HURON

ASSESSING PRINCE GEORGE'S COUNTY HEALTHCARE AND SOCIAL NEEDS AND 10+ YEAR INVESTMENT STRATEGY

Prince George's County, Maryland

Final Report

Presented October 11th, 2023

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1. Executive Summary

Prince George's County has vast gaps in healthcare infrastructure, including:

- **~1,050 physician deficit,** with over 50% of the gap attributable to primary care.
- **~475 hospital bed deficit**
- **Geographic inequities** in access, infrastructure, and investment, particularly in the Inner Beltway region

As a result of these vast healthcare infrastructure gaps, **Prince George's County residents seek ~42% of their healthcare needs outside the county**.

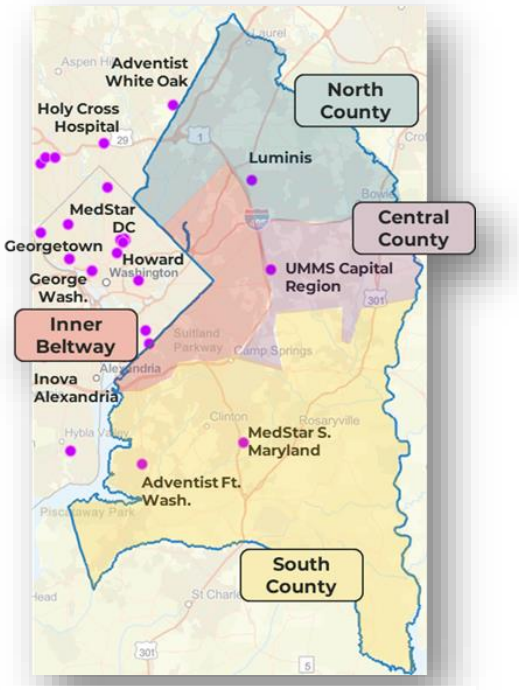

Figure 1. Regions and hospitals of Prince George's County, MD.

Recommendation: Health providers, payors, and elected county and state leaders must **create a partnership that provides the foundation for a multiphase, sustained $2.24 billion investment** to improve access to care, reduce social health inequities, proactively engage and treat patients for targeted disease states, and build healthcare infrastructure for present and future generations. The investment, detailed in Figure 2, is divided into three phases.

1. **Phase I: Short-Term (0-3 years): ~$276 million.** Investments in priority service lines based on the county's most significant care volumes, out-migration, and physician gaps.
2. **Phase II: Medium-Term (3-10 years): ~$983 million.** Investments to begin expansion of additional healthcare and social services infrastructure that require increased or intensive capital.
3. **Phase III: Long-Term (10+ years): ~$983 million.** Investments to ensure all county residents have accessibility — both through mitigating social barriers and increasing capacity — to healthcare infrastructure on par with peer Marylanders.

	North County (Pop: 312,991)	Inner Beltway (Pop: 302,074)	Central County (Pop: 110,313)	South County (Pop: 251,499)	Prince George's County (Pop: 976,877)
Short-Term (0-3 Years) *Service Lines With Highest Volume, Out-Migration + Physician Gaps*	$69.4M	$147.2M	$7.7M	$51.7M	**$276.0M**
Medium-Term (3-10 Years) *Begin Expansion Of Additional Services And Infrastructure*	$230.2M	$578.3M	$11.6M	$163.0M	**$983.1M**
Long-Term (10+ Years) *Expanded Infrastructure On Par With All Marylanders*	$230.1M	$578.3M	$11.5M	$162.9M	**$982.8M**
	$529.7M	**$1,303.8M**	**$30.8M**	**$377.6M**	**$2.24B**

Figure 2. Prince George's County healthcare infrastructure investment by phase and county region.

1.1 Background

Prince George's County Executive's Office (Maryland) contracted Huron in 2023 to assist county leadership with a comprehensive healthcare needs assessment using industry-leading data sets (see Figure 3) and financial modeling considerations.

For too long, Prince George's County has taken a piece-meal approach in response to meeting the county's healthcare and social needs. Accordingly, **this assessment sets the stage for Prince George's County to define its overall county needs and identify the investment and partners best positioned to meet each need.** This is the **first comprehensive assessment of its kind in the State of Maryland.**

Huron convened two workstreams to meet Prince George's County objectives:

1. **Healthcare Needs Assessment —** assess the demand for health and social services across the full continuum of care and create a detailed action plan to address the identified gaps preventing county residents from having convenient access to comprehensive care options.
2. **Feasibility Study —** analyze the county's healthcare needs assessment output to determine the recommended action plan's expected cost and financial return on investment.

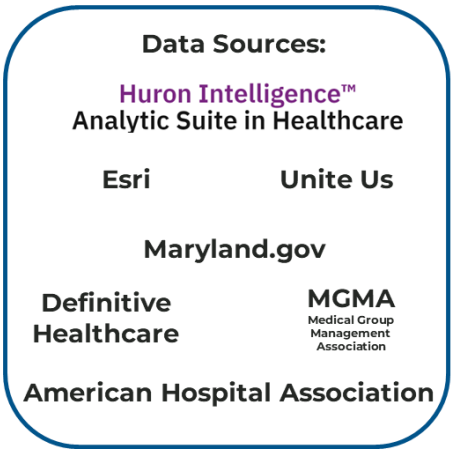

Figure 3. Huron used various data sources to complete the county's assessment.

How is this different than previous assessments?

Using data, we quantified county needs to ensure the highest priority needs are being addressed *and* appropriately resourced.

What comes next?

Drive coordinated healthcare improvement across partnerships at the county, state, provider, and payor levels by launching a comprehensive, measurable, and sustainable initiative to make our citizens healthier and spend less on healthcare for years to come.

1.2 Project Approach

Huron used a data-driven approach to evaluate, prioritize, and quantify relevant clinical and social needs to inform a detailed financial analysis for Prince George's County, detailed in Figure 4.

Figure 4. The County receives a data driven approach and key activities for their healthcare needs assessment and financial analysis.

These various data-informed findings and activities were integrated to tell a comprehensive story of what healthcare and social infrastructure gaps exist in Prince George's County, identify the highest priority needs, and quantify the total healthcare and social investment needed. This investment was further segmented to provide a pragmatic allocation of capital over the coming years and ensure that the investments are best apportioned to the specific needs of each county region. Each activity and the associated data inputs used are illustrated in Figure 5.

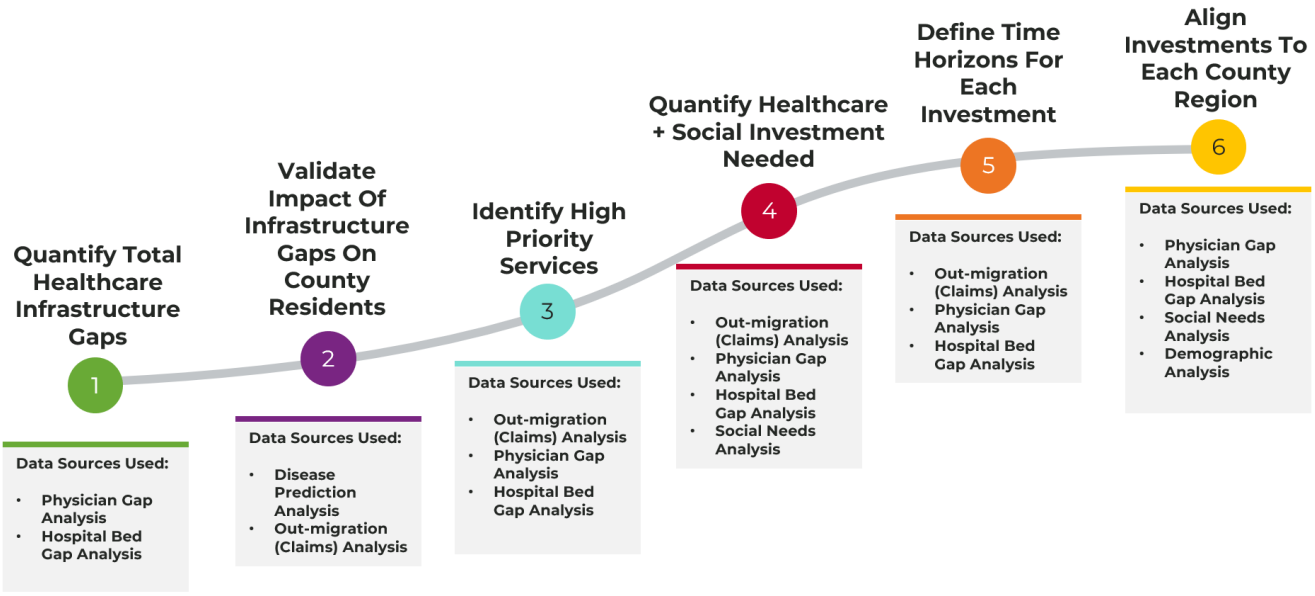

Figure 5: Prince George's County's overall project trajectory integrates different data sources into an overall recommended healthcare and social infrastructure investment strategy.

1.3 Results and Findings

Despite the highly educated and relatively affluent population, needs and priorities vary vastly across regions of Prince George's County and highlight health inequities within the community.

We segmented the analyses and recommendations by clinical services, intervention type, location, and social infrastructure, detailed below:

1. **Clinical Services** — Which clinical specialties are in the highest demand by Prince George's County's communities?

   The following specialty areas were consistently highlighted as critical to county residents:

   a. Cardiovascular
   b. Pulmonology
   c. General surgery
   d. Obstetrics (OB) and gynecology (GYN)
   e. Psychiatry and substance abuse
   f. Primary care

2. **Intervention Type** — How can the identified gaps be addressed to improve health outcomes?

   The potential capital investments include the types noted below, which are referenced throughout Huron's findings:

   a. **Outpatient (OP) Investments:** Investments driven by gaps in physicians and associated clinic space.
   b. **Inpatient (IP) Investments:** Investments driven by gaps in physicians and associated hospital beds.
   c. **Primary Care Investments:** Investments driven by gaps in physicians and social needs.
   d. **Social Needs Investments:** Investments in access to transportation, housing, and food that impact health outside of the hospital setting.

3. **Location —** Given the inequitable distribution of healthcare needs across Prince George's County, Huron collaborated with county leadership to segment the analysis into four regions, shown in Figure 6.

   a. North County
   b. Inner Beltway
   c. Central County
   d. South County

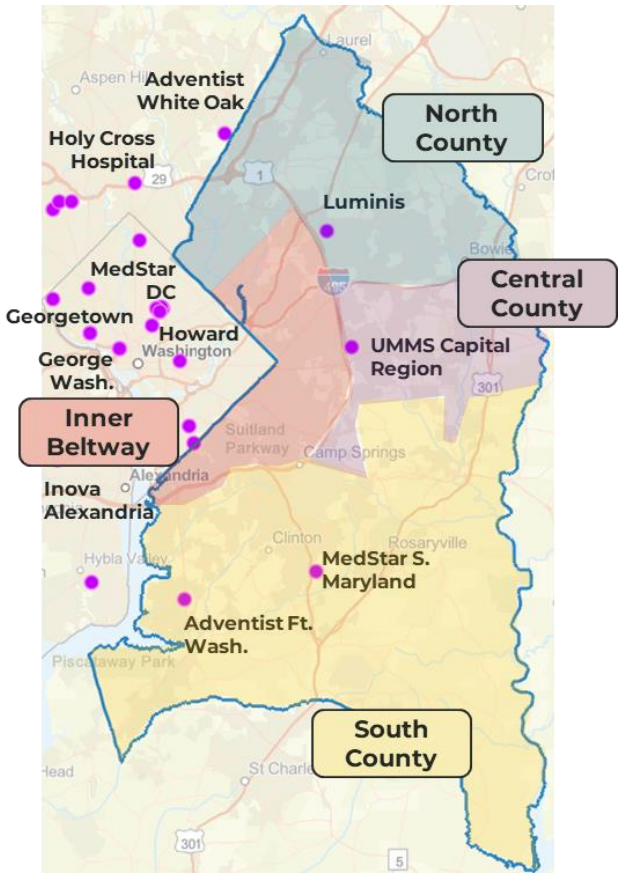

Figure 6. We analyzed four key regions in Prince George's County. See Appendix A for zip-code level mapping and definitions.

4. **Social Infrastructure** — How can social needs, which have an outsized impact on individual and community health, be addressed to reduce the burden on healthcare infrastructure and improve the quality of life for Prince George's County residents?

   The three social needs identified for intervention include the below, which will be referenced throughout Huron's findings:

   a. Transportation insecurity: The lack of reliable transportation or easy public transportation to satisfy non-emergency transportation needs.
   b. Housing quality: The presence of health risks in the home/residential building where an individual resides, e.g., lead paint, mold, inadequate cooling or heating, high radon levels, etc.
   c. Food insecurity: The inability or difficulty accessing and/or affording healthy food or enough food, frequently because of limited funds or residence in a food desert.

Where relevant, we accounted for future projected needs for clinical resources such as physicians and beds to determine the size and priority of investments. However, **well over 90% of all healthcare and social infrastructure gaps and associated investments are attributable to existing gaps as opposed to future needs.**

1.3.1 Key themes

Huron identified five key themes through our assessment of the county's healthcare landscape, detailed in Figure 7. While these themes of health inequity, physician shortages, and specialty demand exceeding local supply are largely in line with trends across the United States, they are more significant than expected, given the overall affluence, accessibility, and population concentration of Prince George's County. The county also has larger gaps across almost all healthcare and social indicators evaluated relative to the state of Maryland, the neighboring county, and the District of Columbia.

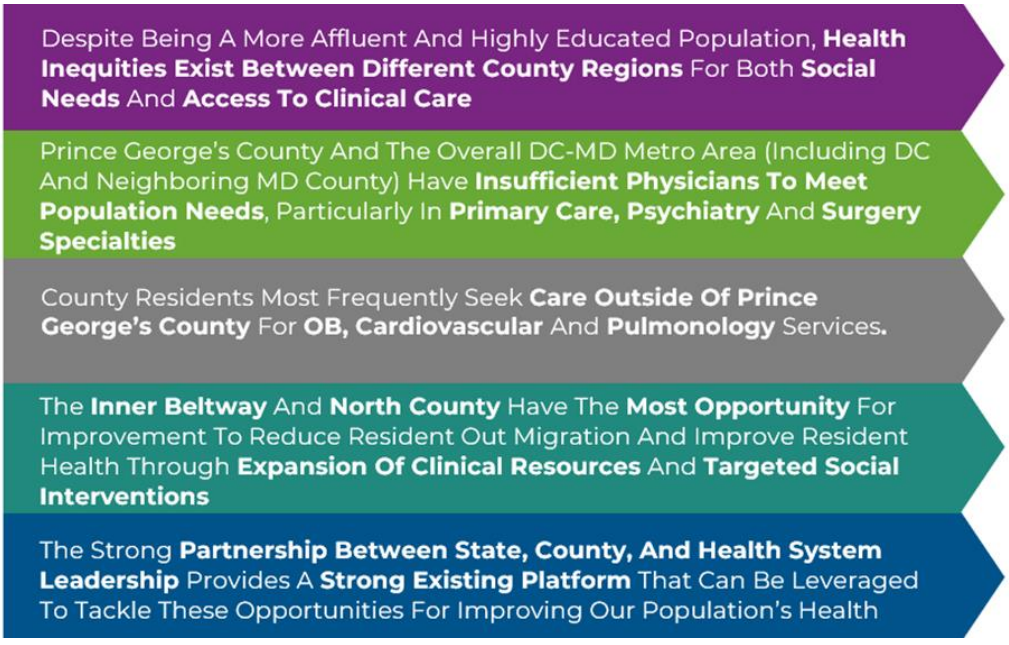

Figure 7. The healthcare needs assessment revealed overall themes of health inequity, physician shortages, and specialty demand exceeding local supply.

1.3.2 Investment By Region

Significant gaps in county healthcare infrastructure require multiple phases of sustained investment. The **~$2.24 billion investment is intentionally prioritized and segmented into three phases over the next 10+ years, given the magnitude of the investment needed**, as noted below.

- **Phase I: Short-Term (0-3 years): ~$276 million.** Investments in priority service lines based on the county's most significant care volumes, out-migration, and physician gaps.
- **Phase II: Medium-Term (3-10 years): ~$983 million.** Investments to begin expansion of additional services and infrastructure that require increased or intensive capital.
- **Phase III: Long-Term (10+ years): ~$983 million.** Investments to ensure all county residents have accessibility to healthcare infrastructure on par with peer Marylanders.

Huron used detailed data regarding physician gaps, hospital bed gaps, primary care gaps, and social needs to calculate the investment amount. The ~$2.24 billion investment **increases healthcare equity across regions of Prince George's County and the state of Maryland, especially in North County, Inner Beltway, and South County.**

	North County (Pop: 312,991)	Inner Beltway (Pop: 302,074)	Central County (Pop: 110,313)	South County (Pop: 251,499)	Prince George's County (Pop: 976,877)
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	$529.7M	**$1,303.8M**	**$30.8M**	**$377.6M**	**$2.24B**

Figure 8. Prince George's County can improve citizens' access to healthcare and increase healthcare equity through targeted investments by region phased over 10+ years.

2. Evaluate Population Needs

Evaluate Population Needs (Demographics, Social Risks)

- Understand population characteristics (race/ethnicity, income, age, future growth)
- Identify social factor needs (transportation, housing, etc.)
- Associate social risk to healthcare emergency department (ED) utilization
- Quantify disparities across regions and for at-risk populations

2.1 Demographics

The key demographics and consumer patterns that are expected to affect current and future healthcare demand and investment needs across Prince George's County include:

- The county's residents primarily identify as **Black/African American (59.0%)** and **Hispanic (21.3%).**
- **The largest Hispanic communities** are concentrated in **North County** and **Inner Beltway**.
    - Residents routinely seek out and have better health outcomes with healthcare providers that share demographic characteristics (e.g., same race/ethnicity) with the community they serve.
    - Clinical risk and predisposition for certain health outcomes (e.g., colorectal cancer in Black communities) also differ across communities. Healthcare infrastructure and providers serving the community must be equipped to appropriately provide the best care grounded in this context.
- The county has a relatively low portion of residents living in poverty. **24% of households make <$50k/year, whereas 46% of households make >$100k/year.**
    - **Lower-income households are concentrated** in portions of the county in the **Inner Beltway.**
- Workers often **commute out of state (~37%)**, especially from the **Inner Beltway** and **South County.**
- The County's **population will grow ~1% by 2027** (0.18% Compounded Annual Growth Rate), with the largest percent growth in **Central and South County.**
- The **Inner Beltway** and **North County** are **10-50% more densely populated** than the county average and constitute approximately **two-thirds of the county's population.**

See Appendix A for additional details regarding Prince George's County demographic patterns.

2.2 Social Risk

Social health data predicts the risk of adverse outcomes due to social drivers of health (SDoH). This data includes social risk factors such as:

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- Childcare needs
- Financial insecurity
- Food insecurity
- Health literacy
- Housing instability
- Housing quality
- Loneliness
- Transportation insecurity
- Utilities/broadband access

These social factors can be viewed in **composite as a "Social Needs Score" (SNS)**. This score, ranging from 0-100, allows the county to quickly understand and prioritize social interventions where they are most needed. SNS scores are only calculated for county residents 18 and over.

Social Needs Scores are also correlated with healthcare consumption. In fact, **a 10-point increase in SNS is associated with:**

- **12%** higher total cost of care
- **37%** higher avoidable emergency department (ED) visits
- **13%** more ED visits overall

This data can be used for applications both within and beyond the scope of this report, including:

- Site selection for healthcare infrastructure capital investments
- Targeted geographic and demographic health campaigns (e.g., Black maternal health)
- Service planning such as Certificates of Need justification
- Capital investments in other government sectors (e.g., public transportation routes, subsidies, affordable housing developments)

2.2.1 Prince George's County Overall Population Social Risks

In measuring Prince George's County vs. the U.S. as a whole (see Figure 9), **Prince George's County residents have higher social needs, on average, than:**

1. The average American
2. The state of Maryland
3. Montgomery County (a bordering Maryland county with a comparable population)

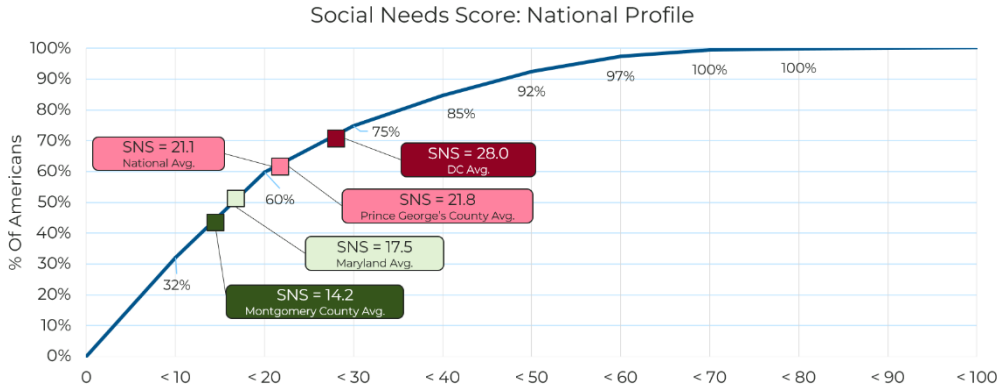


Figure 9. Prince George's County's average Social Needs Score is higher than 60% of Americans.

These findings highlight the importance of **investing in both social and healthcare infrastructure** in Prince George's County to ensure that residents have an equitable environment to live healthy and full lives on par with other residents of Maryland. **An investment in social needs that brings Prince George's County resident SNS scores on par with the state average** – a 4.3-point reduction in the SNS – **correlates with a 5.2% reduction in total cost of care.** Based on the average healthcare spend per person in Prince George's County of $7,592/year, this reduction is associated with **a savings of ~$380 million/year.**

2.2.2 Prince George's County – At-Risk Populations

In measuring social disparities within regions and populations of Prince George's County, the **greatest disparity within the county** is between the **Inner Beltway and Central County** (See Figure 10)**.** This **10-point gap correlates with:**

- **12%** higher total cost of care
- **37%** higher avoidable ED visits
- **13%** more ED visits overall

Social risk is 10 points even higher for specific populations, especially **18–44-year-old Hispanic and Black women**, who have **higher social needs than 80–90% of Americans** based on where they live in the county.

These findings validate two key areas of focus:

1. **Reduce geographic inequities in social infrastructure.** Focus investment on the **Inner Beltway, North County, and South County** – areas that have SNS scores higher than the Maryland state average – for the greatest impact on lives and healthcare savings.
2. **Align social and healthcare investments to support the most vulnerable populations.** For example, 18–44-year-old Hispanic and Black females face disproportionate social challenges that must be considered to inform **which healthcare investments are most needed** for this population, **where those services are available** (e.g., obstetric/maternal services), and **who provides said services** (e.g., need for Spanish-speaking healthcare providers in Hispanic communities in North County).

