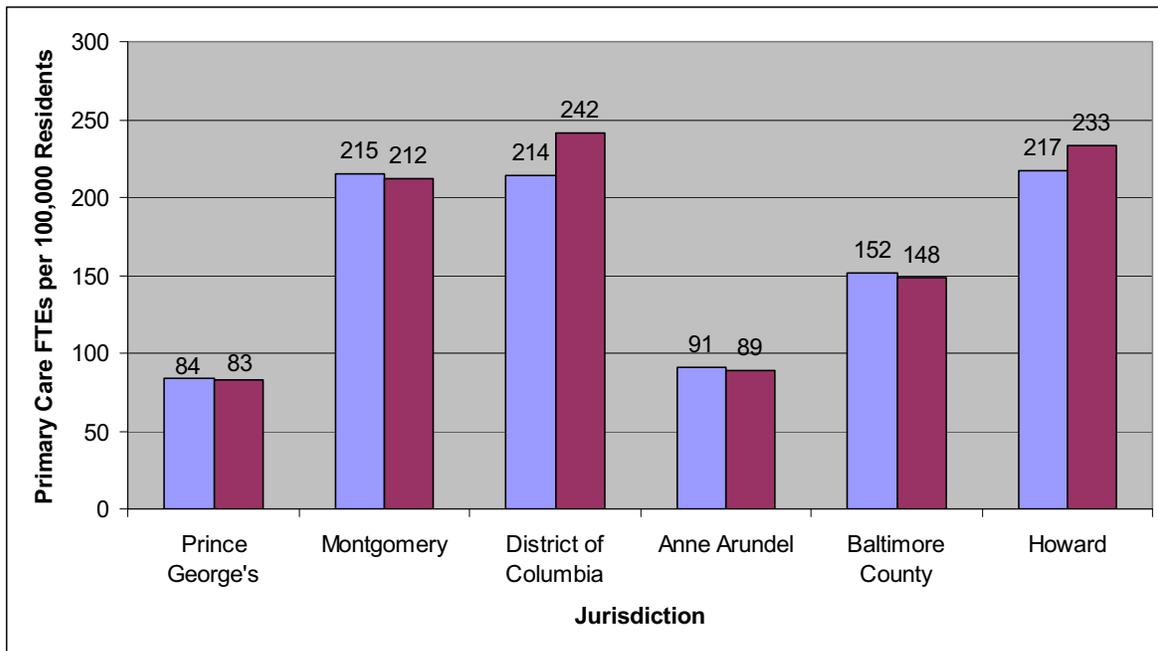
Primary Care Physicians

- From 2000 to 2005, the number of primary care physicians per capita declined in Prince George’s County. The number also declined in Anne Arundel, Baltimore, and Montgomery Counties. In contrast, the number grew in both the District of Columbia and Howard County (see Figure 6.1).
- In both 2000 and 2005, the per capita number of primary care physicians in Baltimore, Howard, and Montgomery Counties and the District of Columbia exceeded that in Prince George’s and Anne Arundel Counties by one and a half to two times. Nonetheless, none of the counties experienced a primary care physician shortage.

¹⁰ U.S. medical workforce data include non-federal, non-trainees involved in patient care.

¹¹ Regions served by Kaiser Permanente Medical Group include Southern California, Northern California, Colorado, Hawaii, Maryland, the District of Columbia, Virginia, Oregon, and Washington; Group Health Cooperative served enrollees in Washington State; and Health Partners served enrollees in Minnesota. Workforce levels include salaried and contract physicians.

Figure 6.1 Licensed Primary Care Physician FTEs per 100,000 Residents by Jurisdiction, 2000 and 2005



SOURCES: Area Resource File 2000 and 2005 <http://www.arfsys.com/> and U.S. Census Bureau 2000 and 2005.

Medical Specialists

- Prince George's County (along with Anne Arundel County) had substantially fewer specialists of all types compared with other jurisdictions (see Table 6.1).
- For 18 out of 31 specialties, the per capita supply of physicians in all surrounding jurisdictions exceeded the supply in Prince George's County by 125 percent or more.
- Specialties in relatively short supply in Prince George's County include internal medicine specialists, pulmonologists, neurologists, pediatric specialists, ophthalmologists, otolaryngologists, plastic surgeons, colorectal cancer surgeons, thoracic surgeons, urologists, radiologists, emergency physicians, and anesthesiologists.
- Prince George's County had 6.3 psychiatrists per 100,000 residents compared with 29 or more per 100,000 in Montgomery, Baltimore, and Howard Counties and the District of Columbia. The per capita number of psychiatrists in Prince George's County slightly exceeds the benchmark of 5 per 100,000 used by HRSA in defining a shortage of mental health providers.

Table 6.1 Physician FTEs per 100,000 Residents, by Jurisdiction and Selected Specialties, 2005

Specialty	Prince George's County	Montgomery County	Anne Arundel County	Baltimore County	Howard County	District of Columbia
Primary Care						
Family Medicine	18.2	30.6	21.9	17.0	36.7	33.4
General Internal Medicine	36.8	94.7	35.4	74.8	100.1	115.5
Pediatrics	16.8	57.6	18.8	31.0	58.9	58.1
Ob-Gyn—General	11.3	29.4	12.9	25.2	25.0	34.5
<i>All primary care</i>	83.1	212.3	89.1	148.1	233.1	241.6
Medical Specialties						
Allergy and Immunology	1.3	7.9	0.8	2.2	4.8	4.7
Cardiovascular Disease	5.8	18.4	6.1	11.3	16.5	18.0
Dermatology	3.1	10.6	3.9	5.1	3.6	10.0
Gastroenterology	2.8	9.5	3.5	7.4	5.6	11.4
Internal Medicine						
Subspecialties	7.3*	55.4	9.6	21.5	25.0	44.5
Pulmonary Disease	1.5*	7.2	4.3	4.3	8.1	7.6
Psychiatry	6.3*	47.8	11.4	29.4	41.6	57.4
Neurology	2.1*	14.3	3.3	7.6	10.9	13.1
Pediatric Subspecialties	1.7*	16.6	3.1	5.5	10.5	19.3
Surgical Specialties						
General	8.5	20.2	8.0	23.4	14.9	41.1
Neurological	1.1	3.8	2.2	3.7	0.4	5.8
Ob-Gyn Subspecialties	1.4	4.3	1.2	3.8	3.2	4.9
Ophthalmology	3.2*	16.9	7.0	12	9.7	18.0
Orthopedic	6.5	14.0	9.6	15.8	7.3	18.5
Otolaryngology	1.5*	7.3	3.5	6.4	6.1	7.1
Plastic	1.1*	5.2	2.5	4.1	3.2	7.3
Colon/Rectal	0.0*	0.8	0.6	1.1	0.8	1.3
Thoracic	0.7*	2.6	1.2	2.4	2.4	4.5
Urology	2.8*	5.7	4.3	4.8	4.0	8.9
Hospital-based						
Diagnostic Radiology	2.4*	17.0	5.5	13.5	17.3	18.5
Emergency Medicine	7.0*	18.0	13.3	11.4	16.5	16.5
Anesthesiology	5.2*	29.5	13.3	24.2	41.6	22.9
Pathology, Anatomical/ Clinical	2.6*	22.2	3.3	7.1	10.5	20.2
Radiation Oncology	0.9	4.7	0.8	1.4	0.4	3.5
Physical Medicine/ Rehabilitation	1.5*	4.4	2.2	3.9	4.0	5.4
Other Specialties						
Radiology	1.1*	6.3	2.2	5.0	5.2	8.0
Other Specs	0.4*	10.9	2.0	2.4	6.5	7.6

SOURCE: Area Resource File 2005 <http://www.arfsys.com/> and U.S. Census Bureau 2005.

* Indicates all other jurisdictions have a per capita FTE rate that exceeds the Prince George's County rate by 125 percent or more.

In comparison with the medical workforce in the United States and with staffing levels for three large managed care organizations in the U.S. (Weiner, 2004) we found that

- The supply of physicians in Prince George’s County was substantially lower for a number of physician specialties, including family and general medicine physicians, neurologists, ophthalmologists, otolaryngologists, plastic surgeons, anesthesiologists, pathologists, and physical medicine specialists (see Table 6.2).

Table 6.2 Physician FTEs per 100,000 Population for Prince George’s County (2005), the United States (2000–2002), and Selected Prepaid Group Practices (2000–2002)

Specialty	Prince George’s	United States	Kaiser	Group Health Cooperative	Health Partners
Primary Care					
Family Medicine	18.2	30.2+	12.7	47.2+	26.7+
General Internal Medicine	36.8	43.5	27.6	11.7	34.8
Pediatrics	16.8	18.5	11.9	7.8	13.2
Medical Specialties					
Allergy and Immunology	1.3	1.2	1.0	1.1	0.9
Cardiovascular Disease	5.8	6.6	2.9	3.0	3.8
Dermatology	3.1	3.1	2.4	1.5	2.1
Gastroenterology	2.8	3.4	2.1	2.0	2.1
Pulmonary Disease	1.5*	2.5	0.9	1.8	1.9+
Psychiatry	6.3*	—	5.7	5.2	5.3
Pediatric Subspecialties	1.7*	0.5	3.4+	0.4	—
Surgical Specialties					
General	8.5	—	5.8	5.8	6.9
Neurological	1.1	1.5+	0.8	0.9	—
Ophthalmology	3.2*	6.2+	3.6	3.3	3.5
Orthopedic	6.5	6.9	4.1	6.0	—
Otolaryngology	1.5*	3.0+	2.5+	2.6+	0.5
Plastic	1.1*	2.1+	1.0	2.1+	1.8+
Thoracic	0.7*	1.7	0.8	—	—
Hospital-based					
Emergency Medicine	7.0*	6.9	7.2	5.1	6.0
Anesthesiology	5.2*	11.6+	6.4	6.4	—
Pathology, Anatomical/Clinical	2.6*	4.1+	2.3	1.8	1.7
Physical Medicine/Rehabilitation	1.5*	1.9+	1.3	0.2	1.0

SOURCE: Area Resource File 2005 <http://www.arfsys.com/>. (U.S. Census Bureau, 2002-2005, Weiner, 2004)

* Indicates all other jurisdictions have a per capita FTE rate that is 125 percent or more of the Prince George’s County rate (see Table 6.1).

+ Indicates that benchmark rate exceeds 125 percent of the Prince George’s County per capita FTE rate.

— indicates not applicable or available as per Weiner 2004. This table includes a subset of specialties from ARF where reasonable comparison to Weiner 2004 was possible.

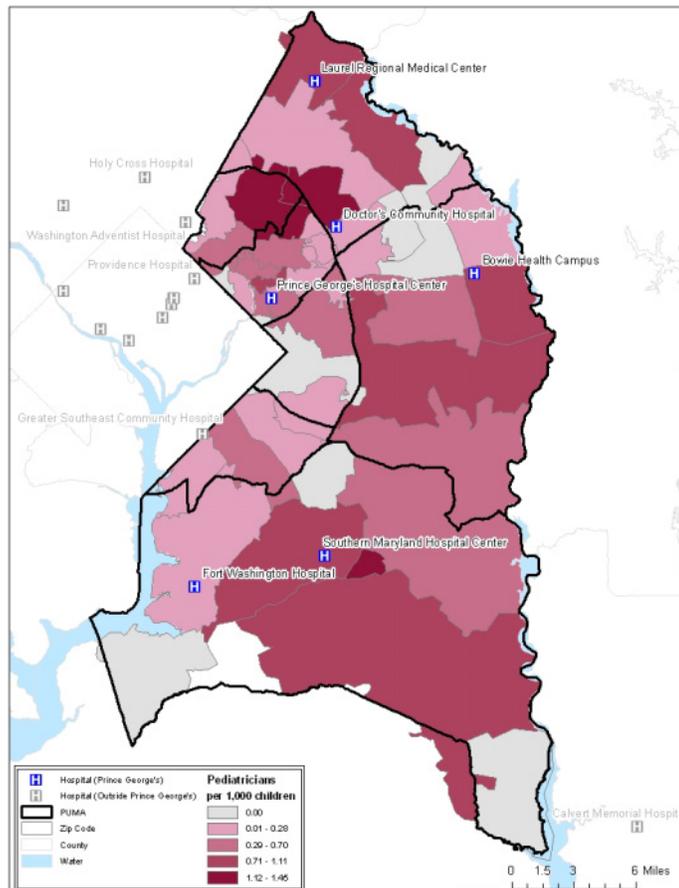
Physician Workforce Within Prince George's County

Figures 6.2 to 6.4 map the number of adult primary care physicians, pediatricians, and specialists per 1,000 residents in each ZIP code within Prince George's County. Our methodology for calculating these 2007 per capita rates and associated sensitivity analyses are described in Appendix 4.

Pediatricians

- Figure 6.2 shows that the supply of pediatricians in the County varies from zero to 1.45 per 1,000 children age 17 and under, depending on the ZIP code.
- Pediatricians appear to be concentrated in the southeastern regions, outer-Beltway regions, and in ZIP codes including or adjacent to Doctors Community Hospital and Southern Maryland Hospital Center. The relatively low concentration of pediatricians inside the Beltway may reflect the close proximity of Children's National Medical Center located in the District of Columbia.

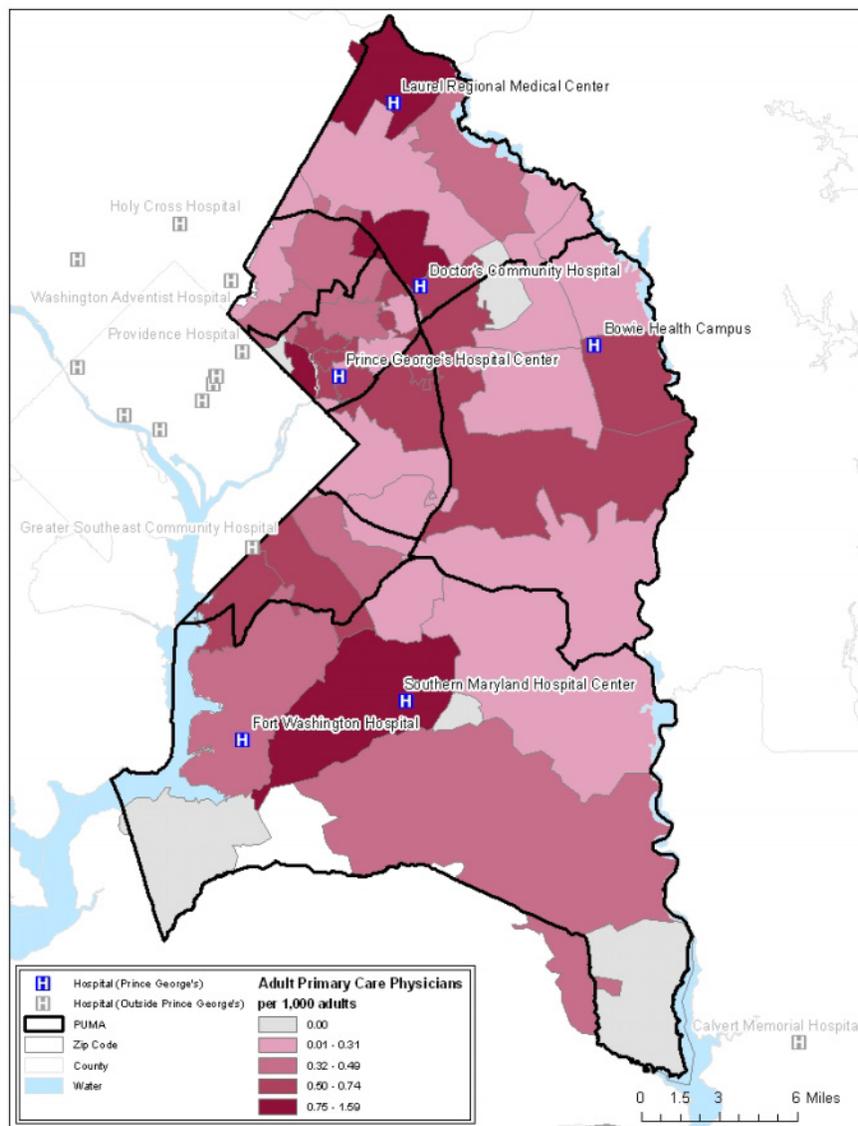
Figure 6.2 Pediatricians per 1,000 Prince George's County Residents Age 17 and Younger by ZIP Code, 2007



Primary Care Physicians

- Figure 6.3 shows that the number of adult primary care physicians licensed in Prince George's County ranges from zero to 1.59 per 1,000 adult residents, depending on the ZIP code.
- In contrast to pediatricians in the County, the highest concentrations of adult primary care physicians are generally in ZIP codes located near the County's six hospitals.

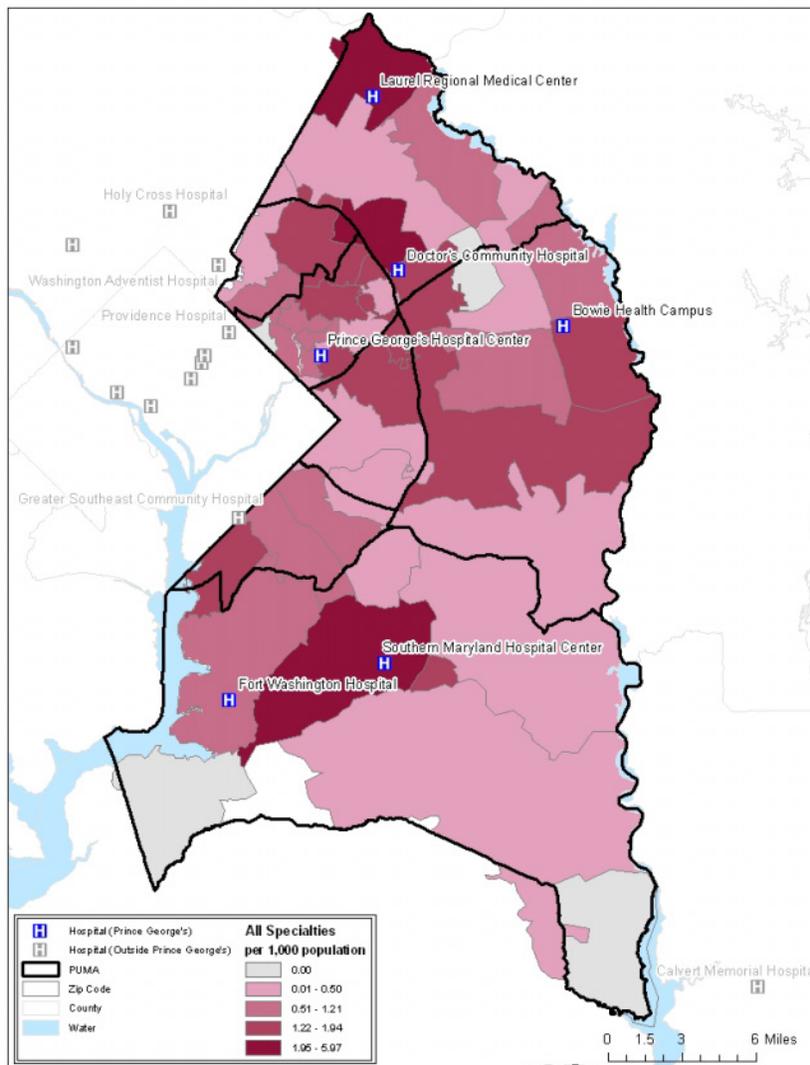
Figure 6.3 Adult Primary Care Physicians per 1,000 Adult Prince George's County Residents by ZIP Code, 2007



Medical Specialists

- Figure 6.4 shows that the number of medical specialists per 1,000 residents in the County varies widely by ZIP code.
- Similar to adult primary care physicians, medical specialists are most concentrated in ZIP codes that include or are adjacent to hospitals. The lowest concentration of medical specialists is in the southern regions of the County both inside and outside of the Beltway.

Figure 6.4 Specialists per 1,000 Prince George's County Residents by ZIP Code, 2007



Chapter 7: Hospital, Emergency Department, and Safety-Net Clinic Capacity

In this chapter, we describe the capacity of Prince George’s County hospitals and EDs and compare them with those in surrounding Maryland counties. We also provide a brief description of Prince George’s County’s safety-net clinic capacity¹² and the location of safety-net clinics in Montgomery and Prince George’s Counties and the District of Columbia.¹³ We analyze hospital and ED data from routinely published inventories of acute hospital care and ED care issued by the Maryland Health Care Commission. We combine these inventories with county-level population data from the decennial U.S. Census and the annual ACSY to capacity on a per capita basis.¹⁴

Trends in Acute Care Hospital Capacity

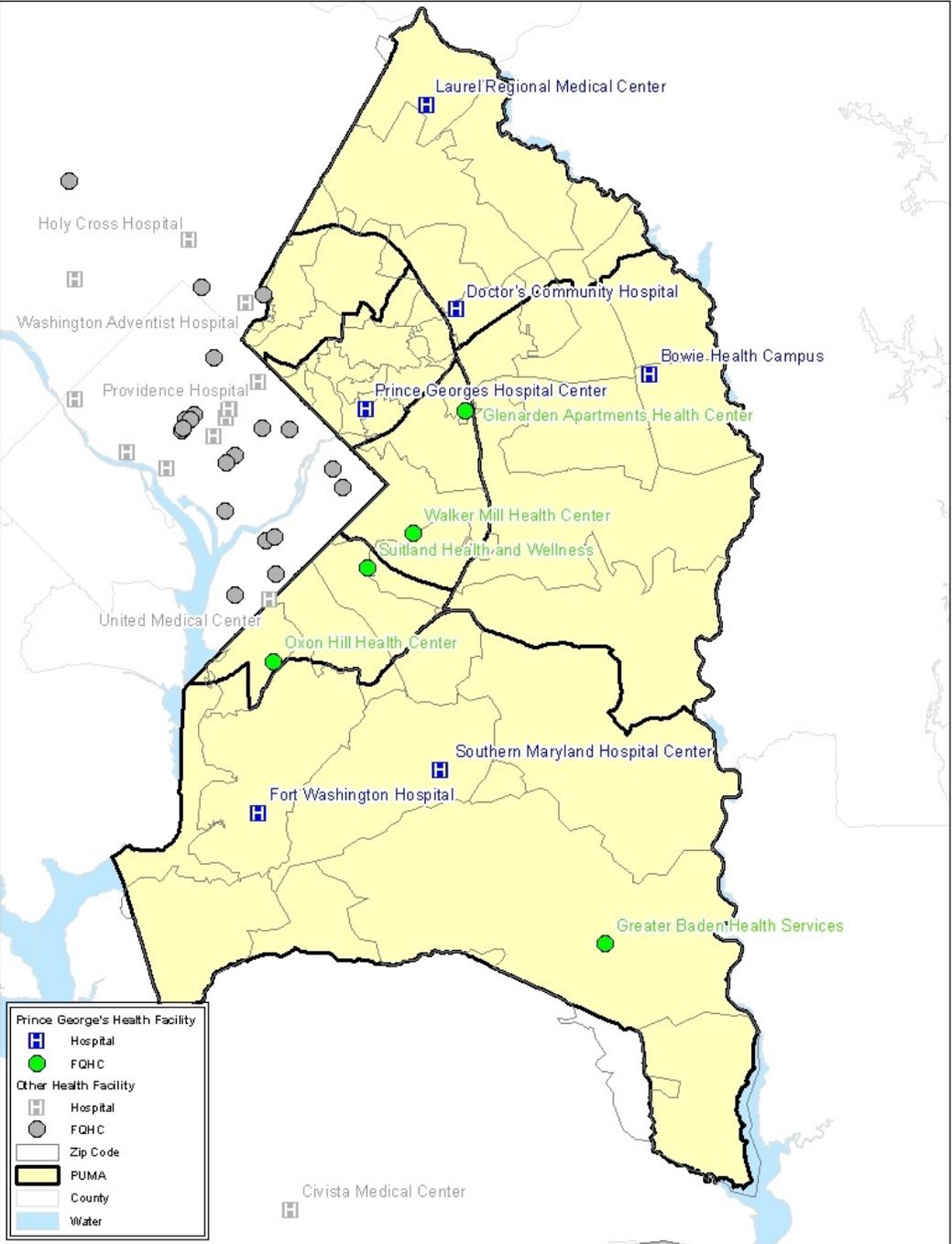
There are six acute care hospitals currently operating within Prince George’s County. These include Doctor’s Community, Fort Washington, Laurel Regional, Prince George’s Hospital Center, and Saint Mary’s. These hospitals provide medical, surgical, addiction, gynecologic, obstetric, pediatric, and psychiatric care on an inpatient basis. There were more acute care hospitals in Prince George’s County than in neighboring counties, including Montgomery County, whose population exceeded that of Prince George’s County by roughly 90,000 in 2007. The location of regional hospitals is shown in Figure 7.1.

¹² The term “safety net” provider refers to individual clinicians or delivery organizations whose case loads consist of a substantive portion of individuals without health insurance who can not otherwise afford to pay for the care they receive. Safety-net providers typically rely on funding from Medicaid and Medicare programs, Disproportionate Share Hospital payments, the Maternal and Child Health Care Services Block Grant, federal research grants, state and local sources, private insurance payments, private donations, and patient payments. In many cases, they offer specialized or essential services not offered by other providers, including intensive medical services for indigent individuals, public health services (e.g., health education, vaccines), and support services (e.g., transportation, child care).

¹³ Our ability to assess the capacity of safety-net clinics in Prince George’s County and surrounding jurisdictions was limited because, as part of this study, we did not analyze Medicaid utilization data and did not obtain clinic-specific data on caseload, case-mix, staffing, and physical capacity. We describe these data gaps in greater detail in Chapter 11.

¹⁴ The National Capital Region has a large number of hospitals in close proximity (See Figure 7.1). Flows of patients across jurisdictional borders may help to explain both per capita capacity level and changes over time in per capita capacity. We describe patterns of hospital use within and across regional jurisdictions in Chapter 10.

Figure 7.1 Location of Regional Hospitals, Emergency Departments, and Federally Qualified Health Centers in Prince George's County



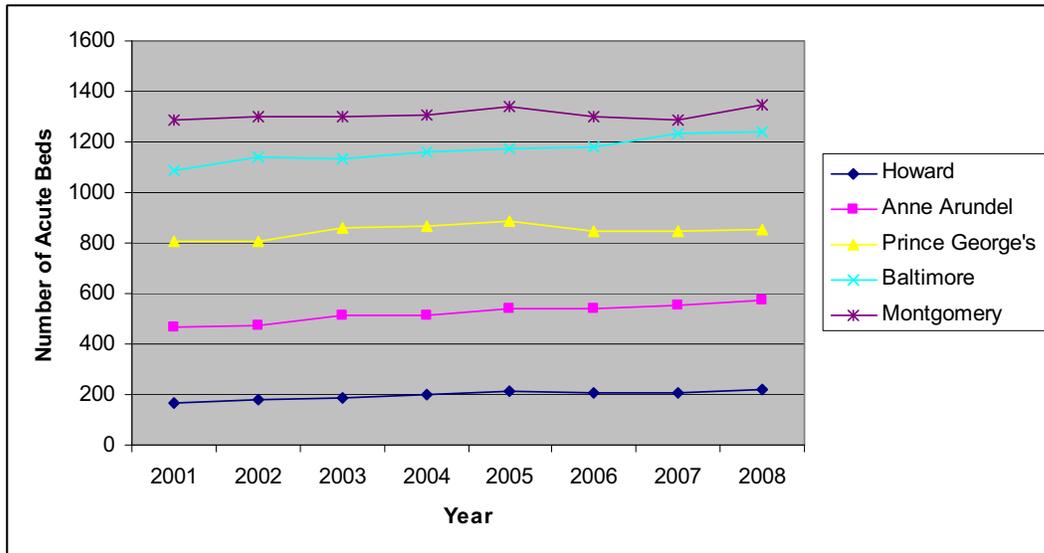
In Maryland, the number of licensed beds in a given hospital is determined by utilization in that hospital in the prior year and not by the actual number of beds, although the two are related.¹⁵ Growth in utilization can come from population growth over time or changes in demand for hospital care driven by changes in health status, patient preferences, or selective contracting with health insurers. Under this licensing system (Figure 7.2):

- The number of hospital beds in Prince George’s County increased 5.1 percent from 808 to 849 between 2001 and 2008, matching population growth of 5 percent in the County.¹⁶
- By contrast, the number of beds in Howard, Anne Arundel, and Baltimore Counties grew at rates (24.6, 17.7, and 13.5 percent, respectively) that outpaced population growth over the same time period.
- In Montgomery County, the total number of acute beds fell by 0.5 percent, while the number of residents in the County grew by 6.7 percent.

¹⁵ Starting in 2000, the Maryland Department of Health and Mental Hygiene implemented new regulations that standardized procedure for licensing acute care hospital beds in the state. Under this system, the Maryland Health Services Cost Review Commission calculates a hospital’s average daily occupancy in the prior 12 months and the Maryland Health Care Commission sets the licensed bed capacity for each hospital equal to 140 percent of the calculated average daily occupancy from the prior 12 months. This licensure approach assumes that all hospitals have an optimal average annual occupancy rate of approximately 71.4 percent

¹⁶ The percentage change in acute care capacity between 2001 and 2007, compared with population changes are provided in Appendix Table A5.1.

Figure 7.2 Trends in Licensed Acute Care Hospital Beds by Maryland County and Year, 2001-2008



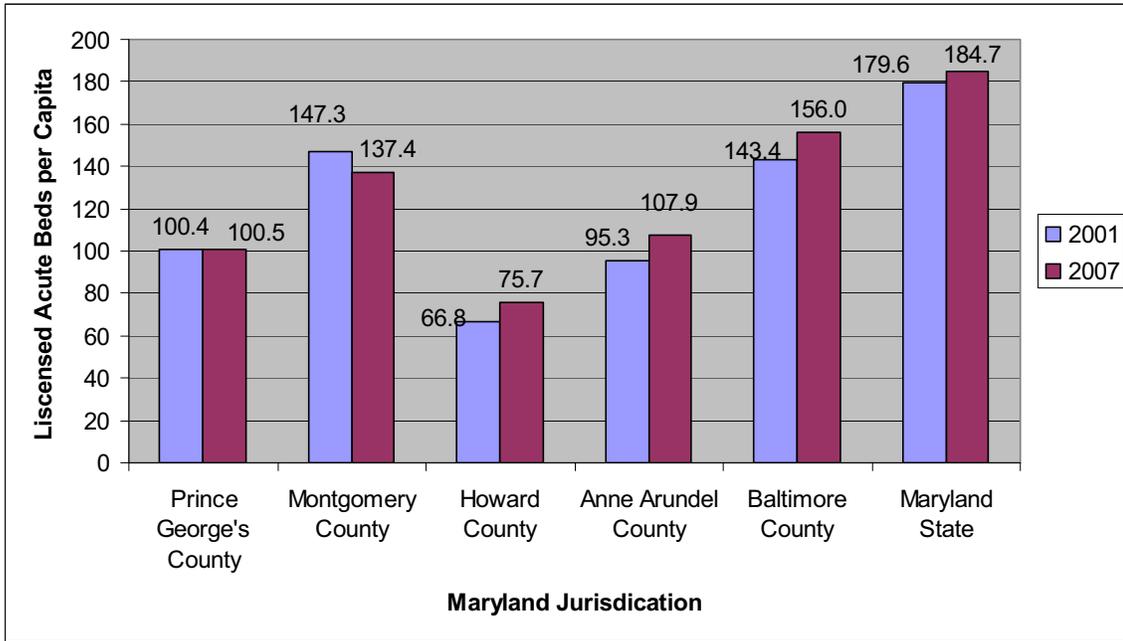
SOURCE: Maryland Health Care Commission, 2007, Annual Report on Acute Care Hospital Services and Licensed Bed Capacity.

http://mhcc.maryland.gov/hospital_services/acute/acutecarehospital/annrptlicbedsfy07.pdf.