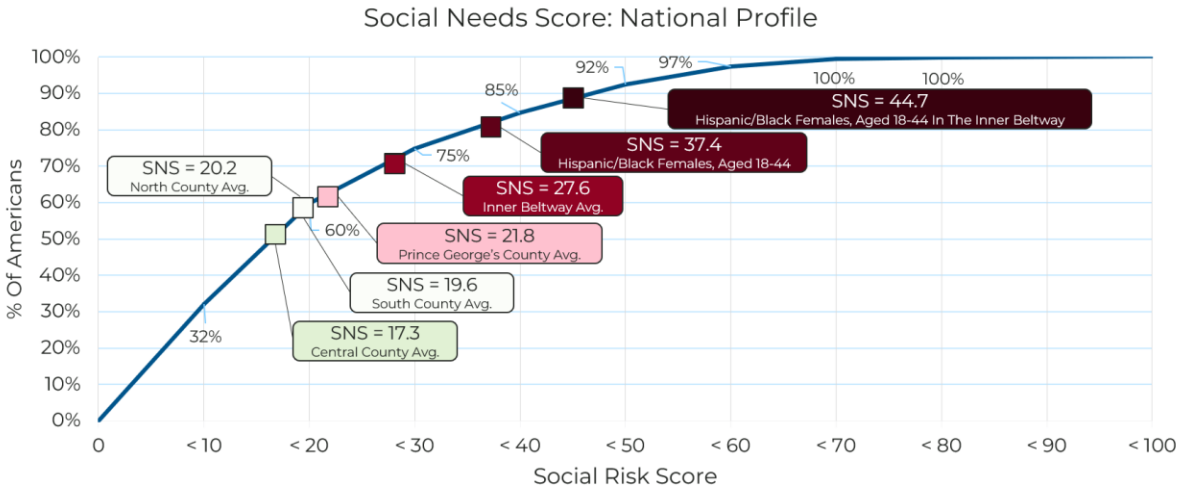


Figure 10. Social needs vastly differ across county regions and for at-risk populations (Hispanic/Black females).

2.2.3 Key Social Needs: Transportation, Housing, and Food

Social risk for individual social needs is consistently **~40% higher in the Inner Beltway than in the county overall.**

In the **Inner Beltway**:

- **11%** of adults (~17.0k) are **transportation insecure**. Additional residents are "**transportation challenged"** due to the **distance and inconvenience of accessing healthcare facilities for non-emergency services.**
- **38%** of adults (~60.5k) have concerns with **housing quality**. This does not equate to housing insecurity, which represents ~2.5% (~4k adults), as noted in the social risk factor definition below.
- **52%** of adults (~83.5k) are **food insecure.**

Both **North County and the Inner Beltway have higher social needs for transportation, housing, and food than the Maryland state average**, while Central and South County are in line with or better than the state average for these three measures, reinforcing the need for different levels of investment in social infrastructure across the four regions of Prince George's County. Figures 11 and 12 summarize the overall needs for Prince George's County by percent population and total number of impacted adults.

		Overall Needs Summary	Social Risk Factors		
	Adult (18+ Population)	Social Needs Score	Transportation Insecurity	Housing Quality	Food Insecurity
United States		21.1	8.1%	25.3%	29.0%
Maryland		17.5	4.9%	16.4%	22.4%
District Of Columbia	571,626	28.0	21.7%	38.1%	45.2%
Montgomery County	629,629	14.2	2.0%	7.6%	12.7%
Prince George's County	571,746	21.8	6.1%	22.5%	34.5%
Inner Beltway	160,980	27.6	10.5%	37.5%	51.8%
Central	79,157	17.3	2.2%	10.3%	20.7%
North	154,756	20.3	5.8%	20.5%	30.5%
South	176,853	19.7	4.1%	16.0%	28.6%

Figure 11. Residents of the Inner Beltway have higher individual social needs than the rest of the county.

Social Risk Factor Definitions

Transportation Insecurity: Percentage of population predicted to self-attest to having transportation needs defined as the lack of reliable transportation or the lack of easy public transportation to satisfy non-emergency transportation needs.

Housing Quality: Percentage of population predicted to self-attest to having housing quality needs defined as the presence of health risks in the home/residential building where an individual resides, e.g., lead paint, mold, inadequate cooling or heating, high radon levels, etc. Note that housing insecurity is a different social risk metric (see Appendix B).

Food Insecurity: Percentage of population predicted to self-attest to being food insecure defined as the inability or difficulty accessing and/or affording healthy food or enough food, frequently as a result of limited funds or residence in a food desert.

		Overall Needs Summary	Social Risk Factors		
	Adult (18+ Population)	Social Needs Score	Transportation Insecurity	Housing Quality	Food Insecurity
Prince George's County	571,746	21.8	34861	128543	197436
Inner Beltway	160,980	27.6	16961	60424	83310
Central	79,157	17.3	1710	8159	16403
North	154,756	20.3	9005	31697	47125
South	176,853	19.7	7185	28262	50598

Figure 12. Most residents with social needs in Prince George's County live in the Inner Beltway.

Drilling down further than the county region provides an important local context for targeted investments in regions with particularly high needs. Using the "secondary regional clusters" defined by Prince George's County (see Appendix A), Huron identified communities with elevated social risk factors (see Appendix B for detailed social risk scoring by regional cluster). Of the 20 clusters, the **five highest need clusters were located across the Inner Beltway (Cheverly – Glenarden – New Carrollton, Capitol Heights, District Heights), North County (Hyattsville), and South County (Oxon Hill – Forest Heights – Clinton).** Notably, **over 50% of the total at-risk county residents for these three social factors live in these five clusters, as shown in Figure 13.** Accordingly, focusing interventions or additional public investments (e.g., strengthening public transportation, mixed-use public housing, zoning, incentives for grocery stores) in these five communities are likely to impact the greatest number of lives, be more cost-efficient, and most immediately lead to reductions in the total cost of healthcare. Similarly, these five locations are strong candidates for the expansion of healthcare infrastructure (e.g., multispecialty clinics) by mitigating the impact of transportation in seeking timely and cost-effective care.

Top 5 Regions For Social Needs			
Regional Cluster	**Transportation**	**Housing Quality**	**Food Insecurity**
Cheverly - Glenarden - New Carrollton	5362	20971	30738
Oxon Hill - Forest Heights - Clinton	5150	17875	27564
Hyattsville	3843	11895	14960
Capitol Heights	2802	10848	14827
District Heights	2680	9519	13239
Top 5 Regions Represent __ % Of Total	**57%**	**55%**	**51%**
Total Adult Lives Impacted	**19837**	**71108**	**101328**

Figure 13. Over 50% of county residents impacted by transportation, housing quality, and food insecurity live in just five regional clusters.

2.3 Healthcare Infrastructure

Existing healthcare infrastructure within the county was evaluated alongside the social needs analysis to highlight potential challenges that communities with high social risks face when it comes to accessing health services.

As analysis has shown in other regions across the United States, there is a strong correlation between high social needs populations and medically underserved geographies. Huron has identified key clusters within each of the four county regions that are classified as medically underserved areas and the estimated population within each area.

2.3.1 Medically Underserved Designations in Prince George's County

Medically Underserved Areas (MUAs) are designations made by state and federal entities. These designations are reserved for geographic areas or populations of disproportionate need and are eligible for targeted federal programs and reimbursement structures. Although Prince George's County overall has significant deficits in healthcare infrastructure, **portions of the county highlighted in Figure 14 in orange, light blue, and dark blue** are additionally at risk. While these areas represent a minority of Prince George's County on the map, many of these areas are densely populated and overall represent ~45% of adults, as detailed below.

~265k (~45% of total) adults in Prince George's County live in medically underserved areas, including:

- Inner Beltway (~150k Adults)
    - Capitol Heights
    - District Heights
    - Cheverly
    - Suitland
    - Langley Park-Mt Rainier
    - Bladensburg
- North County (~47k Adults)
    - Greenbelt – College Park
    - Hyattsville
- Central County (~38k Adults)
    - Largo – Mitchellville
- South County (~26k Adults)
    - Accokeek - Brandywine

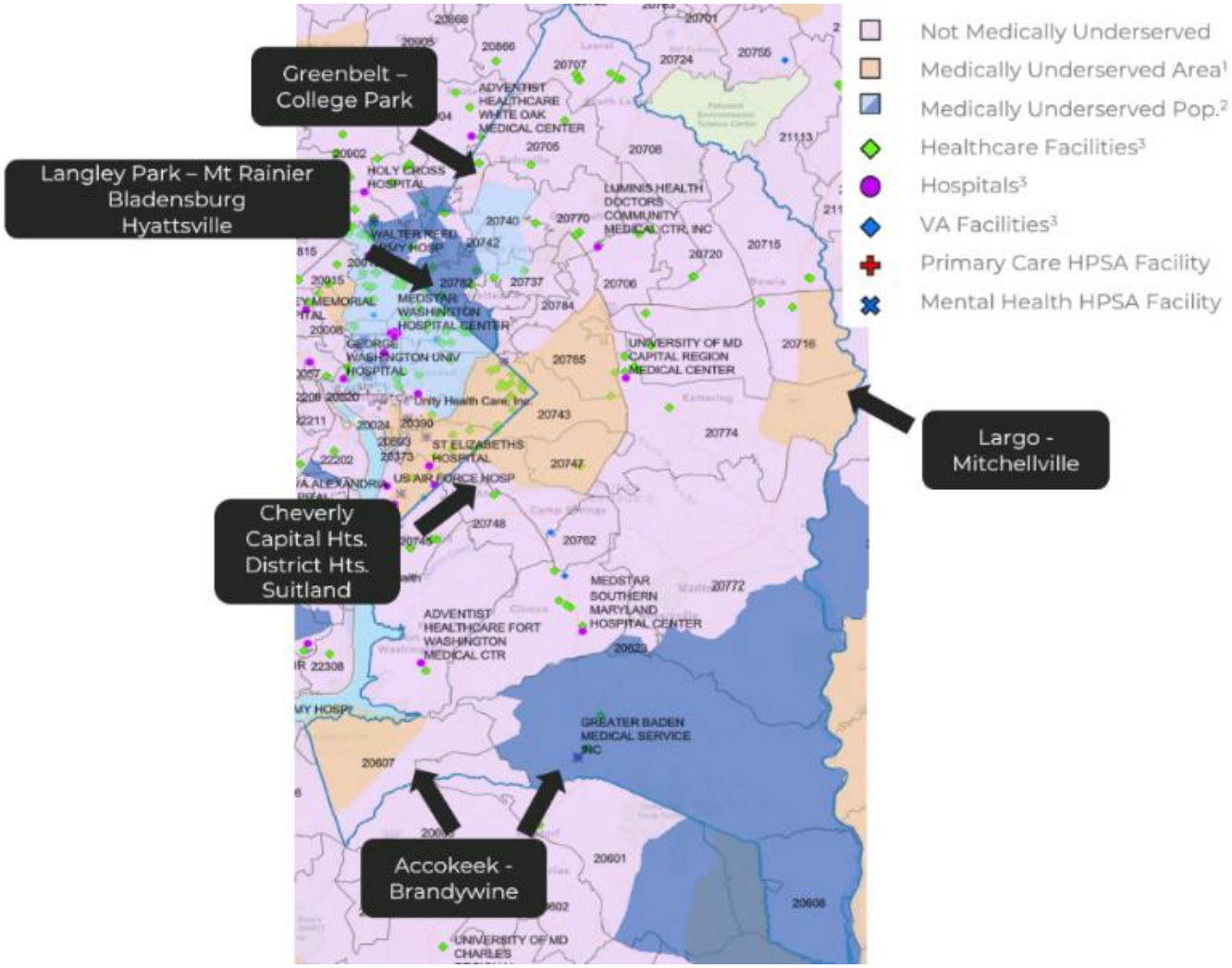


Figure 14. The Map Tool identifies pockets of medically underserved communities in the county with state or federal designation.

Map Tool | HRSA Data Warehouse, Accessed Mar 2023, illustrated in Figure 14.

1. Medically Underserved Area: shortage of primary care health services for residents within a geographic area
2. Medically Underserved Population: shortage of primary care health services for a specific population subset within an established geographic area
3. Healthcare facilities include ambulatory surgical centers, critical access hospitals, hospices, hospitals, intermediate care facilities, skilled nursing facilities, and Veteran's Healthcare facilities, as identified by CMS and VHA (Veterans Health Administration).

2.4 Population Needs – Key Findings

By combining healthcare infrastructure data with social needs data, it is possible to understand how significant an impact infrastructure has on healthcare outcomes.

In Prince George's County, there is a **very high correlation between the risk for transportation insecurity, housing quality, food insecurity, and the likelihood of using the emergency department**, especially in medically underserved areas.

Risk for chronic health conditions (e.g., obesity) is linked to varying social needs across the county.

2.4.1 Impact of Social Risk on ED Utilization in MUAs

High risk of transportation insecurity, food insecurity, and housing quality in medically underserved areas are each heavily correlated with high ED utilization. This is particularly true for communities in the Inner Beltway and North County, located farthest from hospitals in the county, as seen in the pink areas of Figures 15 and 16. There are no hospitals in the Inner Beltway, and the primary hospital in North County is not directly accessible through public transit from all parts of the county (e.g., Hyattsville).

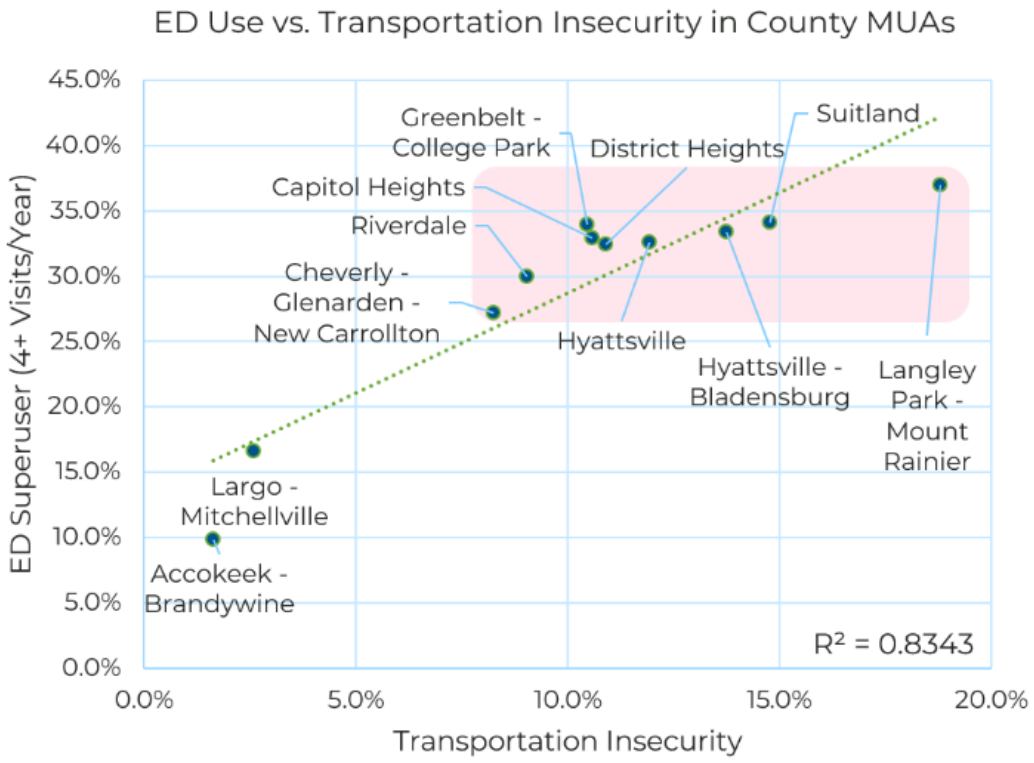
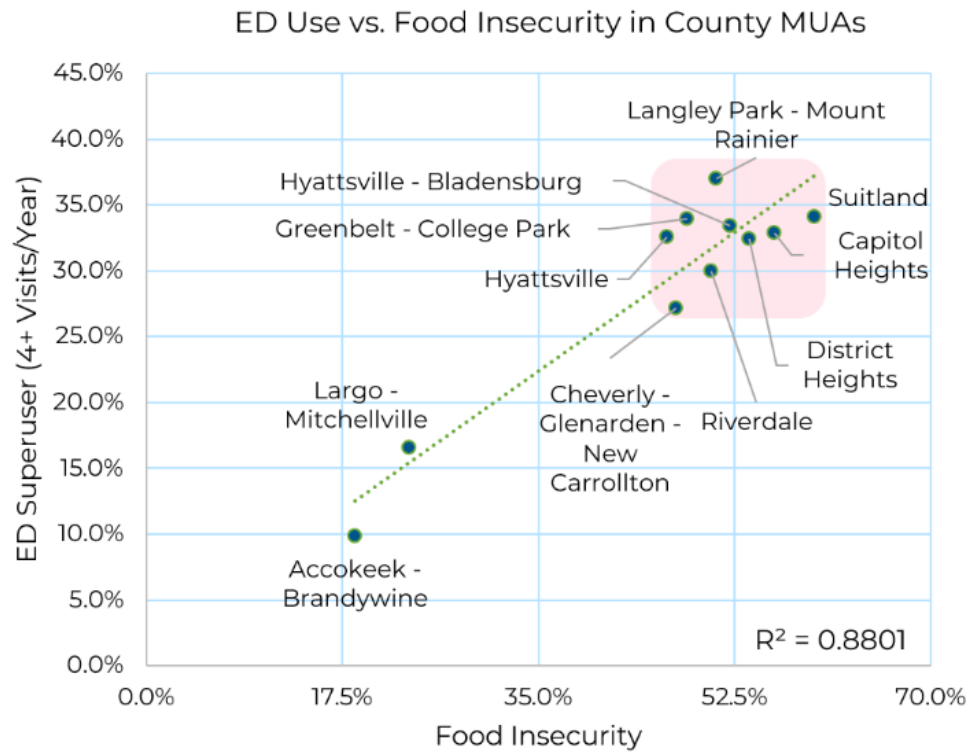


Figure 15. Medically underserved areas with high social needs are highly correlated with increased ED use.



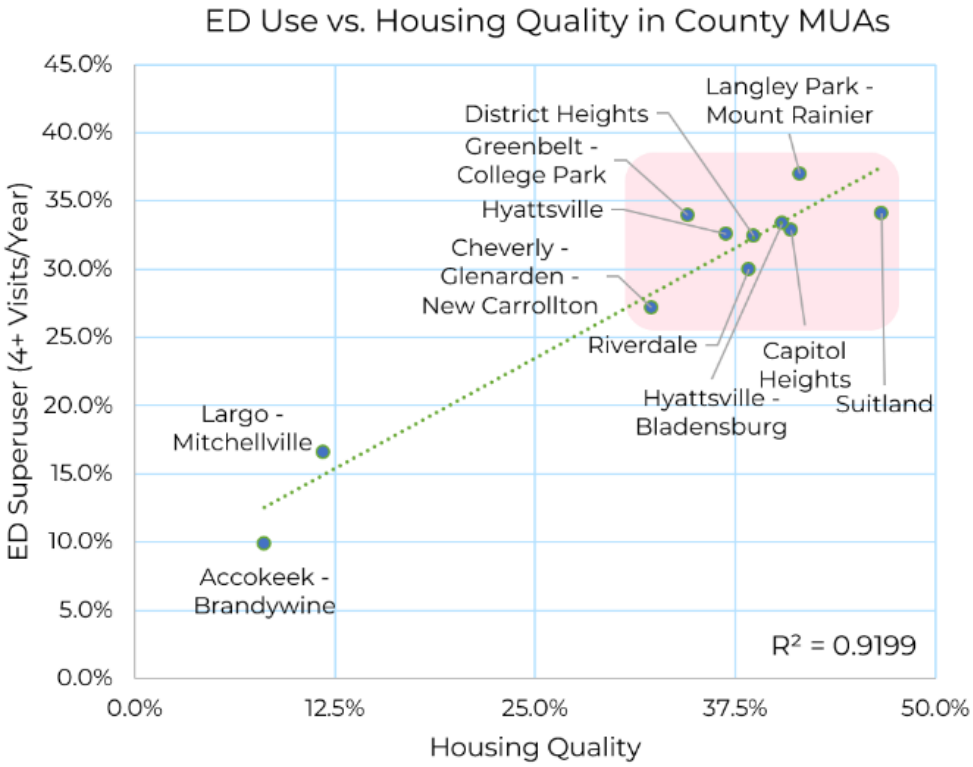


Figure 16. Medically underserved areas with high social needs are highly correlated with increased ED use.

2.4.2 Healthcare Outcomes Based on Social Risk Factors

Healthcare infrastructure and social needs play a pivotal role in shaping the health outcomes of populations, in this case, disease states such as asthma, obesity, and substance abuse. Elevated social risks (e.g., food insecurity) are an important contributor to poor health outcomes. ~**50% of adults in Prince George's County either are at risk for or are identified as obese, as seen in Figure 17.**

Obesity is **highest in the Inner Beltway, the most food-insecure region** of the county.

		Overall Needs Summary	Health Outcome Risk		
	Adult (18+ Population)	Social Needs Score	Asthma	Obesity	Substance Abuse
United States		21.1	8.8%	32.1%	15.6%
Maryland		17.5	9.1%	31.1%	15.9%
District Of Columbia	571,626	28.0	8.0%	24.2%	22.4%
Montgomery County	629,629	14.2	4.5%	12.3%	20.0%
Prince George's County	571,746	21.8	6.5%	48.7%	13.0%
Inner Beltway	160,980	27.6	6.1%	59.7%	12.6%
Central	79,157	17.3	6.0%	43.7%	11.7%
North	154,756	20.3	5.5%	35.7%	15.7%
South	176,853	19.7	7.8%	52.1%	11.5%

Figure 17. Obesity risk is elevated across Prince George's County, but particularly in areas with high food insecurity such as Inner Beltway.

Health Risk Factor Definitions:

Asthma: Likely to have asthma, mild, moderate, severe, unspecified asthma
Obesity: Likely to have obesity, morbid obesity
Substance Abuse: Likely to have a substance use disorder, such as alcohol, opioids, cannabis, sedatives, hypnotics, cocaine, hallucinogens, inhalants, and narcotics.

2.4.3 Profiling Three At-Risk Populations

In accordance with requests of county and hospital leaders, our assessment highlighted the needs of three sub-populations – Black women of childbearing (18-44) years, Hispanic women of childbearing years, and Black men aged 45 and above – to compare SDoH across specific populations.

Social risk factors were found to be particularly relevant for 18 – 44-year-old female populations regardless of race/ethnicity (Black or Hispanic), although each group faces different health challenges/comorbidities. **Black birthing-age women are more likely to be at risk for obesity (67.5%), whereas Hispanic women are at higher risk for substance abuse issues (33.1%)**. Both groups face significant social risks, with particularly **elevated risk for food insecurity (~70% of women at risk), housing quality (~50% of women at risk), and childcare needs (~20% of women at risk)**. These findings highlight the importance of coupling healthcare infrastructure investments with social investments to improve health for this population.