Maryland Health Care Commission, 2008, Annual Report on Acute Care Hospital Services and Licensed Bed Capacity. http://mhcc.maryland.gov/hospital_services/acute/acutecarehospital/annrptlicbedsfy08.pdf.

When viewed on a per capita basis, the number of acute care hospital beds in Prince George's County in 2007 was higher than that in Howard County, but lower than that in Montgomery, Anne Arundel, and Baltimore Counties and in the state as a whole (Figure 7.3).

Figure 7.3 Licensed Acute Care Hospital Beds per 100,000 Residents by Jurisdiction, 2001 and 2007



SOURCES: Author's calculation based on data from the 2000 U.S. Census and 2006 American Communities Survey; and Maryland Health Care Commission, 2007, Annual Report on Acute Care Hospital Services and Licensed Bed Capacity. http://mhcc.maryland.gov/hospital_services/acute/acutehospital/annrptlicbedsfy07.pdf. NOTE: Acute care beds provide medical, surgical, addiction, gynecology, obstetric, pediatric, and psychiatric care. The number of bed licensed by the state of Maryland is based on an algorithm that assumes hospitals operate at an annual occupancy rate of 71.4 percent.

Table 7.1 shows the number of licensed and excess beds for neighboring Maryland counties and for the state as a whole. We find that:

- Compared with the state as a whole, Prince George's County has one-half to two-thirds the per capita number of medical surgical, obstetric, psychiatric, and critical care beds, and has less than one-fifth the number of pediatric beds.
- Prince George's County has the lowest per capita number of obstetric and pediatric beds compared with neighboring counties.
- Prince George's County is second lowest after Howard County in the per capita number of medical/surgical beds, and ties for second lowest with Howard County in the number of psychiatric beds.

Table 7.1 Number Licensed and Potential Excess Acute Care Beds per 100,000 Residents, by Type and Jurisdiction, 2007

Jurisdiction	Medical/ Surgical	Obstetric	Pediatric	Psychiatric	Critical Care*	Potential Excess Capacity**
Prince George's County	82.3	9.5	1.4	7.3	12.1	32.3
Montgomery County	102.1	19.5	6.3	9.5	18.6	8.3
Howard County	55.0	11.3	2.2	7.3	5.8	-8.0
Anne Arundel County	91.2	9.8	4.1	2.7	8.6	6.9
Baltimore County	131.0	14.8	3.0	7.2	15.4	1.9
Maryland	149.7	14.8	8.1	12.0	20.1	19.5

SOURCES: Author's calculation based on data from the 2000 U.S. Census and 2006 American Communities Survey; Maryland Health Care Commission, 2007

http://mhcc.maryland.gov/hospital_services/acute/acutecarehospital/annrptlicbedsfy07.pdf

* Critical care beds are a subset of Medical/Surgical beds and include surgical and coronary intensive care beds.

** Hospitals may report more licensed beds than physical capacity in circumstances where demand for hospital care is high or renovations to expand capacity are ongoing.

Because the number of licensed beds in Maryland is tied to utilization in prior years, we cannot assess excess capacity by comparing the number of occupied total beds, as is done in other states. Instead, the state measures “potential excess capacity” by comparing the number of beds with hospital self-reports of the total number of beds that can be “physically accommodated under normal, non-emergency conditions” (Maryland Health Care Commission, 2007a). Based on this measure, Prince George’s County has three or more times the per capita number of excess beds than any other neighboring county and roughly a third more than the per capita number of potential excess beds in the state of Maryland (Table 7.1). However, we do not have data to indicate whether those beds can be readily occupied by patients.

Trends in Emergency Department Capacity

Like other hospitals in the region, each of the six acute care hospitals in Prince George’s County operates an ED that treats patients with a range of conditions, including primarily injuries, poisonings, unspecified signs and symptoms, and respiratory diseases (Maryland Health Care Commission, 2007b). EDs also play a central role in the delivery of medical care to the uninsured (Maryland Health Care Commission, 2007b), although such care in this setting is likely to be more expensive and less clinically appropriate than in other settings. The Bowie Health Center (BHC) supplements Prince George’s County’s emergency care infrastructure. BHC manages a freestanding ED that operates between the hours of 8 am and midnight, accepts

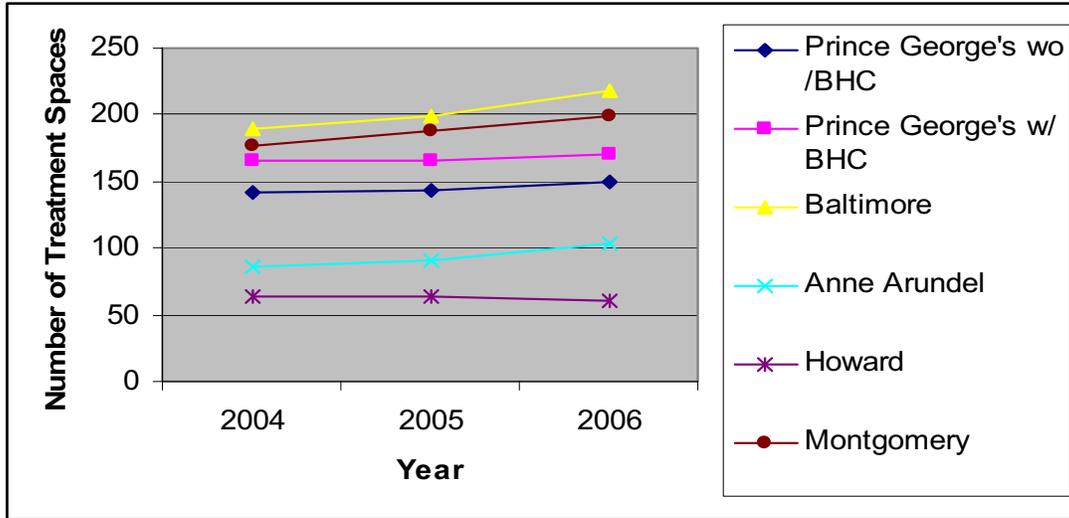
patients delivered by ambulances, and treats approximately 35,000 patients per year. In 2006 BHC added 21 treatment spaces, or 12 percent of total spaces, to Prince George's County's emergency treatment capacity.

Our analysis of ED capacity data shows the following patterns:

- During the three year period between 2004 and 2006, the number of ED treatment spaces in Prince George's County (even including BHC) remained below that in Baltimore and Montgomery Counties (Figure 7.4).
- Between 2004 and 2006, both the number of ED treatment spaces and the number of treatment spaces per 100,000 residents in Prince George's grew at a slower rate (with or without BHC) than other nearby counties, with the exception of Howard County, where the number of spaces declined (Figure 7.5).
- By 2006, Prince George's County had considerably fewer ED treatment spaces per capita compared with the state as a whole (20.3 versus 30.3 per 100,000). However, the per capita number of treatment spaces was comparable to that in Montgomery, Howard, and Anne Arundel Counties (Figure 7.5).¹⁷

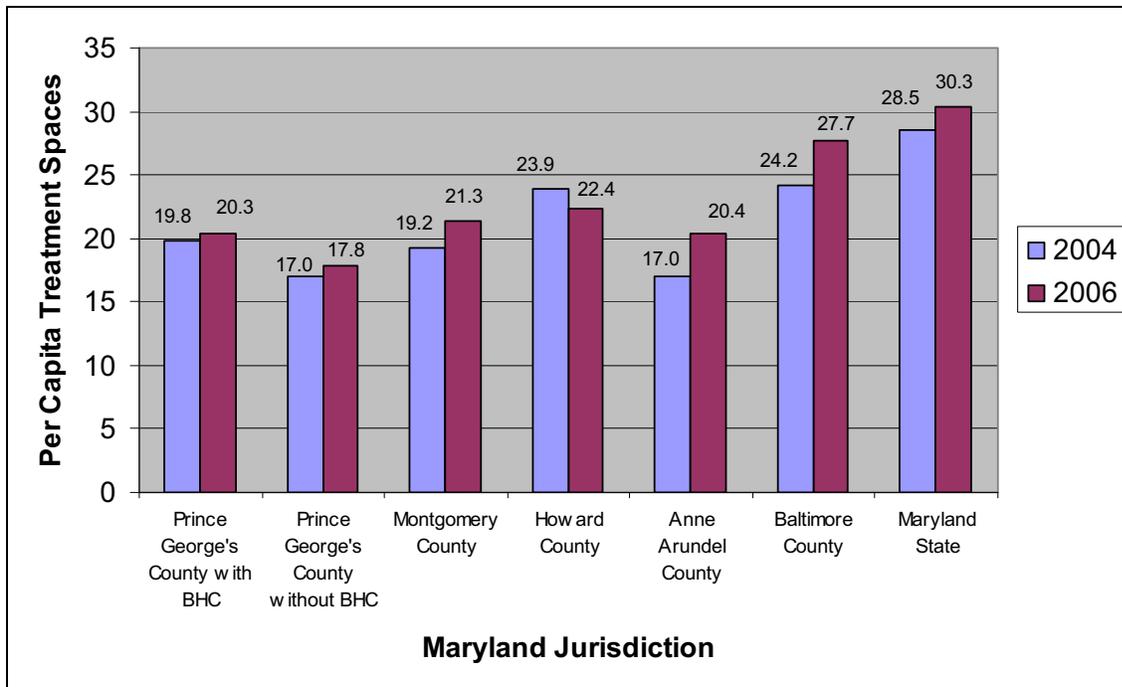
¹⁷ The percentage change in ED treatment spaces between 2004 and 2006, compared with population changes, is provided in Table A5.2.

Figure 7.4 Trends in Emergency Room Treatment Spaces, by County and Year with and Without Bowie Health Care Center, 2004–2006



SOURCE: Maryland Health Care Commission, 2008, Annual Report on Acute Care Hospital Services and Licensed Bed Capacity. http://mhcc.maryland.gov/hospital_services/acute/acutecarehospital/annrptlicbedsfy08.pdf.
 Maryland Health Care Commission, 2007, Use of Maryland Hospital Emergency Departments: An Update and Recommended Strategies to Address Crowding. http://mhcc.maryland.gov/hospital_services/acute/emergencyroom/ed_crowding_122006_report.pdf

Figure 7.5 Total Emergency Room Treatment Spaces per 100,000 Residents, by Jurisdiction, 2004 and 2006



SOURCE: Author's calculation based on data from the 2006 American Communities Survey. b. Maryland Health Care Commission, 2007, http://mhcc.maryland.gov/hospital_services/acute/acutehospital/annrptlicbedsfy07.pdf

- In 2006, there were 267,652 visits to EDs in Prince George's County, including those to BHC (Table 7.2). These visits constitute roughly 12 percent of all ED visits in the state.
- While considerably lower than the state rate, the number of visits to Prince George's EDs per 1,000 residents (including visits to BHC) was higher than to that in all other counties with the exception of Baltimore.¹⁸
- When visits to BHC are included, EDs in Prince George's County appear to be used more intensively than those in other jurisdictions. In 2006, each ED space in Prince George's County received 1,565 visits, roughly 100 more visits per ED treatment space than made to EDs statewide or in neighboring counties.
- ED crowding in Prince George's does not appear extreme compared with other jurisdictions, based on measures of the time spent on Red Alert, Yellow Alert, and Reroute status¹⁹ (Table 7.3).

¹⁸ This rate does not include visits made by Prince George's County residents to EDs outside the county.

¹⁹ See Table 7.3 note for definitions of Red Alert, Yellow Alert, and Reroute Status.

Table 7.2 Emergency Department Visits, Emergency Department Visits per 1,000 Residents, and per Treatment Space, by Jurisdiction, 2006

Jurisdiction	Visits^a	Visits per 1,000 Residents^b	ED Visits in 2006 per Treatment Space^{a,b}
Prince George's County with Bowie Health Center	267,652	318.1	1,565.2
Prince George's County without Bowie Health Center	232,652	276.5	1,360.5
Montgomery County	270,160	289.8	1,357.6
Howard County	76,283	280.0	1,250.5
Anne Arundel County	153,011	300.6	1,471.3
Baltimore County	262,018	332.8	1,201.9
Maryland State	2,259,004	402.3	1,326.5

SOURCES: a. Maryland Health Care Commission, 2007, Use of Maryland Hospital Emergency Departments: An Update and Recommended Strategies to Address Over Crowding.

http://mhcc.maryland.gov/hospital_services/acute/emergencyroom/ed_crowding_122006_report.pdf

b. Author's calculation based on data from the 2000 U.S. Census and 2006 American Communities Survey.

Table 7.3 Patterns of Emergency Room Use, by Jurisdiction, 2006

Jurisdiction	% Time on Red Alert	% Time on Yellow Alert	% Time on Reroute
Prince George's County without Bowie Health Center	5.4%	10.9%	1.4%
Montgomery County	6.1%	9.4%	0.3%
Howard County	1.7%	17.9%	0.2%
Anne Arundel County	2.6%	7.5%	5.2%
Baltimore County	8.7%	27.6%	0.5%
Maryland State	7.6%	12.5%	0.8%

SOURCE: Maryland Health Care Commission, 2007, Use of Maryland Hospital Emergency Departments: An Update and Recommended Strategies to Address Over Crowding

http://mhcc.maryland.gov/hospital_services/acute/emergencyroom/ed_crowding_122006_report.pdf

NOTES: Rates reported above are based on authors' calculation of the average of hospital specific rates weighted by the number of ED admissions in 2006. A **Red Alert** occurs when a hospital has no inpatient electrocardiogram (ECG) monitored beds available. These ECG-monitored beds include all inpatient critical care areas as well as telemetry beds. Under guidelines developed in conjunction with the regional councils, hospitals are encouraged to declare a Yellow Alert status only for a limited period of time. A **Yellow Alert** occurs when the ED requests that it receive absolutely no patients in need of urgent medical care via ambulance. Yellow Alert is initiated because the ED is experiencing a temporary overwhelming overload such that Priority II and III patients may not be managed safely. During a Yellow Alert period, ambulances are diverted to the next closest appropriate hospital for all but the most critically ill patients. Red and Yellow Alerts are implemented by hospitals and may not be uniformly applied by individual hospitals or across the state. A **Reroute** is implemented by emergency medical service (EMS) providers. Reroute occurs when EMS personnel have to wait longer than 20 minutes to complete a patient transfer and they have been notified that an ED bed will not be available in the next 10 minutes.

Safety-Net Clinic Capacity

A federally qualified health center (FQHC) is an important source of safety-net care. To be designated an FQHC, a community health center must (1) be located in an area designated as Medically Underserved; (2) have a governing board with consumers as the majority of members; (3) provide comprehensive primary care and services to support access to care (e.g., transportation); and (4) serve patients regardless of their ability to pay (i.e., using a sliding fee scale) (U.S. Department of Health and Human Services, 2008c)

Prince George's has a single FQHC: Greater Baden Medical Services, Inc. (GBMS). GBMS serves uninsured and low-income patients in five locations. Four of the five are located inside the Beltway, where the greatest numbers of low income individuals reside (see FQHC locations in Figure 7.1). In 2007, GBMS provided care for approximately 5,200 uninsured patients (Greater Baden Medical Services Inc., 2008). At this level, GBMS serves, at most, only a small proportion of the roughly 80,000 uninsured Prince George's adult residents.²⁰

²⁰ Estimate based on data from the 2005 and 2006 BRFSS.

There are two safety-net clinics that provide care to Prince George's County residents and are not FQHCs. The first is Catholic Charities. It provides services through a clinic on the border of Montgomery and Prince George's. The clinic provided primary care services to 1,002 adults and 1,140 children from Prince George's County in FY2007, roughly two-thirds of their total caseload. Second is a clinic located at Prince George's Hospital Center that provides primary care and OB/GYN services to approximately 11,500 annual patient visits per year.²¹

There are also 20 FQHC sites located in eastern Montgomery County and the District of Columbia that are in close proximity to residents of Prince George's. We did not identify the number of Prince George's residents served by these clinics as part of our study.

²¹ We did not obtain information about the number of unique patients.

Chapter 8: Hospital Quality

In this chapter, we describe the quality of hospital care in Prince George's County and surrounding jurisdictions by using data from the U.S. Department of Health and Human Service's Hospital Compare Web-based query system (U.S. Department of Health and Human Services, 2008a). In an effort to inform consumer decisions about hospital care, DHHS, the Centers for Medicare and Medicaid Services (CMS), and the Hospital Quality Alliance established the Hospital Compare Web site (www.hospitalcompare.hhs.gov). The Web site allows consumers and other interested parties to compare the quality of acute care hospitals in a selected geographic region on the basis of three types of measures: (1) outcome of care, (2) process of care, and (3) patient-reported experience of care (U.S. Department of Health and Human Services, 2008c). We report the performance on each measure for all acute-care hospitals in Prince George's County, surrounding Maryland Counties, and the District of Columbia.²² Hospital Quality data reflect a sample of patients visiting each hospital; these data do not contain information on their jurisdiction of residence. For each measure, we report whether each hospital performed better than, worse than, or equal to the average of all Maryland hospitals, as well as the average of all hospitals in the United States. We summarize the three types of measures below. Detailed descriptions of data sources and calculation methods are in Appendixes 1 and 3, respectively. The tables presenting Hospital Compare data summarized in this chapter can be found in Appendix 6.

Hospital Quality Measure Types

Outcome of Care. One key outcome-of-care measure indicates whether a hospital is providing quality hospital care to prevent mortality. Hospital Compare presents data for 30-day mortality risk as better than (lower), worse than (higher), or equal to the U.S. average.

Mortality data are compiled by CMS from Medicare claim and enrollment data for patients in fee-for-service Medicare. Therefore, these data do not reflect patients enrolled in Medicare managed care plans (i.e., Medicare Advantage) or those not enrolled in Medicare (U.S. Department of Health and Human Services, 2008b). Medicare patient responses may not generalize to the general population of all patients.

Process of Care. Process-of-care measures included in Hospital Compare indicate how often hospitals provide recommended care to patients being treated for four categories of conditions: heart attack, heart failure, pneumonia, and surgical infection prevention. Using the sample size and reported proportion, we calculated the 95 percent confidence interval around each measure and determined whether each hospital performed worse than (lower), better than (higher), or equal to both the U.S. and Maryland averages.

²² Performance data reported in this chapter is current as of March 2008.

Patient-Reported Experience of Care. These data were collected through the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Survey on patients age 18 or older at admission. Questions as about a variety of domains, including patients' perceptions of staff friendliness, cleanliness of their room and bathroom, and effectiveness of pain management during their stay (U.S. Department of Health and Human Services, 2008b). Hospital Compare does not report the sample size used in deriving patient experience data. Thus, we report whether reported performance on each measure exceeds or is within five percentage points of the U.S. and Maryland averages.

Findings on the Quality of Hospitals in Prince George's County

Outcome of Care. Hospitals in Prince George's County and surrounding jurisdictions reported 30-day mortality risk after heart attack that was equal to the U.S. average (data not shown).

Process of Care. Overall, hospital performance varied widely throughout the region, with no hospital or jurisdiction consistently outperforming or underperforming others in the region by a substantial margin on the four types of process-of-care measures reported in Hospital Compare (See Table 8.1). When considered as a group, however, we found that hospitals in Prince George's County and the District of Columbia performed more poorly than hospitals in surrounding Maryland counties, though not dramatically so.

Table 8.1 Summary of Performance Trends in Process-of-Care Measure Sets for Hospitals in Prince George’s County and Surrounding Jurisdictions Reporting Performance Data to CMS

	Prince George’s County	Montgomery County	District of Columbia	Anne Arundel County	Baltimore County	Howard County
One or more reporting hospitals performed ABOVE average for <i>all</i> indicators belonging to one or more measure sets						
<i>U.S. average</i>		X ^a	X ^b	X ^c	X ^d	
<i>Maryland average</i>				X ^e	X ^f	
One or more reporting hospitals performed BELOW average for <i>all</i> indicators belonging to one or more measure sets						
<i>U.S. average</i>						
<i>Maryland average</i>			X ^g			

SOURCE: Authors analysis hospital performance data reported to CMS and disseminated via the Hospital Compare Web site.

NOTES: A measure set refers to the multiple recommended process-of-care indicators for each condition: heart attack, heart failure, pneumonia, and surgical infection prevention. Table footnotes refer to “Process-of-care measure set: hospital name.”

^a Heart Attack: Shady Grove, Suburban; Surgery: Holy Cross, Washington Adventist.

^b Heart Failure: Howard University.

^c Heart Attack: Anne Arundel Medical Center, Baltimore Washington Medical Center; Heart Failure: Anne Arundel Medical Center, Baltimore Washington Medical Center; Surgery: Baltimore Washington Medical Center.

^d Heart Attack: Franklin Square Medical Center, St. Joseph Medical Center; Surgery: St. Joseph Medical Center.

^e Heart Attack: Anne Arundel Medical Center.

^f Heart Failure: St. Joseph Medical Center; Surgery: Franklin Square; Surgery: Preventive antibiotic before surgery.

^g Heart Failure: Greater Southeast; Providence Hospital.

Quality of Hospitals Used by Prince George’s Residents and Neighboring Jurisdictions

Our analysis of hospital discharges (discussed in Chapter 10) suggests that Prince George’s residents are most likely to be discharged from Prince George’s Hospital, Holy Cross Hospital in Montgomery County, Washington Hospital Center in the District, and Southern Maryland Hospital Center in Prince George’s County (See Table A8.1).

Hospital Compare data suggest that:

- On nearly all process-of-care measures, Prince George’s County Hospital Center and Southern Maryland Hospital Center performed the same or worse than the Maryland average.
- Holy Cross Hospital performed the same or better than the Maryland average on nearly all process-of-care quality indicators. Washington Hospital Center was

sometimes higher or lower on process-of-care quality indicators in comparison to the Maryland average.

- Patients visiting these four hospitals generally reported lower satisfaction of care as for hospitals across the nation. All four hospitals generally had comparable reported satisfaction with care in comparison with the Maryland average.

Chapter 9: Ambulatory Care–Sensitive Hospitalizations and Emergency Department Visits

In this chapter, we focus on inpatient hospital use and ED visits that could have been prevented with greater availability and effectiveness of primary care delivered in outpatient settings, by age category and jurisdiction.

A substantial proportion of hospital admissions may be preventable with timely access to high-quality primary care. Hospitalizations of this type are referred to as ambulatory care–sensitive hospitalizations (ACS-IPs). For example, good management of asthma or congestive heart failure (CHF) at the first sign of an attack can usually relieve symptoms or keep them from progressing to the point that hospitalization is required. Inpatient hospital data can provide an indirect but useful way to assess access to outpatient care.

Similarly, some ED visits can be prevented with timely and high-quality primary care and are referred to as ambulatory care–sensitive ED visits (ACS-EDs). Thus, we also consider the types of ACS-EDs that may have been potentially avoidable.

Standard, well-validated methods exist for classifying inpatient and ED discharge diagnoses (Billings et al., 2000). Detailed information about our analyses of discharge data from the Maryland Health Services Cost Review Commission and the District of Columbia Hospital Association can be found in Appendix 3. In the sections below, we report ACS-IP and ACS-ED rates and rate trends over time by jurisdiction, age, and diagnosis. Appendix 7 presents maps of the number of ACS-IPs and ACS-EDs across Prince George’s County ZIP codes by age.

ACS-IP by Jurisdiction

Figures 9.1 to 9.4 show time trends from 2000 to 2006 in ACS-IP rates for Prince George’s County and comparison jurisdictions. We present ACS-IPs per 1,000 residents in each age subgroup because hospitalizations differ by age group, and the most common diagnoses requiring hospitalization differs by age group. Overall, this series of tables shows that, during this time period compared with other jurisdictions, ACS-IP rates for Prince George’s residents were not extreme in terms of the level or in the degree of change over time. Between 2000 and 2006, these rates for Prince George’s residents were as follows:

- For children age 0–17, rates were lower than those for other jurisdictions; for this age group and for adults age 18–39, rates trended upward over time, similar to the increase in ACS-IP rates for the District, Montgomery County, and Baltimore County residents.

- For adults age 40–64, rates were higher than those for all other jurisdictions with the exception of the District of Columbia; these rates remained fairly constant, as did rates for residents of surrounding jurisdictions with the exception of the District, where rates trended upward beginning in 2005.
- For those age 65 and older, ACS-IP rates trended downward, as did rates for all surrounding jurisdictions.

Figure 9.1 ACS-IPs per 1,000 Residents Age 0–17 by Jurisdiction and Year, 2000–2006

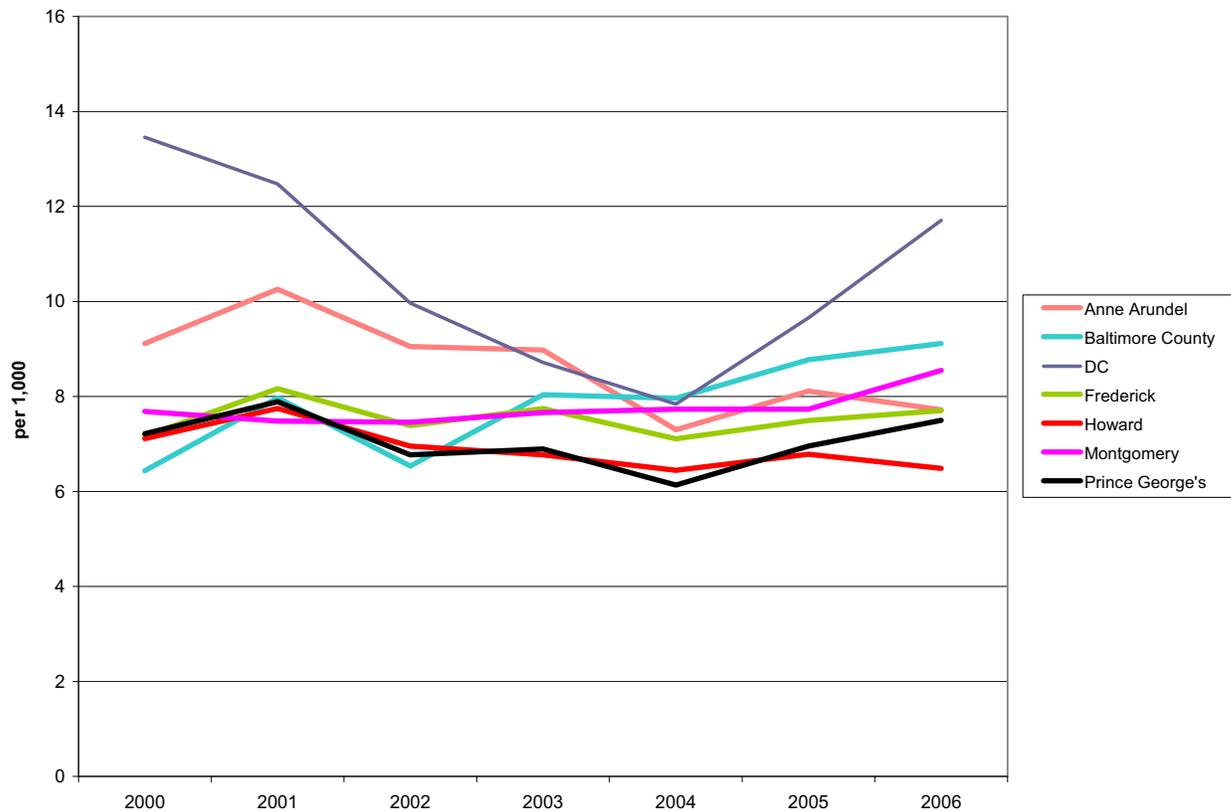


Figure 9.2 ACS-IPs per 1,000 Residents Age 18–39 by Jurisdiction and Year, 2000–2006

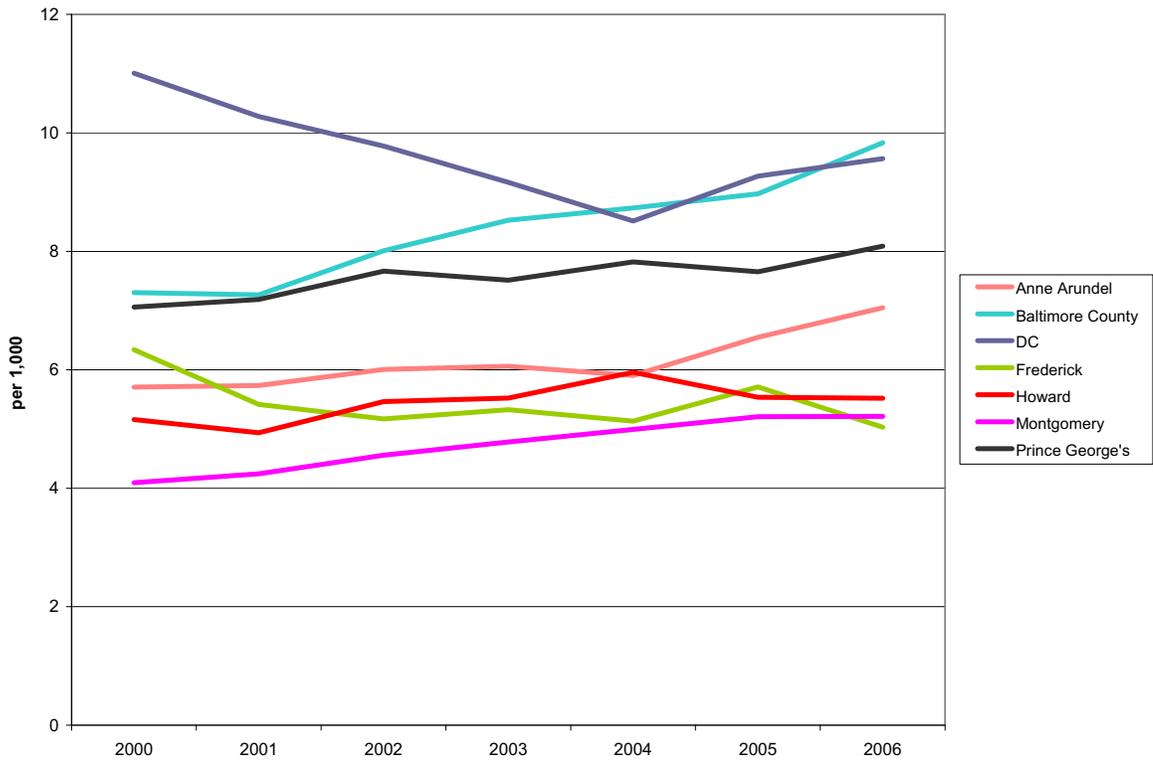


Figure 9.3 ACS-IPs per 1,000 Residents Age 40-64 by Jurisdiction and Year, 2000-2006