On the other hand, while **45+-year-old Black males** showed high levels of obesity (44.5%) compared to national and state averages, these rates were lower than the county average. Similarly, social risks for this population were in line with or lower than county averages. Accordingly, **social investments in transportation, housing, and food are less critical to the health of this population as compared to health literacy and healthcare screening efforts (e.g., elevated colorectal cancer risk for Black men regardless of social needs).**

MATERNAL and CHILD HEALTH		BLACK MEN'S HEALTH
ABOUT THEM: • Race/Ethnicity: Black • Gender: Females • Age Group: 18 – 44 • Average SNS: **37.0**	**ABOUT THEM:** • Race/Ethnicity: Hispanic • Gender: Females • Age Group: 18 – 44 • Average SNS: **39.8**	**ABOUT THEM:** • Race/Ethnicity: Black • Gender: Males • Age Group: 45+ • Average SNS: **15.9**
HEALTH OUTCOMES: 1. Obesity (67.5%) 2. Substance Abuse (7.8%) 3. Asthma (7.1%)	**HEALTH OUTCOMES:** 1. Substance Abuse (33.1%) 2. Obesity (23.2%) 3. Asthma (2.0%)	**HEALTH OUTCOMES:** 1. Obesity (44.5%) 2. Asthma (6.9%) 3. Substance Abuse (4.9%)
SOCIAL RISKS: 1. Food Insecurity (63.1%) 2. Housing Quality (44.6%) 3. Childcare Needs (22.6%)	**SOCIAL RISKS:** 1. Food Insecurity (75.1%) 2. Housing Quality (58.0%) 3. Childcare Needs (18.5%)	**SOCIAL RISKS:** 1. Food Insecurity (21.8%) 2. Housing Quality (13.4%) 3. Childcare Needs (4.3%)

3. Evaluate Clinical Resource Needs

Evaluate Clinical Resource Needs (Physicians, Beds)

- Quantify physician shortages in DC, Montgomery and Prince George's County
- Quantify hospital bed gaps
- Identify disparities in physician and bed concentration across county regions

3.1 Physician Needs

Huron performed a physician needs analysis to identify gaps between the local population's needs and the available supply of physicians. Recognizing that the residents of Prince George's County often cross county and state lines due to regular commuting habits, the entire "DC-MD metro area" was analyzed individually and as a composite geographic area, including the District of Columbia (D.C.), Montgomery County, and Prince George's County.

While D.C. and Montgomery County reduce some physician gaps, **significant deficits in Prince George's County contribute to overall physician needs in the DC-MD metro area**.

There is an extremely disparate distribution of physicians in the county. **Inner Beltway and South County have 2-15 times lower physician concentration than the rest of the county.**

3.1.1 Huron's Approach

Huron took a measured approach to quantify the physician gap across the DC-MD metro area according to the steps below.

1. **Identify Actual Physician Supply in the County/District**
   - Data is based on Huron's database of Commercial and Centers for Medicare & Medicaid Service (CMS) claims.
   - A physician had to have greater than or equal to five different procedures within 12 months[1].
   - Physicians are mapped using their registered CMS specialty. Nurse practitioners/physician assistants are not included[2].
2. **Define Benchmarked Physician Supply**
   - Benchmarks are blended from four sources and normalized to the area's population.
3. **Quantify Gap to Target**
   - Gaps are for the overall county. Provider location and equity of access are not initially considered.

	Specialty	Prince George's County, Physician Supply (1)	2027 Estimated (2) AMA (US Supply)	GMENAC	Mature HMO	Kaiser Plans	Average	Gap To Target (3)
Primary Care	Family & General Practice	102.0	312.8	250.2	423.0	102.3	272.0	-170.0
	Internal Medicine	180.0	382.3	285.9	198.6	282.0	287.2	-107.2
	Pediatrics	1.0	243.3	123.1	153.9	147.9	167.1	-166.1
	Obstetrics & Gynecology	9.0	134.0	98.3	112.2	106.2	112.7	-103.7
	Primary Care Total	***292.0***	***1,072.3***	***757.6***	***887.6***	***638.4***	***839.0***	***-547.0***

1. Use of 5 Different Current Procedural Terminology (CPT) Codes Is used as a proxy for exclusion of part-time physicians who may be on hospital rosters, but practice infrequently.
2. Nurse practitioners/physician assistants are registered to a role (not to a specialty), subject to variable licensure agreements by state, and are deployed using variable practice models. These factors limit the reliability of benchmarking exercises.

Physician Needs Assessment Sources:
AMA: American Medical Association National Benchmarks
GMENAC: Graduate Medical Education National Advisory Committee Report, sponsored by U.S. Dept Of Health And Human Services
Mature HMO: University of Washington Study
Kaiser Plans: Kaiser's Physician/Population Ratio

While the methodology is similar to peer bodies (e.g., Robert Wood Johnson Foundation, County Rankings), Huron's process has two key differences:

1. **Actual and contemporary patient care activity**
    - Huron's database of claims includes provider-level detail and is fully updated on at least a quarterly basis. This ensures that providers are counted based on actual proof of recently provided patient care as opposed to reviews of rosters or outdated databases.
2. **Accounting for non-patient-facing/part-time physicians**
    - To be counted as part of the physician supply available to patients, they are only included if they have billed five or more different codes on claims. Primarily, this excludes research-focused physicians and part-time/retired physicians. This provides a more conservative but more realistic physician count.

3.1.2 DC-MD Metro Area Physician Needs Five-Year Outlook (2027)

Based on expected population growth over the next five years, **Prince George's County had the most significant undersupply of physicians in the area, with a gap of over 1,000 physicians (~62% less than needed).** While Montgomery County also had a physician gap, this gap was far less significant at ~320 physicians (~17% less than needed). On the other hand, D.C. has a significant oversupply of physicians with a ~900 physician excess (~73% more than needed), especially medical and surgical specialists.

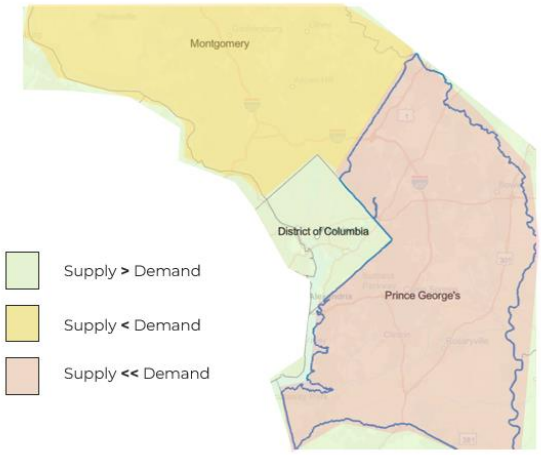


Figure 18. Physician supply vs. demand across the DC-MD metro area.

While some out-migration of services and sub-specialization is expected in D.C. and Montgomery County, the **outsized physician gap in Prince George's County for all services results in the entire DC-MD metro area experiencing a ~500 physician gap (~10% less than needed).** These gaps are most significant in **primary care, psychiatry, and surgical specialties** across the metro area.

These gaps are projected for 2027, but **~95% of the physician gap is attributed to physician gaps existing as of 2023, highlighting the urgent and ongoing need for investment.** Figures 18-20 detail various aspects of physician supply and demand in the area. See Appendix B for detailed service line-level physician gaps across the DC-MD metro area.

DC-MD Metro Area				
Specialty	**Supply**	**Demand**	**% Gap**	**Gap To Target**
Primary Care	1,881	2,352	-20%	-471
Medicine Specialties	928	647	43%	281
Psychiatry	69	266	-74%	-197
Surgery Specialties	641	796	-19%	-155
Hospital Based Specialties	844	811	4%	33
Total	***4,363***	***4,872***	***-10%***	***-509***
Other (Hospitalists)	109			

Figure 19. The DC–MD metro area has an overall physician shortage of ~500 physicians.

Prince George's County				
Specialty	**Supply**	**Demand**	**% Gap**	**Gap To Target**
Primary Care	292	839	-65%	-547
Medicine Specialties	160	231	-31%	-71
Psychiatry	8	95	-92%	-87
Surgery Specialties	90	284	-68%	-194
Hospital Based Specialties	115	289	-60%	-174
Total	***665***	***1,738***	***-62%***	***-1073***
Other (Hospitalists)	8.0			

Montgomery County				
Specialty	**Supply**	**Demand**	**% Gap**	**Gap To Target**
Primary Care	680	923	-26%	-243
Medicine Specialties	343	254	35%	89
Psychiatry	30	104	-71%	-74
Surgery Specialties	251	312	-20%	-61
Hospital Based Specialties	283	318	-11%	-35
Total	***1,587***	***1,911***	***-17%***	***-324***
Other (Hospitalists)	34.0			

District Of Columbia				
Specialty	**Supply**	**Demand**	**% Gap**	**Gap To Target**
Primary Care	909	590	54%	319
Medicine Specialties	425	162	162%	263
Psychiatry	31	67	-54%	-36
Surgery Specialties	300	200	50%	100
Hospital Based Specialties	446	204	119%	242
Total	***2,111***	***1,223***	***73%***	***888***
Other (Hospitalists)	67.0			

Figure 20. Although Figure 18 shows a shortage of ~500 physicians in the DC-MD metro area, this shortage is disproportionately due to the ~1,075 physician gap in Prince George's County.

3.1.3 Physician Distribution Across Prince George's County

Physician distribution is most frequently represented as the population-to-physician ratio for each geography of interest. A physician was counted as working in a region based on the billing zip code on said physician's claims. Given the especially large gap in primary care physicians in the county, this population-to-physician ratio was separately calculated for primary care as well as overall. **A higher ratio is indicative of physician deficits and challenges in timely patient access to care.**

In line with the significant primary care physician gaps noted above, **Prince George's County has a ~60% higher population-to-physician ratio than the DC-MD metro area overall (2,331: 1 vs. 1,468: 1).** These ratios, shown in Figures 21 and 22, are **even higher in the Inner Beltway and South County**, highlighting the disparate distribution of physicians and existing healthcare resources within the county.

Upon deeper examination, **portions of the county have 2-15x higher ratios than the county average**, contributing to vastly disparate levels of access to healthcare services across the county and overall lower access than surrounding communities.

While some portions of the county (e.g., Central County) do have resources more in line with population needs, the significant gaps in neighboring county regions place strain on these resources, rendering them insufficient. In addition, county residents – especially those with the most social risks – experience undue hardship in traveling to access healthcare resources that should be available within each region.

	2022 Total Population	Population: Primary Care Physician Ratio (1468 = 1,468 Residents per 1 Primary Care Physician)	Population : Physician Ratio (633 = 633 Residents per 1 Physician)
DC-MD Metro Area	2,760,579	1468	633
District Of Columbia	706,367	777	335
Montgomery County	1,077,335	1584	680
Prince George's County	**976,877**	**2331**	**796**
Inner Beltway	302,074	2456	1031
Central	110,313	1751	731
North	312,991	2144	670
South	251,499	2891	796

Figure 21. Prince George's County has a higher population-to-provider ratio for both primary care and overall providers than the surrounding communities. Within Prince George's County, these ratios are highest in Inner Beltway and South County.

City-Zip	Population: Primary Care Physician Ratio (14233 = 14,233 Residents per 1 Primary Care Physician)	Population : Physician Ratio (10675 = 10,675 Residents per 1 Physician)
Capitol Heights -20743	14233	10675
Accokeek -20607	12526	4175
Hyattsville -20783	8398	5599
District Heights -20747	7522	3761
Bowie -20721	7399	1973
Upper Marlboro -20772	6698	3152
Bladensburg -20710	5134	1711
Bowie -20720	5096	3640
Fort Washington -20744	4449	1483
New Carrollton -20784	3978	2893
Hyattsville -20782	3660	1109
Beltsville -20705	3226	1344
Riverdale -20737	3100	1078
Forest Heights -20745	2954	812
Camp Springs -20748	2838	1655
Brandywine -20613	2817	845
Hyattsville -20781	2809	2809
Suitland -20746	2795	1118
Laurel -20708	2792	1642
Berwyn Heights -20740	2586	1001
Prince George's County	**2331**	**796**
Largo -20774	2178	1008
Brentwood -20722	1888	1510
Bowie -20715	1596	485
Cheverly -20785	1385	613
Clinton -20735	1125	224
Glenarden -20706	1064	371
Laurel -20707	1047	334
Greenbelt -20770	1042	189
Mitchellville -20716	776	323
Andrews Air Force Base -20762	746	299
Glenn Dale -20769	482	202

Figure 22. Population-to-provider ratios are 2-15 times higher in specific zip codes of Prince George's County as compared to others. Higher ratios are indicative of physician deficits and challenges in timely access to care.

3.2 Bed Needs

Huron performed an analysis of hospital bed needs to identify gaps between Prince George's County and surrounding communities. The entire "DC-MD metro area" was analyzed individually and as a composite geographic area, including:

- District of Columbia (D.C.)
- Montgomery County
- Prince George's County

While the **DC-MD metro area has excess beds, Prince George's County has a 474 hospital bed deficit relative to the state of Maryland over the next 20 years.**

The **Inner Beltway, North County, and South County have a bed deficit**, whereas Central County does not.

3.2.1 Huron's Approach

Several state and private data resources were used to appropriately benchmark bed needs in Prince George's County, as noted in Figure 23.

1. **Aggregate bed types and supply from third-party, state, and national resources:**
    1. Definitive – compiled market hospital data
    2. State of Maryland – specialized bed type data
    3. American Hospital Association – national bed data
2. **Use bed volumes and projected county population growth as inputs to quantify bed gaps relative to:**
    1. National averages
    2. State averages
3. **Quantify bed allotments by service lines using:**
    1. Maryland state data for OB, pediatrics, and psychiatry
    2. Market claims data for other service lines
    3. Feedback from the county on prioritized service gaps

1

Geography	Total Staffed Beds	2022 Population[1]	Beds Per 1,000	Relative To US	Relative To State
Maryland[3,4]	6,019	5,663,868	1.1	-61%	n/a
Prince George's County, MD[4]	602	976,877	0.6	-78%	-42%

$$\frac{6{,}019\ Beds}{5{,}663{,}868} * 1{,}000 = \mathbf{1.1\ Beds\ Per\ 1{,}000}$$

2

For Prince George's County To Have As Many Beds Per 1,000 As:	How Many Total Staffed Beds Are Needed In:[2]				
	2022	2027	2032	2037	2042
State Average[1]	1,038	1,048	1,057	1,067	1,076
Additional Beds	436	446	455	465	474
1. Assumes Consistent Beds Per 1,000 National And State Average Over Next 20 Years					
2. Projected Staff Needs Are Based On 2022 County Population (~977k), assuming CAGR of 0.18% for the next 20 Years					
3. Prince George's County Has 602 Total Staffed Beds As Of July 2023					

County Pop. Estimates	976,877	985,783	994,687	1,003,672	1,012,737

3

$$\text{In 2042: } \frac{1{,}012{,}737}{1{,}000} * 1.1\ \text{Beds Per } 1{,}000 = \mathbf{1{,}076\ Beds\ Needed}$$

$$1{,}076\ \text{Beds Needed} - 602\ \text{Beds Available in 2023} = \mathbf{474\ Additional\ Beds}$$

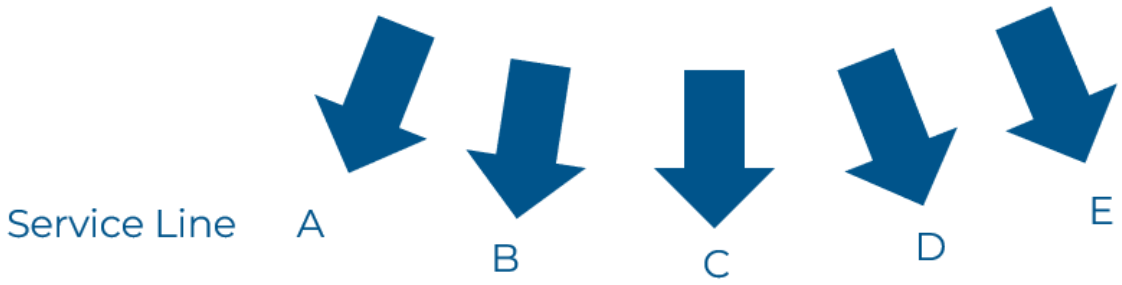


Figure 23. Prince George's County bed needs were compared to state data to quantify gaps relative to peer communities.

3.2.2 Overall Hospital Bed Gaps, 20-Year Outlook

Prince George's County has:

- **78% fewer** hospital beds per 1,000 than the **national average**.
- **42% fewer** hospital beds per 1,000 than **Maryland's average**

Geography	Total Staffed Beds	2022 Population[1]	Beds Per 1,000	Relative To US	Relative To State
United States[2]	919,649	335,707,897	2.7	n/a	n/a
DC-MD Metro Area[3]	4,611	2,760,579	1.7	-39%	57%
Washington DC[3]	2,994	706,367	4.2	55%	299%
Maryland[3,4]	6,019	5,663,868	1.1	-61%	n/a
Montgomery County, MD[3]	1,015	1,077,335	0.9	-66%	-11%
Prince George's County, MD[3]	602	976,877	0.6	-78%	-42%
1. ESRI 2022					
2. U.S. Staffed Bed Count: https://www.aha.org/statistics/fast-facts-us-hospitals					
3. Definitive 2021 includes facility types: short-term acute care hospital, long-term acute care hospital, children's hospital, rehabilitation hospital, and psychiatric hospital. UMMS Capital Region data provided by Erica Wilson					
4. Maryland staffed beds and population excludes the City of Baltimore, per county leadership guidance					

For Prince George's County to increase its bed count in line with Maryland state averages, **~474 additional beds are needed by 2042,** as seen in Figure 24. The need for beds can be addressed through a combination of solutions, including building additional hospital beds, targeted use of ambulatory surgery centers in service lines to displace the need for additional inpatient beds, prioritization of bed use/growth in line with highest county needs, and hospital-at-home programs.

Projected bed needs are most significant in the **Inner Beltway and North County,** which currently have **0% and 60% of the number of beds needed in 2042**, respectively. See Figure 25.

Beds at **UMMS Capital region**, intentionally positioned close to the Inner Beltway, **offset less than one-third of the total bed needs of the Inner Beltway region**. See Appendix B for bed counts by organization.

Like the physician gap, **over 90% of the bed gap can be attributed to gaps that exist today**, as opposed to future shifts.

For Prince George's County To Have As Many Beds Per 1,000 As:	How Many Total Staffed Beds Are Needed In:[2]				
	2022	2027	2032	2037	2042
National Average[1]	2,676	2,700	2,725	2,749	2,774
Additional Beds	2,074	2,098	2,123	2,147	2,172
State Average[1]	1,038	1,048	1,057	1,067	1,076
Additional Beds	436	446	455	465	474
1. Assumes Consistent Beds Per 1,000 National And State Average Over Next 20 Years					
2. Projected Staff Needs Are Based On 2022 County Population (~977k), assuming CAGR of 0.18% for the next 20 Years					
3. Prince George's County Has 602 Total Staffed Beds As Of July 2023					

Figure 24. 474 additional staffed beds are needed by 2042 for Prince George's County to have comparable staffed beds to the Maryland state average.

How Many Beds Are Needed In Each Region To Have As Many Beds Per 1,000 As State Average[1]		Total Staffed Beds Needed In:[2]					% Of Beds Needed Available Today
		2022	2027	2032	2037	2042	
Inner Beltway	Total Beds Needed	321	323	324	326	328	0%
	Additional Beds	321	323	324	326	328	
Central County	Total Beds Needed	117	119	122	124	126	171%
	Additional Beds	-98	-96	-93	-91	-89	
North County	Total Beds Needed	333	335	337	339	341	60%
	Additional Beds	127	129	131	133	135	
South County	Total Beds Needed	267	271	274	278	282	64%
	Additional Beds	86	90	93	97	101	
1. Assumes Consistent Beds Per 1,000 National And State Average Over Next 20 Years							
2. Projected Staff Needs Are Based On 2022 County Population, Assuming Constant CAGR In Each Region For The Next 20 Years.							
3. Prince George's County Has 602 Total Staffed Beds As Of July 2023. 0 In Beltway 215 In Central County (UMMS) 206 In North County (Luminis) 181 In South County (MedStar + Adventist)							

Figure 25. All regions of Prince George's County need additional beds except for Central County.

4. Evaluate Care Consumption

Evaluate Care Consumption (Claims Activity)

- Identify patients trending towards high-risk disease states
- Quantify total care inside/outside county
- Identify service line level variations in care consumption
- Assess regional variations in care consumption

4.1 Predicted Disease States of County Residents

Huron performed a disease prediction analysis for Prince George's County residents to quantify and prioritize county health initiatives based on the disease states that county residents are trending toward. These disease prediction models are rigorously tested using billions of claims for patients across the United States. **By tracing the key diagnoses and procedures received by patients before receiving a more acute diagnosis, these models can help identify patients for early intervention or closer care coordination through their care journey.**

For example, Figure 26 represents a common patient journey for patients who have congestive heart failure (CHF). Because we have visibility into millions of patients who ultimately had this diagnosis, we can flag and weigh each precursor event to create a risk model for CHF. By comparing patients in Prince George's County to this model, we can identify patients at risk of developing this diagnosis.

Our approach for diagnostic risk prediction for individual patients is to:

1. Identify disease models of interest to Prince George's County.
2. Apply Huron's PREDICT model on the non-Medicare fee for service (FFS) patients in Prince George's County[1].
    - **Note:** due to Medicare data limitations, these models can only be applied to <u>non-Medicare fee-for-service</u> patients. In Prince George's County, this **<u>represents ~433,000 unique individuals (~45% of total population).</u>**
3. Assess opportunities for targeted outreach/care plan development for community patients for specific disease states.

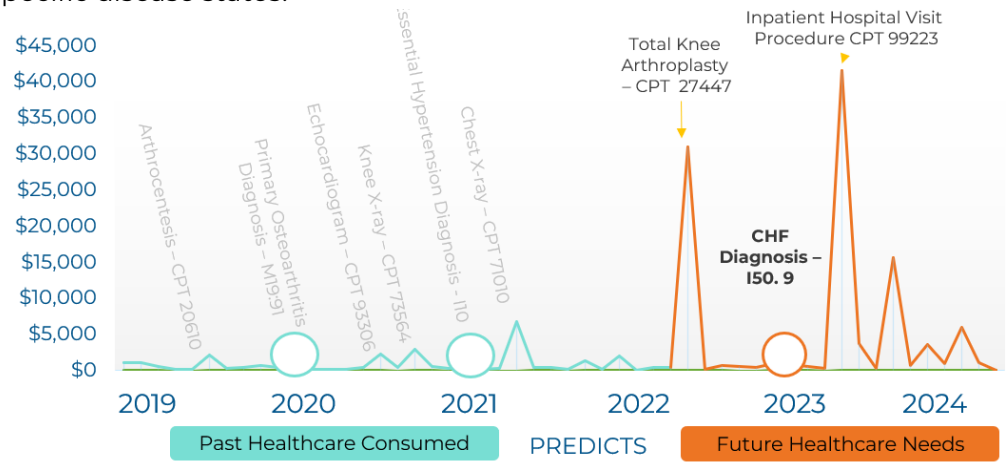


Figure 26. Using past healthcare data, it is possible to predict future care (e.g., CHF) a patient may need.

1. Identified as patients whose last encounter occurred at an organization billing to a zip code in Prince George's County

There are three risk buckets associated with each disease state. Patients are put in each bucket based on the number, type, and weighting of features (i.e., diagnoses and/or procedures) that match each disease model.

Highest Risk (0.95+):	High Risk (0.85-0.94):	Risk (0.75-0.84):
• Patient is likely undiagnosed for disease state of interest • Clinical intervention is likely needed	• Patient is strongly trending towards disease state of interest • Clinical intervention can mitigate cost/risk	• Patient is trending towards disease state of interest • Clinical or non-clinical intervention can mitigate cost/risk

Groupings and Codes:
Disease states of interest have been rolled up per guidance from Prince George's County.

Disease states were identified in line with findings from the 2022 Community Health Needs Assessment and ongoing feedback from community and provider leadership.

Focus Disease State Roll-Up	Disease State
Behavioral Health	Anxiety
	Depression
Breast Cancer	Breast Cancer
Cancer Other	Endometrial Cancer
	Leukemia
	Lymphoma
	Metastatic Brain Tumor
	Ovarian Cancer
	Prostate Cancer
Colorectal Cancer	Colorectal Cancer
Heart Health Other	Heart Transplant
	Ventricular Assist Device (VAD)
Lung Health	Asthma
	Chronic obstructive pulmonary disease (COPD)
	Emphysema
Lung Cancer	Lung Cancer
Late-Stage Metabolic Syndrome	Acute Myocardial Infarction
	Congestive Heart Failure
	Ischemic Heart Disease
	Atrial Fibrillation
Early-Stage Metabolic Syndrome	Diabetes Type 2
	Hypertension
	Hyperlipidemia
Nephrology	Chronic Kidney Disease
Neurology	Alzheimer's Disease

As seen in Figure 27, the **largest volume of residents, ~145k patients, are at risk for early-stage metabolic syndrome**, representing ~33% of the commercial population. In conjunction with late-stage metabolic syndrome, there is a significant **need in Prince George's County for healthcare infrastructure (beds and physicians) to support metabolic syndrome patients through screening and monitoring of risk factors, social needs intervention (e.g., food and transportation), and provider availability (e.g., primary care, cardiology, endocrinology, etc.).**

In addition, there is a significant population at risk for cancer diagnoses. In particular, the **highest risk bucket for "cancer other" includes ~25k patients**, indicating an extremely high likelihood of pending diagnosis and associated clinical care. Overall trends for cancer diagnoses (cancer other, colorectal cancer, breast cancer, lung cancer) highlight the **need for hematology/oncology providers and services within Prince George's County as opposed to the significant burden of out-migrating from the county for care.**

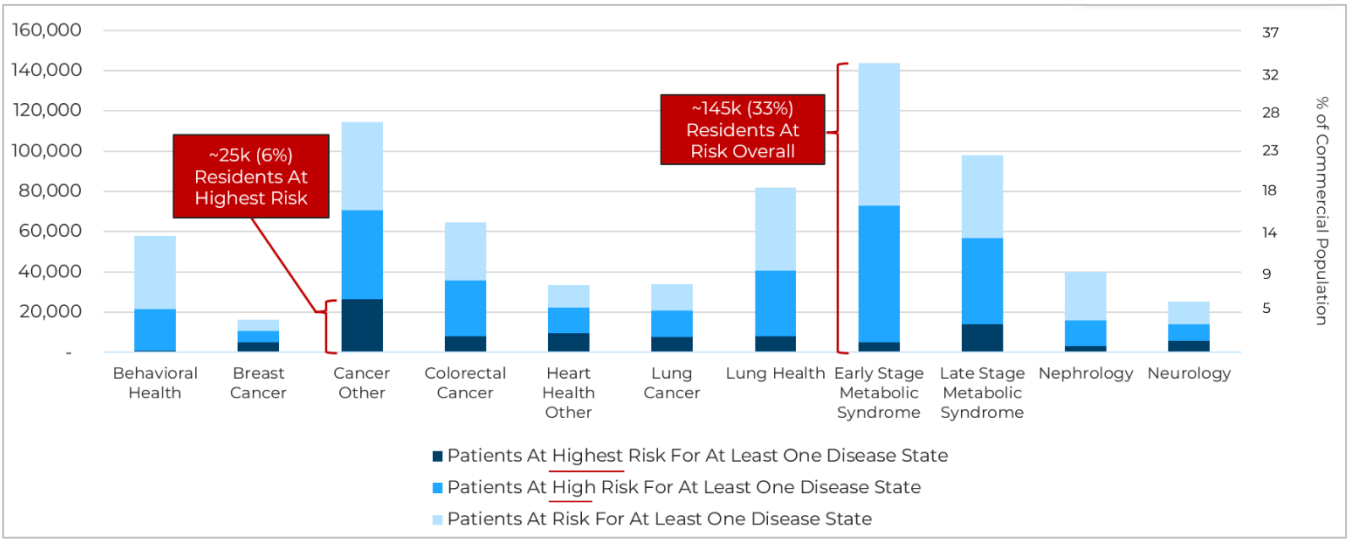


Figure 27. A high volume of Prince George's County residents are at risk for cancer and metabolic syndrome.

Service Line	Patients At Highest Risk For At Least One Disease State	Patients At High Risk For At Least One Disease State	Patients At Risk For At Least One Disease State	Total Patients At Risk
Behavioral Health	887	20,590	36,553	58,030
Breast Cancer	4,965	5,702	5,726	16,393
Cancer Other	26,566	44,218	43,821	114,605
Colorectal Cancer	8,048	27,616	28,998	64,662
Heart Health Other	9,688	12,527	11,495	33,710
Lung Cancer	7,672	13,036	13,238	33,946
Lung Health	8,096	32,688	41,210	81,994
Early Stage Metabolic Syndrome	5,016	67,841	70,948	143,805
Late Stage Metabolic Syndrome	13,979	42,693	41,396	98,068
Nephrology	3,231	12,622	24,094	39,947
Neurology	5,838	8,359	11,204	25,401

Figure 28. Disease state risks for patients in Prince George's County. Figure 27 in table format.

Note that patients may have co-morbidities that put them at risk for multiple disease states (e.g., a patient may be at risk for lung cancer and CHF). As such, the same patient can be represented in multiple service line buckets.

4.2 Care Consumption (Claims) Patterns

Huron performed an analysis of patient claims data for Prince George's County to identify patient care patterns, out-migration from the county, priority services that county residents seek, and regional variations in care. Analysis was completed using the Huron Intelligence claims platform, a claims database of over 39 billion claims that provides an **estimated 82% of claims coverage** across Prince George's County across multiple payor types, based on the total expected claims volume for patients aged +/- 65 years old.

Overall, residents of Prince George's County seek **~42% of their care outside of the county**. The services most often sought outside the county by volume are **Obstetrics (OB), cardiovascular, pulmonology, and general surgery**, representing ~45% of the total care sought outside the county.

4.2.1 Huron's Approach

Geographies of interest defined by Prince George's County were used to identify all claims data from CMS (i.e., Medicare fee-for-service) and commercial clearinghouse partners (non-Medicare fee-for-service). This composite view provides insight into how healthcare is consumed in and around Prince George's County across a comprehensive range of payors, including Medicare, Medicare Advantage, Managed Medicaid, commercial payors, and Blue Cross Blue Shield. Data is not available for state-managed Medicaid, charity care, and self-pay.

Medicare FFS (CMS)

- 100% Of Medicare Fee-For-Service Claims

Non-Medicare FFS (Commercial Clearinghouse Partners)

- Large, but not complete volume of:
  - Managed Medicaid
  - Commercial Payors
  - Federal Employees
  - Medicare Advantage
  - Blue Cross Blue Shield
  - Automobile Accidents
  - Workers Compensation

Key Exclusions

- Charity
- Self-pay
  - These types of care do not generate claims and are not represented in claims analysis
- State Managed Medicaid

Our analysis included ~10 million individual claim IDs, ~$10 billion in gross healthcare charges, and looked over four years, Q1 2019 – Q4 2022, based on the most contemporary data available at the onset of the project.

To specifically analyze care consumption patterns inside and outside Prince George's County, the following approach was applied:

1. Medicare FFS and non-Medicare FFS data were combined to form a composite, representative view of actual patient journeys in Prince George's County.
2. A one-year care window was defined to provide a relevant but complete view of care consumed from Jan 1, 2022, to Dec 31, 2022.
    - Claims may not be processed until as late as 60 days after the date of service, so the time window is intentionally defined in the recent past.
3. For patients that receive care in Prince George's County, all other care received by that patient (either before or after being seen in the county) was assessed to see how much occurred outside the county.

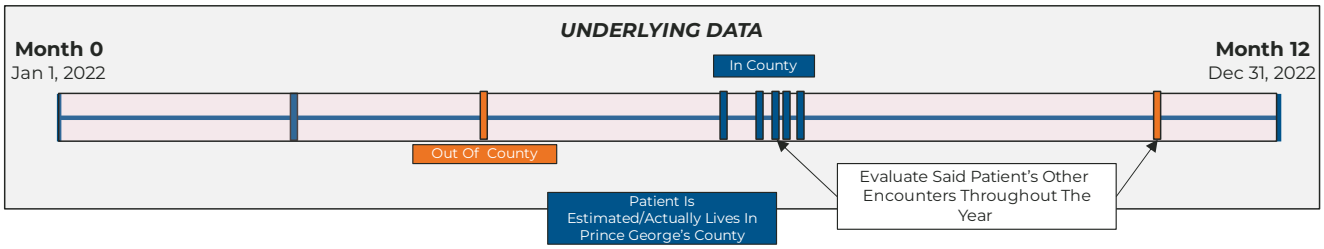


Figure 29. Analysis parameters and time range for identifying care in/outside Prince George's County.

4.2.2 Care Consumption Patterns: Out-migration and Regional Variation

The most frequently sought inpatient services by Prince George's County residents are **cardiovascular, pulmonology, infectious disease (excluded from subsequent analysis due to the inclusion of COVID-19-related claims), obstetrics, and gastroenterology**. However, each of these services is sought inside and outside the county at different rates, as seen on the right side of Figure 30. Overall, **~42% of care occurred outside the county**. Among the top five service lines sought by county residents, Cardiovascular, Infectious Disease, and Gastroenterology services were sought outside the county less often than the overall average (~25-35%), Pulmonology was in line with overall out-migration (~42%), and OB was significantly higher than the county average (~75%). As such, it is important to evaluate both the volume of care and percentage of care outside the county in tandem. For example, there are a very small amount of transplant cases, but 100% of transplant cases are conducted outside of the county. Investing in such services impacts a very small segment of the county's population, as compared to the volume and percentage out of county for OB.

Given the wide spread of out-migration by service line, county residents are influenced by service availability. For services with few facilities or providers available such as OB, residents seek care outside the county. For services with more facilities or providers available such as Gastroenterology, residents seek care within the county. As such, investments in services currently unavailable to county residents is likely to influence county resident behavior to seek those services closer to home.

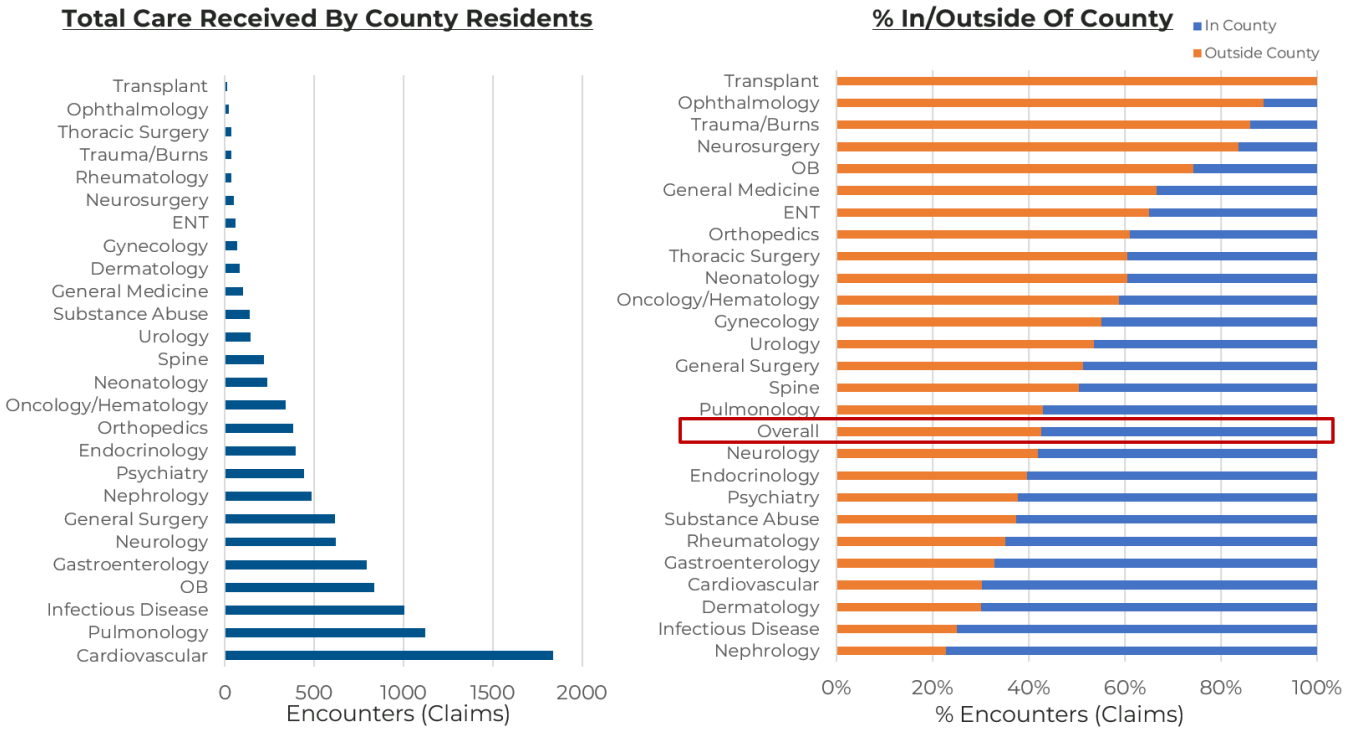


Figure 30. Prince George's County care consumption patterns: total volume of care + proportion in/outside county.

Upon focusing only on the care occurring outside of the county, variations in care sought by residents at the regional level were evaluated. This evaluation focused on the **~4,300 inpatient encounters outside of the county**, as seen in Figure 31.

By volume, Prince George's County residents most often seek **OB, Cardiovascular, Pulmonology, and General Surgery** services outside of the county, with particularly high volumes for:

- OB Care in North and Central County
- Cardiovascular Care in South County
- Pulmonology Care in North County

North County and **Central County** residents **received more care outside of Prince George's County** than patients who live in the Inner Beltway or South County, likely due to:

- **Patient choice** (esp. North/Central County)
- **Lack of access** (proximity to hospitals, transportation)

These regional variations were deemed a key input in subsequent analysis to ensure that resources deemed highest need at the county level were also distributed to the highest need regions.

See Appendix C for further analyses and care consumption trends that provide additional insight into regional trends but were not deemed essential data points for resource allocation.

	Inpatient Care Encounters: Out-Migration By Prince George's County Region				
	Inner Beltway (Pop. 302,074)	Central (Pop. 110,313)	North (Pop. 312,991)	South (Pop. 251,499)	Overall
Overall	**767**	**1,037**	**1,405**	**1,095**	**4,304**
OB	98	169	226	126	619
Cardiovascular	119	117	126	196	558
Pulmonology	87	111	171	114	483
General Surgery	46	74	114	82	316
Gastroenterology	50	65	86	60	261
Neurology	48	50	78	85	261
Infectious Disease	59	77	75	40	251
Orthopedics	50	58	39	86	233
Oncology/Hematology	36	57	68	38	199
Psychiatry	28	37	73	30	168
Endocrinology	20	42	62	34	158
Neonatology	15	33	79	17	144
Nephrology	20	36	31	24	111
Spine	17	12	20	60	109
Urology	22	16	24	14	76
General Medicine	7	12	27	22	68
Substance Abuse	6	12	29	5	52
Neurosurgery	2	13	9	17	41
ENT	5	11	12	11	39
Gynecology	9	15	9	5	38
Trauma/Burns	5	5	14	7	31
Dermatology	1	8	9	7	25
Thoracic Surgery	6	5	4	5	20
Ophthalmology	6		7	3	16
Transplant	3		6	5	14
Rheumatology	2	2	7	2	13

Figure 31. Out-migration for inpatient services by county resident region. Out-migration is highest regionally from North County and by service line for OB, cardiovascular, and pulmonology care.

5. Prioritize Service Lines

Prioritize Service Lines

- Create objective analytical scorecard to identify clinical priorities
- Weigh scorecard components in line with county priorities
- Incorporate regional variations in care to identify high need areas

5.1 Scorecard Methodology

County leadership recognizes that decades of underinvestment in healthcare infrastructure cannot be addressed fully through a single initiative.

The county objectively prioritized investments by weighing three key factors:

1. **Total volume of each clinical service** (cardiology, OB, etc.) sought by county residents.
2. **Proportion of "out-migration"** to access each clinical service.
3. **Gaps in associated service providers** to meet the needs of the county.

Additionally, the county is committed to bringing services to underserved regions and mitigating the impact of SDoH by:

1. Quantifying the cost to our community of inequity.
2. Using SDoH risk data to focus investments and interventions in regions of need.

With ~25 eligible service lines that needed to be prioritized, a combination of qualitative and quantitative approaches were used. In consultation with county leadership, a subset of specialties was identified for objective prioritization. This initial set was informed by data trends (e.g., exclude extremely low volume service lines) and county leadership feedback based on existing partnerships and conversations with public health leaders, providers, and payors. The top 10-12 service lines were fully evaluated using a standard quantitative approach in line with the county's process for prioritizing investments.

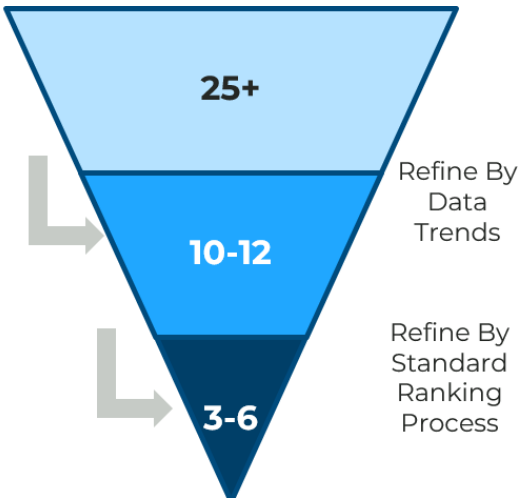


Figure 32. Prince George's County used a mix of qualitative and quantitative techniques upon reviewing data to identify top county priorities.

A **standardized 1-5 (5 indicates highest priority) scoring system** for each variable of interest was defined using the physician gaps, hospital bed gaps, and care consumption patterns for each service line. Scoring ranges for each individual value were defined **to create statistically significant groupings for each scorecard value 1-5**. See Appendix D for the scorecard ranges for each variable of interest. Weighting by the county is shown in yellow.

OB, as shown in Figure 33, scored highly on this scale per the scorecard rationale.

- **Care consumption, market shares, and migration** are particularly highly weighted by the county, representing **80% of the total score weight**. A score of 5 on these items indicates that the total volume of care, total volume of care outside the county, and % care outside of the county are the most elevated relative to the overall county average. Overall, most weighting was given to the total volumes to ensure that any investments were positioned to impact the greatest number of residents. OB scored a five on all three of these criteria, reaffirming the qualitative assessments and resident feedback for this service.

- **Physician gaps** represent the outstanding **20% of the total score weight**. County leadership prioritized services for which there were the largest physician gaps in the county but recognized that if these services are available in the DC-MD metro area, this may be acceptable for certain services (e.g., specialty surgeons). However, the county's focus was on ensuring that services were available within the county as much as possible, as seen by the 15% weighting for county gaps vs. 5% for DC-MD metro area gaps. OB care gaps in Prince George's County were quite significant, but these gaps were smaller when viewed in the context of the DC-MD Metro Area, resulting in scores of 5 and 3, respectively.

- Three **qualitative factors were included for reference**. These three factors included the **need for subsidy for a service line** (speaking to each service line's standalone profitability), **alignment with county goals and priorities** (speaking to the ongoing feedback from county payor and provider stakeholders), and **shifts in care patterns to an outpatient setting** (speaking to any evolving patterns in care away from more costly inpatient care). **These factors were not weighed in determining priorities in recognition that county wellness should not be singularly impacted by potential profitability or single-party interests.**

- While regional needs were not looked at in overall service-line selections at the county level, they were considered to inform areas where service-line-specific investment was most critical. These considerations were weighed based on three region-specific considerations. **20%** of the weighting was for the **region's specific out-migration rate** for each service line, which was scored highly if the region had a disproportionately high out-migration rate relative to the county average for that service line. The other **80%** was evenly distributed based on the county's relative physician gap. Because the raw physician gap is skewed by the different populations of each region, the **population: primary care and population: provider ratios** were used instead. Regions that scored highly are characterized by their lack of both preventative care (primary care physicians) and physicians overall. For OB, this highlighted the highest relative need in the Inner Beltway and South County.

Prince George's County Service Line Scorecard

Service Line OB

Low Priority — **Service Line Score** — High Priority

Characteristic Area	Detailed Characteristic	County Weighting	1	2	3	4	5	Overall Service Line Score
County Care Consumption, Market Share, And Migration Patterns	Total Market Size/Volumes in the Market	35.0%					X	4.9
	Total Volume Outside Of County	35.0%					X	
	% Market Share Outside County	10.0%					X	
Physician Supply	Size of physician gap in Prince George's County in 2027	15.0%					X	
	Size of physician gap in DC-MD Metro Area in 2027	5.0%			X			
Qualitative Considerations								
Financial	County's need to provide service line subsidy (Qualitative)	n/a		X				
Care Trends	Alignment with Long-Term County Goals & Priorities	n/a					X	
Care Trends	Shift to OP (Qualitative)	n/a			X			

Relative Service Line Need by County Region

Region	Detailed Characteristic							Regional Service Line Need Score
North County Migration Patterns And Localized Provider Access	Outmigration Rate Relative To County	20%				X		2
	Population : Primary Care Ratio	40%		X				
	Population : Provider Ratio	40%	X					
South County Migration Patterns And Localized Provider Access	Outmigration Rate Relative To County	20%	X					3
	Population : Primary Care Ratio	40%					X	
	Population : Provider Ratio	40%		X				
Inner Beltway Migration Patterns And Localized Provider Access	Outmigration Rate Relative To County	20%		X				3.6
	Population : Primary Care Ratio	40%			X			
	Population : Provider Ratio	40%					X	
Central County Migration Patterns And Localized Provider Access	Outmigration Rate Relative To County	20%			X			1.4
	Population : Primary Care Ratio	40%	X					
	Population : Provider Ratio	40%	X					

Figure 33. Service line scorecard, shown for OB. Service lines were rated from 0-5, with 5 as highest priority. Highlighted values indicate county determined weightings of each scorecard variable.

5.2 Service Line Priorities

After comprehensive evaluation and leadership feedback, the areas of focus are:

Cardiovascular + Pulmonology
The Two Largest Volumes Of Specialty Care Sought By County Residents

OB/GYN
~75% Of Care Occurred Outside The County, Coupled With Low Beds/Physicians Available

General Surgery
The Largest Surgical Need Of Residents, Coupled With Low Beds/Surgeons Available

Oncology/Hematology
~60% Of Care Occurred Outside The County, Coupled With Low Physicians Available

Primary Care
Largest Physician Gap In The County, Aligned To County's Focus On Prevention

Psychiatry + Substance Abuse
Large Physician And Bed Gaps, Coupled With Shifting County Resident Needs

6. Quantify Cost to Close Gaps

Quantify Cost to Close Gaps

1. Build a financial model for bed, physician, and infrastructure capital investments
2. Evaluate high value non-clinical/social needs to supplement clinical interventions
3. Align interventions with regional needs to maximize impact, improve health equity and increase access across the county

6.1 Financial Analysis Methodology

Huron used the healthcare infrastructure gap quantified above and financial benchmarks available for the state of Maryland and region to translate gaps into a strategic investment strategy. This quantification includes a detailed modeling exercise around short-term (0-3 years) investment and a higher-level cost estimate around closing the full healthcare infrastructure gap within Prince George's County over the next 10+ years.

6.1.1 Huron's Approach

The financial analysis approach includes two key facets:

- **Baseline Financial Inputs:** Identification of Prince George's County specific priorities and financial baselines to serve as inputs for detailed modeling.
- **Capital Expenditures:** In-depth calculations of expenditures and capital sourcing to create a comprehensive financial forecast and sensitivity models for various financing scenarios.