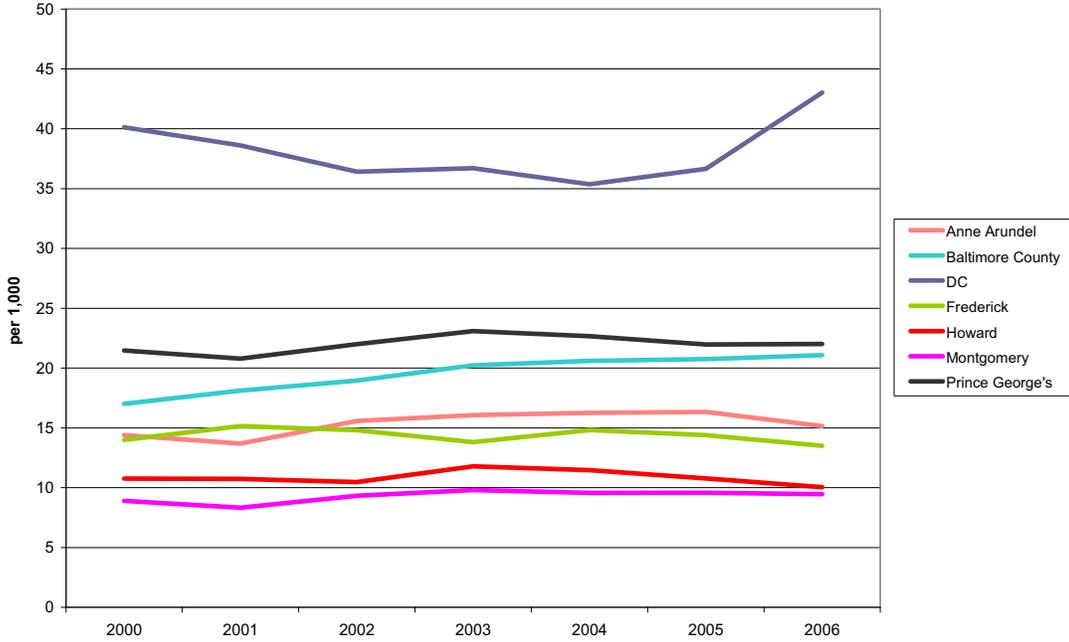
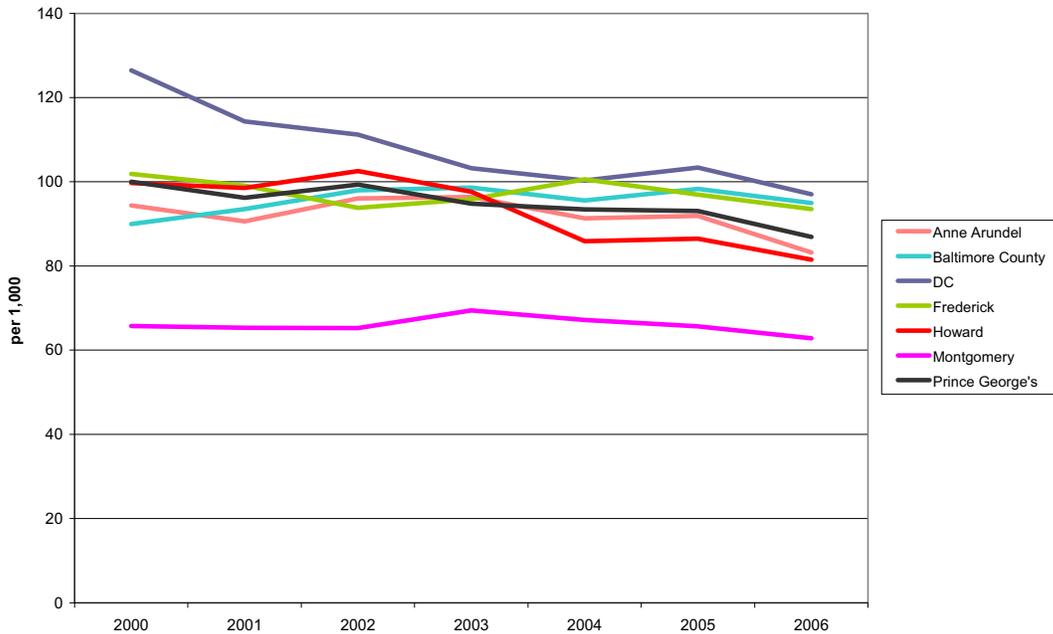


Figure 9.4 ACS-IPs per 1,000 Residents Age 65 and older by Jurisdiction and Year, 2000-2006



Ambulatory Care–Sensitive Hospitalizations for Prince George’s County Residents

Figures 9.5 to 9.8 show trends in ACS-IPs per 1,000 Prince George’s residents for each year between 2000 and 2006. Between these years,

- ACS-IPs rates were highest in the inner-Beltway regions of the County (PUMA 4) for residents age 0–17, 18–39, and 40–64.
- ACS-IP rates are highest in regions of the County that have relatively low per capita supply of pediatrician and adult primary care physicians (See Figures 6.2 and 6.2).
- ACS-IP rates for residents in all age groups demonstrated no clear upward or downward trend despite sometimes sharp year-to-year fluctuations.

Figure 9.5 ACS-IPs per 1,000 Prince George’s County Residents Age 0-17 by PUMA and Year, 2000–2006

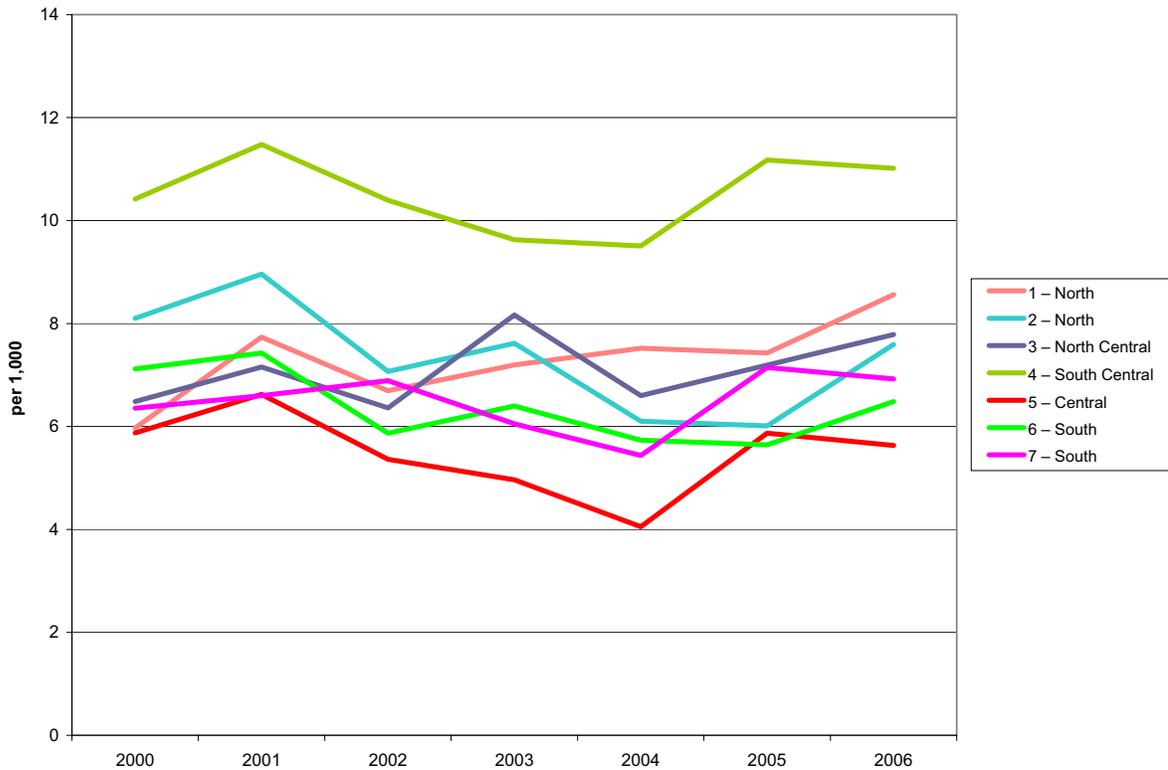


Figure 9.6 ACS-IPs per 1,000 Prince George's County Residents Age 18-39 by PUMA and Year, 2000-2006

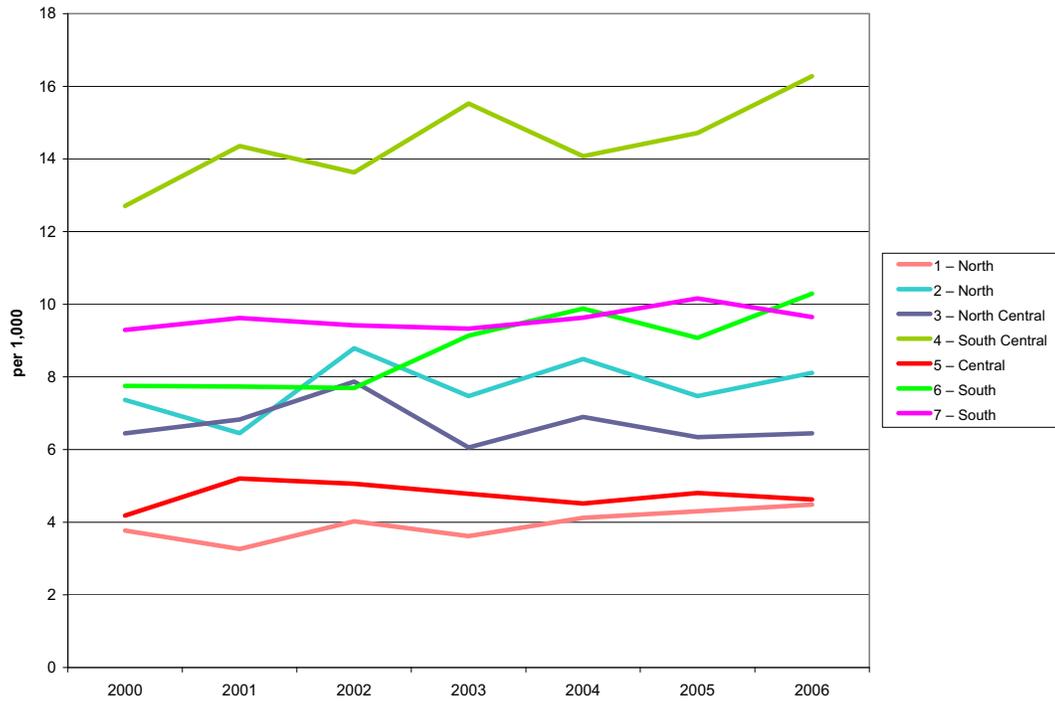


Figure 9.7 ACS-IPs per 1,000 Prince George's County Residents Age 40-64 by PUMA and Year, 2000-2006

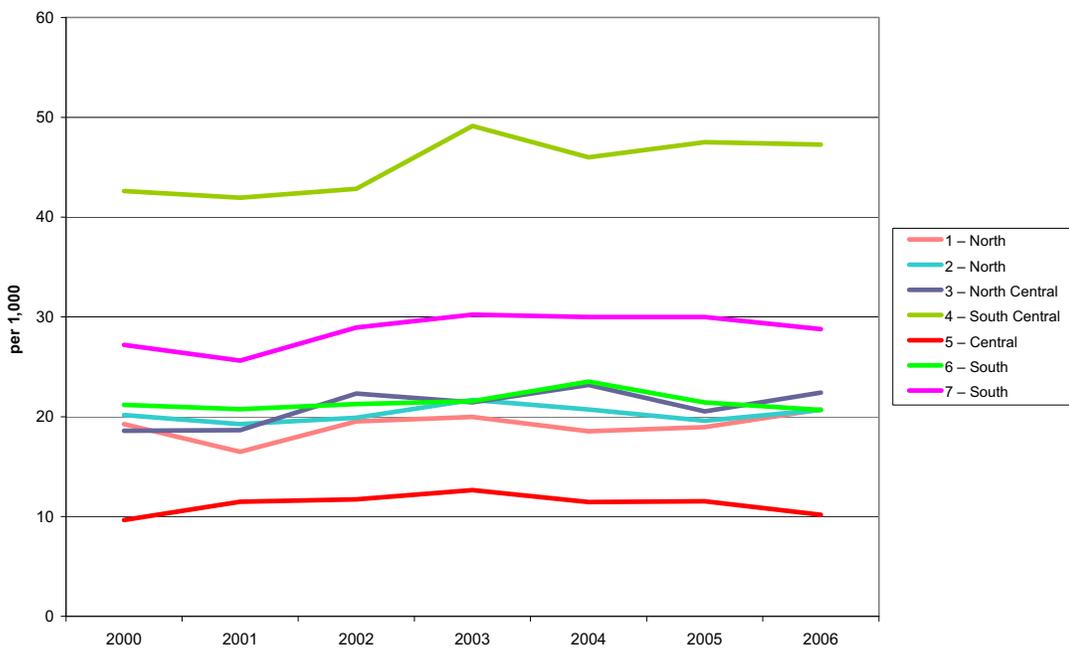
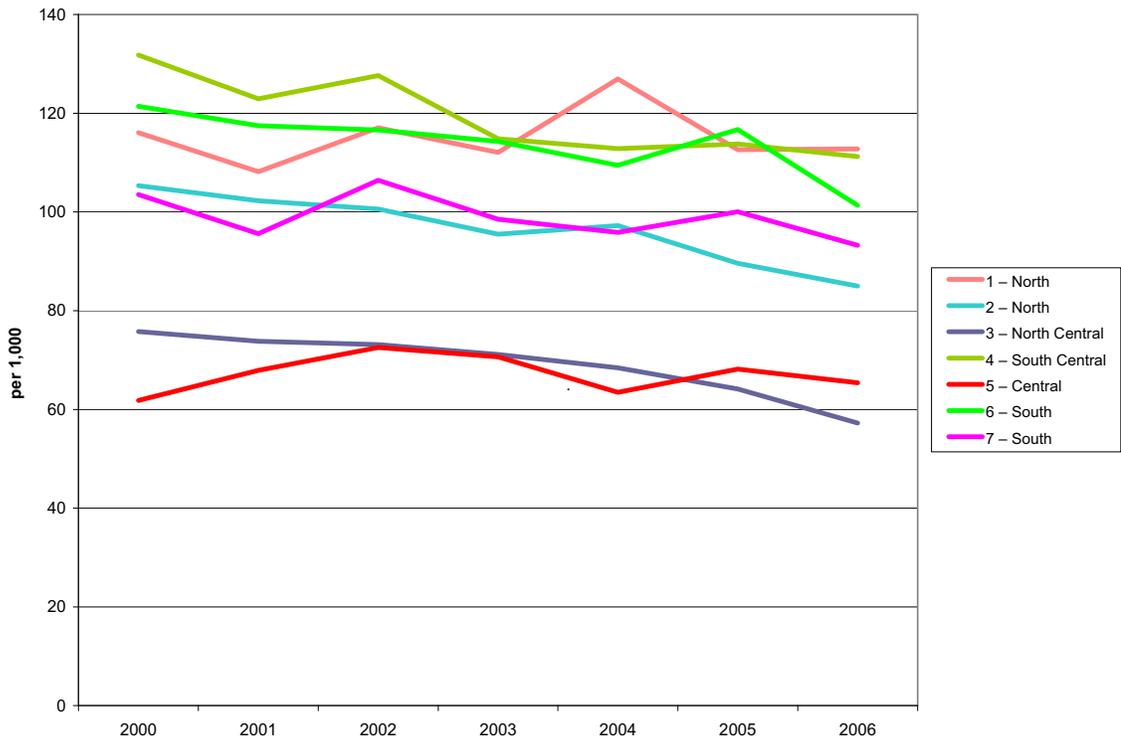


Figure 9.8 ACS-IPs per 1,000 Prince George's County Residents Age 65 by PUMA and Year, 2000–2006



Trends in ACS-IP for Prince George's County Residents, by Diagnosis

Figures 9.9 to 9.12 show trends in the most common diagnoses associated with ACS-IPs for Prince George's County residents between 2000 and 2006. ACS-IP patient-related diagnoses vary widely by age.

- For children ages 0–17, asthma was the most common inpatient diagnosis. ACS-IP rates related to asthma for this group increased from 1.5 to 2 per 1,000 children in 2005, after a period of decline starting in 2001.
- In contrast to asthma and bacterial pneumonia, which varied by year, inpatient rates associated with cellulitis, dehydration, diabetes, and kidney infections remained relatively stable between 2000 and 2006.
- For adults age 18–39, dehydration was the most common inpatient diagnosis. Inpatient admissions for other diagnoses for this age group occurred at relatively stable rates over time.
- For adults age 40–64 and 65 and older, CHF and dehydration were the most common ACS-IP-related diagnoses. Both diagnoses trended downward in recent years, while other diagnoses for these age groups have declined or remained relatively stable over the 2000–2006 time period.

Figure 9.9 ACS-IPs per 1,000 Prince George's County Residents Age 0-17 by Diagnosis and Year, 2000-2006

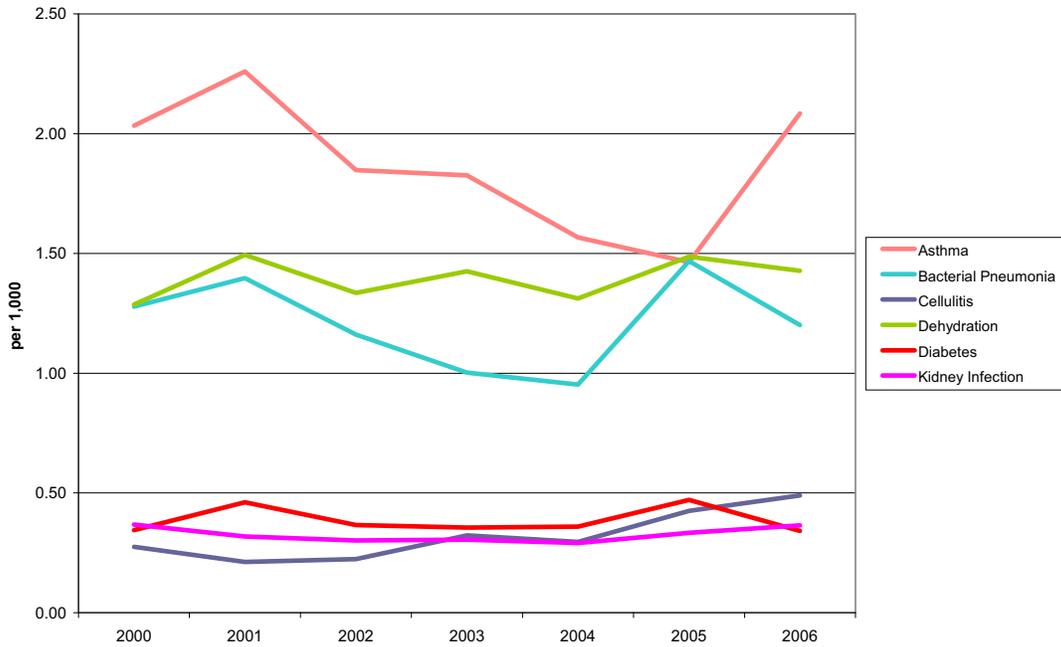


Figure 9.10 ACS-IPs per 1,000 Prince George's County Residents Age 18-39 by Diagnosis and Year, 2000-2006

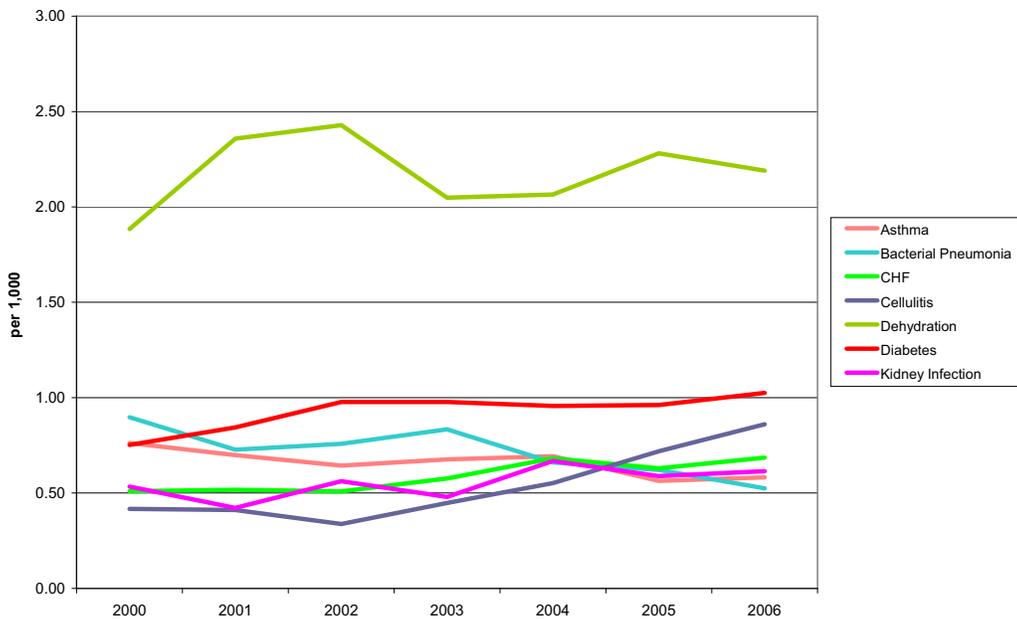


Figure 9.11 ACS-IPs per 1,000 Prince George's County Residents Age 40-64 by Diagnosis and Year, 2000-2006

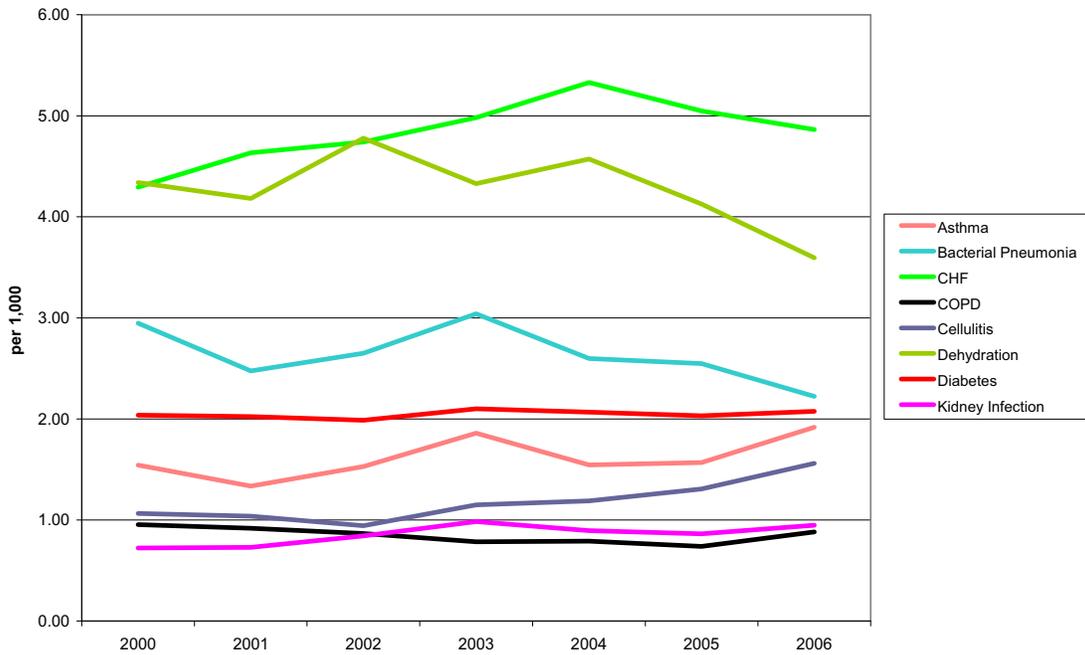
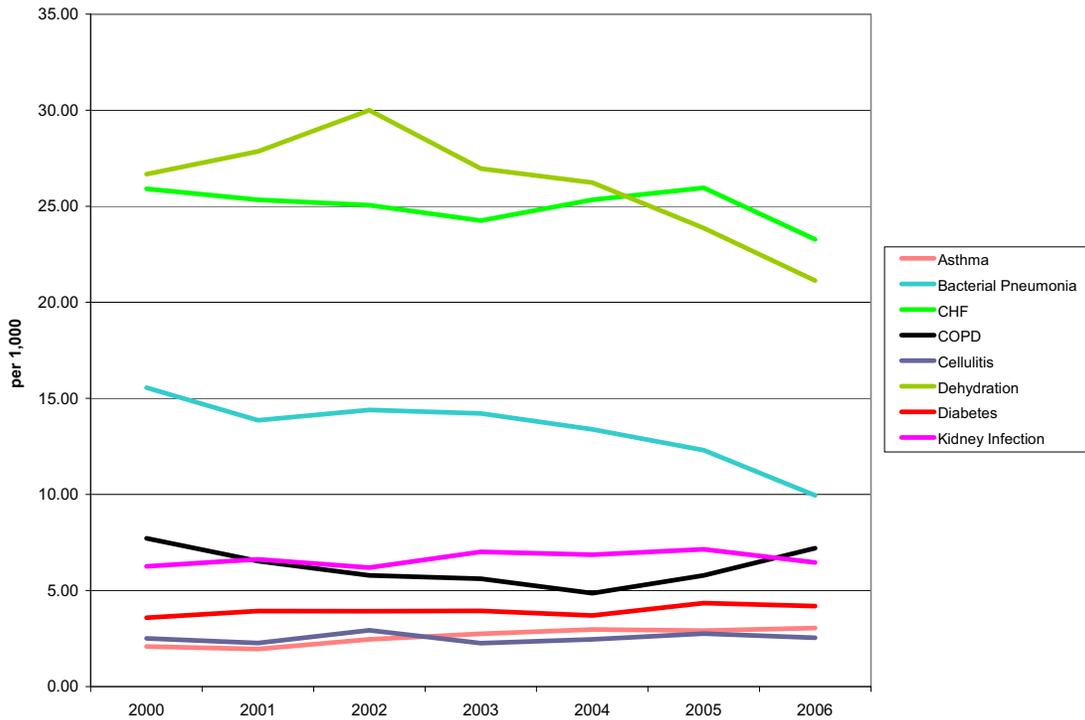


Figure 9.12 ACS-IPs per 1,000 Prince George's County Residents Age 65 by Diagnosis and Year, 2000-2006



ACS-EDs by Jurisdiction

Figures 9.13 to 9.16 show rates of ACS-EDs per 1,000 residents of Prince George's and comparison jurisdictions between 2004 and 2006.

- ACS-ED rates for Prince George's residents were higher over this three-year time period compared with all other jurisdictions except the District.
- Similar to most other jurisdictions, ACS-ED rates remained relatively constant for Prince George's residents age 0–17 and 65 and older.
- ACS-ED rates trended upward for residents age 18–39 and 40–64, but not as steeply as the upward trend for residents of the District in the same age groups.