Baseline Financial Inputs:

Volumes: Base volumes for each service line were determined by counting inpatient instances of care for residents of Prince George's County, where the patient had to leave the county for care (out-migration). Outpatient claims volumes were then derived using an outpatient-to-inpatient (OP-to-IP) mix ratio. The financial model was therefore constructed to quantify the total cost of pulling all care (OP and IP) back into the county for the prioritized service lines.

See Appendix D for further information concerning volumes and volume assumptions.

1. **Revenue and Expense Baselines:** Case/encounter benchmarks (primarily per the Medical Group Management Association "MGMA" regional benchmarks and Maryland APR-DRG (i.e., all patients refined diagnosis-related groups) reimbursement rates were used to translate clinical volume into financial projections.

Capital Expenditures:

2. **Inpatient Expenditure:** (Implied bed need multiplied by construction cost per bed) + 35% soft costs + 10% contingency and escalation
    a) Implied bed need calculated using total annual patient days divided by 365 to get average daily census (ADC), assuming 75% target bed utilization rate.
    b) Construction cost per bed: $1.6 million – per Proest, Assets America.
3. **Outpatient Expenditure:** (Total square footage multiplied by construction cost per square foot) + 35% soft costs + 10% contingency and escalation

a) Square footage is determined using MGMA benchmarks by specialty for square footage per provider.
b) Number of providers determined using MGMA benchmarks by specialty for encounters per provider.
c) Construction cost per square foot: $498 primary care; $619 specialty – per LevelSet construction database.

4. **Sensitivity And Forecast Modeling**
   a) Consider the possibility of external funding (state, federal, local government funding, philanthropy, etc.) and debt financing (assumed at a 30-year term, 6% interest).
   b) Model sensitivities were also run around levels of out-migration volume capture.

6.1.2 Investing for Impact: Short- and Long-Term

Recognizing the magnitude of healthcare infrastructure gaps and associated investment needed by Prince George's County, two different sets of financial models were developed to both rapidly begin closing the most prominent care gaps while positioning the county to appropriately plan for long-term investments that close the full care gap through an **overall investment of $2.24 billion**.

1. **Short-Term: ~$276 million from years 0-3**
   Priority Service Modeling: This immediate investment focuses on reducing out-migration from Prince George's County for high volume, high value, and high-impact services. Given the range of services that patients leave the county for, county leadership chose to focus on six priority service lines identified using the service line scorecard. While not included in the scorecard, primary care was selected in addition to the service lines below given the vast primary care physician gap (~500 Physicians, nearly 50% of the total physician gap in the county) and preventative health focus of county leadership.
   - **Goal of Investment:** Ensure Prince George's County has sufficient healthcare infrastructure (inpatient beds, outpatient clinic space, physicians) to fully meet the volume of priority services for which residents currently out-migrate from the county.
   - **Investments Segmented by Priority Service Lines:** 1) behavioral health/substance abuse, 2) oncology/hematology, 3) cardiovascular services, 4) general surgery, 5) OB/GYN, 6) pulmonology, 7) primary care

2. **Medium to Long-Term: ~$1.96 billion with ~$983 million each from years 3-10 and from years 10+**
   Full Care Gap Modeling: This longer-term investment quantifies the total investment needed to close the full healthcare infrastructure care gap for physicians and beds. These investments are supplementary to the ~$276 million, resulting in a total investment of ~$2.24 billion across all service lines. The same baseline modeling considerations for IP and OP capital needs using the approach described above were applied.
   - **Goal of Investment:** Align the total physician supply with population needs and ensure the county has the number of hospital beds needed to align with the Maryland state average.
   - **Investments Segmented by Service Line Rollups:** 1) primary care, 2) medical specialties, 3) surgical specialties, 4) psychiatry, and 5) hospital-based specialties
     - See Appendix B for details on service line rollups.

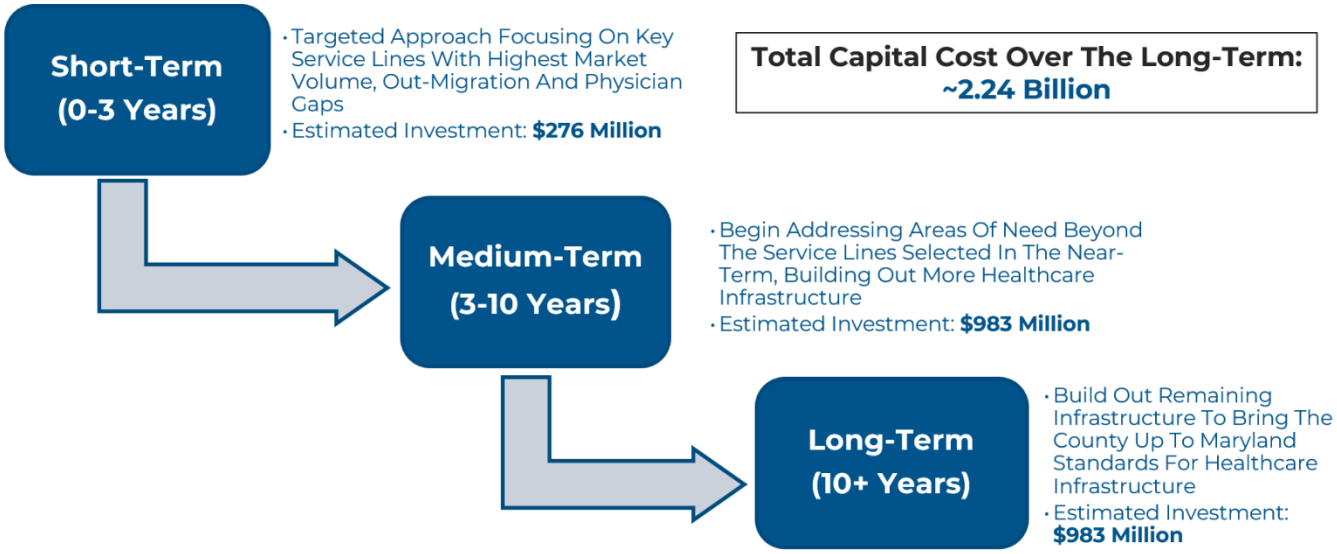


Figure 34. Three phases of investments over 10+ years leads to a $2.24 billion investment in Prince George's County.

6.2 Short-Term Investments (0-3 Years)

Short-term Investments are targeted to the seven prioritized service lines that were identified through analysis of out-migration and physician supply in the county. The associated influx of physicians, beds, and supporting healthcare infrastructure spans both inpatient and outpatient settings for a **total short-term investment of $276 Million**. Overall, this investment is focused on **adding 49 hospital beds, 172 physicians, and ~190,000 ft of outpatient clinic space across Prince George's County.**

The **three most significant service line investments are in primary care (~$80 million), pulmonology (~39 million), and cardiology (~$32 million).** Notably, pulmonology and cardiology represent the two largest volumes of out-migration from Prince George's County, whereas primary care represents the single largest physician gap in the county (~550 gap, nearly 50% of the county's total physician gap). Closing these gaps, along with investments in general surgery, OB/GYN, psychiatry, and oncology/hematology, highlight a blend of key services across the care continuum that can most immediately improve access to care and overall health for the largest volume of county residents.

Investments are also region-specific, based on the magnitude of out-migration, physician gap, and bed gap from each region. **Over 95% of investment is focused on North County, Inner Beltway, and South County, in line with the disproportionate gaps seen in these regions**. Central County is best positioned with healthcare infrastructure to support future population needs but currently bears a disproportionate burden by compensating for other regions. Targeted investment in surrounding regions to redirect this additional volume represents the most impactful way to ensure that Central County residents can benefit from the infrastructure already available in the region.

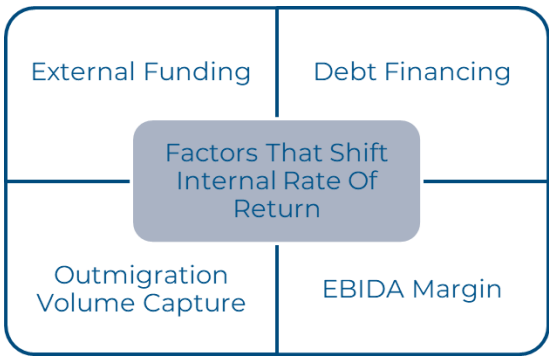
$ in 000s	Cardiology	Pulmonology	General Surgery	OB/GYN	Psychiatry	Oncology / Hematology	Primary Care	Combined
Total Implied Bed Need	12	11	7	11	4	4	-	49
Total Physicians	3	6	3	4	9	10	137	172
Total OP Square Footage	6,395	14,130	7,475	9,390	21,661	24,490	108,281	190,920
Total Capital Expenditures	**$34,710**	**$39,520**	**$23,740**	**$35,119**	**$29,713**	**$32,339**	**$80,886**	**$276,026**
North Region CapEx	$ 7,697	$ 8,764	$ 5,264	$ 7,788	$ 6,589	$ 7,171	$ 26,121	$ 69,394
South Region CapEx	$ 5,213	$ 5,935	$ 3,565	$ 5,274	$ 4,462	$ 4,857	$ 22,411	$ 51,717
Central Region CapEx	-	-	-	-	-	-	$ 7,717	$ 7,717
Inner Beltway CapEx	$ 21,800	$ 24,821	$ 14,910	$ 22,057	$ 18,662	$ 20,311	$ 24,637	$ 147,198

Figure 35. Short-term investments in Prince George's County are concentrated on 7 service lines across the four regions of Prince George's County. ~50% of the $276 million investment is focused on Inner Beltway.

Utilizing the capital estimates described above in conjunction with the volume estimates that were developed (see Appendix D for volumes, capital calculations, and revenue/expense assumptions), a five-year pro forma income statement was modeled to estimate operating performance and internal rate of return (IRR) resulting from these investments. While the operations generate positive earnings before interest, depreciation, and amortization (EBIDA), and internal cash flow by Year 3, due to the high capital investment required to generate these returns, overall IRR remains negative.

Given the baseline model's operating results and resulting negative IRR, it is important to consider the financial model's sensitivity to four key factors that, when altered, can shift the IRR to be less negative or break even. The appropriate combinations of these four factors are key considerations for Prince George's County public leaders, providers, and payors when determining appropriate funding sources.

1. External Funding – Any funding source where the funds supplied do not have to be repaid (e.g., state, federal, philanthropic funding)
2. Debt Financing – Assumed debt financing received is at a 30-year term and 6% interest rate.
3. Out-migration Volume Capture – Analyzing how results shift based on the percentage of the out-migration captured in the targeted service lines.
4. EBIDA Margin – Proxy for operating performance, analyzed how results shift based on improvements in the baseline models EBIDA margin



6.3 Medium and Long-Term Investments (3-10 Years and 10+ Years)

Medium to long-term investments are focused on expanding on the focused investments included in the short-term out-migration plan to bring Prince George's County up to the standard for healthcare infrastructure of Maryland as a whole. Total calculated capital expenditure is **$2.24B, or $1.96B, excluding the $276M of investment already included in the short-term cost estimate.** A full financial forecast (revenues, expenses, IRR calculations) on the larger care gap is not included in the scope of this report.

Overall, this investment results in the **addition of 474 hospital beds and ~1,050 physicians across all service lines over the next 10+ years.** Like the short-term, these investments are aligned with each of the four county regions in line with population needs and localized gaps in beds and physicians, as noted in Appendix D.

The **largest service line investments are in surgical specialties and hospital-based specialties**, a byproduct of the significant hospital bed gaps and associated healthcare infrastructure and costs for growing these service lines. Approximately 50% of the total physician increases are in primary care.

Like short-term investments, the **largest regional investments are focused on the Inner Beltway, North County, and South County**, in line with the largest hospital bed and physician gaps in these regions. Of note, the **Inner Beltway constitutes over 50% of the proposed investment,** given the largest bed gaps (no hospital beds in the region) and physician gaps (~350 physicians total, over 50% in primary care) in the county.

$ in millions	Medical Specialties	Psychiatry	Surgical Specialties	Hospital-Based Specialties	Primary Care	Combined
Total Capital Expenditures	**$152.5**	**$287.8**	**$649.1**	**$635.0**	**$241.4**	**$1,965.9**
North Region CapEx	$ 33.8	$ 63.8	$ 143.9	$ 140.8	$ 78.0	$ 460.3
South Region CapEx	$ 22.9	$ 43.2	$ 97.5	$ 95.4	$ 66.9	$ 325.9
Central Region CapEx	-	-	-	-	$ 23.1	$ 23.1
Inner Beltway CapEx	$ 95.8	$ 180.7	$ 407.7	$ 398.8	$ 73.6	$ 1,156.7

Figure 36. Overall investments in Prince George's County are concentrated on five service line roll-ups across the four regions of Prince George's County. Over 50% of the total $2.24 billion investment is focused on the Inner Beltway.

6.4 Social (SDoH) Investments

Just as investments in physicians, beds, and healthcare infrastructure can improve health outcomes, so too can investments in social infrastructure. Focusing on three key social risks experienced by Prince George's County residents — transportation insecurity, housing quality, and food insecurity – three corresponding initiatives were evaluated to assess the magnitude of impact and cost-effectiveness of such investments. **This ~$220M investment over ten years in social infrastructure represents one-tenth of the total $2.24B healthcare infrastructure investment and sets the stage to utilize a multi-faceted community-based, provider-based, payor-based, and county-based approach to dismantle health disparities**. While the interventions as sized below were evaluated for efficacy, an interactive model with customized inputs for social investments and healthcare savings allows the county to continue evaluating interventions in response to evolving funding sources and initiatives.

It is important to note these proposed initiatives **represent sample recommendations for the most experienced social needs. They do not encompass all possible social interventions** (e.g., education, crime reduction, care quality, and other direct upstream interventions) that Prince George's County can undertake to both address needs and reduce overall dependence on healthcare infrastructure.

Although initiatives can be developed in partnership with individual providers, payors, or community-based organizations in Prince George's County, an initial review of social risk across the county suggests that these challenges are most concentrated in certain regional clusters **across the Inner Beltway (Cheverly – Glenarden – New Carrollton, Capitol Heights, District Heights), North County (Hyattsville), and South County (Oxon Hill – Forest Heights – Clinton).** Notably, **over 50% of the total at-risk county residents for these three social factors live in these five clusters.** Targeting investments or partners in these regional clusters may provide cost efficiencies, especially for transportation and housing initiatives.

Top 5 Regions For Social Needs			
Regional Cluster	**Transportation**	**Housing Quality**	**Food Insecurity**
Cheverly - Glenarden - New Carrollton	5362	20971	30738
Oxon Hill - Forest Heights - Clinton	5150	17875	27564
Hyattsville	3843	11895	14960
Capitol Heights	2802	10848	14827
District Heights	2680	9519	13239
Top 5 Regions Represent __ % Of Total	**57%**	**55%**	**51%**
Total Adult Lives Impacted	**19837**	**71108**	**101328**

Figure 37. Over 50% of county residents impacted by transportation, housing quality, and food insecurity live in five regional clusters that are strong candidates for social and healthcare investments.

These same considerations were applied to allot investments across each region. **Over 90% of at-risk county residents live in Inner Beltway, North County, and South County**. Accordingly, Central County was excluded in investment allocations, showing that ~50% of social needs investments should be concentrated in the Inner Beltway and ~25% each in North and South Counties.

		Overall Needs Summary	**Social Risk Factors (% Of Total County Need)**			**$ Allocation**	
	Adult (18+ Population)	**Social Needs Score**	**Transportation Insecurity**	**Housing Quality**	**Food Insecurity**	**Average % Of Total County Need**	**Average % (Excluding Central County)**
Inner Beltway	160,980	27.6	49%	47%	42%	46%	**49%**
Central	79,157	17.3	5%	6%	8%	7%	**-**
North	154,756	20.3	26%	25%	24%	25%	**27%**
South	176,853	19.7	21%	22%	26%	23%	**24%**

Figure 38. Approximately 50% of social needs are Inner Beltway, while ~25% each are in North County and South County.

6.4.1 Transportation Insecurity

While healthcare infrastructure investments to expand the county's overall healthcare footprint will reduce barriers to access, this effort will need to be coupled with continued emphasis on individual barriers to care, such as transportation insecurity. One such intervention can be focused on chronic disease management. For example, early-metabolic syndrome conditions – like diabetes – are significantly better managed in response to consistent communication with providers during regularly scheduled checks. Accordingly, we estimated the impact of the intervention for one model to address transportation insecurity by **providing non-emergency transportation to and from appointments for diabetes patients** in Prince George's County. Providing four rides per patient over the span of one year entails a ~$1.2 million investment. Studies[1] have shown that participating patients experience significant improvements in managing diabetes that can provide ~$90 in monthly healthcare cost savings. Over the span of one year, **a $1.2M investment in non-emergency transportation to diabetes appointments can translate to an estimated ~$5.4M in healthcare savings**, representing a cost-effectiveness ratio of 4.52.

Target Population	Description	Intervention Cost	Projected Impact on Cost of Care
5,000 at-risk patients	Provide non-emergency transportation to and from appointments for patients.	Average cost per participant per ride: $60 40,000 rides (4 *rides/patient)* • **Total annual investment: $1.2M**	Non-emergency transportation for people to improve overall management of care from poorly managed to well managed. **Annual cost savings per patient are $1084, per member per month (PMPM) savings of $90. Projected annual total cost of care savings: $5.42M**

1. See NEMT-ROI-Methodology-Paper.pdf (mtaccoalition.org) for study details.

6.4.2 Housing Quality

Unhoused and underhoused individuals in the county face disproportionate social risk factors as well as high rates of readmission and emergency department utilization. Gentrification, inflation, and lack of affordable high-density housing continue to place strains on county residents. While additional initiatives continue in Prince George's County to combat the housing crisis, targeted initiatives in conjunction with county providers can reduce the disproportionate ED costs and readmission rates experienced by county residents at risk for housing. Given the range of options and costs for increasing housing supply (e.g., building public housing, retrofitting unused buildings, etc.), we estimated the impact of intervention for one model focused on a **$120M investment at a cost of $200k per unit to provide 600 housing units**. Accounting for 30-year straight-line depreciation and maintenance costs, this entails a ~$5.5 million annual cost.

Studies[1] have shown that participating patients experience ~67% reductions in total cost of care, providing yearly savings of ~$34k per patient. Depreciated over the span of one year, **a $5.5 million investment in housing for high-need patients can translate to an estimated ~$20.5 million in healthcare savings**, representing a cost-effectiveness ratio of 3.73.

Target Population	Description	Intervention Cost	Projected Impact on Cost of Care
600 at-risk patients	Housing authority will operate the development with a health provider to facilitate health services to all residents, including those recently discharged who lack a safe living situation in which to return.	• Subject to county discretion. • Assuming $120 million for 600 units with maintenance and 30-year straight-line depreciation • **Total annual investment: $5.5M**	Project a **67% reduction in participants' health care costs. Projected Annual Total Cost of Care Savings: $20.5M**

1. See UIC Hospital Health Sciences and Denver Housing Authority for study details.

6.4.3 Food Insecurity

Given the high prevalence of food insecurity and diabetes, metabolic syndrome, and obesity in the county, we evaluated one model for intervention focused on **providing medically tailored meals to 5,000 at-risk patients**. Providing five days of medically tailored meals over the span of one year entails an ~$8.8 million investment. Studies[1] have shown that participating patients experience significant reductions in ED visits and inpatient readmissions that can provide ~$570 in monthly healthcare cost savings per patient. Over the span of one year, **an $8.8M investment in medically tailored meals to reduce food insecurity among high-need patients can translate to an estimated ~$34.2M in healthcare savings**, representing a cost-effectiveness ratio of 3.88.

Target Population	Description	Intervention Cost	Projected Impact on Cost of Care
5,000 at-risk patients	Provide tailored meals, five days of lunches, dinners delivered weekly to determine whether home delivery of medically tailored reduces the use of health care services and medical spending among diabetic population	• Average monthly program costs per participant for medically tailored meals: $350 • **Total annual investment: $8.82M**	Medically tailored meal participants saw a **70% reduction in ED visits and a 52% reduction in inpatient admissions**. Program saw significantly lower medical spending compared to those not receiving any meal **support (average monthly difference of $570).** **Projected Annual Total Cost of Care Savings: $34.2M**
1. See Health Affairs - Meal Delivery for study details.			

6.4.4 SDoH Investment Summary

This **~$220 million investment over ten years** in social infrastructure represents one-tenth of the total $2.24B healthcare infrastructure investment while **providing services for 5,000 residents at risk for transportation insecurity, 600 residents at risk for housing insecurity, and 5,000 residents at risk for food insecurity.** Recognizing challenges in physician recruitment and healthcare infrastructure spend, **these initiatives represent adaptable investments as either portions of the short-, medium-, and long-term investments proposed for healthcare infrastructure or as supplemental investments that can continue reducing social barriers to health.** In line with the distribution of social needs across the county, ~50% of social needs investments are concentrated in the Inner Beltway and ~25% each in North and South Counties.

	North County (Pop: 312,991)	Inner Beltway (Pop: 302,074)	Central County (Pop: 110,313)	South County (Pop: 251,499)	Prince George's County (Pop: 976,877)
Short-Term (0-3 Years)	$8.12M	$14.7M	-	$7.21M	**$30.1M**
Medium-Term (4-6 Years)	$40.5M	$73.5M	-	$36.0M	**$150.1M**
Long-Term (7-10+ Years)	$10.8M	$19.6M	-	$9.62M	**$40.1M**
	$59.4	**$107.9M**	**-**	**$52.8M**	**$220.2M**

Figure 39. ~ 50% of the total $220 million investment is focused on the Inner Beltway over ten years.

Over the span of 10 years, this investment is uniform per year for tailored food services (~$8.8 million/year) and medical transportation (~1.2 million/year). Housing, which is represented as a single $120 million investment, results in increased capital allocation in the medium term in line with the tentative timeframe to secure funding.

	North County (Pop: 312,991)	Inner Beltway (Pop: 302,074)	Central County (Pop: 110,313)	South County (Pop: 251,499)	Prince George's County (Pop: 976,877)
Medical Transport *(5,000 Patients)*	$3.24M	$5.88M	-	$2.88M	**$12M**
Housing *(600 units)*	$32.4M	$58.8M	-	$28.8M	**$120M**
Tailored Meals *(5,000 Patients)*	$23.8M	$43.2M	-	$21.2M	**$88.2M**
	$59.4	**$107.9M**	**-**	**$52.8M**	**$220.2M**

Figure 40. The $220 million investment is distributed across three initiatives focused on medical transport, housing, and tailored meals over ten years.

7. Final Recommendations

The social needs, physician needs, bed needs, and care consumption analyses for Prince George's County illustrate significant gaps in social and healthcare infrastructure. Accordingly, **a multiphase $2.24 billion investment is needed to reduce health and social inequities, close healthcare gaps, and build the infrastructure to support Prince George's County for current and future generations**.

Through this historic investment, Prince George's County can:

1. Align the physician supply in the county to what is needed for the county's population by adding **~1,050 physicians across all service lines, with emphasis on primary care.**
2. Increase inpatient hospital beds to levels in line with the state of Maryland average through the addition of **~475 hospital beds**.
3. Provide services for **5,000 residents at risk for transportation insecurity, 600 residents at risk for housing insecurity, and 5,000 residents at risk for food insecurity.**

An **ongoing formalized alliance that builds on the existing partnerships in Prince George's County between providers, payors, and community-based organizations (CBOs) is necessary to effectively allocate and deploy this $2.24 billion investment**. Key facets of this alliance include central coordination of roles and responsibilities, launch and monitoring of interventions across multiple partners, and uniform measurement of healthcare and social outcomes for Prince George's County residents.

7.1 Healthcare and Social Needs Summary

North County, Inner Beltway, and South County are most in need of direct interventions, although the gaps at the county level highlight the need for investment in Central County, albeit more limited. Figure 41 summarizes these gaps across facilities, physicians, hospital beds, social risk factors, and out-migration, with items in **red** highlighting the most significant needs.

There are four hospitals across Prince George's County, with **at least one hospital in all regions except the Inner Beltway.** While there are some other facilities (e.g., outpatient clinics and federally qualified health centers) located in the Inner Beltway, there are no associated hospital beds. As such, most acute care needs require intra-county commutes, out-migration to D.C. or neighboring counties, or delays/deferrals in care.

There are also significant physician gaps across Prince George's County for specialty services and primary care. There is an **overall gap of ~1,050 physicians in the county, of which ~50% is focused on primary care.** While there are gaps in all four regions, these gaps are largest in **North County, Inner Beltway, and South County**.

There is also a **~475 hospital bed gap** in Prince George's County. In line with the hospital facility locations, this **gap is most pronounced in the Inner Beltway, which has zero hospital beds.** While UMMS Capital Region is in the proximity of the Inner Beltway, the available beds at that facility are insufficient to meet the needs of the total needs of Central County and Inner Beltway. Similarly, both North County and South County have bed gaps of 135 and 101 beds, respectively.

In combination, **physician and bed gaps are significant contributors to out-migration for specialty services from the county.** Across the county, residents most often seek OB, cardiovascular, pulmonology, general surgery, and neurology services outside of the county, with some minor variations across the county regions.

Social risk factors are most elevated in North County and Inner Beltway, as indicated by the percent of adults who experience food insecurity, poor housing quality, and transportation challenges outpacing the county average on all fronts. Overall, Central County and South County risk for these factors are in line with or lower than the county average.

	North County (Pop: 312,991)	Inner Beltway (Pop: 302,074)	Central County (Pop: 110,313)	South County (Pop: 251,499)	Prince George's County (Pop: 976,877)
Healthcare Facilities	1 Hospital Luminis	0 Hospitals UMMS and Luminis Are Closest	1 Hospital UMMS Capital Region	2 Hospitals MedStar & Adventist	4 Hospitals
Physicians (Current Supply / Future Need)	Primary Care: 89/265 Overall: 215/548	Primary Care: 98/255 Overall: 177/529	Primary Care: 41/93 Overall: 77/193	Primary Care: 62/213 Overall: 192/440	Primary Care: 292/839 Overall: 665/1738
Hospital Beds (Current Supply / Future Need)	206/341	0/328 *Central County offsets < 33% of gap*	215/126 *Excess Capacity For Inner Beltway*	181/282	602/1,076
Social Risk Factors	Food Insecure: 31% Housing Quality: 21% Transportation: 6%	Food Insecure: 52% Housing Quality: 38% Transportation: 11%	Food Insecure: 21% Housing Quality: 11% Transportation: 2%	Food Insecure: 29% Housing Quality: 16% Transportation: 4%	Food Insecure: 35% (29%) Housing Quality: 23% (25%) Transportation: 6% (8%) *(Natl. Avg. in Parentheses)*
Specialty Out-Migration (Top 5 Vol.)	**1. OB** **2.Pulmonology** **3.Cardiovascular** 4.General Surgery 5.Gastroenterology	**1. Cardiovascular** **2. OB** **3. Pulmonology** 4. Orthopedics 5. Gastroenterology	**1. OB** **2. Cardiovascular** **3. Pulmonology** 4. General Surgery 5. Gastroenterology	**1. Cardiovascular** **2. OB** **3. Pulmonology** 4. Orthopedics 5. Neurology	**1. OB** **2. Cardiovascular** **3. Pulmonology** 4. General Surgery 5. Neurology

Figure 41. Prince George's County needs summary. Areas of the regions with high need are shown in red.

7.2 Overall Investments

Significant gaps in Prince George's County healthcare infrastructure necessitate **multiple phases of sustained investment, totaling $2.24 billion.**

1. **Phase I: Short-Term (0-3 years): ~$276 million**

- Investments in priority service lines based on the county's most significant care volumes, out-migration, and physician gaps.
    - **Goal Of Investment:** Ensure Prince George's County has sufficient healthcare infrastructure (inpatient beds, outpatient clinic space, physicians) to fully meet the volume of priority services for which residents currently out-migrate from the county.
    - **Impact of Investment:** Addition of approximately 49 hospital beds, 172 physicians, and ~190,000 square feet of outpatient clinic space across Prince George's County.

2. **Phase II: Medium-Term (3-10 years): ~$983 million**

- Investments to begin expansion of additional services and infrastructure that require increased or intensive capital investment.

3. **Phase III: Long-Term (10+ years): ~$983 million**

- Investments to ensure all county residents have accessibility to healthcare infrastructure on par with peer Marylanders.
    - **Goal Of Investments:** Align the total physician supply with population needs and ensure the county has the appropriate number of hospital beds to align with the Maryland state average.
    - **Impact of Investments:** Addition of approximately 475 hospital beds and 1,050 physicians across Prince George's County.

In line with the needs of each region, most investment is **concentrated in North County, the Inner Beltway, and South County.** The **Inner Beltway constitutes over 50% of the proposed investment,** given the largest bed gaps (no hospital beds in the region) and physician gaps (~350 physicians total, over 50% in primary care) in the county. The full $2.24 billion investment constitutes ~50% of the investment focused on growing inpatient capacity, ~25% focused on growth in outpatient services, and ~25% focused on primary care. This distribution is informed by the variable physician gaps across service lines and the relative OP: IP mix of care that each service line entails.

Healthcare Infrastructure Investment by Timeframe:

	North County (Pop: 312,991)	Inner Beltway (Pop: 302,074)	Central County (Pop: 110,313)	South County (Pop: 251,499)	Prince George's County (Pop: 976,877)
Short-Term (0-3 Years) *Service Lines With Highest Volume, Out-Migration + Physician Gaps*	$69.4M	$147.2M	$7.7M	$51.7M	**$276.0M**
Medium-Term (3-10 Years) *Begin Expansion Of Additional Services And Infrastructure*	$230.2M	$578.3M	$11.6M	$163.0M	**$983.1M**
Long-Term (10+ Years) *Expanded Infrastructure On Par With All Marylanders*	$230.1M	$578.3M	$11.5M	$162.9M	**$982.8M**
	$529.7M	**$1,303.8M**	**$30.8M**	**$377.6M**	**$2.24B**

Note, columns may not tie exactly due to rounding.

Figure 42. The $2.24 billion investment in Prince George's County is distributed across the four regions of Prince George's County, with $276 million in the short term and ~980 million each in the medium-term and long-term. Over 50% of the total $2.24 billion investment is focused on Inner Beltway.

Healthcare Infrastructure Investment by Intervention:

	North County (Pop: 312,991)	Inner Beltway (Pop: 302,074)	Central County (Pop: 110,313)	South County (Pop: 251,499)	Prince George's County (Pop: 976,877)
Outpatient Investments	$174.1M	$492.6M	$ -	$117.7M	**$784.4M**
Inpatient Investments	$252.0M	$712.9M	$ -	$170.3M	**$1,135.2M**
Primary Care Investments	$104.1M	$98.2M	$30.8M	$89.3M	**$322.3M**
	$529.7M	**$1,303.8M**	**$30.8M**	**$377.6M**	**$2.24B**

Columns may not sum exactly due to rounding.

Figure 43. The $2.24 billion investment in Prince George's County is distributed across outpatient, inpatient, and primary care investments. Over 50% of the total $2.24 billion investment is focused on inpatient needs (e.g., hospital beds).

Social investments across the county can also be made, **either in lieu of or as supplement to the ~2.24 billion dollar investment**. Three intervention strategies — **providing services for 5,000 residents at risk for transportation insecurity, 600 residents at risk for housing insecurity, and 5,000 residents at risk for food insecurity —** require **~$220 million over 10 years.** Based on the relative need across the county, **~50% of investments are focused on the Inner Beltway and ~25% each in North and South Counties**. Recognizing the potentially different funding sources and initiatives that can support these interventions, healthcare and social infrastructure investments are represented as complementary, albeit separate, investments with similar timeframes and regional allocations.

Social Infrastructure Investment by Timeframe:

	North County (Pop: 312,991)	Inner Beltway (Pop: 302,074)	Central County (Pop: 110,313)	South County (Pop: 251,499)	Prince George's County (Pop: 976,877)
Short-Term (0-3 Years)	$8.12M	$14.7M	-	$7.21M	**$30.1M**
Medium-Term (4-6 Years)	$40.5M	$73.5M	-	$36.0M	**$150.1M**
Long-Term (7-10+ Years)	$10.8M	$19.6M	-	$9.62M	**$40.1M**
	$59.4	**$107.9M**	**-**	**$52.8M**	**$220.2M**

Figure 44. The $ 220 million social investment in Prince George's County is distributed across three regions of Prince George's County, with $30 million in the short term, ~150 million in the medium term, and $40 million in the long term. Over 50% of the total $2.24 billion investment is focused on Inner Beltway.

Social Infrastructure Investment by Intervention:

	North County (Pop: 312,991)	Inner Beltway (Pop: 302,074)	Central County (Pop: 110,313)	South County (Pop: 251,499)	Prince George's County (Pop: 976,877)
Medical Transport *(5,000 Patients)*	$3.24M	$5.88M	-	$2.88M	**$12M**
Housing *(600 units)*	$32.4M	$58.8M	-	$28.8M	**$120M**
Tailored Meals *(5,000 Patients)*	$23.8M	$43.2M	-	$21.2M	**$88.2M**
	$59.4	**$107.9M**	**-**	**$52.8M**	**$220.2M**

Figure 45. The $220 million social investment in Prince George's County is distributed across medical transport, housing, and tailored meals. Over 50% of the total $220 million investment is focused on housing.

7.3 Regional Investments

7.3.1 North County Healthcare and Social Needs

There is relatively high improvement in healthcare infrastructure needed in North County through a **$530 million investment over 10+ years**. North County is the most diverse region of the county, with the largest concentrations of Hispanic communities in the county. The region is also the most populated in the county and the second most densely populated.

North County has the second-highest regional SNS score in Prince George's County, with ~31% of adults estimated to be food insecure. The three regional clusters with the highest SNS scores in the region are Hyattsville, Greenbelt–College Park, and Laurel. In fact, Hyattsville ranks in the top five regional clusters across all of Prince George's County for the number of total residents experiencing food insecurity, issues with housing quality, and transportation insecurity.

North County also has the second largest physician and bed gaps in the county, with particularly high out-migration for OB, pulmonology, and cardiovascular services.

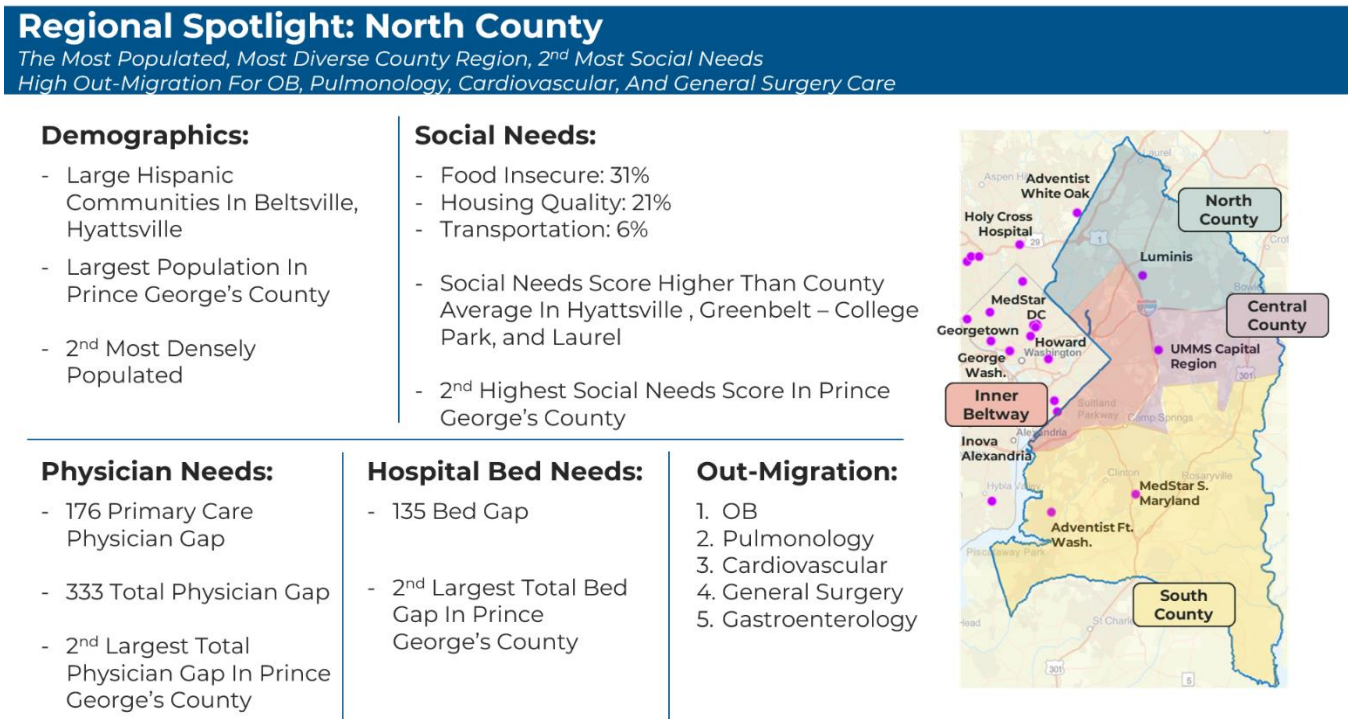


Figure 46. Regional needs summary for North County, the most populated, most diverse county region.

7.3.2 North County Investments

North County sees the second largest investment by region of ~$530 million. This investment is distributed across outpatient, inpatient, and primary care services in accordance with the magnitude of the gap and relative need compared to the rest of Prince George's County, as seen in Figure 47. ~55% of the investment is focused on outpatient and primary care to close the ~333 physician gap, and ~45% of the investment is focused on inpatient care to close the 135 hospital bed gap in the region.

In the short-term, an investment of $69.4 million that focuses on adding ~11 beds and 52 physicians, mostly in primary care, creates the immediate capacity to meet the needs of patients who are out-migrating for care from the county. Two sites should be invested in based on areas of need and efficient use of existing infrastructure:

- **Hospital Bed Gap:** The overall bed gap in North County can best be met by expanding the infrastructure at the primary hospital for the region.
- **Multispecialty Clinic:** A multispecialty clinic, primarily focused on primary care in Hyattsville, would allow for resources to be more accessible to residents of the most transportation insecure region of the county, as opposed to the ~20 min drive time/~60 min public transit time to the primary hospital in the region.
    - Additional specialty full-time outpatient resources: OB, psychiatry, hematology/oncology, pulmonology
    - Additional specialty part-time outpatient resources: cardiology, general surgery
- **Social Needs:** While these investments are not broken out by intervention type, the greatest overall social needs are focused in the Hyattsville regional cluster, which is one of the five highest concentrations of social needs in Prince George's County.

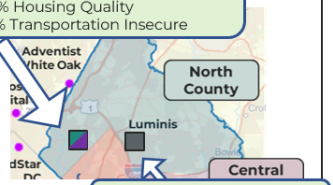
Regional Investment: North County

The Most Populated, Most Diverse County Region, 2nd Most Social Needs
High Out-Migration For OB, Pulmonology, Cardiovascular, And General Surgery Care

	Intervention	Investments
Short-Term (0-3 Years) *Targeted Service Lines Investments To Stem Outmigration*	**Outpatient** Full Time: OB, Psych, Hem/Onc, Pulm Part Time: Cardio, Gen Surg	$17.2M
	Inpatient (12 Beds)	$26.1M
	Primary Care (~40)	$26.1M
Medium-Term (3-10 Years) *Begin Expansion Of Additional Services And Infrastructure*	**Outpatient**	$78.5M
	Inpatient	$113.0M
	Primary Care	$39.0M
Long-Term (10+ Years) *Expanded Infrastructure On Par With All Marylanders*	**Outpatient**	$78.4M
	Inpatient (135 Beds Total By 10+ Years)	$113.0M
	Primary Care (176 Total By 10+ Years)	$39.0M

Top Sites For Selection:

Hyattsville
Adult Pop: 32,178
- 47% Food insecure
- 37% Housing Quality
- 12% Transportation Insecure



Total Investment:

~$530M
Over 10+ Years

Balance Ambulatory Growth In Underserved Communities With Modest Bed Increases To Maximize Impact

Figure 47. Regional investment summary for North County, ~$530 million over 10 years.

7.3.3 Inner Beltway Healthcare and Social Needs

There is relatively high improvement in healthcare infrastructure needed in the Inner Beltway through a **$1.3 billion investment over 10+ years**. The Inner Beltway is the second most diverse region of the county, with large concentrations of Hispanic communities in portions of the region. The region is also the second most populated in the county and most densely populated.

Inner Beltway has the highest regional SNS score in Prince George's County, with ~52% of adults estimated to be food insecure. All regional clusters within the Inner Beltway have higher SNS scores than the county average, with the highest needs in Suitland and Capitol Heights. In fact, three regional clusters in the Inner Beltway – Cheverly-Glenarden-New Carrollton, Capitol Heights, and District Heights – rank in the top five regional clusters across all of Prince George's County for number of total residents experiencing food insecurity, issues with housing quality, and transportation insecurity.

The Inner Beltway also has the largest physician and bed gaps in the county, with particularly high out-migration for cardiovascular, OB, and pulmonology services. There are no hospitals in the region.

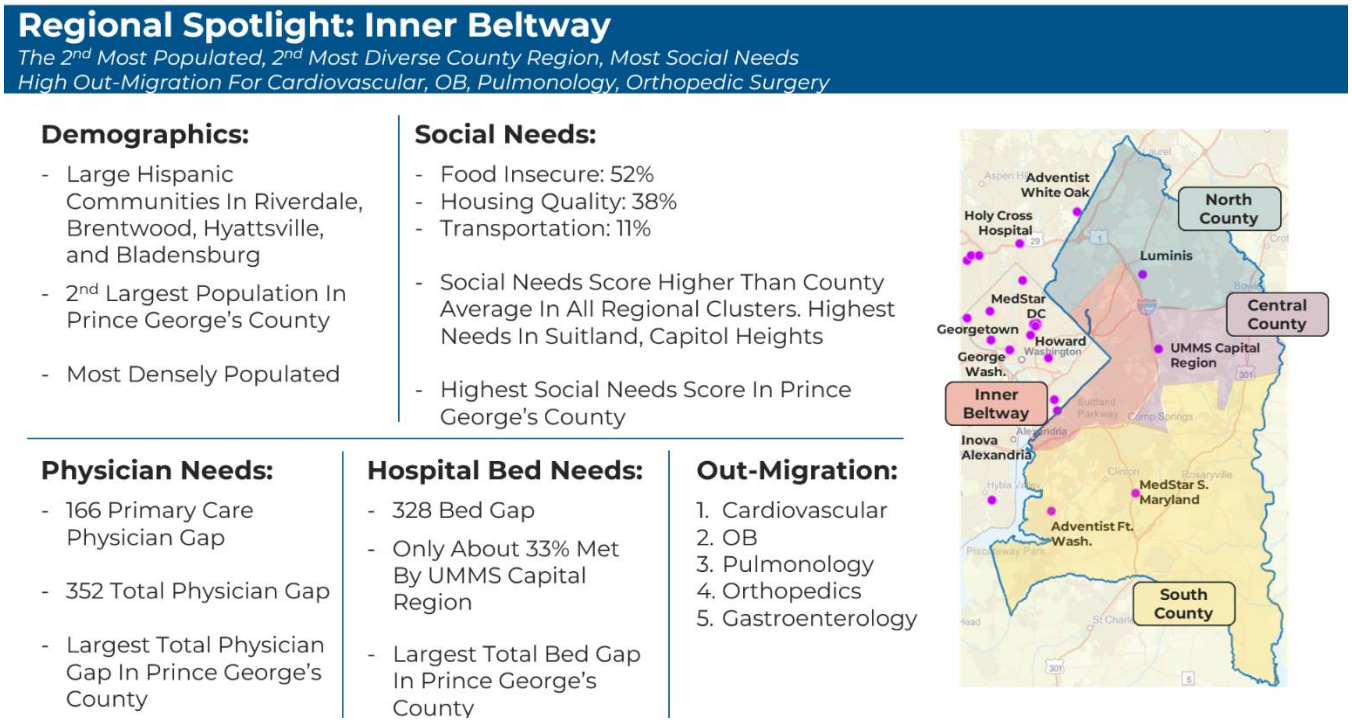


Figure 48. Regional needs summary for Inner Beltway, the 2nd most populated, 2nd most diverse county region.

7.3.4 Inner Beltway Investments

The Inner Beltway sees the largest investment by region of ~$1.3 billion. This investment is distributed across outpatient, inpatient, and primary care services in accordance with the magnitude of the gap and relative need compared to the rest of Prince George's County, as seen in Figure 49. Approximately 55% of the investment is focused on inpatient care to close the ~328-bed gap, and ~45% of the investment is focused on outpatient and primary care to close the ~352-physician gap. Both gaps are the largest in the county.

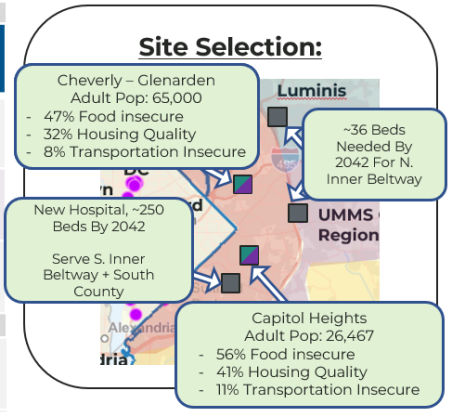
In the short-term, an investment of $147.2 million that focuses on adding ~31 beds and 64 physicians, mostly in primary care, creates the immediate capacity to meet the needs of patients who are out-migrating for care from the county. Four sites should be invested in based on areas of need and efficient use of existing infrastructure:

- **Hospital Bed Gap:** The overall bed gap in the Inner Beltway can be met by reducing transportation barriers for residents both in the north and south portions of this region.
    - For the northern half of the Inner Beltway (e.g., Hyattsville, Bladensburg, Cheverly), hospitals in North County and Central County can absorb ~40 beds of the total gap to best serve residents that are in proximity to these hospitals.
    - In the southern half of the Inner Beltway (e.g., Capitol Heights, District Heights, Suitland), a **net new hospital with ~250 beds** can effectively reduce out-migration, provide high acuity clinical services in greater proximity than currently available, and provide an anchor point for the associated expansion of preventative and outpatient services.
        - A hospital site in/near District Heights, for example, reduces transit time from Suitland – the county regional cluster with the single highest SNS score – to the nearest hospital by 50% from 20 min drive/45 min public transit to 10 min drive/20 min public transit.
    - Densely populated portions of South County – such as Oxon Hill – would see similarly significant reductions in travel time to a site in the southern part of Inner Beltway as compared to existing hospitals in South County, highlighting the impact across multiple regions. This also explains why the proposed bed increases across the Inner Beltway exceed the region's specific bed need.
- **Multispecialty Clinics:** Multiple clinics, primarily focused on primary care, would increase access to residents in the Inner Beltway, which has the most transportation-insecure residents in the county. Locations in Cheverly and Capitol Heights, the two most populated regional clusters in the region, can be most impactful, especially for county residents near Cheverly. These residents currently experience ~20 min drive time/~45 min public transit time to the nearest hospital in the county. While Capitol Heights residents have better access to acute care and public transportation, the region lacks primary care resources in the immediate community.
    - Additional specialty full-time outpatient resources (# in parentheses): OB (3), psych (5), hematology/oncology (6), pulmonology (3), cardio (2), general surgery (2)
- **Social Needs:** While these investments are not broken out by intervention type, the greatest overall social needs are focused in the Cheverly – Glenarden – New Carrollton, Capitol Heights, and District Heights regional clusters. These are three of the five highest concentrations of social needs in Prince George's County.