Figure 9.13 ACS-EDs per 1,000 Residents Age 0-17 by Jurisdiction and Year, 2004-2006

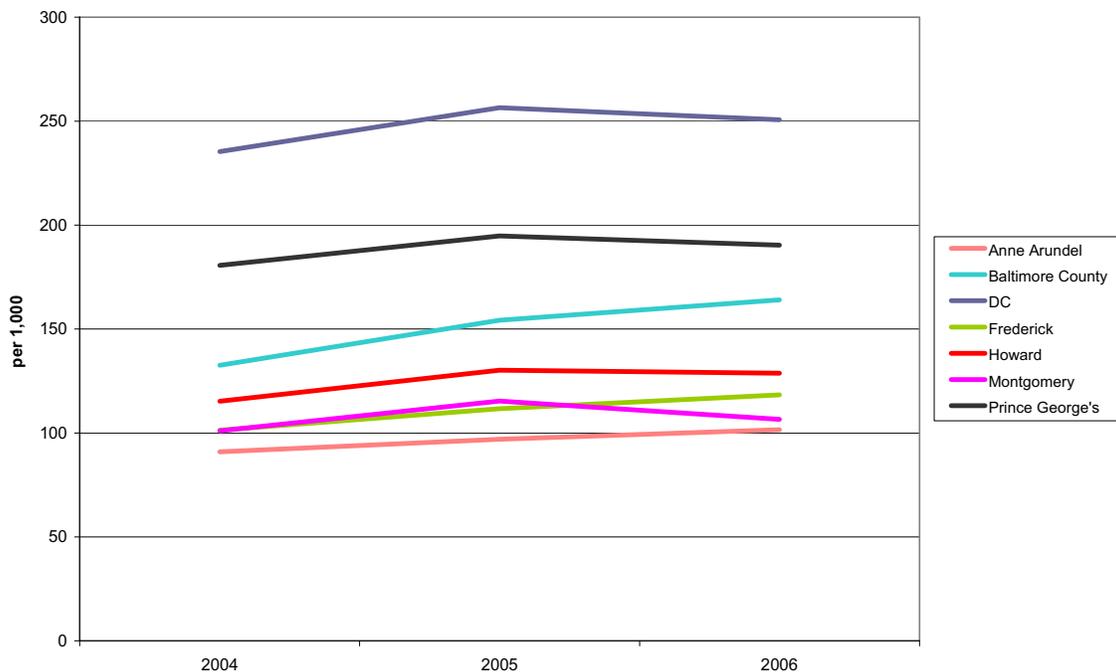


Figure 9.14 ACS-EDs per 1,000 Residents Age 18–39 by Jurisdiction and Year, 2004–2006

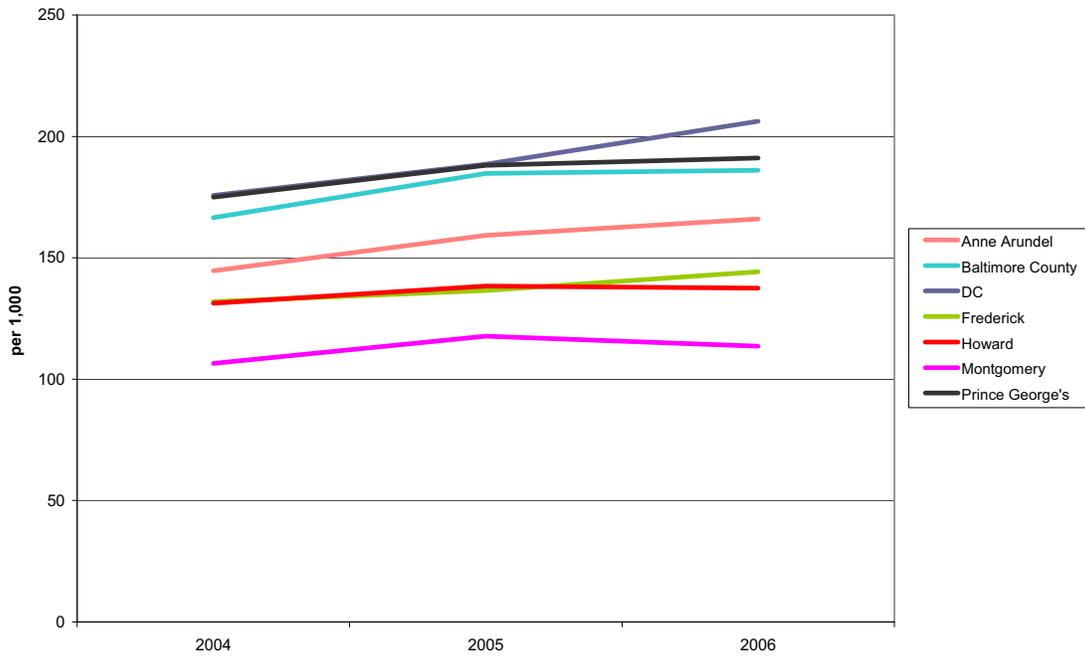


Figure 9.15 ACS-EDs per 1,000 Residents Age 40–64 by Jurisdiction and Year, 2004–2006

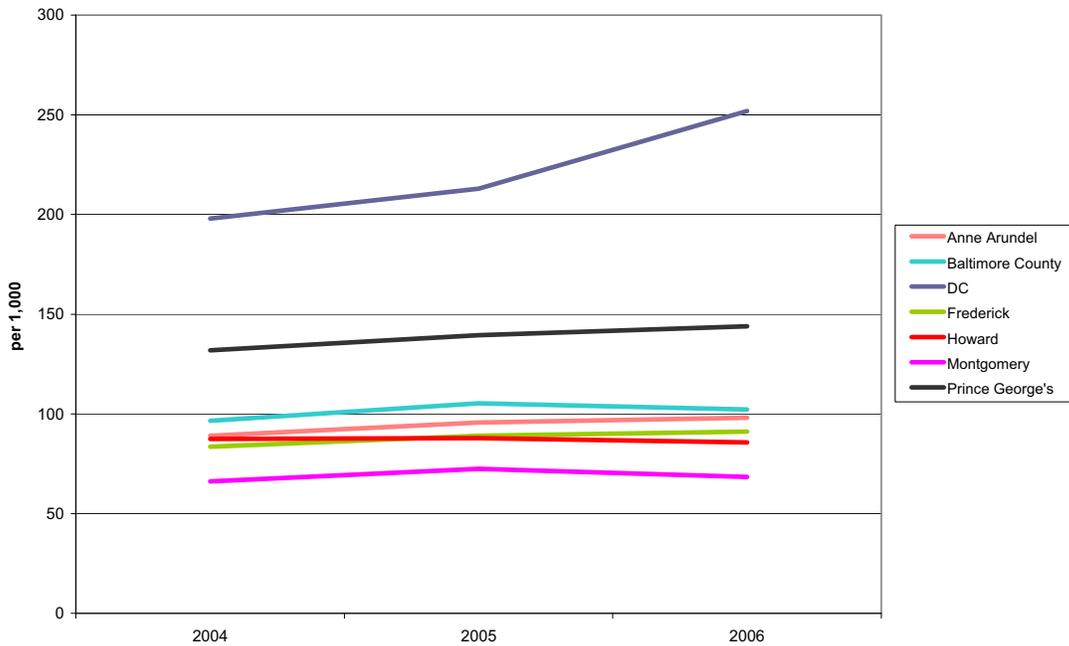
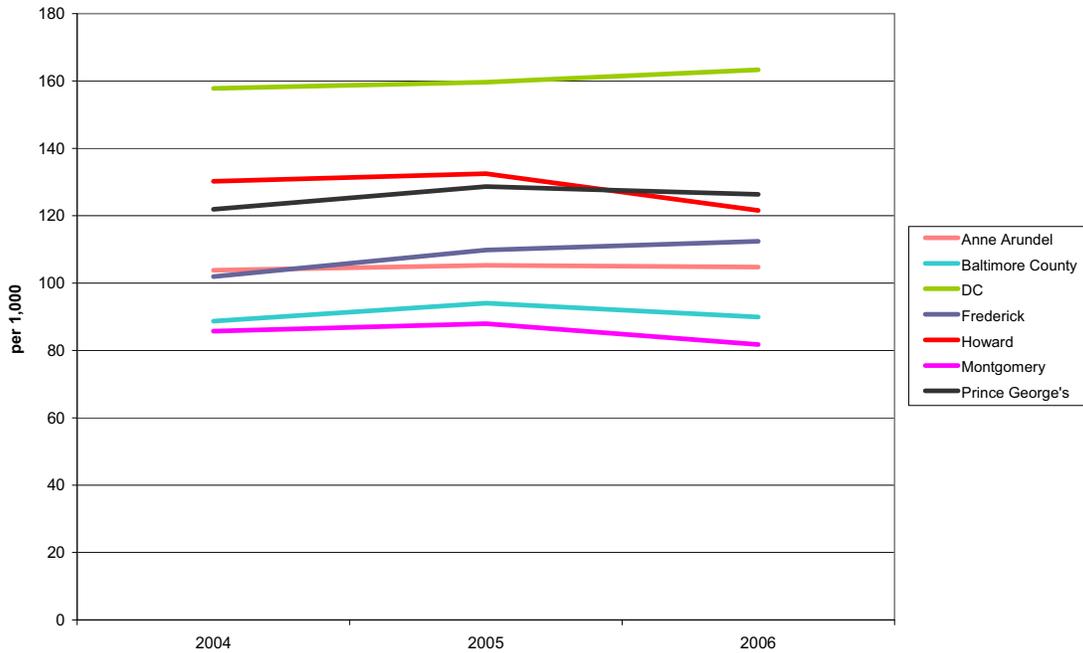


Figure 9.16 ACS-EDs per 1,000 Residents Age 65 and older by Jurisdiction and Year, 2004-2006



ACS-ED for Prince George's County Residents

Figures 9.17 to 9.20 show ACS-ED rates for Prince George's residents between 2004 and 2006.

- Similar to ACS-IPs for residents within the County, PUMA 4 had the highest rate of ACS-EDs for all residents under age 65.
- ACS-EDs concentrate around the southern, inner-Beltway regions. These regions of the County have relatively low per capita supply of pediatrician and adult primary care physicians (See Figures 6.2 and 6.2).
- ACS-ED rates remained relatively constant in the three-year period between 2004 and 2006 for all age groups.

Figure 9.17 ACS-EDs per 1,000 Prince George's County Residents Age 0-17 by PUMA and year, 2004-2006

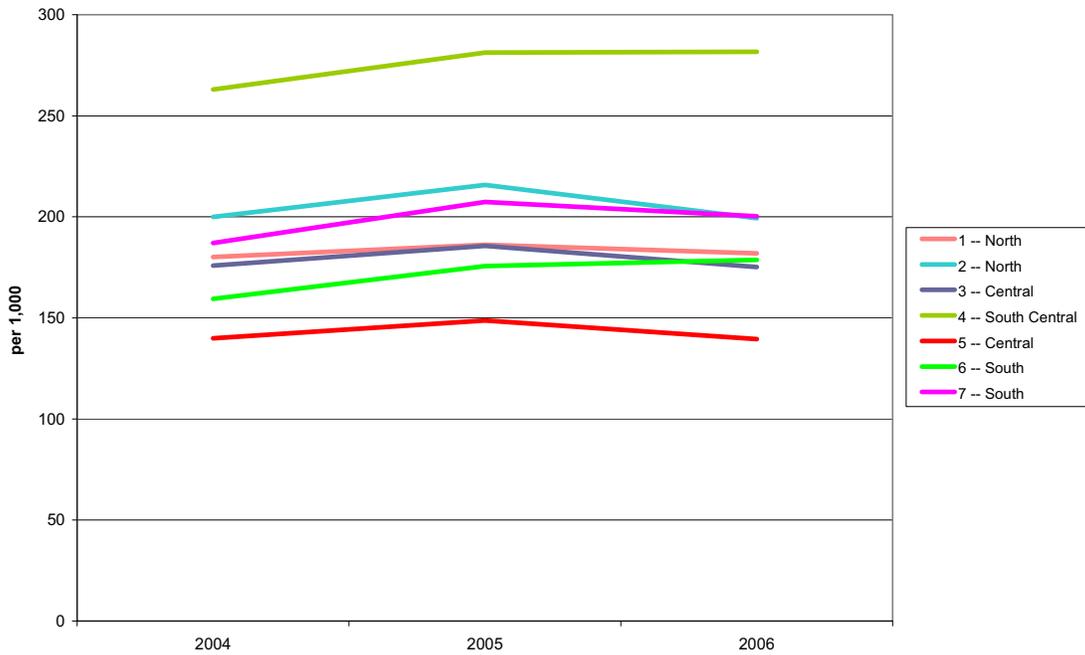


Figure 9.18 ACS-EDs per 1,000 Prince George's County Residents Age 18-39 by PUMA and year, 2004-2006

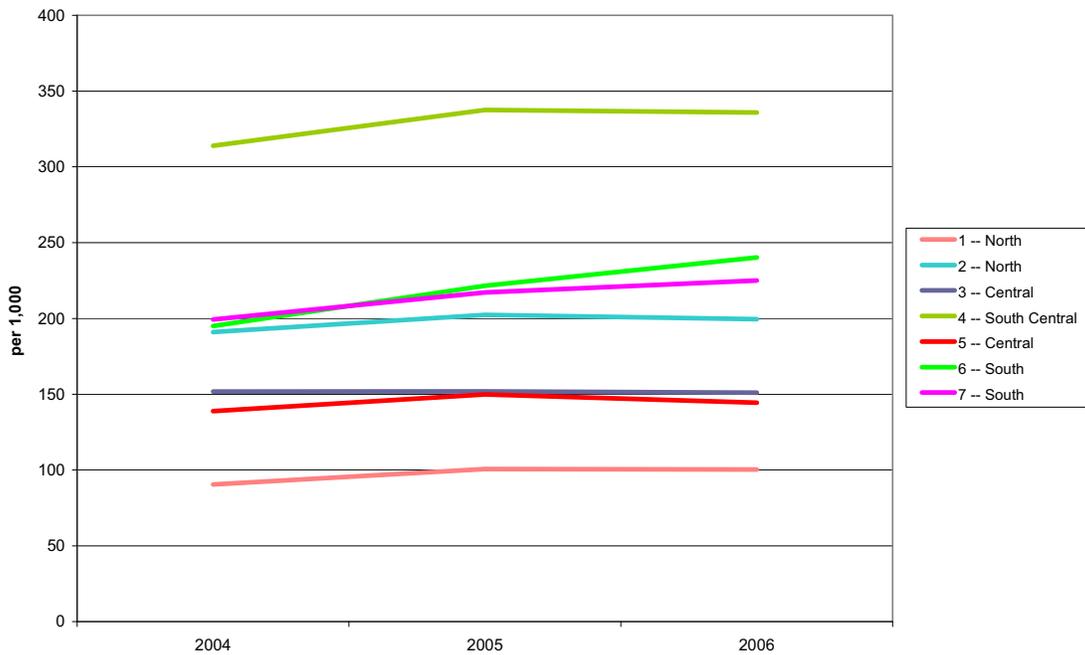
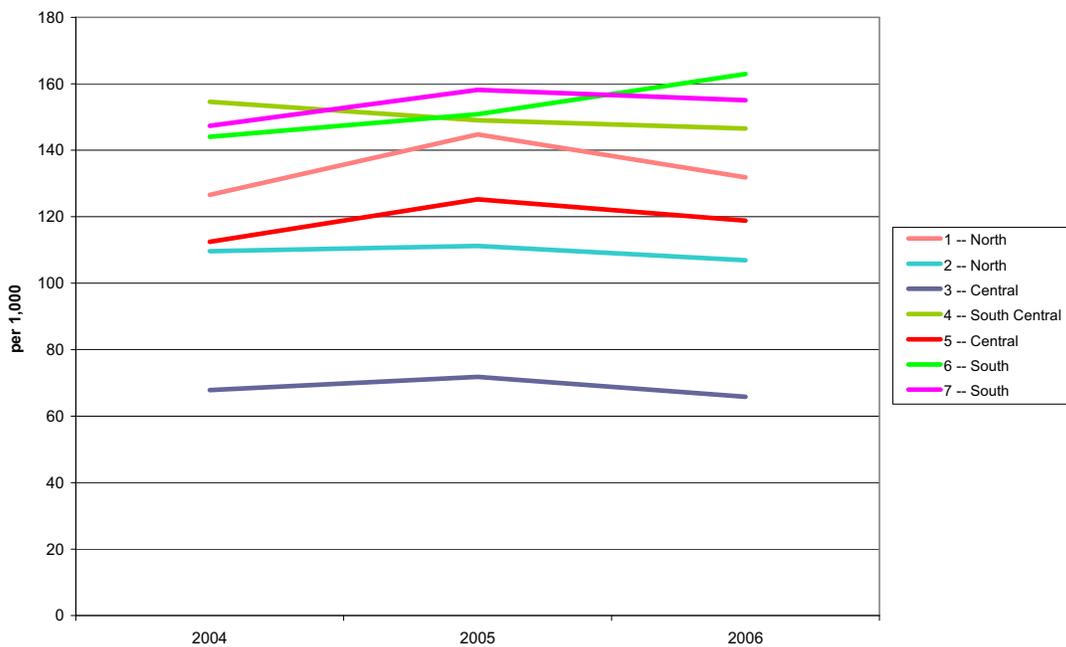


Figure 9.19 ACS-EDs per 1,000 Prince George's County Residents Age 40-64 by PUMA and year, 2004-2006



Figure 9.20 ACS-EDs per 1,000 Prince George's County Residents Age 65 and Older by PUMA and year, 2004-2006



Chapter 10: Patterns of Hospital Inpatient and Emergency Department Use

Travel distance plays an important role patients' choice of hospital. Patterns of hospital use across are also influenced by factors related to patient need, accessibility of appropriate preventive care, hospital capacity, physician referral patterns, geographic barriers (e.g., rivers), patient preferences, and patient beliefs about hospital quality. The flow of patients across governmental jurisdictions can have important economic and political consequences. Concentrations of uninsured patients place a burden on local resources, such as individual physicians, philanthropic organizations, and hospital ownership. At the same time, well-insured patients generate income for hospitals and physicians and tax revenue for local governments.

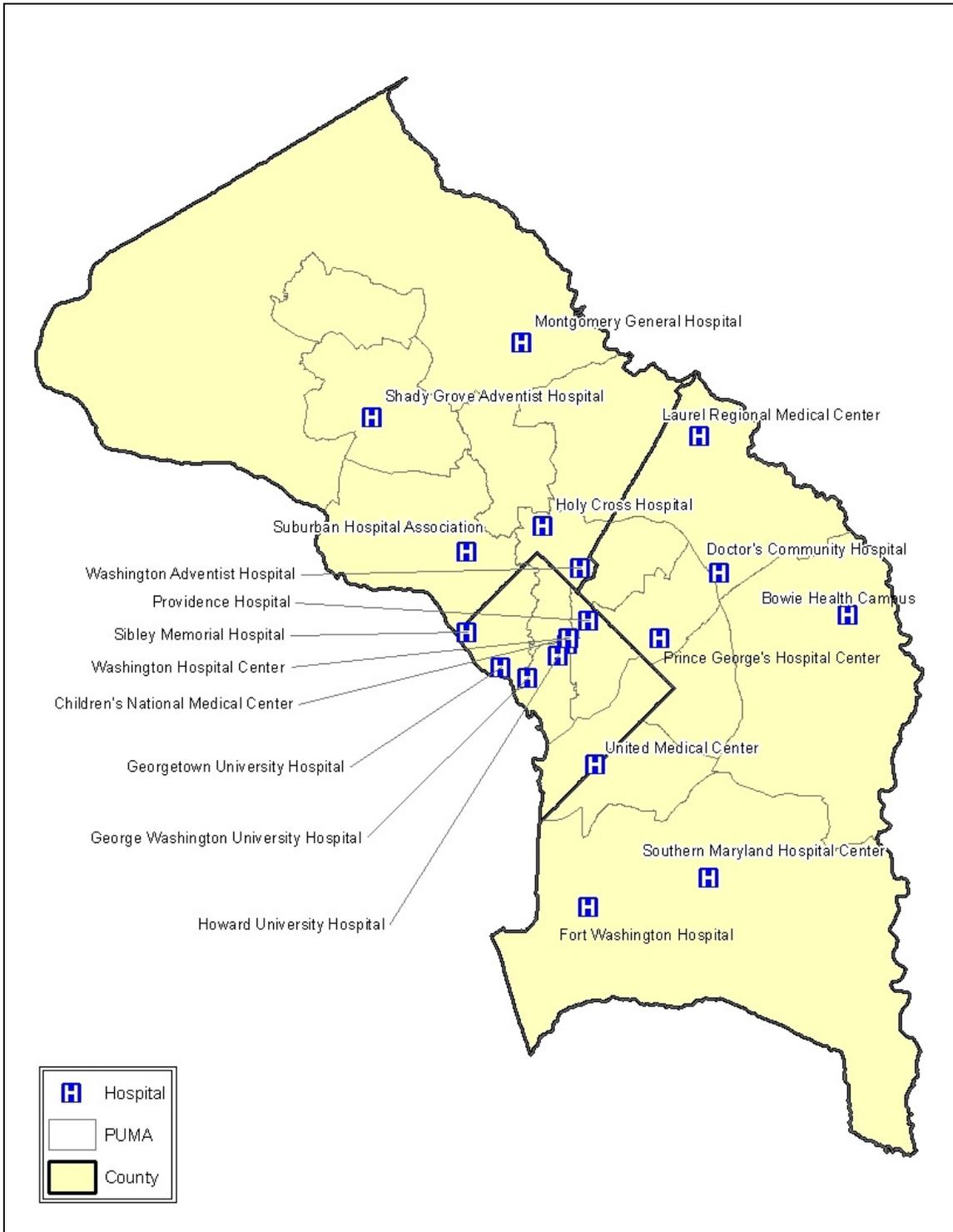
In this chapter, we describe patterns of hospital and ED use in Prince George's County, Montgomery County, and the District of Columbia. Montgomery County and the District of Columbia are the two jurisdictions with concentrations of hospitals in close proximity to densely populated regions of Prince George's County. This chapter examines hospital use by jurisdiction for residents of each of the three jurisdictions in aggregate and by payer source and age. While there is no optimal pattern of use against which to benchmark, understanding use patterns from a regional perspective can inform the business case for undertaking new investments in health care infrastructure, the impact of hospitals closures, the implications of uncompensated care for taxpayers, and cross-jurisdiction strategies to care for underserved populations.

Data used in this chapter come from hospital discharge information routinely reported to the Maryland Health Services Cost Review Commission and the District of Columbia Hospital Association in 2006.²³ It is important to note that data on discharges reflect percentages of all patients or users, and not of residents of each jurisdiction. Appendix 1 provides a detailed description of these data sources. Detailed information about inpatient and ED discharges for individual hospitals is provided in Appendix 8.

Figure 10.1 shows the location of hospitals operating in Prince George's County, Montgomery County, and the District of Columbia. The tables presented in this chapter describe the distribution of discharges from each of these three jurisdictions, by jurisdiction of patient residence, by payer source, and by patient age.

²³ The capacity and transport patterns of local EMS providers may contribute to observed patterns. However, we did not analyze EMS data as part of this study.

Figure 10.1 Location of Hospitals and Emergency Care Centers in Prince George's County, Montgomery County, and District of Columbia



Hospital Location and Patient Residence

Table 10.1 shows inpatient and ED discharges from regional hospitals in 2006, by hospital location and patient residence. Overall, patients from Prince George's County were more likely to cross borders compared with those residing in Montgomery County and the District of Columbia. Patterns of border crossing were most evident for inpatient use and somewhat weaker for ED visits. Several specific patterns are worth noting:

- Among all inpatients who resided in Prince George's County, 37.3 percent were discharged from a Prince George's County hospitals. By contrast, 77.0 percent of patients from Montgomery County were hospitalized in Montgomery County, and 92.4 percent of patients from the District of Columbia were hospitalized in the District of Columbia.
- While the majority of Prince George's patients left the County for inpatient care, the converse was not true. Less than 2 percent of inpatients and less than 5 percent of ED patients residing in Montgomery County and the District used Prince George's County hospitals, despite their close geographic proximity.
- 69.5 percent of ED visits by Prince George's County patients were to hospitals located Prince George's County, compared with 37.3 percent of Prince George's County hospital discharges by Prince George's County patients.
- 76.9 percent of inpatient discharges and 88.2 percent of ED discharges by Montgomery County patients were to hospitals located within Montgomery County.
- Prince George's County residents using hospitals and EDs outside Prince George's County were more likely to cross into the District of Columbia than into Montgomery County. Likewise, Montgomery County patients using hospitals and EDs outside Montgomery County were more likely to cross into the District of Columbia than into Prince George's County.

Specific Hospitals Discharging Prince George's County Residents

- Prince George's Hospital Center (16.4 percent), Holy Cross Hospital (15.9 percent), Washington Hospital Center (13.6 percent), and Southern Maryland Hospital Center (12.4 percent) discharged the largest share of patients residing in Prince George's County who used inpatient care in 2006 (see Table A8.1)
- Bowie Healthcare Center (18.0 percent), Doctor's Community Hospital (15.7 percent), and Southern Maryland Hospital Center (14.1 percent) discharged the greatest share of patients residing in Prince George's who used ED care in 2006 (see Table A8.3).

Table 10.1 Percentage of Inpatient Discharges and Emergency Department Visits, by Hospital Location and Location of Patient Residence, 2006

Hospital Jurisdiction	Patient Residence					
	Prince George's County		Montgomery County		District of Columbia	
	Inpatient Discharges	ED Visits	Inpatient Discharges	ED Visits	Inpatient Discharges	ED Visits
Prince George's County	37.3	69.5	1.0	2.5	1.9	4.7
Montgomery County	26.7	10.9	76.9	88.2	5.7	3.0
District of Columbia	36.0	19.6	22.1	9.3	92.4	92.3
All Discharges	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE: 2006 inpatient discharge data from Health Services Cost Review Commission (HSCRC) and District of Columbia Hospital Association.

NOTES: Figures in bold indicate discharges and visits from patients residing within the hospital jurisdiction. "Inpatient Discharges" does not include inpatients admitted through the ED. "ED Visits" does include inpatients admitted through the ED.

Hospital Location, Payer Source, and Patient Residence

Table 10.2 shows inpatient and ED discharges from regional hospitals by hospital location, patient residence, and payer source. Overall, the tendency of Prince George's residents to use inpatient care within the County or cross into the District or Montgomery County was strongly related to payer source. The relationship between discharge location and payer source for Prince George's residents was less strong for ED care. Several specific patterns are worth noting:

Prince George's County Residents

- Inpatients with private insurance were the least likely (26.1 percent) and patients with Medicaid with the most likely (61.7 percent) to be discharged from hospitals located in Prince George's County. 45.4 percent of uninsured patients were discharged from County hospitals.

- Both Prince George’s Hospital Center and Providence Hospital discharged a disproportionate share of Medicaid patients, suggesting that the two hospitals are serving as “de facto” safety-net providers (Table A8.5-A8.5).
- Majority of ED patients with private insurance (71.9 percent), with Medicaid (60.3 percent), with Medicare (35.2 percent), and without insurance (72.5) were discharged from Prince George’s hospitals.

District of Columbia and Montgomery County Residents

- With the exception of Medicare patients residing in Montgomery County , the vast majority of inpatient discharges (75 percent or more) of patients residing in Montgomery County and District of Columbia were from hospitals and EDs located in their own jurisdiction of residence, regardless of payer source.
- Regardless of payer source, the vast majority of ED discharges (84 percent or more) of ED patients residing in Montgomery County and District of Columbia were from hospitals located in their own jurisdiction of residence.

Table 10.2 Percentage of Inpatient Discharges and Emergency Department Visits, by Hospital Location, Payer Source, and Patient Residence, 2006

Hospital Jurisdiction	Payer Source							
	Private		Medicaid		Medicare/ Veterans Affairs		Uninsured	
	Inpatient Discharges	ED Visits	Inpatient Discharges	ED Visits	Inpatient Discharges	ED Visits	Inpatient Discharges	ED Visits
Prince George's County Residents								
Prince George's County	26.1	71.9	61.7	60.3	35.2	73.1	45.4	72.5
Montgomery County	39.0	10.1	18.4	10.1	13.9	11.8	25.0	13.6
District of Columbia ^c	34.9	18.0	19.9	29.5	51.0	15.1	29.6	13.9
All Discharges	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Montgomery County Residents								
Prince George's County	0.6	2.2	1.4	2.5	1.3	1.9	1.6	4.6
Montgomery County	77.2	88.0	92.1	89.6	60.0	88.3	78.0	89.3
District of Columbia ^c	22.1	9.8	6.5	7.9	38.6	9.8	20.4	6.0
All Discharges	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
District of Columbia Residents								
Prince George's County	2.2	6.0	2.1	3.1	1.7	3.1	2.7	10.7
Montgomery County	11.4	4.8	1.0	1.1	3.5	3.8	4.9	4.6
District of Columbia ^a	86.5	89.3	96.9	95.7	94.9	93.2	92.5	84.7
All Discharges	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE: 2006 inpatient discharge data from HSCRC and DCHA.

NOTES: Figures in bold indicate discharges to patients residing in the same jurisdiction in which the hospital is located. "Inpatient Discharges" does not include inpatients admitted through the ED. "ED Visits" does include inpatients admitted through the ED.

^a Data reported by George Washington University included a large number of discharges for which a payer source could not be identified, which potentially leads to an underestimation of the share of discharges from District hospitals across all payer sources.

Hospital Location, Patient Age, and Patient Residence

Table 10.3 shows inpatient and ED discharges from regional hospitals by hospital location, patient age, and patient residence in 2006. In every age category, Prince George's inpatients and ED patients were less likely to be discharged from hospitals

located in the County than others to be discharged from hospitals in the same jurisdictions in which they reside. Two additional patterns are worth noting:

- 44.7 percent of inpatients age 0–17 residing in Prince George’s were discharged from Prince George’s hospitals. By contrast, adults inpatients residing in Prince George’s were 5 to 11 percentage points *less* likely to be discharged from Prince George’s hospitals.
- 61.6 percent of ED patients age 0–17 residing in Prince George’s were discharged from Prince George’s hospitals. By contrast, adult ED patients residing in Prince George’s County were 10 to 13 percentage points *more* likely to be discharged from Prince George’s Hospitals.
- More than one-third of inpatient discharges of Prince George’s children were from Montgomery County hospitals. More than a quarter of emergency department visits by Prince George’s children were to hospitals located in the District of Columbia.

Table 10.3 Percentage of Inpatient Discharges and Emergency Department Visits, by Hospital Location, Patient Age, and Patient Residence, 2006

Hospital Jurisdiction	Patient Age					
	0–17		18–64		65+	
	Inpatient Discharge	ED Visit	Inpatient Discharge	ED Vist	Inpatient Discharge	ED Visit
Prince George’s County Residents						
Prince George’s County	44.7	61.6	33.7	71.6	39.3	73.2
Montgomery County	38.5	8.7	25.2	11.4	17.0	12.7
District of Columbia	16.8	29.7	41.1	16.9	43.7	14.1
All Discharges	100.0	100.0	100.0	100.0	100.0	100.0
Montgomery County Residents						
Prince George’s County	0.6	1.6	1.1	3.1	1.3	1.9
Montgomery County	89.7	89.0	74.9	88.1	61.3	87.3
District of Columbia	9.8	9.4	24.0	8.8	37.4	10.8
All Discharges	100.0	100.0	100.0	100.0	100.0	100.0
District of Columbia Residents						
Prince George’s County	5.1	3.9	1.5	5.2	2.1	3.3
Montgomery County	17.6	1.8	4.8	3.1	4.6	3.9
District of Columbia	77.3	94.3	93.7	91.7	93.3	92.7
All Discharges	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE: 2006 inpatient discharge data from HSCRC and DCHA.

NOTES: “Inpatient Discharges” does not include inpatients admitted through the ED. “ED Visits” does include inpatients admitted through the ED.

Chapter 11: Summary and Policy Implications

This report provided background information to support Prince George’s County officials in formulating policy options to strengthen the capacity to meet residents’ health care needs. Drawing from a wide variety of data sources, we examined the health care needs of Prince George’s County residents and the capacity of the County’s health care delivery system to meet these needs. Specifically, this report examined (1) the health status of County residents, (2) the quality and accessibility of health care, (3) the capacity of the physician workforce and hospitals, and (4) the flow of hospital inpatient and emergency room visits across jurisdictions neighboring Prince George’s County.

In the sections below, we highlight key findings and identify gaps in data and limitations that limit our ability to draw firm conclusions in a number of policy-relevant areas. Detailed discussion of findings and policy implications can be found in the Summary Report.

Key Findings

Demographic and Health Profile

- Prince George’s County is relatively affluent and highly diverse.
- Many Prince George’s residents commute outside the County.
- Individuals in poor health were concentrated in the southwestern regions of the County; but the overall health status of County residents was comparable to those living in many neighboring jurisdictions.
- The health behaviors and use of preventive care by adults within Prince George’s varied widely, but were comparable overall to those residing in other jurisdictions.
- Prince George’s residents were uninsured at relatively high rates.

Health System Capacity and Quality

- Primary care physicians are in short supply in Prince George’s County.
- Prince George’s County appears to have adequate hospital capacity.
- Prince George’s County appears to lack a primary care safety net.

Patterns of Hospital Inpatient and Emergency Department Use

- Prince George’s County had higher rates of ambulatory care–sensitive hospitalizations and emergency department visits than surrounding jurisdictions; and these were concentrated in poor regions of Prince George’s County.
- A substantial proportion of Prince George’s residents leave the County for hospital and emergency care, regardless of insurance status.

Data Gaps and Other Limitations

In conducting our assessment, we reviewed existing studies on the health and health service utilization of Prince George’s County residents and carried out original analyses using data sources maintained by federal and local regulatory and public health agencies.

Beyond gaps in data describing the County’s safety-net system, our ability to create a comprehensive picture of health and health care in the County was limited by the availability of relevant data. We describe these gaps below.

Subcounty Data. Reflecting the design of federal and state data collection efforts, the scope and detail of our study was limited by the dearth of information about health and health care within Prince George’s County. We used subcounty data when available, but we were not able to aggregate the data in ways to reflect natural boundaries between neighborhoods or provider catchment areas.

Data on Children’s Health. We were unable to identify recent population-based data on the health and well-being of children in Prince George’s County. Epidemiologic data sets, such as the BRFSS, contain data on adults age 18 and older. The most recent data we identified were collected in 2002 by the Maryland Department of Health and Hygiene.

Data on Health Insurance. Most information about the health of Prince George’s residents comes from the BRFSS. This survey on adults asks whether an individual has health insurance and not about the source or generosity of coverage.

Data on Use of Outpatient Care and Use by Underserved Populations. We did not analyze data on the use of outpatient care by Prince George’s residents. Such data come from a variety of sources, such as private health insurers, Medicaid, Medicare, and safety-net clinics in the County and in neighboring jurisdictions that treat County residents.

Timeliness. It is important to note that although the perception is that factors influencing the health care system in Prince George’s County are very recent developments and are rapidly changing, we provide analyses of data whose timeliness sometimes lags behind current health trends. Thus, we report statistics from the most recently available, cleaned data, yet acknowledge that the most recent data may not be sufficient to reflect very recent changes.

Statistical Reliability. In many cases, it is not possible to assess the reliability of the data we present because studies conducted by each government or health care agency differ in their methods of data collection, quality assurance, and statistical analysis. This limitation particularly holds when we draw on previously published reports. In our analyses, we conducted appropriate statistical tests when feasible, and we present the reliability of published data when available. Consequently, we do not draw conclusions based on any single measure or comparison, but rather, examine broad patterns and trends in data.

Policy Implications

Our findings have policy implications in three key areas.

1. Strengthening the Prince George’s ambulatory care safety net is an urgent concern.

Even in the absence of utilization and case-mix data, our findings suggest that the County lacks a well-functioning ambulatory care safety net. Findings in two areas generate this concern: (1) health disparities in health and access between affluent and non-affluent residents and (2) a relative lack of primary care physicians in the eastern and southeastern regions of the County, which generate the greatest number of potentially preventable hospitalizations and emergency department visits. These findings, combined with daytime commuting patterns, suggest that more-affluent Prince George’s County residents are able to use primary care providers outside of the County, either by necessity or as a reflection of patient preferences. Use of care outside of the County is a less viable option for poor residents.

2. Out-of-County use of inpatient and emergency care by Prince George’s residents has economic and political consequences.

We found that a sizable portion of inpatient and emergency care provided to Prince George’s County residents occurs outside the County, in the absence of obvious constraints on the County’s hospital and ED capacity. We also found that a large proportion of residents commute outside the County to work. Taken together, these findings suggest that out-of-County use is driven by such factors as resident preferences, convenience, and provider referral patterns. Out-of-County use by insured residents results in lost revenue to County hospitals, lost revenue to local businesses serving them, and lost jobs for County residents. Likewise, out-of-County use by uninsured residents can increase political tensions to the extent that uncompensated costs are not subsidized by federal and state governments.

3. Improving the health status of Prince George’s County residents will require a variety of strategies, including improvements to the public health system.

While the focus of our report is the personal health care system, our research is clear that changes to the health care system alone are unlikely to be sufficient to improve the overall health of the population. Thus, policymakers should also examine opportunities to improve health status of County residents by strengthening the public health system and by addressing other, non-medical determinants of health.

Appendix 1: Description of Data Sources

Table A1.1 Overview of Data Sources with Health-Related Information Pertaining to Prince George’s County

Data Source	Frequency	Date Range for Report	Type of Data		Reporting Levels in Data				Geographic Level for Report		
			Survey	Administrative	Person Level	Service Level	Facility Level	Payer Level	County	PUMA	ZIP
Aggregated Census data	Decennial	2000	•						•	•	•
Aggregated ACSY data	Annual	2006	•						•	•	
NSDUH	Annual	2002–2004	•		•				•		
GOC	Annual	2000–2005		•	•				•		
DC DOH	Annual	2000–2005		•	•					Ward	
MD VSA	Annual	1999–2006		•	•				•	•	
MD DHMH Cancer Report	Once	2006		•	•				•		
BRFSS	Annual	2005–2006	•		•				•		
MD DHMH AIDS Administration	Quarterly, Annual	2007		•	•				•		•
ARF	Annual	2000–2006		•					•		
MHCC	Annual	2001–2008		•		•	•		•		
Hospital Compare	Continuous	2007–2008	•	•			•		•		
Physician Workforce Study	Once	2005–2007		•							•
HSCRC	Annual	2000–2006		•	•		•	•			
DCHA	Annual	2000–2006		•	•		•	•			

NOTES: MD=Maryland; GOC=Governors Office for Children; DC DOH= DC Department of Health; VSA=Vital Statistics Administration; DHMH= Department of Health and Mental Hygiene; ARF=Area Resource File; MHCC= Maryland Health Care Commission; HSCRC=Health Services Cost Review Commission; DCHA=District of Columbia Hospital Association.

Table A1.2 Detailed Description of Data Sources

Data Source	Time Period	Description/Source	Web site
U.S. Census	2000	The U.S. Census collects information such as age, race, income, commute time to work, home value, and veteran status, in addition to child poverty rates at the state and substate level. Data are available once every ten years from the decennial census; estimates are produced between censuses.	http://www.census.gov/main/www/cen2000.html
American Community Survey (ACSY)*	2006	The ACSY collects such information as age, race, income, commute time to work, home value, and veteran status from U.S. households on an annual basis.	http://www.census.gov/acs/www/index.html
National Survey on Drug Use and Health (NSDUH)	2002–2004	This report, by the Substance Abuse and Mental Health Services Administration, presents estimates of the prevalence of substance use and mental health problems, as well as unmet needs for treatment in substate areas during 2002–2004, based on the NSDUH. NSDUH is an annual survey of the civilian, non-institutionalized population age 12 or older.	http://www.oas.samhsa.gov/substate2k6/HTML/MD.htm http://www.oas.samhsa.gov/substate2k6/HTML/DC.htm
Governors Office for Children	2000–2005	The Governor’s Office for Children obtains rates of low birth weight and infant mortality from the Vital Statistics Administration.	http://www.ocyf.state.md.us
DC Department of Health	2000–2005	Compiled by the District of Columbia Department of Health’s Center for Policy, Planning, and Epidemiology, which is responsible for collecting, preserving, and administering the District’s system of birth and death records, as well as other critical records. Information is obtained from hospitals, the Medical Examiner’s Office, funeral directors, other states, and the federal government.	http://doh.dc.gov/doh/cwp/view,a,1374,q,602640.asp#rad
Maryland Vital Statistics	1999–2006	Compiled by the Maryland State Department of Health and Mental Hygiene (DHMH), these reports estimate such statistics on such indicators as adult (years 1999–2000 and 2004–2006) and infant mortality rates and low-birth weights (years 2000–2005), using data on resident births, resident deaths, net internal immigration, internal migration, and net movement of the U.S. armed forces.	http://www.vsa.state.md.us/html/reports.html

Data Source	Time Period	Description/Source	Web site
Maryland Department of Health and Mental Hygiene Cancer Report	2006	In this report, the Cigarette Restitution Fund (CRF) Program reviews total cancers and the seven specific cancer sites targeted by the Cancer Prevention, Education, Screening and Treatment Program: lung and bronchus, colon and rectum, female breast, prostate, oral, melanoma of the skin, and cervix. These cancers were selected for review based on the capacity for prevention (e.g., lung and bronchus, melanoma of the skin), early detection and treatment (e.g., colon and rectum, female breast, cervix, oral cavity), or on the impact on incidence and mortality (e.g., prostate).	http://www.fha.state.md.us/cancer/html/crf_ann_can_rpt.cfm
Maryland Behavioral Risk Factor Surveillance System (BRFSS)	2005–2006	The BRFSS is an annual survey conducted by the Centers for Disease Control and Prevention (CDC) in conjunction with states. The survey collects data on a number of factors, ranging from sociodemographic characteristics and health insurance to disease burden and health care behavior. BRFSS surveys are conducted by telephone, for adults age 18 and older (one per household).	http://www.fha.state.md.us/cphs/html/brfss.cfm
Maryland Department of Health and Mental Hygiene, AIDS Administration	2007	The Maryland Department of Health and Mental Hygiene, AIDS Administration, maintains surveillance data on HIV/AIDS incidence, prevalence, and mortality rates for all pediatric, adolescent, and adult cases for which the patient lived or received care within Maryland. All AIDS and non-AIDS HIV cases are reported to the AIDS Administration using a uniform surveillance case definition and case report form provided by the CDC.	http://dhmh.state.md.us/AIDS/Data&Statistics/statistics.htm
Area Resource File (ARF)	2000–2006	The basic county-specific ARF is a database containing more than 6,000 variables for each of the nation's counties. ARF contains information on health facilities, health professions, measures of resource scarcity, health status, economic activity, health training programs, and socioeconomic and environmental characteristics.	http://www.arfsys.com/

Data Source	Time Period	Description/Source	Web site
Maryland Health Care Commission (MHCC)	2001–2008	THE MHCC provides information on availability, cost, and quality of services. Relevant data for Prince George’s County include an inventory of licensed acute care hospital beds for medical/surgical, obstetric, pediatric and psychiatric services. MHCC also provides information on number of ED care visits, ED treatment spaces, and rates of ED crowding.	http://mhcc.maryland.gov/hospital_services/acute/acutehospital/index.html
Health and Human Services (HHS) Hospital Compare	2007–2008	The Hospital Compare Web site was created through the efforts of the Centers for Medicare and Medicaid Services along with the Hospital Quality Alliance. Hospital Compare displays rates for process-of-care measures that show how frequently hospitals provide care that is recommended for adult patients being treated for a heart attack, heart failure, or pneumonia or patients having surgery. Hospitals voluntarily submit data from their medical records about the treatments received for these conditions. This Web site also displays information on hospital outcome-of-care measures relating to heart attacks and heart failure. Hospital Compare displays the Survey of Patients’ Hospital Experiences, using data collected from the Hospital Consumer Assessment of Healthcare Providers and Systems Survey.	http://www.hospitalcompare.hhs.gov
Maryland Physician Workforce Study	2005–2007	Conducted by Boucher & Associates, the Maryland Physician Workforce Study provides ZIP-code level data regarding physician supply across Maryland state. Data for the study came from the Maryland Board of Physicians licensing database from 2005–2007. Boucher and Associates contacted Medical Directors of each Maryland hospital to confirm that physicians in the database were in active practice, to obtain missing specialty information, to confirm FTE status, and to identify the percentage of physicians’ time devoted to non-clinical activities, such as teaching, research and administration.	Study data not publicly available
Maryland Health Services Cost Review Commission	2000–2006	The Maryland Health Services Cost Review Commission collects and maintains uniform data with demographic, clinical, and charge information on all inpatients discharged from Maryland general acute hospitals.	Study data not publicly available

Data Source	Time Period	Description/Source	Web site
District of Columbia Hospital Association	2000–2006	The District of Columbia Hospital Association collects discharge data on hospitals in the District. Data are acquired from the Uniform Billing Form (UB–92) and submitted by the association on an annual basis to the Department of Health. Data are submitted from all hospitals, acute care hospitals, and long-term care facilities within the District of Columbia.	Study data not publicly available

Appendix 2: Existing Studies on Prince George’s County

Study 1: Child and Adolescent Health Assessment (2002)

The Maryland Department of Health and Mental Hygiene²⁴ used part of their Title V funding to commission an assessment of child and adolescent physical and mental health and substance use behavior and related risks in Prince George’s County (Professional Research Consultants, 2002). A key objective in commissioning the study was to engage stakeholders in developing cross-sector partnerships to improve health services for mothers and children. The 2002 assessment consisted of three parts: (1) a telephone survey of 1,000 randomly selected parents and guardians of children and adolescents age 0–19, (2) a telephone survey of 600 adolescents age 12–19, to assess risk factors for substance abuse, and (3) focus groups with community leaders, service providers, parents, and adolescents.

Physical and Mental Health. As part of the assessment, both parents and adolescents were asked to rank top health concerns and provide information about their physical (e.g., height, weight, diet) and mental health (e.g., anxiety, depression) and knowledge of available community resources.

- Obesity and diet were identified as top health concerns for both children and adolescents. Roughly 40 percent of children and 20 percent of adolescents in Prince George’s County were overweight.²⁵ Weight problems appeared concentrated in the portion of the County located inside the Beltway.
- Asthma and allergies, although not reported as top concerns, impacted over one-third of children age 0–11 and nearly 50 percent of adolescents.
- Two out of every five children age 6–19 experienced one or more mental health risks, including rebelliousness, anxiety, difficulty sleeping, depression, or lack of an emotional support network.
- Anxiety was the most common mental health risk among children and adolescents. Half of parents were aware of adolescent mental health resources in the community, with slightly fewer parents (41 percent) aware of child mental health resources. Awareness was lower among blacks, Hispanics, and low-income families.

²⁴ The Federal Maternal and Child Health Block Grant (i.e., Title V of the Social Security Act) provides funding to improve the health of all mothers and children. These grants are used, in part, to build the capacity for child health assessment.

²⁵ By comparison, the National Center for Health Statistics reports that 16 percent of children in the United States age 6–19 were overweight in 2002
<http://www.cdc.gov/nchs/products/pubs/pubd/hestats/overwght99.htm>.

Health Care Use. The assessment collected information about routine health care (e.g., routine physical and dental check up in past year) and access to health care services (e.g., transportation, appointment availability, and cost) from parents and adolescents.

- Access to health care services was reported as a top concern for parents. Over 80 percent of children and adolescents visited a doctor in the past year.²⁶ However, lower-income residents were substantially more likely to report access concerns than higher income residents.
- While the vast majority of parents used cars to transport their children to health care providers, reliance on public transportation was higher among residents living inside the Beltway.
- Although routine care was being utilized, barriers to access exist. Forty percent of adolescents and their parents reported difficulty accessing health care services due to inconvenient office hours, difficulty getting an appointment, and high cost of doctor care and prescriptions.
- Ninety percent of children and adolescents had some form of health care coverage, though coverage rates were lower among lower-income households and African-American and Hispanic children.
- Roughly 70 percent of children and 80 percent of adolescents had visited the dentist in the past year. Young children, those with low incomes, and those living inside the Beltway were least likely to have dental visits.

Substance Use and Associated Risk/Protective Factors. Adolescents were asked to report on their substance use. To assess substance abuse risk factors, adolescents were asked their perceptions of school, family, and individual characteristics associated with risk (e.g., disapproval of use, commitment to school).

- Substance use became more frequent as age increased, with alcohol and marijuana the most prevalent drugs of choice among adolescents. Nearly half of high school and 19 percent of middle school students had tried alcohol. These findings were generally consistent with statewide data collected during this time period.
- Commitment to school (e.g., student effort) and disapproval of substance use were the most common protective factors reported among middle and high school students. Most middle (87 percent) and high school (75 percent) students indicated they tried to do their best in school “all” or “most of the time.” The majority of students felt it was wrong for someone their age to use alcohol and drugs, although this perception lessened with age. For example, 82 percent of 7–8th graders felt it was very wrong for someone their age to drink alcohol, compared with 50 percent of 11–12th graders.
- Family history of drug/alcohol problems and sibling use were the most common risk factors reported among adolescents. More than one-third (36 percent) of adolescents reported that a member of their immediate family had a problem with alcohol or drugs. Black adolescents and adolescents living in low-income

²⁶ By comparison, the National Center for Health Statistics reports that 90 percent of children in the United States under age 18 visited a doctor in the last year in 2001 <http://mchb.hrsa.gov/chusa03/pages/health.htm>.

households more often reported a family history of drug/alcohol problems. Among those with siblings, adolescents reported that their sibling had used tobacco (25 percent), alcohol (23 percent), or marijuana (15 percent) as a teenager.

Study 2: Migration and Demographic Change in Prince George's County (2007)

In 2007, the Brookings Institution's Greater Washington Research Program issued a report analyzing cross-jurisdiction migration and demographic change in Prince George's County (DeRenzis and Rivlin, 2007). The Brookings study was conducted in response to concern that rapid economic development and rising housing costs in the National Capital Region were shifting the area's lowest-income residents to Prince George's County.

U.S. Census data from 1990 and 2000 (or 2005 ACSY, when possible) was used to determine the race/ethnicity of migrant individuals, as well as PUMA for place of residence in 2000. The number of migrant households and individuals and their incomes were determined using administrative records (i.e., income tax returns) from the Internal Revenue Service's (IRS's) Individual Master File.²⁷ The IRS migration data covers two-year increments beginning 1993–1994 and ending 2003–2004.

Migrant Destinations. The study found that most migration was local. Almost half of in-migrants came from the District of Columbia and Montgomery County, and the majority of them settled near the borders with their previous jurisdictions (for DC, the southern two PUMAs inside the Beltway; for Montgomery, the two northernmost PUMAs, one inside and the other outside the Beltway). The most common out-migrant destinations were also Montgomery County and the District (but in a different order of frequency), followed by Anne Arundel County, Charles County, and Howard County.

Impact of Migration. Data described a complex pattern of migration into and out of the County that did not match widely held perceptions.

- Low-income in-migrants have not changed the overall economic status of the County. Although the median household adjusted income of in-migrants to Prince George's County was consistently lower than non- and out-migrants, the County's median household income declined only slightly and proportion of middle class income households has remained fairly steady at about 65 percent over the past ten years.
- Although migration has changed the demographic composition of the County, it does not appear to have drastically affected the total population size. From 1990 to 1999, Prince George's County had a net migration loss of 17,000 residents (more moved out than in), which was outweighed by natural increase (births

²⁷ The IRS Master File includes a record for every Form 1040, 1040A, and 1040EZ individual income tax return filed by citizens and resident aliens.

minus deaths) of more than 74,000 people, yielding population growth. For the two-year period 2003–2004, the County’s net migration loss was about 4,400. Net in-migration from the District of about 5,000 and from Montgomery County of over 1,000 was almost perfectly offset by net losses to Anne Arundel, Charles, and Howard Counties. There was additional net out-migration associated with more distant areas, yielding the overall loss.

Racial and Ethnic Composition. Data suggested that migration patterns have contributed to the shifting racial and ethnic composition of the County and surrounding areas.

- The proportion of blacks in Prince George’s County has grown. Prince George’s County has become increasingly black (15 percent increase in the past 15 years), while the black population in the District has been slowly decreasing (10 percent decrease over the same time period). This may be due, in part, to increasing numbers of black in-migrants. About 60 percent of in-migrants were black, while less than 25 percent were white; however, blacks and whites had similar rates of out-migration (between 40 and 46 percent).
- The proportion of the population that is white has been slowly decreasing as more foreign-born residents in-migrate to Prince George’s County and surrounding areas. The flow of the foreign-born was especially high across the Prince George’s and Montgomery County border. In 2000, Montgomery County had the largest proportion of the population that was foreign-born (27 percent), followed by Prince George’s County and the District (13 percent each), Howard County (11 percent), and Anne Arundel County (3 percent).

Study 3: Partnering Toward a Healthier Future (2007)

In 2007, the Adventist HealthCare’s Center on Health Disparities issued a progress report on health care disparities in Frederick, Montgomery, and Prince George’s Counties (Adventist Health Care Center on Health Disparities, 2007). The report provided local health providers, community stakeholders, and policymakers an overview of health disparities in Frederick, Montgomery, and Prince George’s Counties, the three Maryland counties surrounding Washington, DC.

The report provided descriptive analyses of national and state data, such as the Maryland BRFSS (2003–2006), the Maryland Cancer Registry (2004), the Maryland Vital Statistics Administration (2005), and the Maryland Hospital Discharge Database (2005). Data were also taken from existing reports, an extensive literature review of academic journals and publications from state and government agencies, and correspondence with community group leaders and Advisory Board members from the Adventist HealthCare Center. The descriptive report on the tri-county area found substantial disparities by race/ethnicity and by county. These disparities have significant implications for residents of Prince George’s County, where over 80 percent reported belonged to a racial or ethnic minority in 2005.

Maternal, Child, and Infant Health. Prenatal care can significantly impact birth outcomes and subsequent infant health; while, children's health depends on continued access to care through insurance coverage.

- White mothers (83 percent) in Prince George's County receive prenatal care in the first trimester of pregnancy more often than Latino (56 percent), black (73 percent), or Asian American mothers (81 percent). This pattern is consistent across the tri-county area.
- The rate of infant mortality for blacks (10.4 per 1,000 live births) is much higher than for whites (6.5). Overall infant mortality in Prince George's County (6.5) is higher than state rates (4.5).
- Many children under age 18 (14 percent) in Prince George's County are uninsured. This percentage is higher than surrounding counties (e.g., twice that of Frederick County) and the average for all of Maryland (11 percent).

Disease Prevalence, Hospitalization, and Mortality. Disparities were found in prevalence of disease, hospitalization, and mortality rates, as well as care.

- Blacks had the highest prevalence of diabetes, age-adjusted hypertension, and HIV and the highest incidence of AIDS, making up 88 percent of AIDS cases and 89 percent of new cases.²⁸ These findings were consistent with national and local data that show blacks as disproportionately impacted by diabetes, hypertension, and HIV and AIDS.
- Blacks with diabetes in Prince George's County have a higher rate of hospitalization than whites and much higher mortality rates than surrounding areas
- Prince George's County had higher hospitalization and mortality rates than surrounding areas. Prince George's County had the highest rate of hospitalized ischemic heart disease cases and stroke, and the highest population-adjusted death rate due to heart disease as of 2005 in the tri-county region. However, across all racial and ethnic groups, Prince George's County had the highest hypertension hospitalization rate in the tri-county area.

Study 4: Maryland Physician Workforce Study (2008)

The Maryland Hospital Association and the Maryland State Medical Society (MedChi) commissioned a study in 2008 on the physician workforce in Maryland (Boucher & Associates, 2008) to support the formulation of policy recommendations for assuring that Maryland residents have appropriate access to physician care. Data were collected through a survey of residents, fellows, primary care physicians, and specialists; and interviews with key stakeholders in the Maryland health care system (e.g., medical directors, residency program directors). Using state physician license data, Boucher & Associates modeled the impact of physician retirements, residents' likelihood of staying

²⁸ This figure was taken from 2007 Maryland AIDS Administration data.

in Maryland, economic expansion, physician productivity changes, and changes in medical management on physician requirements. Findings include:

- In comparison with national benchmarks, physician shortages were found across the state of Maryland. Shortages were most severe in the southern and western regions of the state and least severe in the central region and national capital area, which includes Prince George's and Montgomery Counties.
- Overall, physicians in Maryland spend 16 percent less time providing direct patient care than the national average (e.g., if physicians spent an average of eight hours a day on direct patient care, nationally, physicians in Maryland would only spend six and half hours a day).
- By 2015, physician shortages are expected to worsen. Improvements to medical management have been found to reduce utilization of physician services; however, changes in medical management will not be enough to address physician shortages, and it is projected they will continue to exist in three out of five state regions, including the southern region of the state, regardless of improvements to management.
- The study attributes the shortage of physicians and residents to the large number of physicians approaching retirement, slow growth in medical education programs, poor retention of Maryland trained residents, rising malpractice costs, and increased demand for health care in growing counties.
- Over 50 percent of the current full-time physician workforce is age 55 or older; this percentage is higher for surgical specialties. The serious shortage of physicians across the state may also be further compounded by the low compensation of Maryland physicians.

Based on these findings, the Maryland Hospital Association warns that residents of these affected counties are waiting longer for appointments, turning to emergency rooms for care, and being diverted to more distant hospitals for adequate specialist care (Maryland Hospital Association, 2008).

Study 5: RAND Assessment of Health Needs and Health Care in the District of Columbia (2008)

The District of Columbia received \$200 million in tobacco settlement funds and is investing these funds to improve their health care delivery system. RAND was selected to conduct a comprehensive health needs and health care services assessment for the District to help inform the distribution of these funds (Lurie et al., 2008). The assessment, completed in January 2008, used existing survey data from the BRFSS and the National Survey of Children's Health; and administrative data (e.g., claims data, inpatient and discharge data, cancer registry, health professional licensing administration, dispatch data). Key informant interviews were also conducted with emergency services stakeholders and hospital leadership. Findings demonstrate the interdependency of the health care system in the national capital area and include

- In 2006, 45 percent of inpatient discharges from hospitals in the District were Maryland residents.
- In 2006, 16 percent of discharges from EDs in the District were Prince George's County residents.
- Two percent of all ED discharges were from Prince George's County residents without health insurance.
- Six percent of ED discharges from Prince George's Hospital Center came from District residents.
- At Greater Southeast Hospital, 1.3 percent of inpatient discharges were from Prince George's County residents without health insurance.
- Overall, less than 1 percent of inpatient discharges from District residents were from Prince George's County residents without insurance.

The report concluded that the closure of hospitals in the District or Prince George's County (i.e., Greater Southeast Community Hospital or Prince George's Hospital Center) would have a substantial impact on surrounding hospitals. Interviews with several key stakeholders (e.g., hospital directors, emergency room or nursing chairpersons) revealed that their hospitals saw large increases in ED volume and changes in the payer mix of their patients following the closure of the District of Columbia General Hospital.

Appendix 3: Detailed Method Descriptions for Selected Chapters

Methods for Chapter 3: Health Status

Self-Reported Health

Survey-based measures of self-reported health status are commonly used to assess population health status and to predict mortality (McGee et al., 1999, Benyamini and Idler). Self-reported health indicators are available from the combined 2005–2006 BRFSS and the combined 2002–2004 NSDUH. Neither survey has a large enough sample to generate subcounty estimates. Thus, in order to understand the potential magnitude of variation in health status within Prince George’s County, we analyzed the relationships between health status of County residents and measures of sociodemographic characteristics that are frequently associated with health (Fuhrer et al., 2002). It should be noted that, although we use the term *residents* in this chapter and throughout, statistics from these survey reflect a sample of respondents, who are fairly representative of the larger population of residents. We use BRFSS categories of disease to define any chronic condition as any of the following conditions: heart disease, hypertension, cerebrovascular disease, diabetes, or asthma.

Cancer Incidence and Mortality

We discuss site-specific, county-level cancer incidence and mortality data from 1999–2000 extracted from the 2006 Maryland Cigarette Restitution Fund Cancer Report (CRF) (Maryland Department of Health and Mental Hygiene, 2007). The CRF Report provides mortality rates for combined years 1999–2002 and incidence rates for 1998–2002. The data cover residents of all ages, with mortality rates that are age-adjusted to the 2000 U.S. population. Maryland mandates the reporting of all new cancers detected by hospitals, radiation therapy centers, and diagnostic laboratories licensed in the State to the Maryland Cancer Registry. Cancer deaths are recorded in vital statistics data. The Maryland Department of Health and Hygiene uses tobacco settlement funds to collect, analyze, interpret and disseminate cancer data from these sources (Maryland Department of Health and Mental Hygiene, 2007, Maryland Department of Health and Mental Hygiene Vital Statistics Administration, 2002).

Methods for Chapter 8: Hospital Quality

Outcome-of-Care Measures

One key outcome-of-care measure indicates whether a hospital is providing quality hospital care to prevent mortality in Medicare patients. Risk-adjusted mortality rates measure the proportion of patients who died within 30 days of being admitted to the hospital for the treatment of heart attack, heart failure, or pneumonia, adjusting for how sick they were at admission.²⁹ The 30 days following admission is the time period in which patient death is most likely attributable to the quality of hospital care received. Mortality data are compiled by CMS from Medicare claim and enrollment data for patients in fee-for-service Medicare. Hospital Compare presents data for 30-day mortality risk as better than (lower), worse than (higher), or equal to the U.S. average.

Process-of-Care Measures

Process-of-care measures we used to indicate how often hospitals provide recommended care to patients being treated for four categories of conditions: heart attack, heart failure, pneumonia, and surgical infection prevention. Data originate from the medical records of adult patients who have received care for the aforementioned conditions. Unlike the outcome-of-care measures, reporting is not dependent on patients' Medicare enrollment status (U.S. Department of Health and Human Services, 2008c). Hospitals voluntarily submit data on recommended care measures identified by the Health Quality Alliance. Therefore, not all hospitals report on all measures. For hospitals that did report, data are presented as the proportion of patient experiences that met the recommended care measure of interest, along with the sample size reporting. Using the sample size and reported proportion, we calculated the 95 percent confidence interval around each measure and determined whether each hospital performed worse than (lower), better than (higher), or equal to both the U.S. and Maryland averages. We did not include performance data for hospitals reporting to CMS with a sample size of less than 25. If three or more of Prince George's five hospitals had missing data for any one measure, we excluded the measure from the final tables.

Patient-Reported Experience-of-Care Measures

These data were collected through the Hospital Consumer Assessment of Healthcare Providers and Systems Survey on adults age 18 or older at admission. The HCAHPS Survey is a standardized survey in which randomly selected patients report on their experiences with hospital care. To be eligible for random selection, the patient must be 18 years of age at admission, be alive at discharge, and have spent at least one night in the

²⁹ Mortality data are compiled by CMS from Medicare claim and enrollment data for patients in fee-for-service Medicare. Therefore, they do not reflect patients enrolled in Medicare managed care plans (i.e., Medicare Advantage) or those not enrolled in Medicare

hospital. Exclusion criteria include a psychiatric diagnosis, discharge to hospice/home care, and a foreign address. The survey is generally conducted 1–6 weeks following discharge, and the goal is for each hospital to survey at least 300 patients annually. Hospitals can choose to have the survey conducted by mail and/or telephone, or by interactive voice recognition. Questions ask about a variety of domains, including patients' perceptions of staff friendliness, cleanliness of their room and bathroom, and effectiveness of pain management during their stay (U.S. Department of Health and Human Services, 2008b). Hospital Compare does not report the sample size used in deriving patient experience data. Instead, hospitals must provide CMS with at least 300 completed patient surveys. In the absence of sample size data, we report whether reported performance on each measure exceeds or is within five percentage points above or below the U.S. and Maryland averages.

Methods for Chapter 9: Ambulatory Care–Sensitive Hospitalizations and Emergency Department Visits

Ambulatory Care–Sensitive Inpatient Hospital Admissions

A large body of evidence suggests that ambulatory care–sensitive hospital and ED admissions (ACS-IPs and ACS-EDs) are a reflection of access to, and quality of, care. Standard, well-validated methods exist for classifying preventable inpatient discharge diagnoses (Billings et al., 2000). These methods were first established by the U.S. Agency for Healthcare Research and Quality and are used by several states to monitor the progress of their health care system. Examples of preventable inpatient admissions include diagnoses of asthma, dehydration, chronic obstructive pulmonary disease, congestive heart failure, hypertension, angina, diabetes, and hypoglycemia, among others.

Ambulatory Care–Sensitive Emergency Department Visits

As is the case with ACS-IPs, algorithms are used to classify ACS-EDs depending on whether they are (1) non-emergent (i.e., did not require immediate medical care), (2) emergent/primary care treatable (needed medical care urgently but such care could have been provided in a primary care setting), (3) emergent but preventable (the need for such visits could have been prevented if effective primary care had been available), and (4) emergent not preventable (Billings et al., 2000). The first three categories of visits are often used as markers for the effectiveness of the primary care system. For example, those conditions that are emergent but preventable, if treated early and effectively in the primary care setting, should rarely become serious enough to require hospitalization. Examples of such visits are those related to many of the chronic diseases, such as asthma,

chronic obstructive pulmonary disease, congestive heart failure, and diabetes, among others.

Two points are noteworthy. First, in contrast to the algorithm for ACS-IPs, the algorithm for ED use takes each diagnosis code and assigns it a probability that the visit was in one of the four categories listed above. Second, we only consider those preventable ED visits that did not result in a hospital admission. We do not consider whether the ED visits associated with the inpatient admissions were potentially avoidable. Thus, the calculated ACS-ED rates are likely lower than they would be if all preventable ED visits were included.