Regional Investment: Inner Beltway

The 2nd Most Populated, 2nd Most Diverse County Region, Most Social Needs
High Out-Migration For Cardiovascular, OB, Pulmonology, Orthopedic Surgery

	Intervention	Investments
Short-Term (0-3 Years) *Targeted Service Lines Investments To Stem Outmigration*	**Outpatient** Full Time: OB (3), Psych (5), Hem/Onc (6), Pulm (3), Cardio (2), Gen Surg (2)	$48.7M
	Inpatient (31 Beds)	$73.9M
	Primary Care (~42)	$24.7M
Medium-Term (3-10 Years) *Begin Expansion Of Additional Services And Infrastructure*	**Outpatient**	$222.0M
	Inpatient	$319.5M
	Primary Care	$36.8M
Long-Term (10+ Years) *Expanded Infrastructure On Par With All Marylanders*	**Outpatient**	$221.9M
	Inpatient (239 Beds Total By 10+ Years) ~36 in Hospitals Located In North/Central County ~250 in New Site For Inner Beltway **And** South County	$319.5M
	Primary Care (157 Total By 10+ Years)	$36.8M



Total Investment:

~$1.3B
Over 10+ Years

Balance Ambulatory Growth In Underserved Communities With Significant Hospital Investments To Reduce Bed Deficit In Region

Figure 49. Regional investment summary for Inner Beltway, ~$1.3 billion over 10 years.

7.3.5 Central County Healthcare and Social Needs

There is relatively low improvement in healthcare infrastructure needed in Central County, although a **$30.8 million investment over 10+ years** is still recommended. Central County is predominately Black/African-American as well as the wealthiest region of the county. The region is also the least populated overall and least densely populated.

Central County has the lowest regional SNS score in Prince George's County, with needs scores less than the county and state average.

Central County also has the smallest physician gap in the county and is the only region with no bed gap. Out-migration for OB, cardiovascular, and pulmonology services is highest in this region.

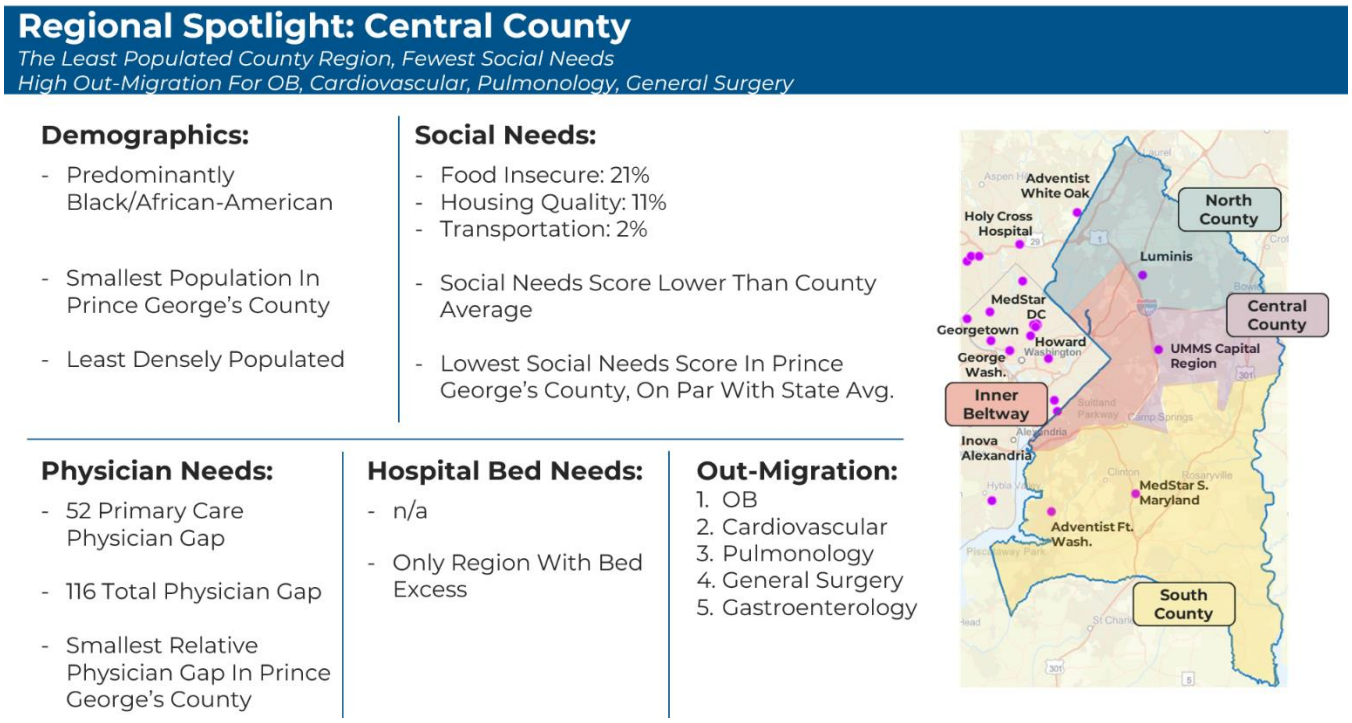


Figure 50. Regional needs summary for Central County, the least populated, least socially at-risk county region.

7.3.6 Central County Investments

Central County sees the smallest investment by region of ~30.8 million. This investment is focused on outpatient primary care services in accordance with the magnitude of the gap and relative need compared to the rest of Prince George's County, as seen in Figure 51.

In the short-term, an investment of $7.7 million that focuses on adding ~13 primary care physicians right-sizes the primary care needs in the county. While no other direct investments are proposed in Central County, the existing footprint of services can more efficiently serve this region by alleviating the outsized burden the region faces in providing healthcare services for neighboring regions and increasing accessibility to local and regional residents. Accordingly, investments are focused on reinforcing existing infrastructure and locations as opposed to net new expansions.

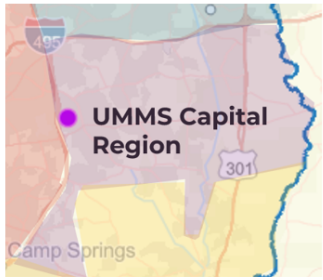
- **Primary Care:** Expansion of existing facilities with ~13 additional primary care physicians, coupled with the more significant investments in other regions, can supplement the region's relatively robust existing healthcare infrastructure.

Regional Investment: Central County

The Least Populated County Region, Fewest Social Needs
High Out-Migration For OB, Cardiovascular, Pulmonology, General Surgery

	Intervention	Investments
Short-Term (0-3 Years) *Targeted Service Lines Investments To Stem Outmigration*	Outpatient	$ -
	Inpatient	$ -
	Primary Care (~13)	$7.7M
Medium-Term (3-10 Years) *Begin Expansion Of Additional Services And Infrastructure*	Outpatient	$ -
	Inpatient	$ -
	Primary Care	$11.5M
Long-Term (10+ Years) *Expanded Infrastructure On Par With All Marylanders*	Outpatient	$ -
	Inpatient (No Additional Beds By 10+ Years)	$ -
	Primary Care (52 Total By 10+ Years)	$11.5M

Site Selection:



Total Investment:

~$31M
Over 10+ Years

Modest Primary Care Growth To Complement Strong Existing Infrastructure

Figure 51. Regional investment summary for Central County, ~$31 million over 10 years.

7.3.7 South County Healthcare and Social Needs

There is relatively moderate improvement in healthcare infrastructure needed in South County through a **$378 million investment over 10+ years**. South County is the third most diverse region of the county, with a majority Black/African-American population except for a larger Hispanic enclave in Oxon Hill. The region is the third most populated and third most densely populated in the county.

South County has the third highest regional SNS score in Prince George's County, with ~29% of adults estimated to be food insecure. The regional cluster with the highest SNS scores in the region is Oxon Hill – Forest Heights - Clinton. In fact, this cluster ranks in the top five regional clusters across all of Prince George's County for the number of total residents experiencing food insecurity, issues with housing quality, and transportation insecurity.

South County also has the third largest physician and bed gaps in the county, with particularly high out-migration for cardiovascular, OB, and pulmonology services.

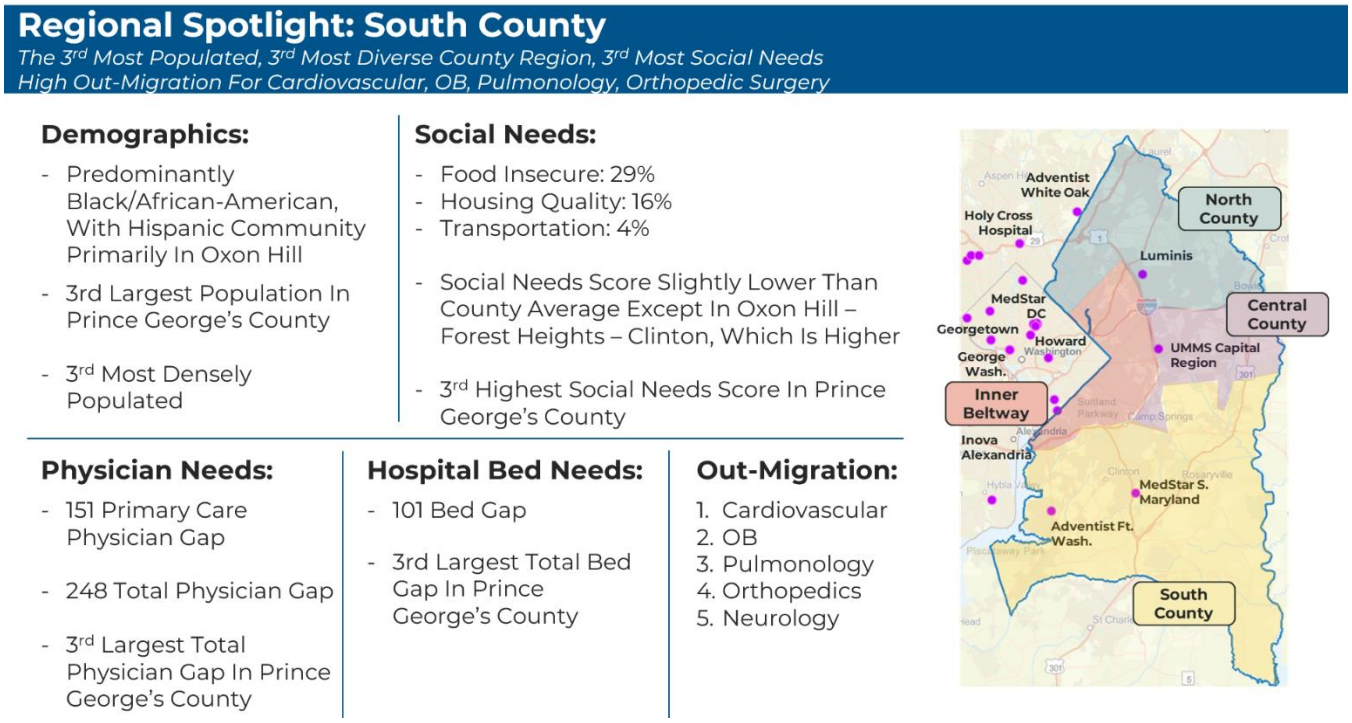


Figure 52. Regional needs summary for South County, the 3rd most populated, 3rd most diverse county region.

7.3.8 South County Investments

South County sees the third largest investment by region of ~$378 million. This investment is distributed across outpatient, inpatient, and primary care services in accordance with the magnitude of gap and relative need compared to the rest of Prince George's County, as seen in Figure 53. ~55% of the investment is focused on outpatient and primary care to close the ~248 physician gap, and ~45% of the investment is focused on inpatient care to close the 101 hospital bed gap in the region.

In the short-term, an investment of $51.7 million that focuses on adding ~7 beds and 43 physicians, mostly in primary care, creates the immediate capacity to provide the capacity to meet the needs of patients who are out-migrating for care from the county. Two sites should be invested in based on areas of need and efficient use of existing infrastructure:

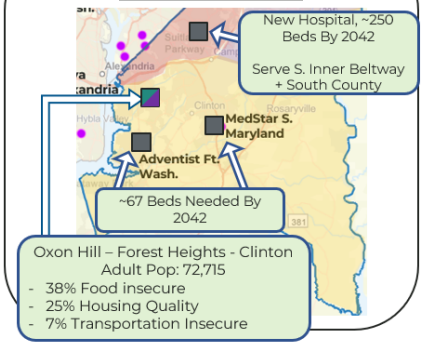
- **Hospital Bed Gap:** The overall bed gap in South County can best be met by expanding the infrastructure at the primary hospitals for the region while recognizing the impact of proposed investments in the Inner Beltway.
    - There are sections of South County that are closer to the Inner Beltway than either hospital in South County. Accordingly, an estimated ~33% of the bed need in South County can be met across regional lines at a new proposed site in the southern half of Inner Beltway, based primarily on the proximity of the Oxon Hill – Forest Hills – Clinton regional cluster to the Inner Beltway as opposed to existing facilities in South County.
- **Multispecialty Clinic:** A multispecialty clinic, primarily focused on primary care in Oxon Hill, would allow for resources to be more accessible to residents of the most transportation insecure region of the county, as opposed to the ~15 min drive time/~60 min public transit time to the primary hospital in the region.
    - Additional specialty full-time outpatient resources: OB, psychiatry, hematology/oncology, pulmonology
    - Additional specialty part-time outpatient resources: cardiology, general surgery
- **Social Needs:** While these investments are not broken out by intervention type, the greatest overall social needs are focused on the Oxon Hill – Forest Heights – Clinton regional cluster, which is one of the five highest concentrations of social needs in Prince George's County.

Regional Investment: South County

The 3rd Most Populated, 3rd Most Diverse County Region, 3rd Most Social Needs
High Out-Migration For Cardiovascular, OB, Pulmonology, Orthopedic Surgery

	Intervention	Investments
Short-Term (0-3 Years) *Targeted Service Lines Investments To Stem Outmigration*	**Outpatient** Full Time: OB, Psych, Hem/Onc, Pulm; Part Time: Cardio, Gen Surg	$11.6M
	Inpatient	$17.6M
	Primary Care (~37)	$22.4M
Medium-Term (3-10 Years) *Begin Expansion Of Additional Services And Infrastructure*	**Outpatient**	$53.0M
	Inpatient	$76.3M
	Primary Care	$33.5M
Long-Term (10+ Years) *Expanded Infrastructure On Par With All Marylanders*	**Outpatient**	$53.0M
	Inpatient (101 Beds Total By 10+ Years) ~67 in Hospitals Located In South County; ~250 in New Site For Inner Beltway **And** South County	$76.3M
	Primary Care (151 Total By 10+ Years)	$33.4M

Site Selection:



Total Investment:

~$378M
Over 10+ Years

Balance Ambulatory Growth In Underserved Communities With Modest Bed Increases, Especially In OB, To Maximize Impact

Figure 53. Regional investment summary for South County, ~$378 million over 10 years.

7.3.5 Proposed Site Selection Visual Summary

Overall investment is focused on:

1. Expansion of outpatient and primary care services, with a focus on four of the highest social need clusters – Hyattsville, Cheverly – Glenarden – New Carrollton, Capital Heights, and Oxon Hill – Forest Heights – Clinton.
2. Expansion of inpatient services, with a focus on filling the hospital bed gap in the region through investments in the four primary hospitals in Prince George's County and a net-new facility in the Inner Beltway.

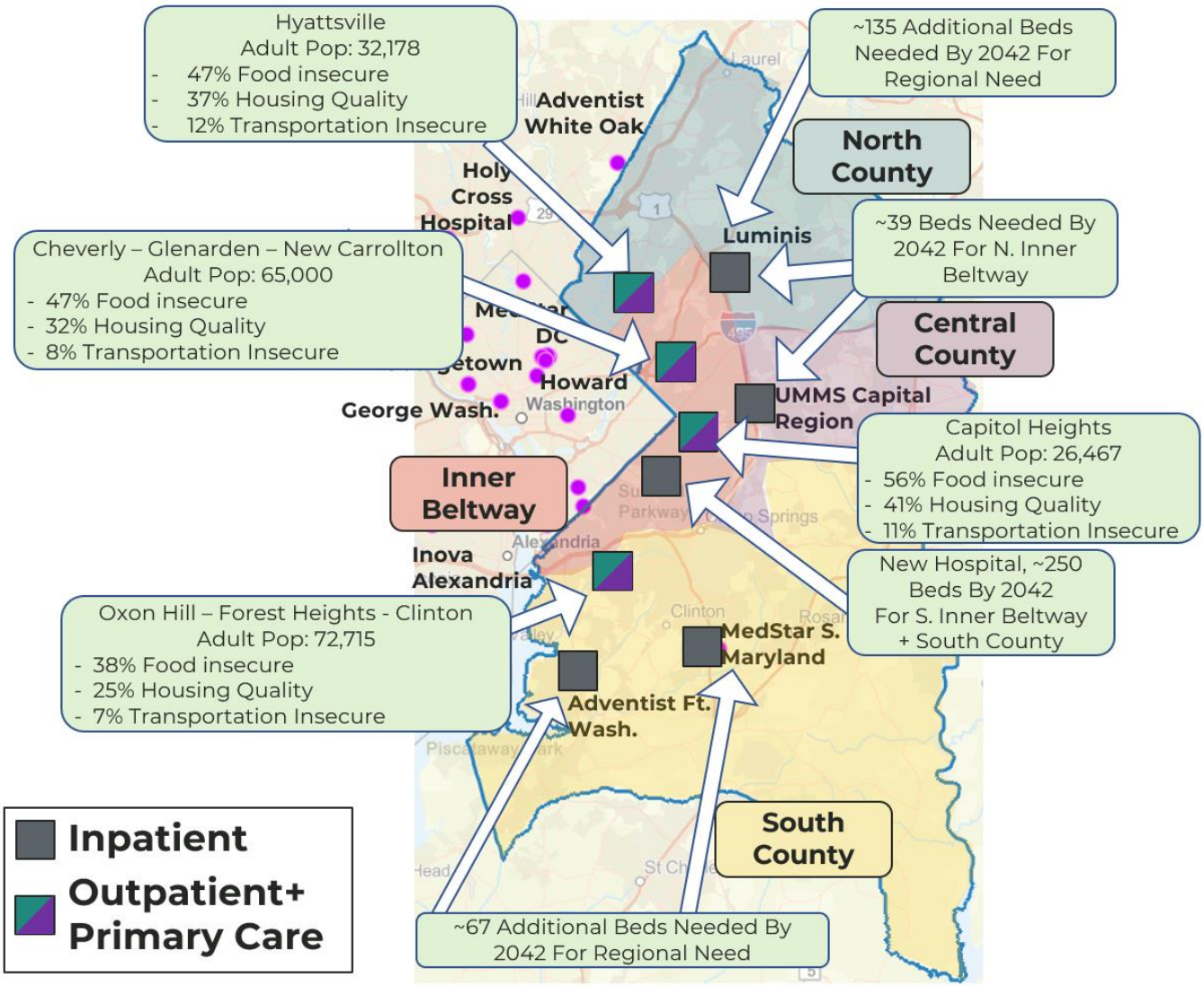


Figure 54. Overall summary of proposed services and multispecialty clinic locations across Prince George's County.