Hospital Use Data

Data used to identify ACS-IPs and ACS-EDs come from hospital utilization information routinely reported to the Maryland Health Services Cost Review Commission and the District of Columbia Hospital Association (DCHA). Data are available from both sources between 2000 and 2006 for inpatient admissions and between 2004 and 2006 for ACS-EDs. Data on ACS-EDs are not available prior to 2004. In 2005 and 2006, we obtained data on ACS-EDs for the District directly from Children’s National Medical Center and Greater Southeast Community Hospital, as they did not submit those data to DCHA.

Population Data

In constructing ACS-IP and ACS-ED rates, we divide the number of admissions or visits (derived from HSCRC and DCHA data) by the number of individuals in the appropriate population. For example, the County ACS-IP rate for children would be the number of inpatient admissions among children divided by the number of children in Prince George’s County. To determine population denominators at the county level, we use 2000–2006 population data from the County Characteristics Resident Population Estimates File (U.S. Census Population Division).

For subcounty (PUMA) populations, there are no reliable data on the population level between 2000 and 2006. Thus, we linearly interpolate population values from 2000 Census data and 2006 ACSY data between the two years to obtain yearly annual estimates of population denominators.

Appendix 4: Measures of Physician Capacity

Measures of the physician workforce used to calculate the number of physicians per capita in Chapter 7 came from two sources. Data we used to describe the distribution of physicians within Prince George's County come primarily from licensing data. Data we used to describe the distribution of physicians across jurisdictions come from the Area Resource File (ARF). Below we describe each source and compare measures of the number of physicians obtained from each.

Licensing Data Maryland Physician Workforce Study

RAND obtained information about the number of physicians practicing in Prince George's County from Boucher & Associates, a consulting firm that recently conducted a quantitative analysis of the physician workforce in Maryland on behalf of the Maryland Hospital Association and the Maryland State Medical Society. Data for the workforce study came from the Maryland Board of Physicians licensing database from May 2005 to May 2007. Physicians are assumed to work in Prince George's County if the primary office location provided in their licensing application was located within Prince George's County. Boucher & Associates contacted Medical Directors of each Maryland hospital to confirm that physicians in the database were in active practice, to obtain missing specialty information, to confirm FTE status for employed physicians, and to identify the percentage of physicians' time devoted to non-clinical activities, such as teaching, research, and administration.

Boucher & Associates provided two types of measures of the number of physicians practicing within Prince George's County.

1. **Counts of Practicing Physicians.** Counts include all private and Veterans Affairs physicians that maintained a clinical practice (i.e., saw at least one patient during the past 12 months) and had their principal office located in Prince George's County. Counts exclude military physicians, physicians working for the federal government, inactive physicians, and physicians who had their principal office location out of the County.
2. **Clinical FTEs.** Adjustments were made to physician counts to account for physicians who work part time and for the percentage of time that physicians spend in research, teaching, and administrative duties, based on information obtained from medical directors.

Area Resource File

The ARF is a database maintained by the U.S. Health Resources and Services Administration containing county-level information on health facilities, health professions, resource scarcity, health status, economic activity, health training programs, and socioeconomic and environmental characteristics. Physician workforce information in the ARF comes from the American Medical Association (AMA) Physician Masterfile. The AMA describes the Physician Master File on its Web site as follows:

The AMA Physician Masterfile includes current and historical data on all physicians, including AMA members and nonmembers, and graduates of foreign medical schools who reside in the United States and who have met the educational and credentialing requirements necessary for recognition as physicians. Data on international medical graduates (IMGs), comprising graduates of foreign medical schools residing in the United States, are included in the AMA Physician Masterfile when IMGs enter residency programs accredited by the Accreditation Council on Graduate Medical Education (ACGME). The AMA Physician Masterfile also includes data on IMGs who are licensed to practice medicine but who have not entered ACGME-accredited programs and on physicians licensed to practice medicine in the United States but who are temporarily located abroad.

An AMA Physician Masterfile record is established when individuals enter medical schools accredited by the Liaison Committee on Medical Education (LCME), or in the case of international medical graduates, upon entry into ACGME-accredited programs. Each AMA Physician Masterfile record includes the physician's name, medical school and year of graduation, gender, birthplace, and birthdate. Additional data (residency training, state licensure, board certification, geographical location and address, type of practice, present employment, and practice specialty) are added from primary data sources or from surveying the physicians directly as the physicians' training and career develop.

Physician records are never removed from the AMA Physician Masterfile, even in the case of a physician's death. The AMA maintains information on more than 130,000 deceased physicians. These data are shared with other organizations and agencies who credential physicians and are used to identify individuals who attempt to fraudulently assume the credentials of deceased physicians. (Survey and Data Resources, 2008)

Comparing Sources of Physician Workforce Data

Table A4.2 below compares the number of physicians practicing in Prince George's County from each of the two sources. Differences in the number of physicians derived from each source can arise for a number of reasons, including:

- The inclusion of inactive physicians in the AMA Master File.
- Differences in the primary practice location listed on licensing applications and preferred mailing addresses contained in the master file. For example, physicians licensed and practicing in Prince George's County may use a mailing address in another jurisdiction.
- Differences in the way that specialty data are recorded in the two sources.

ZIP Code–Level Population Estimates

To calculate FTE physicians per capita, we obtained ZIP code–level licensing data from May 2005–May 2007 collected by the Maryland Board of Physicians. However, we did not have concurrent denominator population estimates at the ZIP code level to calculate per capita rates. Population estimates from the ACSY are only available at the PUMA level and not the ZIP code level. ZIP code and PUMA boundaries do not overlap in a way that facilitates the estimation of ZIP code–level population (see Figure 2.2). For this reason, we use population estimates from the 2000 Decennial Census available at the ZIP Code Tabulation Area (ZCTA) area as a proxy for the number of residents within each ZIP code area in 2007.

The calculations of 2007 physician capita rates using 2000 population data are likely to be influenced by population shifts that have taken place between 2000 and 2007. In particular, population growth was larger in the outer-Beltway regions, and population decreases were larger in the inner-Beltway regions, from 2000 to 2006 (see Figure 2.4). To measure how sensitive our per capita FTE physician rates are to the use of 2000 population data, we first generated estimates using the 2000 ZIP code–level data. We present geographical maps of physician supply rates across Prince George’s County ZIP code areas by grouping these rates into categories using the Jenks’ Natural Break method (Jenks and FC, 1971), (Jenks, 1977), which identifies data categories with a similar number of observations using a five-level ordinal measure of the per capita physician supply for each ZIP code. Cutoff values differed across physician specialty groups. We then used the range of PUMA-level population changes between 2000 and 2006 to generate the full range of plausible ZIP code–level rates in 2006. Finally, we determined whether a ZIP code region would have switched categories had it experienced the maximum PUMA population growth or loss rate observed during this time period. Based on this sensitivity analysis, we conclude that most estimates using the 2000 ZIP code–level population data are robust to possible population changes.

Subspecialist Physician Workforce in Prince George’s County

Figure 6.4 in Chapter 6 shows the geographical distribution of physician workforce across the County for all specialists. This appendix provides three figures (A4.1–A4.3) showing geographical distributions of physicians across the County for three subspecialty areas: medical, surgical, and hospital-based specialists. It also provides a table (A4.1) comparing physician workforce measures based on the Area Resource File and the Maryland Workforce Study.

Figure A4.1 Medical Specialists per 1,000 Prince George's County Residents by ZIP Code, 2007

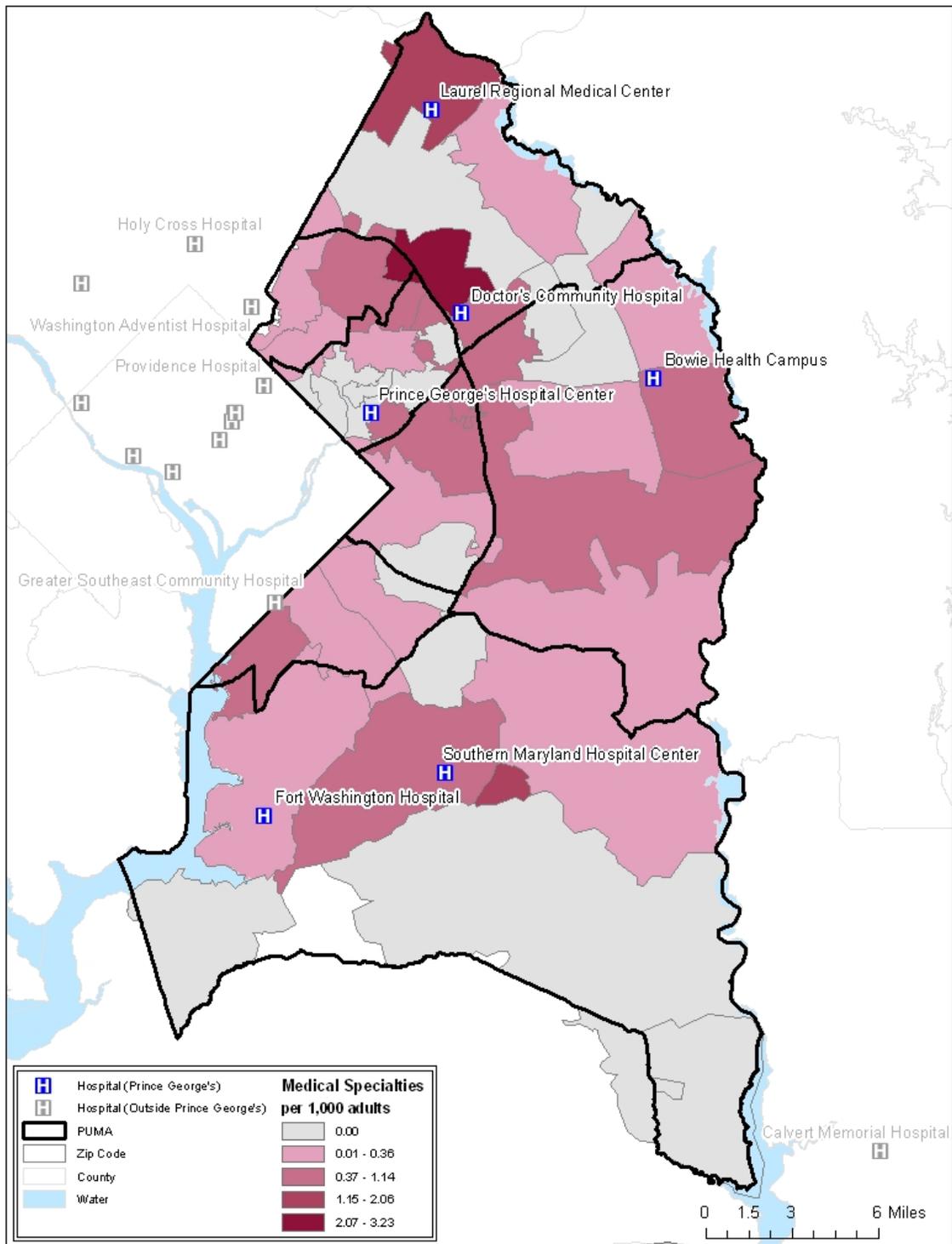


Figure A4.2 Surgical Specialists per 1,000 Prince George's County Residents by ZIP Code, 2007

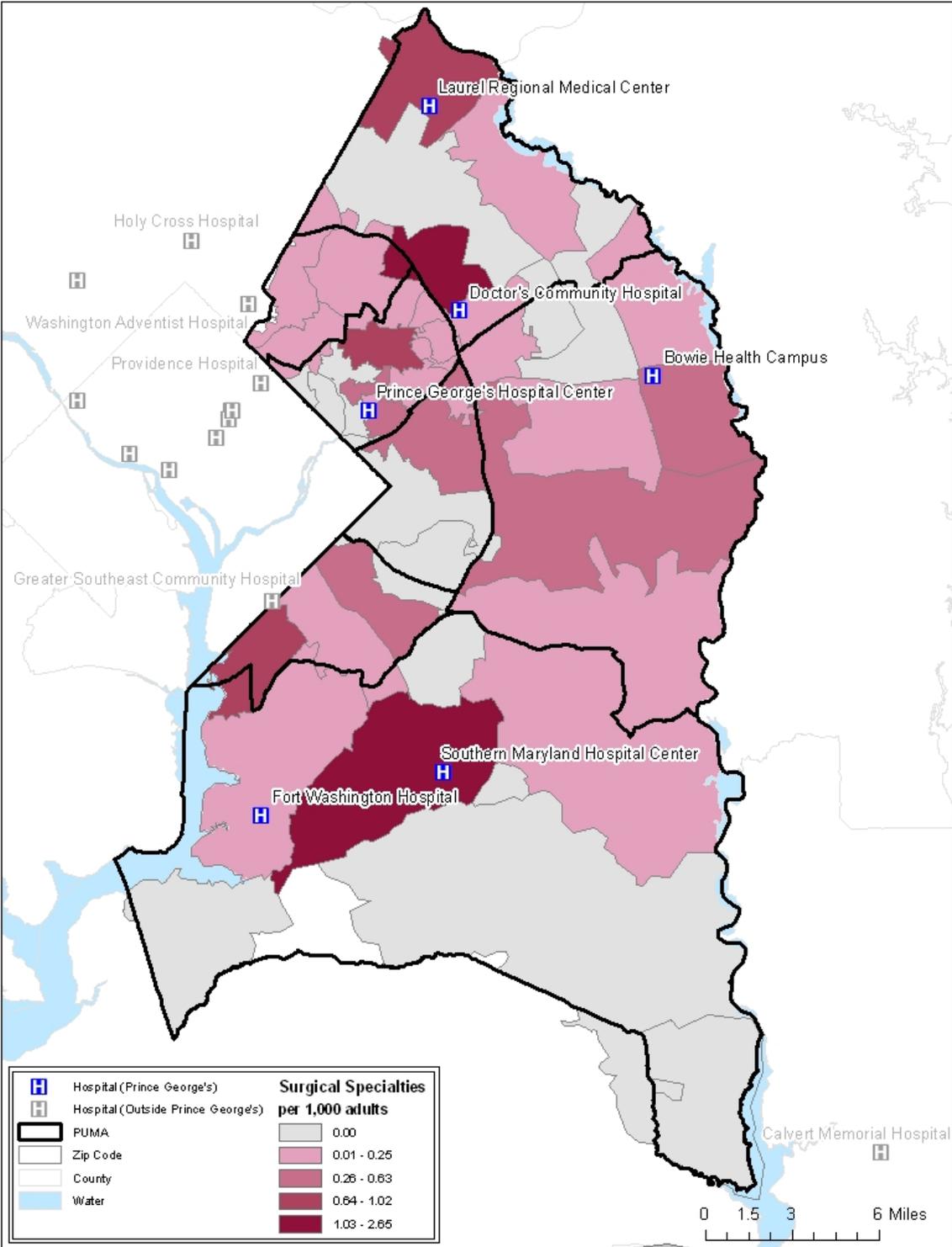


Figure A4.3 Hospital-Based Specialists per 1,000 Prince George's County Residents by ZIP Code, 2007

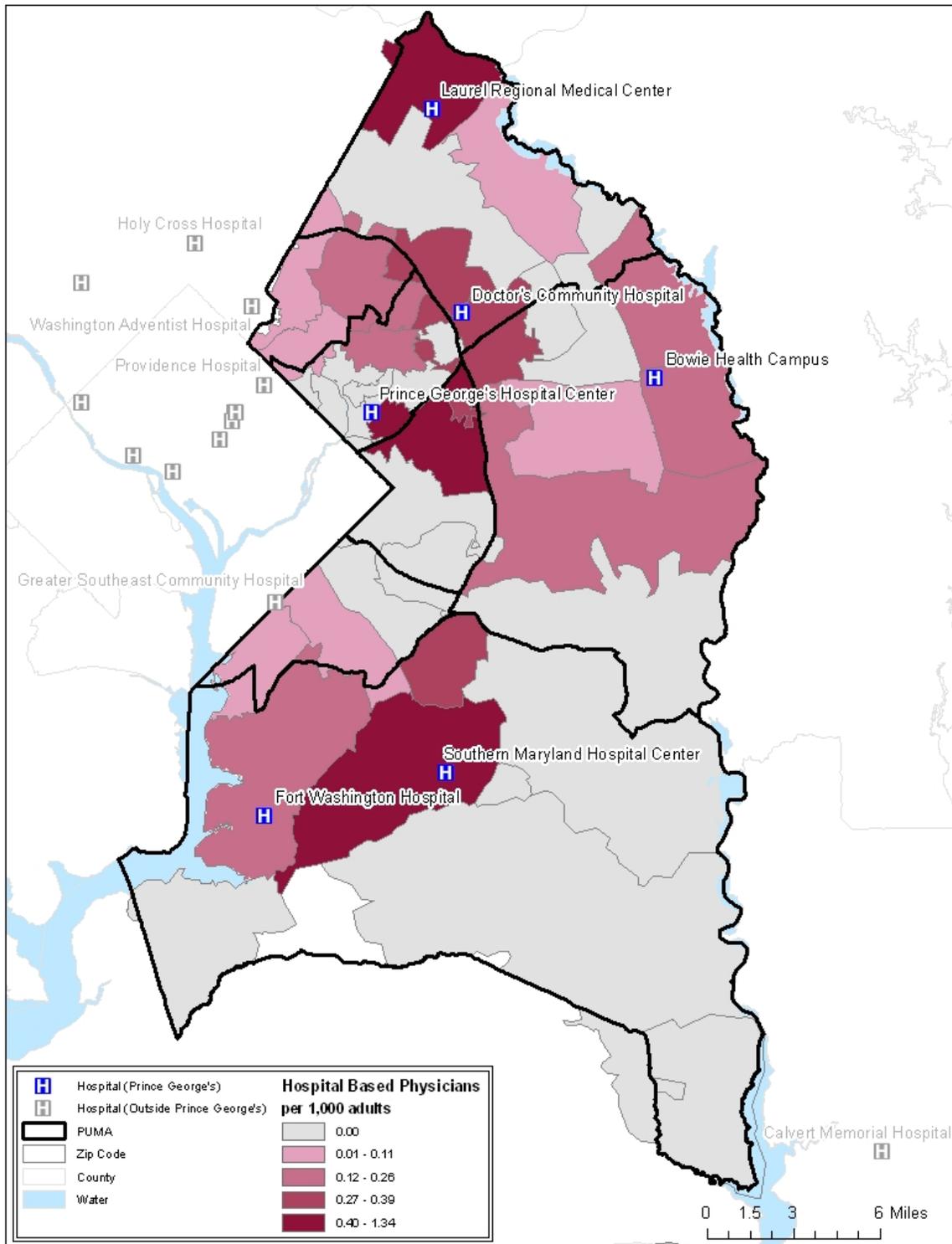


Table A4.1 Prince George's County Physician Workforce Measured in the Area Resource File and the Maryland Physician Workforce Study

Specialty	2005 ARF	MD Physician Workforce Study	
		Counts	FTEs
Primary Care			
Family Med+	140	123	96
General Internal Medicine	311	217	181
Pediatrics	142	130	102
Medical Specialties			
Allergy and Immunology	11	6	4.8
Cardiovascular Disease	49	90	76.8
Dermatology	26	11	7.6
Gastroenterology	24	39	31.6
Pulmonary Disease	13	15	14.5
Psychiatry	53	53	42.5
Neurology	18	19	15.8
Surgical Specialties			
General	72	48	34.9
Neurological	9	11	9
Ophthalmology	27	45	31.9
Orthopedic	55	66	53.3
Otolaryngology	13	16	12.4
Plastic	9	6	5.7
Thoracic	6	10	9.1
Urology	24	30	21.6
Hospital-based			
Diagnostic Radiology	20	49	39.8
Emergency Medicine	59	78	66.9
Anesthesiology	44	44	39.5
Pathology, Anatomical/Clinical	22	17	11.8
Radiation Oncology	8	7	6.0
Physical Medicine/Rehabilitation	13	5	4.8

SOURCE: Area Resource File 2005 <http://www.arfsys.com/> derived from the American Medical Association Master File <http://www.ama-assn.org/ama/pub/category/2673.html>.

Appendix 5: Trends in Hospital and Emergency Department Capacity

Table A5.1 provides the percentage change in acute care hospital bed capacity between 2001 and 2007, compared with population changes. Table A5.2 provides the percentage change in ED treatment spaces between 2004 and 2006, compared with population changes.

Table A5.1 Change in Total Population, Total Licensed Acute Care Hospital Beds, and Total Licensed Acute Care Hospital Beds per Capita, by Jurisdiction, Between 2001 and 2007

Jurisdiction	Total Population ^a			Total Acute Beds ^b			Total Acute Beds per 100,000 Residents ^{a,b}		
	2001	2007	% Chg	2001	2007	% Chg	2001	2007	% Chg
Prince George's County	804,896	844,864	5.0	808	849	5.1	100.4	100.5	0.1
Montgomery County	878,297	937,421	6.7	1294	1288	-0.5	147.3	137.4	-6.7
Howard County	249,888	274,702	9.9	167	208	24.6	66.8	75.7	13.3
Anne Arundel County	491,309	510,716	3.9	468	551	17.7	95.3	107.9	13.3
Baltimore County	757,110	790,326	4.4	1086	1233	13.5	143.4	156.0	8.8
Maryland State	5,323,480	5,644,348	6.0	9562	10426	9.0	179.6	184.7	2.8

SOURCE: ^aAuthor's calculation based on data from the 2000 US Census and 2006 American Communities Survey; ^bMaryland Health Care Commission, 2007, Annual Report on Acute Care Hospital Services and Licensed Bed Capacity.

http://mhcc.maryland.gov/hospital_services/acute/acutecarehospital/annrptlicbedsfy07.pdf.

NOTES: Acute care beds provide medical, surgical, addiction, gynecology, obstetric, pediatric, and psychiatric care. The number of bed licensed by the state of Maryland is based on an algorithm that assumes hospitals operate at an annual occupancy rate of 71.4 percent.

Table A5.2 Change in Total Population, Total Emergency Room Treatment Spaces, and Total Emergency Room Treatment Spaces per Capita, by Jurisdiction, Between 2004 and 2006

Jurisdiction	Total Population ^a			Total Emergency Room Treatment Spaces ^b			Total Emergency Room Treatment Spaces per 100,000 Residents ^{a,b}		
	2004	2006	% Chg	2004	2006	% Chg	2004	2006	% Chg
Prince George's County w/ BHC	834,262	841,315	0.8	165	171	3.6	19.8	20.3	2.8
Prince George's County w/o BHC				142	150	5.6	17.0	17.8	4.7
Montgomery County	921,641	932,131	1.1	174	199	14.4	18.9	21.3	13.1
Howard County	268,008	272,452	1.7	64	61	-4.7	23.9	22.4	-6.2
Anne Arundel County	505,586	509,000	0.7	86	104	20.9	17.0	20.4	20.1
Baltimore County	781,533	787,384	0.7	189	218	15.3	24.2	27.7	14.5
Maryland State	5,558,920	5,615,727	1.0	1583	1703	7.6	28.5	30.3	6.5

SOURCE: ^aAuthor's calculation based on data from the 2006 American Communities Survey.

^bMaryland Health Care Commission, 2007,

http://mhcc.maryland.gov/hospital_services/acute/acutecarehospital/annrptlicbedsfy07.pdf

Appendix 6: Hospital Quality Figures

Process of Care. Tables A6.1 through A6.8 describe the process-of-care performance measures in Prince George’s County and surrounding jurisdictions. Green indicates better than average performance, red indicates worse than average performance, and white indicates equivalent average performance of all hospitals in Maryland and the United States in caring for heart attacks, heart failure, surgery patients, and pneumonia patients. The findings from these tables show that:

- Unlike hospitals in other jurisdictions, no hospitals in Prince George’s County performed above the Maryland or U.S. average on all measures contained in the four process measure sets reported by Hospital Compare.
- Two hospitals in the District of Columbia (Greater Southeast Community Hospital and Providence Hospital) performed worse than the Maryland average on all indicators measuring the quality of care for heart failure patients.
- Greater Southeast Community Hospital and Providence Hospital in the District also performed worse on nearly all indicators measuring pneumonia process of care.
- At the same time, all hospitals in Prince George’s County performed below the Maryland average on the delivery of beta blockers to hospital patients at discharge. No jurisdiction other than Prince George’s County had all of its hospitals perform below average on a single performance indicator.
- Hospitals in Prince George’s County and the District of Columbia performed above the Maryland and U.S. averages on reported quality indicators less often than hospitals in surrounding Maryland counties.
- Hospitals in Prince George’s County and the District of Columbia performed below the Maryland and U.S. averages on reported quality indicators more often than hospitals in surrounding Maryland counties.

Patient-Reported Experience of Care. Tables A6.9 and A6.10 display patient-reported experience of care in Prince George’s County and surrounding jurisdictions. These tables also use shading to indicate the proportion of patients responding to each of the experience measures for each hospital in Prince George’s County and surrounding jurisdictions as being statistically, better than (green), worse than (red), or equivalent to (white) the average responses for patients in Maryland and the United States. Overall, the tables show that:

- Patients of hospitals in Prince George’s County and surrounding jurisdictions were relatively dissatisfied with hospital care compared with average ratings reported by patients in U.S. and Maryland hospitals.
- In Prince George’s County, Doctor’s Community Hospital was the only hospital to report lower (worse) patient satisfaction across all patient experience measure except one measure, in comparison with the U.S. and Maryland averages.

- In the District of Columbia, Greater Southeast Community Hospital, Howard University Hospital, and Providence Hospital reported lower (worse) patient satisfaction across all patient experience measure except one measure, in comparison with the U.S. and Maryland averages.

Table A6.1 Heart Attack Process Care Measures: Percentage of patients who received indicated treatment after heart attack admittance, relative to the national average.

	Aspirin at Arrival	Aspirin at Discharge	Beta Blocker at Arrival	Beta Blocker at Discharge
National average (%)	93	90	88	91
Prince George's County				
Doctor's Community Hospital	●	○	○	○
Fort Washington Hospital	-	-	-	-
Laurel Regional Medical Center	○	-	○	-
Prince Georges Hospital Center	○	○	○	●
Southern Maryland Hospital Center	●	○	●	○
Montgomery County				
Holy Cross Hospital	○	○	○	○
Montgomery General Hospital Inc	○	○	●	●
Shady Grove Adventist Hospital	●	●	●	●
Suburban Hospital Association	●	●	●	●
Washington Adventist Hospital	●	●	○	●
District Of Columbia				
George Washington University Hospital	●	○	●	○
Georgetown University Hospital	-	-	-	-
Greater Southeast Community Hospital	-	-	-	-
Howard University Hospital	○	●	●	●
Providence Hospital	●	○	○	○
Sibley Memorial Hospital	○	○	○	○
Washington Hospital Center	●	●	○	●
Anne Arundel County				
Anne Arundel Medical Center	●	●	●	●
Baltimore Washington Medical Center	●	●	●	●
Baltimore County				
Franklin Square Hospital Center	●	●	●	●
Greater Baltimore Medical Center	-	-	-	-
Northwest Hospital Center	○	○	○	○
Saint Joseph Medical Center	●	●	○	●
Howard County				
Howard County General Hospital	●	●	●	○
SOURCE: Hospital Compare Website www.hospitalcompare.hhs.gov				
NOTE: ● Indicates hospital mean is statistically higher than the national average.				
● Indicates hospital mean is statistically less than the national average.				
○ Indicates hospital mean is statistically equivalent to the national average.				
- No data available, sample size too small to report.				

Table A6.2 Heart Attack Process Care Measures: Percentage of patients who received indicated treatment after heart attack admittance, relative to the Maryland average.

	Aspirin at Arrival	Aspirin at Discharge	Beta Blocker at Arrival	Beta Blocker at Discharge
Maryland average (%)	96	95	93	94
Prince George's County				
Doctor's Community Hospital	●	○	○	○
Fort Washington Hospital	-	-	-	-
Laurel Regional Medical Center	○	-	○	-
Prince Georges Hospital Center	●	●	○	●
Southern Maryland Hospital Center	○	●	○	●
Montgomery County				
Holy Cross Hospital	○	○	○	○
Montgomery General Hospital Inc	○	○	○	○
Shady Grove Adventist Hospital	●	○	○	●
Suburban Hospital Association	○	○	●	○
Washington Adventist Hospital	○	○	●	○
District Of Columbia				
George Washington University Hospital	●	●	○	○
Georgetown University Hospital	-	-	-	-
Greater Southeast Community Hospital	-	-	-	-
Howard University Hospital	○	●	○	●
Providence Hospital	○	●	○	○
Sibley Memorial Hospital	○	○	○	○
Washington Hospital Center	●	●	○	●
Anne Arundel County				
Anne Arundel Medical Center	●	●	●	●
Baltimore Washington Medical Center	○	●	●	●
Baltimore County				
Franklin Square Hospital Center	○	○	●	○
Greater Baltimore Medical Center	-	-	-	-
Northwest Hospital Center	○	○	○	○
Saint Joseph Medical Center	●	●	○	●
Howard County				
Howard County General Hospital	○	○	●	○
SOURCE: Hospital Compare Website www.hospitalcompare.hhs.gov NOTE: ● Indicates hospital mean is statistically higher than the Maryland average. ● Indicates hospital mean is statistically less than the Maryland average. ○ Indicates hospital mean is statistically equivalent to the Maryland average. - No data available, sample size too small to report.				

Table A6.3 Heart Failure Process Care Measures: Symbols indicate percentage of patients who received indicated treatment after heart failure admittance, relative to the national average.

	ACE Inhibitor or ARB for Left Ventricular Systolic Dysfunction (LVSD)	Discharge Instructions	Beta Blocker at Arrival	Beta Blocker at Discharge
National average (%)	84	66	86	85
Prince George's County				
Doctor's Community Hospital	○	●	●	●
Fort Washington Hospital	○	●	-	○
Laurel Regional Medical Center	○	○	○	○
Prince Georges Hospital Center	○	●	○	○
Southern Maryland Hospital Center	○	●	●	○
Montgomery County				
Holy Cross Hospital	●	○	●	●
Montgomery General Hospital Inc	○	●	-	○
Shady Grove Adventist Hospital	○	●	●	●
Suburban Hospital Association	○	●	-	○
Washington Adventist Hospital	○	○	○	○
District Of Columbia				
George Washington University Hospital	●	●	●	●
Georgetown University Hospital	○	○	-	●
Greater Southeast Community Hospital	○	○	○	●
Howard University Hospital	●	●	●	●
Providence Hospital	●	●	○	○
Sibley Memorial Hospital	○	●	○	●
Washington Hospital Center	○	●	○	●
Anne Arundel County				
Anne Arundel Medical Center	●	●	●	●
Baltimore Washington Medical Center	●	●	●	●
Baltimore County				
Franklin Square Hospital Center	○	●	●	●
Greater Baltimore Medical Center	●	●	-	●
Northwest Hospital Center	○	○	●	●
Saint Joseph Medical Center	●	●	●	●
Howard County				
Howard County General Hospital	○	●	○	●
SOURCE: Hospital Compare Website www.hospitalcompare.hhs.gov				
NOTE: ● Indicates hospital mean is statistically higher than the national average.				
● Indicates hospital mean is statistically less than the national average.				
○ Indicates hospital mean is statistically equivalent to the national average.				
- No data available, sample size too small to report.				

Table A6.4 Heart Failure Process Care Measures: Symbols indicate percentage of patients who received indicated treatment after heart failure admittance, relative to the Maryland average.

	ACE Inhibitor or ARB for Left Ventricular Systolic Dysfunction (LVSD)	Discharge Instructions	Beta Blocker at Arrival	Beta Blocker at Discharge
Maryland average (%)	88	76	95	93
Prince George's County				
Doctor's Community Hospital	○	○	●	●
Fort Washington Hospital	○	○	-	●
Laurel Regional Medical Center	○	●	○	●
Prince Georges Hospital Center	○	●	●	●
Southern Maryland Hospital Center	○	○	●	●
Montgomery County				
Holy Cross Hospital	●	●	○	○
Montgomery General Hospital Inc	●	●	-	●
Shady Grove Adventist Hospital	○	●	●	●
Suburban Hospital Association	●	●	-	●
Washington Adventist Hospital	○	●	○	●
District Of Columbia				
George Washington University Hospital	●	●	○	○
Georgetown University Hospital	○	●	-	●
Greater Southeast Community Hospital	●	●	●	●
Howard University Hospital	●	●	●	○
Providence Hospital	●	●	●	●
Sibley Memorial Hospital	○	●	-	○
Washington Hospital Center	○	●	●	○
Anne Arundel County				
Anne Arundel Medical Center	●	●	○	●
Baltimore Washington Medical Center	○	●	●	●
Baltimore County				
Franklin Square Hospital Center	●	●	○	○
Greater Baltimore Medical Center	●	●	-	○
Northwest Hospital Center	○	●	○	●
Saint Joseph Medical Center	●	●	●	●
Howard County				
Howard County General Hospital	○	○	○	○
SOURCE: Hospital Compare Website www.hospitalcompare.hhs.gov				
NOTE: ● Indicates hospital mean is statistically higher than the Maryland average.				
● Indicates hospital mean is statistically less than the Maryland average.				
○ Indicates hospital mean is statistically equivalent to the Maryland average.				
- No data available, sample size too small to report.				

Table A6.5 Pneumonia Process Care Measures: Symbols indicate percentage of patients who received indicated treatment after admittance for pneumonia, relative to the national average.

	Assessed and Given Influenza Vaccination	Assessed and Given Pneumococcal Vaccination	Initial Antibiotic(s) within 6 Hours After Arrival	Oxygenation Assessment	Smoking Cessation Advice/Counseling	Most Appropriate Initial Antibiotic(s)	ER Blood Culture Performed Prior to First Dose of Antibiotics
National average (%)	75	75	93	99	84	86	90
Prince George's County							
Doctor's Community Hospital	○	●	○	●	●	○	●
Fort Washington Hospital	●	○	-	●	-	●	○
Laurel Regional Medical Center	●	●	○	●	○	○	●
Prince Georges Hospital Center	●	●	-	●	○	○	●
Southern Maryland Hospital Center	●	●	○	●	●	○	●
Montgomery County							
Holy Cross Hospital	○	○	●	●	○	●	○
Montgomery General Hospital Inc	●	●	○	●	○	○	○
Shady Grove Adventist Hospital	○	○	●	●	-	○	○
Suburban Hospital Association	○	●	○	●	●	○	●
Washington Adventist Hospital	-	●	●	●	-	○	○
District Of Columbia							
George Washington University Hospital	●	○	-	●	●	○	○
Georgetown University Hospital	●	●	-	●	●	○	○
Greater Southeast Community Hospital	●	●	●	○	○	○	●
Howard University Hospital	●	●	●	○	●	●	○
Providence Hospital	●	●	●	●	●	○	●
Sibley Memorial Hospital	●	●	○	●	●	○	●
Washington Hospital Center	○	●	○	●	●	●	●
Anne Arundel County							
Anne Arundel Medical Center	○	○	○	●	●	○	●
Baltimore Washington Medical Center	●	●	●	●	●	●	●
Baltimore County							
Franklin Square Hospital Center	○	○	○	●	●	●	○
Greater Baltimore Medical Center	●	●	○	●	●	●	○
Northwest Hospital Center	●	○	○	●	●	●	○
Saint Joseph Medical Center	○	●	○	●	-	○	●
Howard County							
Howard County General Hospital	○	●	●	●	●	●	●
SOURCE: Hospital Compare Website www.hospitalcompare.hhs.gov							
NOTE: ● Indicates hospital mean is statistically higher than the national average.							
● Indicates hospital mean is statistically less than the national average.							
○ Indicates hospital mean is statistically equivalent to the national average.							
- No data available, sample size too small to report.							

Table A6.6 Pneumonia Process Care Measures: Symbols indicate percentage of patients who received indicated treatment after admittance for pneumonia, relative to the Maryland average.

	Assessed and Given Influenza Vaccination	Assessed and Given Pneumococcal Vaccination	Initial Antibiotic(s) within 6 Hours After Arrival	Oxygenation Assessment	Smoking Cessation Advice/Counseling	Most Appropriate Initial Antibiotic(s)	ER Blood Culture Performed Prior to First Dose of Antibiotics
Maryland average (%)	73	76	93	100	93	89	87
Prince George's County							
Doctor's Community Hospital	○	●	○	○	●	○	●
Fort Washington Hospital	○	○	-	○	-	○	●
Laurel Regional Medical Center	●	●	○	○	○	○	●
Prince Georges Hospital Center	●	●	-	○	○	●	○
Southern Maryland Hospital Center	●	●	○	○	○	○	●
Montgomery County							
Holy Cross Hospital	●	○	○	○	○	●	○
Montgomery General Hospital Inc	●	●	○	○	○	○	●
Shady Grove Adventist Hospital	○	○	○	●	-	○	●
Suburban Hospital Association	○	●	○	○	●	●	○
Washington Adventist Hospital	-	●	○	○	-	○	○
District Of Columbia							
George Washington University Hospital	●	○	-	○	●	○	○
Georgetown University Hospital	●	●	-	○	●	○	○
Greater Southeast Community Hospital	●	●	●	●	●	○	●
Howard University Hospital	●	●	●	○	●	○	○
Providence Hospital	●	●	●	○	●	○	●
Sibley Memorial Hospital	●	●	○	○	●	○	●
Washington Hospital Center	○	●	○	○	○	●	●
Anne Arundel County							
Anne Arundel Medical Center	○	○	○	○	●	○	●
Baltimore Washington Medical Center	●	●	●	○	●	●	●
Baltimore County							
Franklin Square Hospital Center	○	○	○	○	○	○	●
Greater Baltimore Medical Center	●	●	○	○	○	○	○
Northwest Hospital Center	●	○	○	○	○	○	○
Saint Joseph Medical Center	○	●	○	○	-	○	●
Howard County							
Howard County General Hospital	○	●	○	○	○	○	●
SOURCE: Hospital Compare Website www.hospitalcompare.hhs.gov							
NOTE: ● Indicates hospital mean is statistically higher than the Maryland average.							
● Indicates hospital mean is statistically less than the Maryland average.							
○ Indicates hospital mean is statistically equivalent to the Maryland average.							
- No data available, sample size too small to report.							

Table A6.7 Surgery Process Care Measures: Symbols indicate percentage of patients who received indicated treatment after admittance for surgery, relative to the national average.

	Preventative Antibiotic(s) One Hour Before Incision	Appropriate Preventative Antibiotic(s) for Their Surgery	Preventative Antibiotic(s) Stopped Within 24 hours After Surgery
National average (%)	82	90	78
Prince George's County			
Doctor's Community Hospital	○	●	●
Fort Washington Hospital	●	○	●
Laurel Regional Medical Center	●	○	●
Prince Georges Hospital Center	●	●	○
Southern Maryland Hospital Center	●	●	○
Montgomery County			
Holy Cross Hospital	●	●	●
Montgomery General Hospital Inc	●	●	●
Shady Grove Adventist Hospital	○	○	○
Suburban Hospital Association	●	○	○
Washington Adventist Hospital	●	●	●
District Of Columbia			
George Washington University Hospital	●	○	●
Georgetown University Hospital	●	○	●
Greater Southeast Community Hospital	●	○	○
Howard University Hospital	●	○	○
Providence Hospital	●	●	○
Sibley Memorial Hospital	●	●	○
Washington Hospital Center	●	●	●
Anne Arundel County			
Anne Arundel Medical Center	○	●	●
Baltimore Washington Medical Center	●	●	●
Baltimore County			
Franklin Square Hospital Center	●	●	●
Greater Baltimore Medical Center	●	●	●
Northwest Hospital Center	●	●	○
Saint Joseph Medical Center	●	●	●
Howard County			
Howard County General Hospital	○	●	●
<p>SOURCE: Hospital Compare Website www.hospitalcompare.hhs.gov NOTE: ● Indicates hospital mean is statistically higher than the national average. ● Indicates hospital mean is statistically less than the national average. ○ Indicates hospital mean is statistically equivalent to the national average. - No data available, sample size too small to report.</p>			

Table A6.8 Surgery Process Care Measures: Symbols indicate percentage of patients who received indicated treatment after admittance for surgery, relative to the Maryland average.

	Preventative Antibiotic(s) One Hour Before Incision	Appropriate Preventative Antibiotic(s) for Their Surgery	Preventative Antibiotic(s) Stopped Within 24 hours After Surgery
Maryland average (%)	89	92	78
Prince George's County			
Doctor's Community Hospital	●	●	●
Fort Washington Hospital	●	○	●
Laurel Regional Medical Center	○	●	●
Prince Georges Hospital Center	●	○	○
Southern Maryland Hospital Center	○	○	○
Montgomery County			
Holy Cross Hospital	○	○	●
Montgomery General Hospital Inc	●	○	●
Shady Grove Adventist Hospital	○	○	○
Suburban Hospital Association	●	○	○
Washington Adventist Hospital	○	●	●
District Of Columbia			
George Washington University Hospital	○	○	●
Georgetown University Hospital	○	●	●
Greater Southeast Community Hospital	●	○	○
Howard University Hospital	●	○	○
Providence Hospital	●	●	○
Sibley Memorial Hospital	●	●	○
Washington Hospital Center	○	●	●
Anne Arundel County			
Anne Arundel Medical Center	●	●	●
Baltimore Washington Medical Center	●	●	●
Baltimore County			
Franklin Square Hospital Center	●	●	●
Greater Baltimore Medical Center	○	●	●
Northwest Hospital Center	○	○	○
Saint Joseph Medical Center	○	●	●
Howard County			
Howard County General Hospital	●	●	●
SOURCE: Hospital Compare Website www.hospitalcompare.hhs.gov			
NOTE: ● Indicates hospital mean is statistically higher than the Maryland average.			
○ Indicates hospital mean is statistically less than the Maryland average.			
○ Indicates hospital mean is statistically equivalent to the Maryland average.			
- No data available, sample size too small to report.			

Table A6.9 Patient-Reported experiences of Care: Symbols indicate higher percentage of patients who responded positively to the experience measure, relative to the national average.

	Patients gave hospital a 9 out of 10	Doctors always communicated well with patient	Nurses always communicated well with patient	Patients always received help as soon as they wanted	Smoking Cessation Advice/Coounseling	Pain was always well controlled	Area around room was always quiet at night	Room and bathroom always clean	Received information on what to do during recovery	Would definitely recommend hospital
National average (%)	73	79	60	67	58	68	54	79	63	27
Prince George's County										
Doctor's Community Hospital	●	●	●	●	●	●	●	●	●	●
Fort Washington Hospital	○	○	○	○	○	○	●	●	○	○
Laurel Regional Medical Center	●	●	●	●	●	●	●	●	●	●
Prince Georges Hospital Center	●	●	●	○	●	●	○	●	○	●
Southern Maryland Hospital Center	●	●	●	○	●	●	●	●	○	○
Montgomery County										
Holy Cross Hospital	●	○	●	●	●	●	●	●	●	●
Montgomery General Hospital Inc	●	●	●	●	●	●	●	●	●	●
Shady Grove Adventist Hospital	●	○	●	○	●	●	●	●	●	●
Suburban Hospital Association	○	○	●	○	●	●	●	●	●	●
Washington Adventist Hospital	○	○	●	○	●	●	●	●	●	●
District Of Columbia										
George Washington University Hospital	○	○	●	●	●	●	●	●	○	●
Georgetown University Hospital	○	○	○	○	○	○	○	○	○	●
Greater Southeast Community Hospital	●	●	●	●	●	●	●	●	●	●
Howard University Hospital	●	●	●	●	●	●	●	●	●	●
Providence Hospital	●	●	●	●	●	●	●	●	●	●
Sibley Memorial Hospital	○	○	○	●	●	●	●	●	●	●
Washington Hospital Center	○	○	○	○	●	○	○	○	○	○
Anne Arundel County										
Anne Arundel Medical Center	○	○	●	●	○	○	●	○	○	○
Baltimore Washington Medical Center	○	○	○	○	○	○	○	○	●	○
Baltimore County										
Franklin Square Hospital Center	○	○	○	●	●	○	○	○	○	○
Greater Baltimore Medical Center	○	○	○	○	●	●	●	○	○	●
Northwest Hospital Center	○	○	●	○	○	○	○	○	○	●
Saint Joseph Medical Center	●	●	●	●	●	●	●	●	●	●
Howard County										
Howard County General Hospital	○	●	●	●	●	●	●	○	●	●
SOURCE: Hospital Compare Website www.hospitalcompare.hhs.gov										
NOTE: ● Indicates hospital mean is statistically higher than the national average.										
○ Indicates hospital mean is statistically less than the national average.										
○ Indicates hospital mean is statistically equivalent to the national average.										
- No data available, sample size too small to report.										

Table A6.10 Patient-Reported experiences of Care: Symbols indicate higher percentage of patients who responded positively to the experience measure, relative to the Maryland average.

	Patients gave hospital a 9 out of 10	Doctors always communicated well with patient	Nurses always communicated well with patient	Patients always received help as soon as they wanted	Smoking Cessation Advice/Counseling	Pain was always well controlled	Area around room was always quiet at night	Room and bathroom always clean	Received information on what to do during recovery	Would definitely recommend hospital
National average (%)	58	76	70	54	54	64	51	63	77	63
Prince George's County										
Doctor's Community Hospital	●	●	●	●	●	●	●	●	●	○
Fort Washington Hospital	○	○	○	○	○	○	○	○	●	○
Laurel Regional Medical Center	○	○	○	●	●	○	●	○	●	○
Prince Georges Hospital Center	○	○	○	●	●	○	○	○	●	○
Southern Maryland Hospital Center	○	○	○	○	○	○	○	○	●	○
Montgomery County										
Holy Cross Hospital	○	●	●	●	○	●	○	○	○	○
Montgomery General Hospital Inc	●	●	●	●	●	●	●	●	●	○
Shady Grove Adventist Hospital	○	○	●	○	○	●	○	○	●	○
Suburban Hospital Association	○	○	●	○	○	○	○	○	○	○
Washington Adventist Hospital	○	○	○	●	○	○	○	○	●	○
District Of Columbia										
George Washington University Hospital	○	○	●	○	○	○	○	●	○	○
Georgetown University Hospital	○	○	○	○	○	○	○	○	●	○
Greater Southeast Community Hospital	●	●	●	●	●	●	●	●	●	○
Howard University Hospital	●	●	●	●	●	●	●	●	●	○
Providence Hospital	●	●	●	●	●	●	●	●	●	○
Sibley Memorial Hospital	○	●	●	●	○	○	○	○	○	○
Washington Hospital Center	○	○	○	○	○	○	●	○	●	○
Anne Arundel County										
Anne Arundel Medical Center	○	○	○	○	●	○	○	○	●	○
Baltimore Washington Medical Center	○	○	○	○	○	○	○	○	○	○
Baltimore County										
Franklin Square Hospital Center	○	○	●	○	○	○	○	○	●	○
Greater Baltimore Medical Center	○	○	○	○	○	○	○	○	●	○
Northwest Hospital Center	○	○	○	○	○	○	○	○	○	○
Saint Joseph Medical Center	●	●	●	●	●	●	●	●	●	○
Howard County										
Howard County General Hospital	○	○	○	○	○	○	○	●	○	○
SOURCE: Hospital Compare Website www.hospitalcompare.hhs.gov										
NOTE: ● Indicates hospital mean is statistically higher than the Maryland average.										
○ Indicates hospital mean is statistically less than the Maryland average.										
○ Indicates hospital mean is statistically equivalent to the Maryland average.										
- No data available, sample size too small to report.										

Appendix 7: Ambulatory Care–Sensitive Hospitalizations and Emergency Department Visits Across Prince George’s County by Age Group

Figures A7.1 through A7. 8 present maps of the number of ACS-IP and ACS-ED discharges across Prince George’s County ZIP codes in four age categories: 0–17, 18–39, 40–64, and 65 and older.

Figure A7.1 Number of Ambulatory Care–Sensitive Hospitalizations of Prince George’s County Children Age 0–17, by ZIP Code, 2006

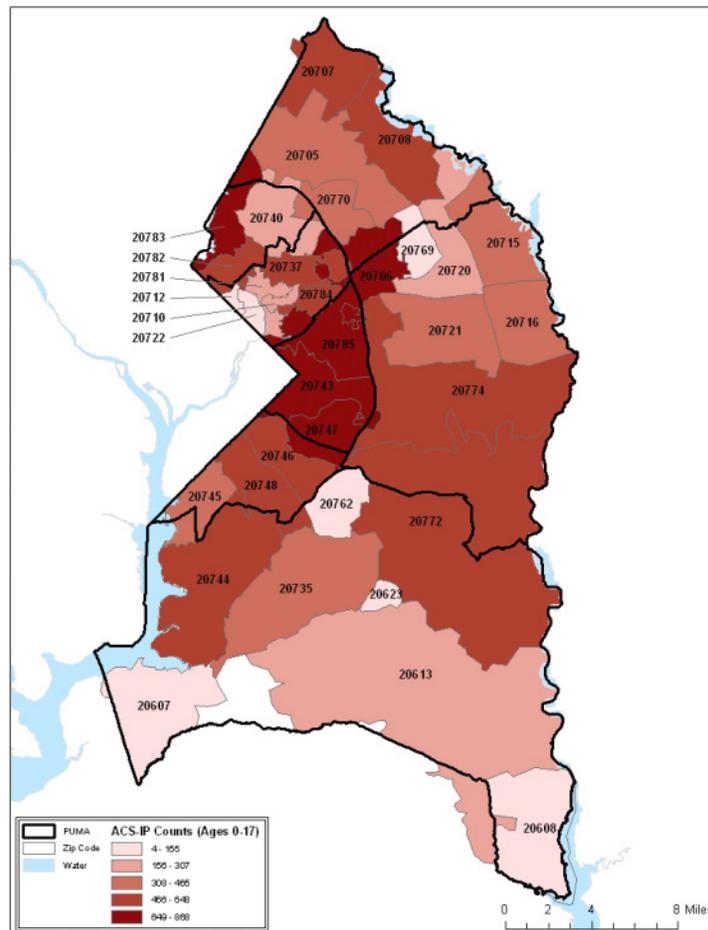


Figure A7.2 Number of Ambulatory Care-Sensitive Hospitalizations of Prince George's County Adults Age 18-39, by ZIP Code, 2006

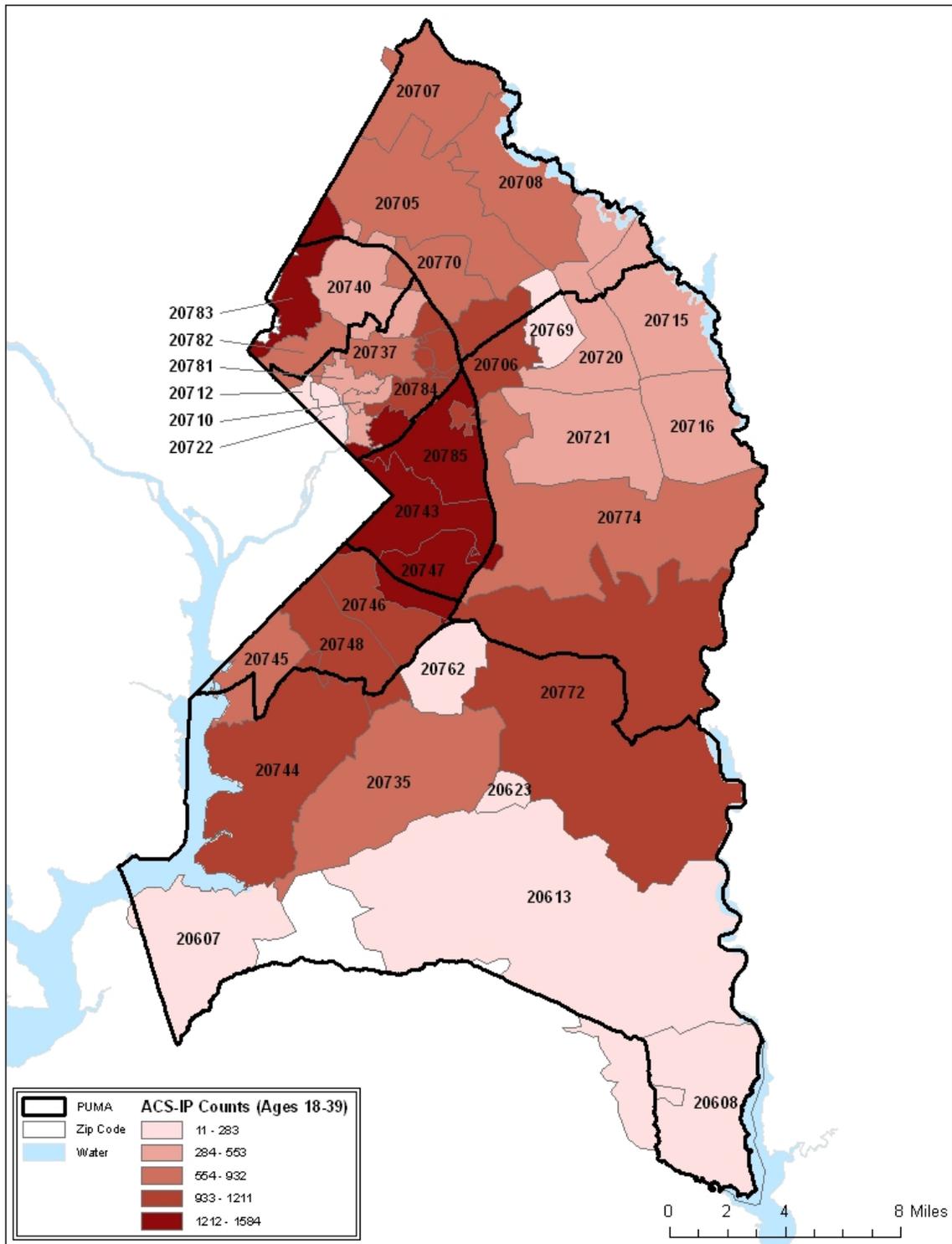


Figure A7.3 Number of Ambulatory Care-Sensitive Hospitalizations of Prince George's County Adults Age 40-64, by ZIP Code, 2006

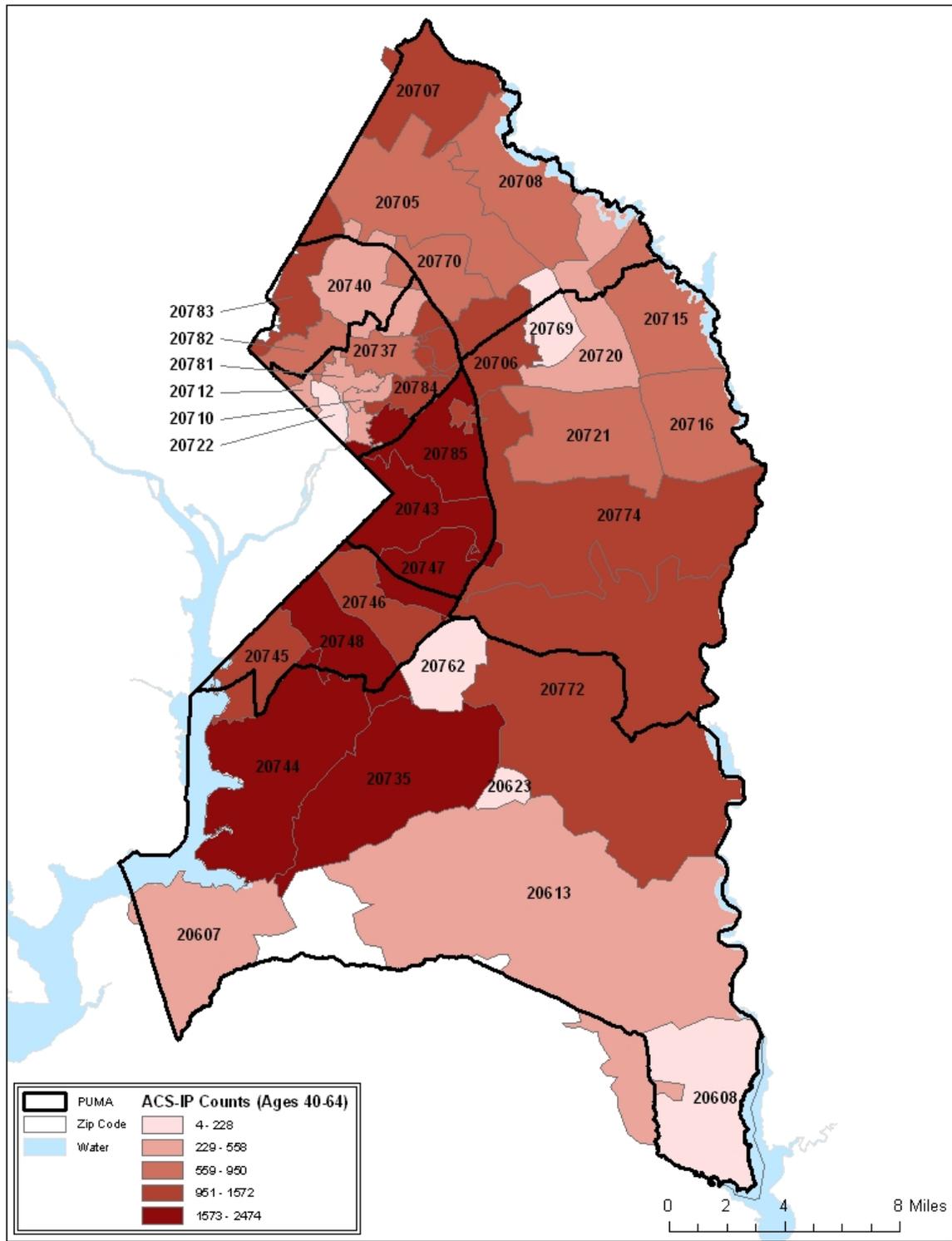


Figure A7.4 Number of Ambulatory Care-Sensitive Hospitalizations of Prince George's County Adults Age 65 and Older, by ZIP Code, 2006

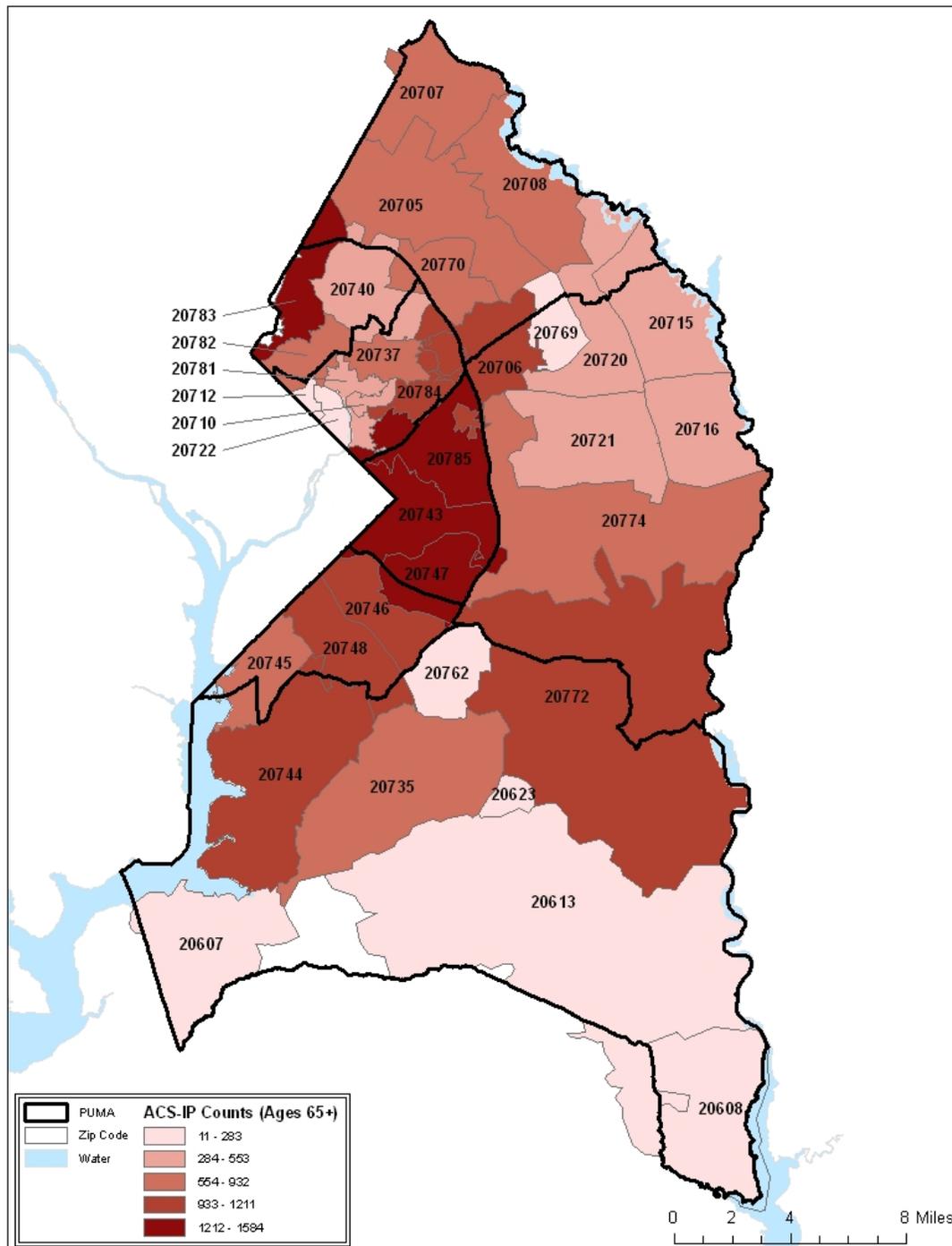


Figure A7.5 Number of Ambulatory Care-Sensitive Emergency Department Visits of Prince George's County Children Age 0-17, by ZIP Code, 2006

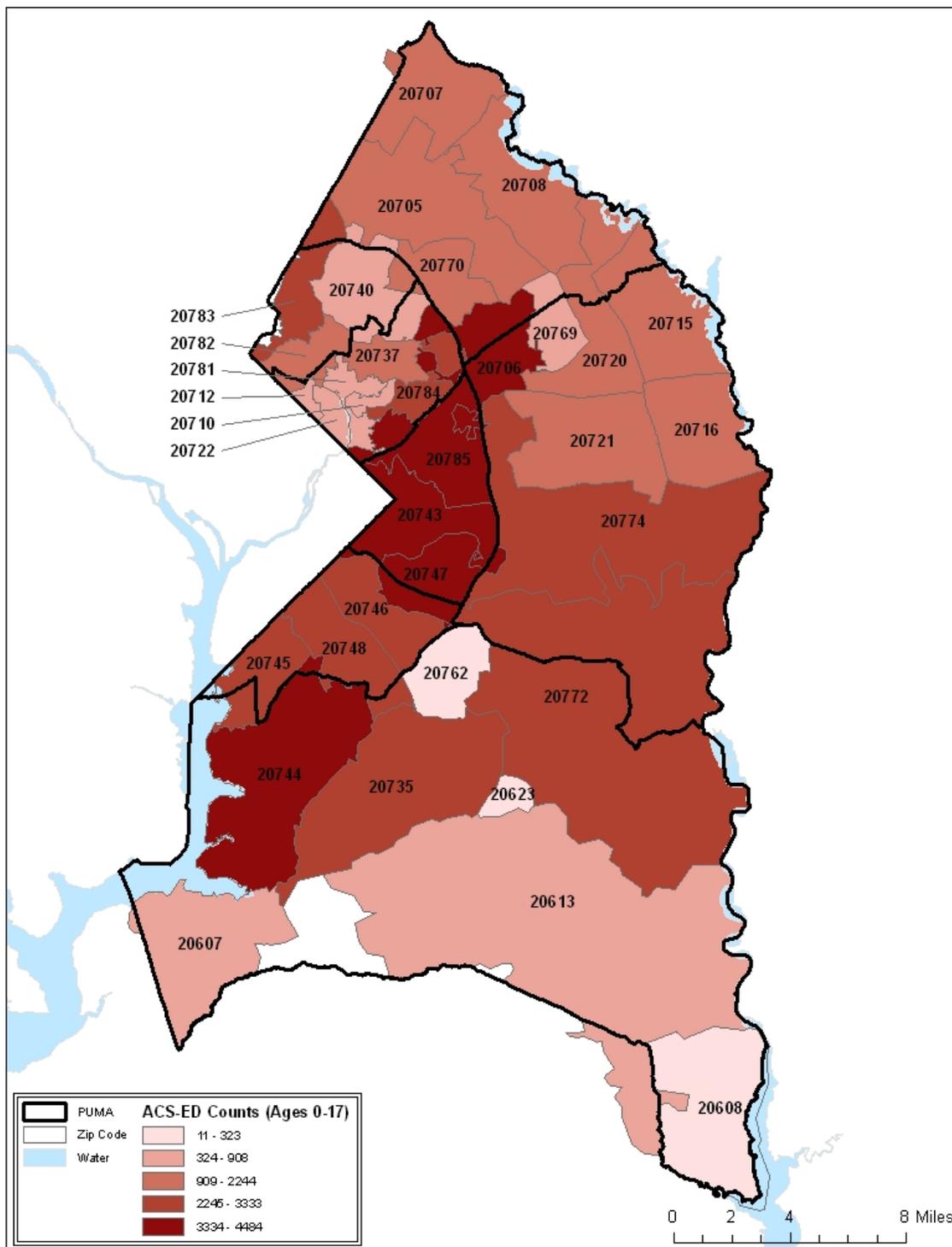


Figure A7.6 Number of Ambulatory Care-Sensitive Emergency Department Visits of Prince George's County Adults Age 18-39, by ZIP Code, 2006

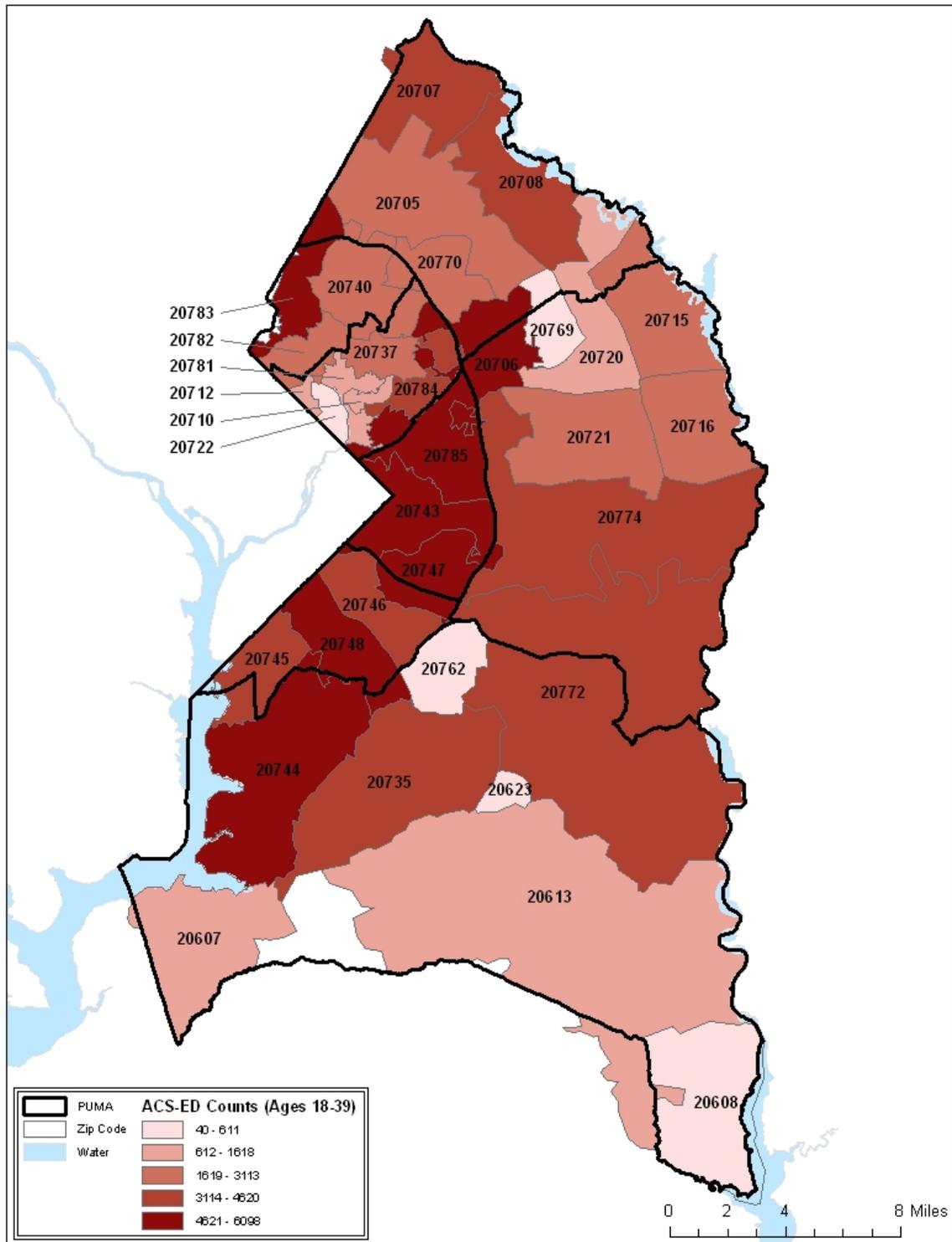


Figure A7.7 Number of Ambulatory Care-Sensitive Emergency Department Visits of Prince George's County Adults Age 40-64, by ZIP Code, 2006

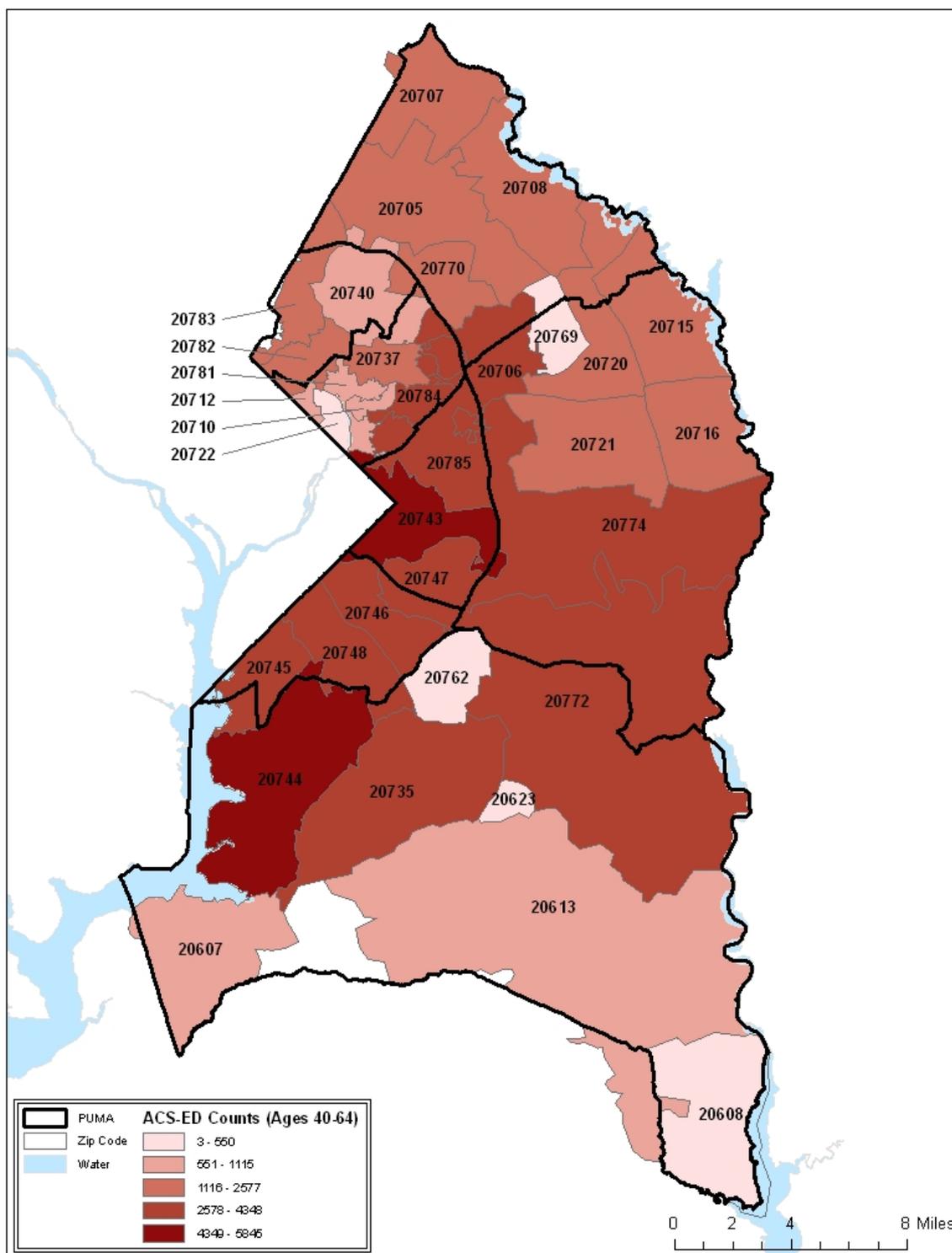
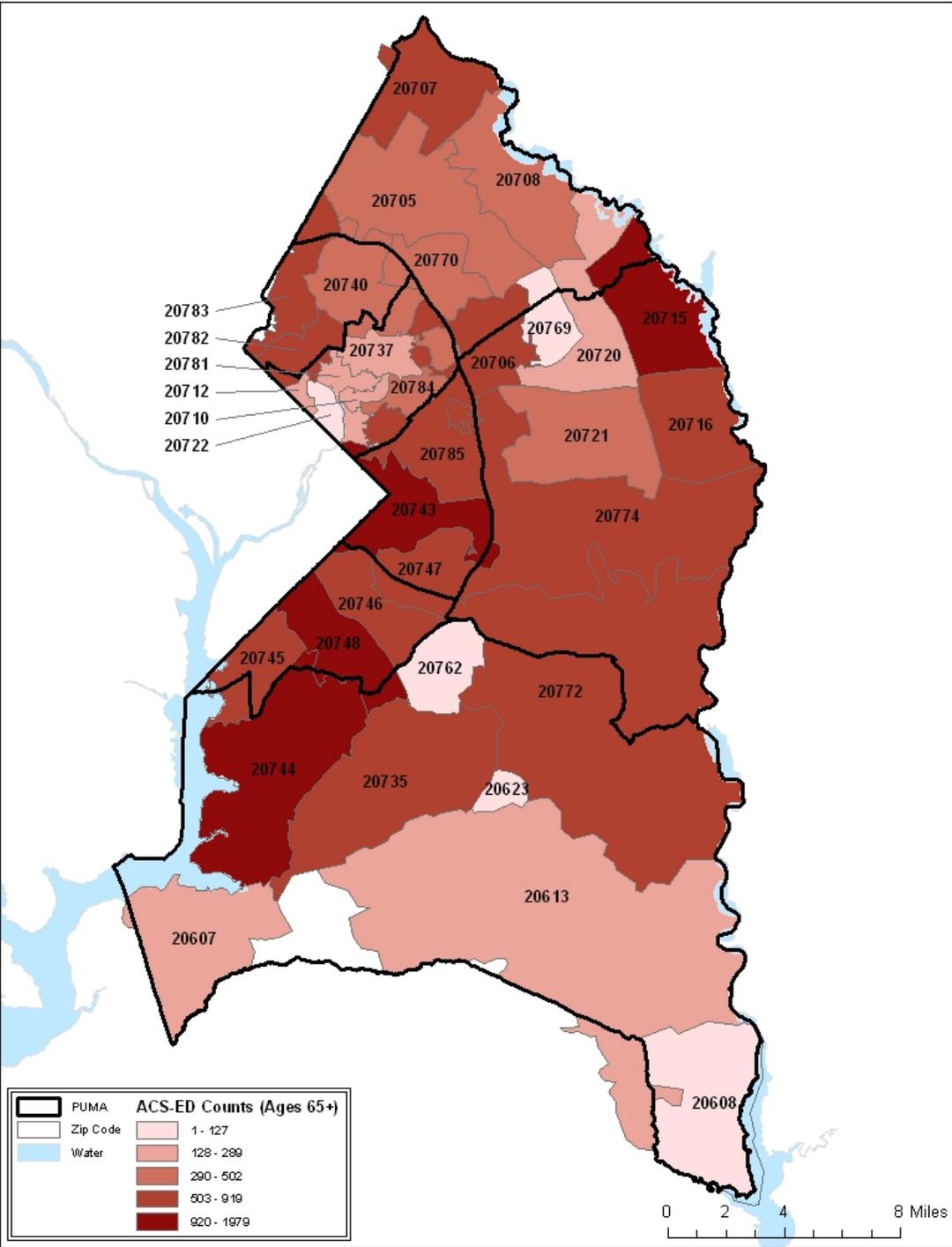


Figure A7.8 Number of Ambulatory Care-Sensitive Emergency Department Visits of Prince George’s County Adults Age 65 and Older, by ZIP Code, 2006



Appendix 8: Patterns of Hospital Inpatient and Emergency Department Use for Specific Hospitals

Tables A8.1–A8.8 provide the distribution of hospital inpatient and ED use for specific area hospitals, by jurisdiction of patient residence and by payer source. Row percentage tables indicate the percentage of hospital discharges for each hospital that are to residents from different jurisdictions (or to residents with different insurance types). Column percentage tables indicate the percentage of all hospital discharges to residents from each jurisdiction (or with each insurance type) that are discharged from each hospital.

Table A8.1 Inpatient Discharges from Area Hospitals by County of Patient Residence and Hospital (2006)—Column Percentages

Hospital Name	Patient Residence			
	Prince George's	Montgomery	District of Columbia	Other Jurisdictions
Prince George's Hospitals	37.3	1.0	1.9	12.9
Doctor's Community Hospital	3.2	0.1	0.2	0.5
Fort Washington Hospital	0.7	0.0	0.1	0.2
Laurel Regional Medical Center	4.6	0.4	0.1	2.0
Prince George's Hospital Center	16.4	0.4	0.8	1.3
Southern Maryland Hospital Center	12.4	0.1	0.7	8.8
Montgomery Hospitals	26.7	77.0	5.7	22.7
Holy Cross Hospital	15.9	35.0	3.1	7.5
Montgomery General Hospital	0.2	4.4	0.0	1.8
Shady Grove Adventist Hospital	0.9	22.6	0.5	5.9
Suburban Hospital Association	0.4	6.1	0.7	1.7
Washington Adventist Hospital	9.2	8.9	1.4	5.8
DC Hospitals	36.0	22.1	92.4	64.4
Children's Medical Center	3.3	2.3	3.0	7.3
George Washington University Hospital	2.6	1.7	8.1	6.9
Georgetown University Hospital	3.6	3.7	6.0	13.9
Greater Southeast Community	0.6	0.0	5.8	0.1
Howard University Hospital	1.0	0.3	7.0	0.6
National Rehab Hospital	1.4	0.7	3.3	1.3
Providence Hospital	4.4	0.5	10.0	0.5
Sibley Memorial Hospital	1.1	5.7	8.5	5.2
VA Medical Center	4.4	1.0	10.9	7.6
Washington Hospital Center	13.6	6.1	29.9	21.1
All Discharges	100.0	100.0	100.0	100.0

SOURCE: 2006 inpatient discharge data from HSCRC and DCHA

NOTE: Inpatient discharges do not include patients admitted through the ED.

Table A8.2 Inpatient Discharges from Area Hospitals by County of Patient Residence and Hospital (2006)—Row Percentages

Hospital Name	Patient Residence			
	Prince George's	Montgomery	District of Columbia	Other Jurisdictions
Prince George's Hospitals	74.5	2.0	2.6	20.9
Doctor's Community Hospital	81.5	3.9	3.5	11.1
Fort Washington Hospital	72.9	0.5	7.9	18.7
Laurel Regional Medical Center	68.7	6.2	1.3	23.8
Prince George's Hospital Center	89.2	2.0	2.9	5.9
Southern Maryland Hospital Center	61.7	0.3	2.3	35.7
Montgomery Hospitals	20.6	62.2	2.9	14.2
Holy Cross Hospital	26.2	60.3	3.4	10.1
Montgomery General Hospital	3.4	73.2	0.2	23.1
Shady Grove Adventist Hospital	3.1	79.6	1.1	16.2
Suburban Hospital Association	4.7	74.1	5.3	15.9
Washington Adventist Hospital	38.2	38.6	3.9	19.4
DC Hospitals	20.7	13.3	35.8	30.2
Children's Medical Center	24.3	17.6	14.9	43.2
George Washington University Hospital	16.6	11.7	35.4	36.3
Georgetown University Hospital	15.6	17.2	17.8	49.4
Greater Southeast Community	13.0	0.3	84.2	2.5
Howard University Hospital	15.1	4.2	73.0	7.7
National Rehab Hospital	25.4	14.2	40.7	19.7
Providence Hospital	36.4	4.4	55.9	3.2
Sibley Memorial Hospital	6.6	34.9	33.5	25.0
VA Medical Center	23.4	5.5	38.6	32.5
Washington Hospital Center	23.8	11.2	35.1	29.9
All Discharges	28.3	29.7	19.0	23.0

SOURCE: 2006 inpatient discharge data from HSCRC and DCHA

NOTE: Inpatient discharges do not include patients admitted through the ED.

Table A8.3 Emergency Department Discharges by County of Residence and Hospital (2006)—Column Percentages

Hospital Name	Patient Residence			
	Prince George's	Montgomery	District of Columbia	Other Jurisdictions
Prince George's Hospitals	69.5	2.5	4.7	37.3
Bowie Healthcare Center	18.0	0.3	1.3	5.7
Doctor's Community Hospital	15.7	0.4	0.7	3.5
Fort Washington Hospital	9.8	0.1	1.1	6.0
Laurel Regional Medical Center	6.7	1.5	0.2	9.9
Prince George's Hospital Center	5.2	0.1	0.5	1.6
Southern Maryland Hospital Center	14.1	0.1	0.9	10.6
Montgomery Hospitals	10.9	88.2	3.0	21.6
Holy Cross Hospital	3.8	22.4	1.1	4.2
Montgomery General Hospital	0.2	11.8	0.1	3.4
Shady Grove Adventist Hospital	0.4	31.8	0.2	7.5
Suburban Hospital Association	0.5	14.2	0.6	3.6
Washington Adventist Hospital	6.1	7.9	1.1	2.9
DC Hospitals	19.6	9.3	92.3	41.2
Children's Medical Center	6.3	1.6	13.6	5.3
George Washington University	2.0	1.0	11.9	12.7
Georgetown University Hospital	1.1	1.2	6.0	7.6
Greater Southeast Community	1.8	0.0	11.8	0.9
Howard University Hospital	1.0	0.3	10.8	4.5
Providence Hospital	2.4	0.4	12.8	1.6
Sibley Memorial Hospital	0.4	3.7	5.1	3.3
Washington Hospital Center	4.7	1.1	20.2	5.3
All Discharges	100.0	100.0	100.0	100.0

SOURCE: 2006 inpatient discharge data from HSCRC and DCHA

NOTE: Includes inpatient discharges admitted through the ED.

Table A8.4 Emergency Department Discharges by County of Residence and Hospital (2006)—Row Percentages

Hospital Name	Patient Residence			
	Prince George's	Montgomery	District of Columbia	Other Jurisdictions
Prince George's Hospitals	77.7	2.1	5.0	15.1
Bowie Healthcare Center	83.6	1.2	5.7	9.5
Doctor's Community Hospital	87.5	1.5	3.9	7.1
Fort Washington Hospital	75.1	0.3	7.9	16.7
Laurel Regional Medical Center	57.5	10.0	1.7	30.8
Prince George's Hospital Center	81.4	1.6	7.6	9.4
Southern Maryland Hospital Center	74.6	0.5	4.7	20.3
Montgomery Hospitals	12.3	75.7	3.2	8.8
Holy Cross Hospital	16.1	73.0	4.3	6.6
Montgomery General Hospital	2.1	85.4	0.9	11.7
Shady Grove Adventist Hospital	1.3	88.1	0.7	9.9
Suburban Hospital Association	3.6	82.4	4.1	9.9
Washington Adventist Hospital	42.9	42.5	7.2	7.3
DC Hospitals	15.1	5.4	68.0	11.5
Children's Medical Center	28.1	5.3	58.0	8.6
George Washington University	10.5	3.9	61.0	24.6
Georgetown University Hospital	10.7	8.7	54.6	26.1
Greater Southeast Community	13.2	0.2	84.1	2.5
Howard University Hospital	7.3	1.9	78.6	12.3
Providence Hospital	15.4	1.8	79.0	3.7
Sibley Memorial Hospital	4.6	30.1	52.5	12.8
Washington Hospital Center	17.5	3.1	72.3	7.1
All Discharges	32.5	24.7	31.1	11.8

SOURCE: 2006 inpatient discharge data from HSCRC and DCHA.

NOTE: Includes inpatient discharges admitted through the ED.

Table A8.5 Inpatient Discharges by Payer Source and Hospital (2006)
—Column Percentages

Hospital Name	Payer Source			
	Private	Medicaid	Medicare/VA	Uninsured
Prince George's Hospitals	10.6	26.2	12.6	17.5
Doctor's Community Hospital	1.2	0.3	1.7	0.5
Fort Washington Hospital	0.3	0.0	0.5	0.2
Laurel Regional Medical Center	1.3	3.5	1.9	3.0
Prince George's Hospital Center	2.7	16.1	1.7	6.6
Southern Maryland Hospital Center	5.1	6.4	6.7	7.1
Montgomery Hospitals	45.4	39.9	20.5	34.7
Holy Cross Hospital	21.1	26.1	4.5	13.4
Montgomery General Hospital	2.1	1.4	1.6	1.7
Shady Grove Adventist Hospital	12.6	6.0	2.7	7.2
Suburban Hospital Association	2.5	0.2	4.3	4.4
Washington Adventist Hospital	7.0	6.1	7.4	8.1
DC Hospitals	44.0	33.9	66.9	47.9
Children's Medical Center	4.4	7.8	0.1	3.1
George Washington University Hospital	2.1	1.0	4.3	1.6
Georgetown University Hospital	8.6	2.5	5.8	4.8
Greater Southeast Community	0.9	1.6	1.2	10.8
Howard University Hospital	1.7	2.5	1.8	1.4
National Rehab Hospital	1.2	0.6	3.1	0.9
Providence Hospital	1.2	7.3	3.4	1.9
Sibley Memorial Hospital	7.3	0.1	4.1	5.9
VA Medical Center	0.0	0.0	21.3	0.0
Washington Hospital Center	16.7	10.5	21.7	17.5
All Discharges	100.0	100.0	100.0	100.0

SOURCE: 2006 inpatient discharge data from HSCRC and DCHA.

NOTE: Inpatient discharges do not include patients admitted through the ED.

Table A8.6 Inpatient Discharges by Payer Source and Hospital (2006)
—Row Percentages

Hospital Name	Payer Source			
	Private	Medicaid	Medicare/VA	Uninsured
Prince George's Hospitals	37.0	37.3	22.5	2.5
Doctor's Community Hospital	53.9	4.5	39.1	1.0
Fort Washington Hospital	46.8	1.3	50.4	1.5
Laurel Regional Medical Center	34.4	36.6	25.2	3.2
Prince George's Hospital Center	26.2	62.4	8.5	2.6
Southern Maryland Hospital Center	44.1	22.6	29.8	2.5
Montgomery Hospitals	61.3	21.9	14.1	1.9
Holy Cross Hospital	61.0	30.6	6.6	1.6
Montgomery General Hospital	59.3	16.2	22.4	1.9
Shady Grove Adventist Hospital	74.3	14.4	8.0	1.7
Suburban Hospital Association	50.1	1.7	44.6	3.6
Washington Adventist Hospital	50.8	17.9	27.2	2.4
DC Hospitals	44.4	13.9	34.3	2.0
Children's Medical Center	56.2	40.7	0.8	1.6
George Washington University Hospital ^a	—	—	—	—
Georgetown University Hospital	65.9	7.8	22.6	1.5
Greater Southeast Community	34.3	25.5	23.4	16.8
Howard University Hospital	44.9	28.0	24.3	1.5
National Rehab Hospital	39.1	8.5	51.2	1.2
Providence Hospital	17.5	43.2	25.5	1.2
Sibley Memorial Hospital	75.5	0.3	21.6	2.5
VA Medical Center	0.0	0.0	100.0	0.0
Washington Hospital Center	51.0	13.0	33.8	2.2
All Discharges	49.6	20.2	25.2	2.0

SOURCE: 2006 inpatient discharge data from HSCRC and DCHA.

NOTES: Inpatient discharges do not include patients admitted through the ED. Row percentages do not add up to 100 in some rows because a small percentage of discharge patients had unknown insurance type.

^a Data reported by George Washington University included a large number of discharges for which a payer source could not be identified, which potentially leads to an underestimation of the percentage of discharges to George Washington University Hospital across all payer sources.

Table A8.7 Emergency Department Discharges by Payer Source and Hospital (2006)—Column Percentages

Hospital Name	Payer Source			
	Private	Medicaid	Medicare/VA	Uninsured
Prince George's Hospitals	33.8	19.5	24.6	37.8
Bowie Healthcare Center	8.3	5.1	2.9	11.2
Doctor's Community Hospital	6.7	3.6	6.2	7.2
Fort Washington Hospital	5.9	1.5	4.0	4.5
Laurel Regional Medical Center	4.2	2.2	3.1	6.2
Prince George's Hospital Center	1.4	2.7	2.5	3.2
Southern Maryland Hospital Center	7.3	4.3	6.1	5.5
Montgomery Hospitals	32.8	18.6	34.2	31.1
Holy Cross Hospital	8.4	6.5	7.6	8.7
Montgomery General Hospital	3.8	1.6	5.8	2.5
Shady Grove Adventist Hospital	10.8	6.0	7.8	9.9
Suburban Hospital Association	5.7	0.7	7.8	2.5
Washington Adventist Hospital	4.0	3.8	5.2	7.6
DC Hospitals	33.4	61.9	41.2	31.1
Children's Medical Center	4.7	23.6	0.0	2.2
George Washington University Hospital	2.9	2.8	4.4	5.1
Georgetown University Hospital	4.8	2.0	3.4	2.3
Greater Southeast Community Hospital	1.2	9.4	4.2	5.6
Howard University Hospital	3.8	5.8	3.7	5.0
Providence Hospital	2.9	10.8	7.9	0.1
Sibley Memorial Hospital	4.1	0.4	5.6	1.8
Washington Hospital Center	9.0	7.2	11.9	9.0
All Discharges	100.0	100.0	100.0	100.0

SOURCE: 2006 inpatient discharge data from HSCRC and DCHA.

NOTE: Includes inpatient discharges admitted through the ED.

Table A8.8 Emergency Department Discharges by Payer Source and Hospital (2006)—Row Percentages

Hospital Name	Payer Source			
	Private	Medicaid	Medicare/VA	Uninsured
Prince George's Hospitals	51.4	13.7	12.9	20.7
Bowie Healthcare Center	52.1	15.0	6.2	25.3
Doctor's Community Hospital	51.0	12.8	16.1	19.8
Fort Washington Hospital	61.5	7.0	14.3	16.8
Laurel Regional Medical Center	49.2	12.2	12.3	26.2
Prince George's Hospital Center	29.9	26.8	18.3	24.5
Southern Maryland Hospital Center	52.4	14.4	15.0	14.3
Montgomery Hospitals	50.3	13.2	18.0	17.1
Holy Cross Hospital	49.1	17.6	15.1	18.1
Montgomery General Hospital	49.6	9.6	25.8	11.7
Shady Grove Adventist Hospital	53.5	13.7	13.3	17.6
Suburban Hospital Association	59.5	3.4	27.8	9.2
Washington Adventist Hospital	38.3	16.6	17.0	26.1
DC Hospitals	35.0	29.9	14.8	11.7
Children's Medical Center	28.6	66.1	0.0	4.7
George Washington University Hospital ^a	—	—	—	—
Georgetown University Hospital	61.9	11.8	15.1	10.7
Greater Southeast Community Hospital	12.4	43.9	14.4	20.2
Howard University Hospital	39.3	27.6	13.0	18.5
Providence Hospital	25.1	43.7	23.9	0.3
Sibley Memorial Hospital	59.8	2.5	28.1	9.6
Washington Hospital Center	45.8	16.9	20.9	16.5
All Discharges	44.1	20.4	15.2	15.9

SOURCE: 2006 inpatient discharge data from HSCRC and DCHA.

NOTE: Includes inpatient discharges admitted through the ED. Row percentages do not add up to 100 in some rows because a small percentage of discharge patients had unknown insurance type.

^a Data reported by George Washington University included a large number of discharges for which a payer source could not be identified, which potentially leads to an underestimation of the percentage of discharges to George Washington University Hospital across all payer sources.

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