Appendix A: Demographics

Regional Zip Code Mapping

Zip code	Primary Region	Secondary Regional Cluster - Area	Tertiary Cluster - City
20731	Inner Beltway	Capitol Heights	Capitol Heights
20743	Inner Beltway	Capitol Heights	Capitol Heights
20791	Inner Beltway	Capitol Heights	Capitol Heights
20706	Inner Beltway	Cheverly - Glenarden - New Carrollton	Glenarden
20785	Inner Beltway	Cheverly - Glenarden - New Carrollton	Cheverly
20784	Inner Beltway	Cheverly - Glenarden - New Carrollton	New Carrollton
20747	Inner Beltway	District Heights	District Heights
20753	Inner Beltway	District Heights	District Heights
20710	Inner Beltway	Hyattsville - Bladensburg	Bladensburg
20722	Inner Beltway	Hyattsville - Bladensburg	Brentwood
20781	Inner Beltway	Hyattsville - Bladensburg	Hyattsville
20712	Inner Beltway	Langley Park - Mount Rainier	Mount Rainier
20787	Inner Beltway	Langley Park - Mount Rainier	Langley Park
20737	Inner Beltway	Riverdale	Riverdale
20738	Inner Beltway	Riverdale	Riverdale
20746	Inner Beltway	Suitland	Suitland
20752	Inner Beltway	Suitland	Suitland
20757	Inner Beltway	Suitland	Temple Hills
20716	Central	Bowie - Central	Bowie
20717	Central	Bowie - Central	Bowie
20721	Central	Bowie - Central	Bowie
20716	Central	Largo - Mitchellville	Mitchellville
20717	Central	Largo - Mitchellville	Mitchellville
20774	Central	Largo - Mitchellville	Largo
20773	Central	Upper Marlboro - Central	Upper Marlboro
20775	Central	Upper Marlboro - Central	Upper Marlboro
20792	Central	Upper Marlboro - Central	Upper Marlboro
20762	Central	Upper Marlboro - South	Andrews Air Force Base

20704	North	Beltsville - Berwyn Heights	Beltsville
20705	North	Beltsville - Berwyn Heights	Beltsville
20740	North	Beltsville - Berwyn Heights	Berwyn Heights
20715	North	Bowie - North	Bowie
20718	North	Bowie - North	Bowie
20719	North	Bowie - North	Bowie
20720	North	Bowie - North	Bowie
20703	North	Glenn Dale - Lanham	Lanham
20769	North	Glenn Dale - Lanham	Glenn Dale
20741	North	Greenbelt - College Park	College Park
20742	North	Greenbelt - College Park	College Park
20768	North	Greenbelt - College Park	Greenbelt
20770	North	Greenbelt - College Park	Greenbelt
20782	North	Hyattsville	Hyattsville
20783	North	Hyattsville	Hyattsville
20788	North	Hyattsville	Hyattsville
20707	North	Laurel	Laurel
20708	North	Laurel	Laurel
20709	North	Laurel	Laurel
20725	North	Laurel	Laurel
20726	North	Laurel	Laurel
20607	South	Accokeek - Brandywine	Accokeek
20608	South	Accokeek - Brandywine	Aquasco
20613	South	Accokeek - Brandywine	Brandywine
20623	South	Accokeek - Brandywine	Cheltenham
20744	South	Fort Washington	Fort Washington
20749	South	Fort Washington	Fort Washington
20735	South	Oxon Hill - Forest Heights - Clinton	Clinton
20745	South	Oxon Hill - Forest Heights - Clinton	Forest Heights
20748	South	Oxon Hill - Forest Heights - Clinton	Camp Springs
20750	South	Oxon Hill - Forest Heights - Clinton	Oxon Hill
20772	South	Upper Marlboro - South	Upper Marlboro

Overall Demographic Profile: Race and Ethnicity

- **~60%** of county residents identify as **Black/African American**
- Large **Hispanic communities** can be found in the Inner Beltway and North County in **Bladensburg, Brentwood, Hyattsville, Riverdale, and Mount Rainier.**

Overall Prince George's County Population By Race/Ethnicity						
	Total Population	**Black/African American**	**Hispanic**	**White**	**Asian**	**Two or More Races**
Prince George's County	**976,877**	59.0%	21.3%	11.2%	4.3%	3.3%
Inner Beltway	**302,073**	62.4%	25.9%	5.8%	2.3%	2.8%
Central Region	**110,315**	79.0%	5.8%	7.9%	2.6%	3.9%
North County	**312,994**	37.9%	29.4%	20.4%	7.8%	3.6%
South County	**251,495**	72.3%	12.5%	7.7%	3.1%	3.4%

Inner Beltway Region By Race/Ethnicity						
City - Zip	**Total Population**	**Black/African American**	**Hispanic**	**White**	**Asian**	**Two or More Races**
Bladensburg - 20710	**10,267**	50.1%	42.7%	3.1%	1.4%	2.1%
Brentwood - 20722	**7,552**	30.2%	50.0%	11.5%	4.3%	2.7%
Capitol Heights - 20743	**42,700**	80.3%	13.8%	1.8%	0.7%	2.6%
District Heights - 20747	**37,607**	84.9%	8.6%	2.3%	0.8%	2.7%
Hyattsville - 20781	**14,042**	26.5%	48.0%	19.2%	1.8%	3.4%
Hyattsville - 20784	**31,824**	46.6%	42.3%	5.0%	2.6%	2.5%
Hyattsville - 20785	**42,923**	70.8%	17.1%	6.1%	1.8%	3.3%
Lanham - 20706	**47,879**	59.3%	26.4%	6.4%	4.4%	2.7%
Mount Rainier - 20712	**8,939**	39.7%	39.2%	14.5%	2.0%	3.6%
Riverdale - 20737	**24,801**	26.0%	55.8%	8.8%	6.0%	2.6%
Suitland - 20746	**33,539**	81.8%	9.8%	3.7%	1.0%	2.9%
Grand Total	**302,073**	62.4%	25.9%	5.8%	2.3%	2.8%

Central County By Race/Ethnicity						
City - Zip	**Total Population**	**Black/African American**	**Hispanic**	**White**	**Asian**	**Two or More Races**
Andrews Air Force Base - 20762	**2,985**	25.4%	15.6%	44.6%	4.8%	7.9%
Bowie - 20716	**23,280**	64.4%	7.6%	17.3%	4.5%	5.1%
Bowie - 20721	**29,596**	83.7%	4.4%	5.0%	2.6%	3.6%
Upper Marlboro - 20774	**54,454**	85.6%	5.3%	3.4%	1.6%	3.3%
Grand Total	**110,315**	79.0%	5.8%	7.9%	2.6%	3.9%

North County By Race/Ethnicity						
City - Zip	**Total Population**	**Black/African American**	**Hispanic**	**White**	**Asian**	**Two or More Races**
Beltsville - 20705	**32,261**	34.4%	32.8%	17.9%	10.6%	3.1%
Bowie - 20715	**27,132**	35.1%	11.9%	42.0%	4.3%	5.5%
Bowie - 20720	**25,480**	68.1%	6.9%	13.4%	6.5%	4.2%
College Park - 20740	**31,027**	17.3%	22.0%	38.7%	16.5%	4.6%
College Park - 20742	**10,071**	10.6%	6.4%	59.5%	18.3%	4.7%
Glenn Dale - 20769	**6,271**	65.3%	12.6%	12.6%	5.4%	3.1%
Greenbelt - 20770	**27,089**	49.1%	17.7%	19.4%	8.7%	4.1%
Hyattsville - 20782	**36,604**	36.3%	42.7%	13.2%	3.8%	3.0%
Hyattsville - 20783	**50,387**	20.9%	67.0%	5.5%	4.3%	1.5%
Laurel - 20707	**38,754**	45.0%	20.4%	20.2%	8.9%	4.1%
Laurel - 20708	**27,918**	56.1%	21.3%	13.2%	4.9%	3.6%
Grand Total	**312,994**	37.9%	29.4%	20.4%	7.8%	3.6%

South County By Race/Ethnicity						
City - Zip	**Total Population**	**Black/African American**	**Hispanic**	**White**	**Asian**	**Two or More Races**
Accokeek - 20607	**12,526**	66.3%	8.2%	14.8%	4.6%	4.9%
Aquasco - 20608	**944**	40.7%	7.8%	44.1%	0.7%	5.7%
Brandywine - 20613	**16,899**	64.6%	7.5%	19.8%	1.9%	4.9%
Cheltenham - 20623	**2,544**	82.4%	4.0%	7.5%	1.7%	3.5%
Clinton - 20735	**39,387**	76.8%	10.3%	5.9%	2.5%	3.4%
Fort Washington - 20744	**53,389**	67.1%	15.8%	6.6%	6.3%	3.2%
Oxon Hill - 20745	**32,494**	63.6%	24.4%	4.3%	4.0%	2.7%
Temple Hills - 20748	**39,730**	79.5%	11.8%	3.7%	1.3%	2.6%
Upper Marlboro - 20772	**53,582**	77.8%	7.1%	8.7%	1.3%	3.9%
Grand Total	**251,495**	72.3%	12.5%	7.7%	3.1%	3.4%

Overall Demographic Profile: Household Income

- **~25%** of households make less than $50,000/year, while **~46%** of households make greater than $100,000/year.
- The communities with the highest concentration of low-income households (<50k household income) are **Bladensburg, Capitol Heights, District Heights, and Mount Rainier**, all located within the **Inner Beltway**.
    - Household **income per capita is lower in Hispanic communities** with larger household sizes.[1]

Overall Prince George's County Population By Household Size + Income						
	Avg. Household Size	**< $25,000**	**$25,000-$49,999**	**$50,000-$99,999**	**$100,000-$199,999**	**$200,000 or greater**
Prince George's County	**2.78**	9.9%	13.8%	30.8%	33.1%	12.5%
Inner Beltway	2.79	12.4%	17.9%	35.3%	28.1%	6.4%
Central County	2.64	5.8%	8.5%	26.4%	39.4%	19.9%
North County	2.80	10.9%	14.0%	30.9%	31.9%	12.3%
South County	2.69	7.5%	11.2%	27.6%	37.4%	16.4%

Household Size + Income in **Inner Beltway Region**						
City - Zip	**Avg. Household Size**	**< $25,000**	**$25,000-$49,999**	**$50,000-$99,999**	**$100,000-$199,999**	**$200,000 or greater**
Bladensburg - 20710	2.69	20.9%	29.3%	28.7%	18.9%	2.2%
Brentwood - 20722	3.11	13.0%	14.8%	37.5%	27.0%	7.8%
Capitol Heights - 20743	2.63	15.6%	17.8%	34.1%	27.5%	5.1%
District Heights - 20747	2.48	12.4%	20.5%	35.3%	26.7%	5.1%
Hyattsville - 20781	3.01	10.3%	17.8%	30.8%	31.5%	9.5%
Hyattsville - 20784	3.26	11.0%	17.3%	38.3%	27.8%	5.5%
Hyattsville - 20785	2.71	13.0%	16.0%	36.6%	28.1%	6.3%
Lanham - 20706	3.22	7.5%	15.0%	33.2%	33.2%	11.1%
Mount Rainier - 20712	2.39	14.9%	23.5%	35.7%	22.7%	3.2%
Riverdale - 20737	3.56	11.5%	17.8%	34.1%	30.1%	6.6%
Suitland - 20746	2.29	12.6%	16.6%	38.3%	26.9%	5.7%
Grand Total	**2.79**	**12.4%**	**17.9%**	**35.3%**	**28.1%**	**6.4%**

[1] Source: ESRI 2022 Data, Extrapolation From Most Recent US Census And ACS Survey

Household Size + Income In **Central County**						
City - Zip	**Avg. Household Size**	**< $25,000**	**$25,000-$49,999**	**$50,000-$99,999**	**$100,000-$199,999**	**$200,000 or greater**
Andrews Air Force Base - 20762	2.58	5.6%	17.1%	36.5%	32.5%	8.1%
Bowie - 20716	2.48	7.0%	10.0%	26.9%	39.5%	16.6%
Bowie - 20721	2.94	3.7%	4.9%	19.5%	41.2%	30.8%
Upper Marlboro - 20774	2.58	6.2%	9.1%	28.9%	38.9%	16.9%
Grand Total	**2.64**	**5.8%**	**8.5%**	**26.4%**	**39.4%**	**19.9%**

Household Size + Income In **North County**						
City - Zip	**Avg. Household Size**	**< $25,000**	**$25,000-$49,999**	**$50,000-$99,999**	**$100,000-$199,999**	**$200,000 or greater**
Beltsville - 20705	2.88	9.4%	12.7%	31.8%	33.7%	12.4%
Bowie - 20715	2.82	4.8%	7.7%	22.6%	45.3%	19.7%
Bowie - 20720	3.06	3.1%	4.9%	14.9%	43.4%	33.7%
College Park - 20740	2.47	26.4%	13.5%	24.6%	26.5%	9.0%
College Park - 20742	2.48	31.8%	10.1%	21.1%	23.7%	13.4%
Glenn Dale - 20769	3.01	3.2%	5.2%	22.4%	39.8%	29.4%
Greenbelt - 20770	3.26	10.3%	15.9%	36.4%	31.5%	6.0%
Hyattsville - 20782	2.71	10.4%	18.6%	38.0%	25.9%	7.2%
Hyattsville - 20783	3.22	12.1%	18.4%	36.4%	27.3%	5.7%
Laurel - 20707	2.39	9.1%	13.9%	32.0%	31.4%	13.6%
Laurel - 20708	3.56	8.9%	16.9%	35.2%	29.1%	9.9%
Grand Total	**2.80**	**10.9%**	**14.0%**	**30.9%**	**31.9%**	**12.3%**

Household Size + Income In **South County**						
City - Zip	**Avg. Household Size**	**< $25,000**	**$25,000-$49,999**	**$50,000-$99,999**	**$100,000-$199,999**	**$200,000 or greater**
Accokeek - 20607	2.95	4.3%	6.6%	17.3%	46.6%	25.2%
Aquasco - 20608	2.70	11.3%	16.8%	35.0%	22.3%	14.5%
Brandywine - 20613	2.84	5.5%	7.3%	19.1%	40.3%	27.8%
Cheltenham - 20623	2.99	2.6%	2.3%	18.4%	52.8%	24.0%
Clinton - 20735	2.86	5.8%	6.2%	25.2%	44.6%	18.2%
Fort Washington - 20744	2.72	6.3%	8.7%	27.9%	38.8%	18.3%
Oxon Hill - 20745	2.54	10.9%	21.0%	35.4%	24.6%	8.1%
Temple Hills - 20748	2.51	12.2%	16.9%	33.0%	31.8%	6.0%
Upper Marlboro - 20772	2.67	5.4%	8.5%	24.3%	40.4%	21.3%
Grand Total	**2.69**	**7.5%**	**11.2%**	**27.6%**	**37.4%**	**16.4%**

Overall Demographic Profile: Commute Patterns

- **37%** Of Prince George's County workers **commute out of state.**[2][3]
  - ~75% are commuting to DC
  - ~25 % are commuting to VA
- Residents living in The Inner Beltway and South County are 3-11% more likely to commute out of state.
  - **~50%** of workers from **Mount Rainier, Oxon Hill, Temple Hills, Ft. Washington, Capital Heights, and District Heights** commute out of state.

Overall Prince George's County Commute Patterns			
	Worked in State and County of Residence	**Worked in State but Outside County of Residence**	**Worked Outside State of Residence**
Prince George's County	45%	18%	37%
Inner Beltway	45%	15%	40%
Central County	49%	17%	33%
North County	46%	27%	27%
South County	42%	10%	48%

Commute Patterns In **Inner Beltway Region**			
City-Zip Combo	**Worked in State and County of Residence**	**Worked in State but Outside County of Residence**	**Worked Outside State of Residence**
Bladensburg - 20710	37%	18%	45%
Brentwood - 20722	41%	15%	44%
Capitol Heights - 20743	44%	10%	46%
District Heights - 20747	40%	12%	48%
Hyattsville - 20781	55%	14%	31%
Hyattsville - 20784	48%	17%	34%
Hyattsville - 20785	47%	13%	40%
Lanham - 20706	49%	21%	30%
Mount Rainier - 20712	33%	11%	56%
Riverdale - 20737	51%	21%	28%
Suitland - 20746	43%	9%	47%
Grand Total	**45%**	**15%**	**40%**

[2] ESRI 2022 Data, Extrapolation From Most Recent US Census And ACS Survey Data, Workers Age 16+
[3] Per Maryland Office Of Workforce Information And Performance, Jan 2018 Deep Dive Shown For Inner Beltway Region Only

Commute Patterns In **Central County**			
City-Zip Combo	**Worked in State and County of Residence**	**Worked in State but Outside County of Residence**	**Worked Outside State of Residence**
Andrews Air Force Base - 20762	79%	2%	19%
Bowie - 20716	53%	21%	26%
Bowie - 20721	48%	19%	33%
Upper Marlboro - 20774	47%	16%	37%
Grand Total	**49%**	**17%**	**33%**

Commute Patterns In **North County**			
City-Zip Combo	**Worked in State and County of Residence**	**Worked in State but Outside County of Residence**	**Worked Outside State of Residence**
Beltsville - 20705	39%	36%	25%
Bowie - 20715	56%	25%	20%
Bowie - 20720	54%	21%	26%
College Park - 20740	56%	23%	21%
College Park - 20742	75%	14%	11%
Glenn Dale - 20769	54%	21%	25%
Greenbelt - 20770	52%	20%	28%
Hyattsville - 20782	41%	15%	44%
Hyattsville - 20783	36%	30%	34%
Laurel - 20707	43%	40%	17%
Laurel - 20708	41%	36%	22%
Overall	**46%**	**27%**	**27%**

Commute Patterns In **South County**			
City-Zip Combo	**Worked in State and County of Residence**	**Worked in State but Outside County of Residence**	**Worked Outside State of Residence**
Accokeek - 20607	40%	10%	50%
Aquasco - 20608	50%	22%	29%
Brandywine - 20613	44%	20%	36%
Cheltenham - 20623	47%	12%	40%
Clinton - 20735	46%	11%	43%
Fort Washington - 20744	39%	8%	53%
Oxon Hill - 20745	34%	5%	60%
Temple Hills - 20748	40%	7%	54%
Upper Marlboro - 20772	47%	13%	40%
Grand Total	**42%**	**10%**	**48%**

Overall Demographic Profile: Population Density, Growth, and Age

- Prince George's County's population is expected to grow by ~1% (0.19%/year) by 2027.
  - The greatest growth in the county will occur in Upper Marlboro, Brandywine, and Capitol Heights.
- There is minimal age variation across the county, with most areas having a **median age of 33-43 years old.**
- **The Inner Beltway** is the **most densely populated region** of the county, with ~2400 more people per square mile than the county average.[4]

Overall Prince George's County By Population Density, Growth, and Median Age				
	2022 Total Population	**Population Density Per Square Mile**	**Compound Annual Growth Rate**	**Median Age**
Prince George's County	**976,877**	**3927.5**	**0.19%**	**37.2**
Inner Beltway	302,074	6386.7	0.10%	35.9
Central County	110,313	1428.5	0.36%	40.4
North County	312,991	4223.8	0.12%	35.6
South County	251,499	1670.1	0.26%	41.5

[4] ESRI 2022 Data, Extrapolation From Most Recent US Census And ACS Survey Data Deep Dive Shown For Inner Beltway Region Only

Population Density, Growth, and Median Age In **Inner Beltway Region**				
City - Zip	**2022 Total Population**	**Population Density Per Square Mile**	**Compound Annual Growth Rate**	**Median Age**
Bladensburg - 20710	10,268	8,418	0.13%	32.1
Brentwood - 20722	7,552	4,822	0.01%	35.9
Capitol Heights - 20743	42,700	4,126	0.57%	37.8
District Heights - 20747	37,608	5,258	0.10%	36.2
Hyattsville - 20781	14,043	5,760	0.49%	34.7
Hyattsville - 20784	31,824	7,610	-0.06%	34.9
Hyattsville - 20785	42,922	4,281	0.08%	35.6
Lanham - 20706	47,878	4,732	0.06%	37.4
Mount Rainier - 20712	8,939	12,892	0.54%	34.3
Riverdale - 20737	24,802	7,894	-0.17%	32.9
Suitland - 20746	33,538	4,463	-0.30%	36.2

Population Density, Growth, and Median Age In **Central County**				
City - Zip	**2022 Total Population**	**Population Density Per Square Mile**	**Compound Annual Growth Rate**	**Median Age**
Andrews Air Force Base - 20762	2,985	446	0.17%	23.8
Bowie - 20716	23,280	2,029	-0.23%	39.0
Bowie - 20721	29,595	1,812	-0.07%	42.5
Upper Marlboro - 20774	54,453	1,427	0.86%	40.7

Population Density, Growth, and Median Age In **North County**				
City - Zip	**2022 Total Population**	**Population Density Per Square Mile**	**Compound Annual Growth Rate**	**Median Age**
Beltsville - 20705	32,260	1,794	0.25%	38.4
Bowie - 20715	27,132	1,921	0.61%	42.2
Bowie - 20720	25,481	2,412	-0.20%	39.8
College Park - 20740	31,027	4,475	-0.01%	29.7
College Park - 20742	10,071	8,592	0.68%	21.1
Glenn Dale - 20769	6,272	1,152	0.71%	40.3
Greenbelt - 20770	27,088	4,626	0.02%	35.9
Hyattsville - 20782	36,603	8,686	0.38%	35.2
Hyattsville - 20783	50,387	7,873	-0.13%	33.4
Laurel - 20707	38,753	3,205	-0.14%	38.0
Laurel - 20708	27,917	1,726	0.17%	33.7

Population Density, Growth, and Median Age In **South County**				
City - Zip	**2022 Total Population**	**Population Density Per Square Mile**	**Compound Annual Growth Rate**	**Median Age**
Accokeek - 20607	12,526	648	0.07%	42.6
Aquasco - 20608	944	52	-0.34%	49.2
Brandywine - 20613	16,900	238	1.08%	40.0
Cheltenham - 20623	2,545	822	0.42%	41.2
Clinton - 20735	39,386	1,500	-0.12%	43.8
Fort Washington - 20744	53,389	2,022	-0.26%	43.6
Oxon Hill - 20745	32,494	4,648	-0.08%	38.0
Temple Hills - 20748	39,731	4,325	0.06%	40.2
Upper Marlboro - 20772	53,584	776	1.20%	40.7

Overall Social Risk Summary

Overall County Social Risk Summary

			Overall	Social Risk Factors			
		Adult (18+) Pop.	Social Needs Score	Transportation Insecurity	Housing Insecurity	Housing Quality	Food Insecurity
United States			21.1	8.1%	2.2%	25.3%	29.0%
Maryland			17.5	4.9%	1.2%	16.4%	22.4%
District Of Columbia		571,626	28.0	21.7%	7.4%	38.1%	45.2%
Montgomery County		629,629	14.2	2.0%	0.6%	7.6%	12.7%
Prince George's County		571,746	21.8	6.1%	1.5%	22.5%	34.5%
Inner Beltway	**Capitol Heights**	26,467	29.3	10.6%	2.0%	41.0%	56.0%
	Cheverly - Glenarden - New Carrollton	65,009	25.7	8.2%	1.9%	32.3%	47.3%
	District Heights	24,604	28.5	10.9%	2.8%	38.7%	53.8%
	Hyattsville - Bladensburg	14,242	28.6	13.7%	2.7%	40.5%	52.2%
	Langley Park - Mount Rainier	4,071	28.3	18.8%	4.6%	41.6%	50.9%
	Riverdale	9,288	27.6	9.0%	2.3%	38.4%	50.4%
	Suitland	17,299	30.2	14.8%	4.3%	46.6%	59.7%
Central	**Bowie - Central**	39,731	16.0	1.3%	0.3%	7.3%	16.6%
	Largo - Mitchellville	37,785	18.1	2.6%	0.4%	11.8%	23.5%
	Upper Marlboro - Central	575	25.2	12.5%	0.0%	40.9%	45.2%
	Upper Marlboro - South	38,970	18.1	1.4%	0.3%	9.4%	23.9%

North	**Beltsville - Berwyn Heights**	29,006	18.7	4.5%	1.5%	16.5%	28.7%
	Bowie - North	39,571	14.0	0.6%	0.0%	3.7%	9.7%
	Glenn Dale - Lanham	5,576	14.6	1.1%	0.2%	5.3%	11.0%
	Greenbelt - College Park	13,592	25.7	10.5%	3.9%	34.6%	48.3%
	Hyattsville	32,178	26.2	11.9%	2.5%	37.0%	46.5%
	Laurel	34,833	21.9	6.1%	2.2%	24.6%	36.8%
South	**Accokeek - Brandywine**	25,600	17.0	1.6%	0.1%	8.1%	18.6%
	Fort Washington	40,634	17.7	2.9%	0.5%	12.8%	23.7%
	Oxon Hill - Forest Heights - Clinton	72,715	22.8	7.1%	1.6%	24.6%	37.9%

Social Risk Factor Definitions

- **Transportation Insecurity:** Percentage of population predicted to self-attest to having transportation needs defined as the lack of reliable transportation or the lack of easy public transportation to satisfy non-emergency transportation needs.
- **Housing Insecurity:** Percentage of the population predicted to self-attest to being house insecure, which is defined as the lack of permanent housing that impacts health behaviors, leading to healthy habits being considered as a lower priority.
- **Housing Quality:** Percentage of the population predicted to self-attest to having housing quality needs defined as the presence of health risks in the home/residential building where an individual resides (e.g., lead paint, mold, inadequate cooling or heating, high radon levels). Note that housing insecurity is a different social risk metric.
- **Food Insecurity:** Percentage of population predicted to self-attest to being food insecure, which is defined as the inability or difficulty accessing and/or affording healthy food or enough food, frequently as a result of limited funds or residence in a food desert.

Overall County Healthcare Risk Summary

			Overall	Healthcare Utilization Risk		Health Outcome Risk			
		Adult (18+) Pop.	Social Needs Score	Likelihood To Be ED Superuser (4+ Visits/Year)	Likelihood For Avoidable ED Utilization	Asthma	Diabetes	Obesity	Substance Abuse
United States			21.1	20.9%	21.5%	8.8%	11.5%	32.1%	15.6%
Maryland			17.5	19.0%	16.7%	9.1%	12.5%	31.1%	15.9%
District Of Columbia		571,626	28.0	26.9%	31.2%	8.0%	3.5%	24.2%	22.4%
Montgomery County		629,629	14.2	21.6%	8.2%	4.5%	12.5%	12.3%	20.0%
Prince George's County		571,746	21.8	22.1%	25.6%	6.5%	23.8%	48.7%	13.0%
Inner Beltway	**Capitol Heights**	26,467	29.3	32.9%	52.8%	9.2%	30.8%	69.8%	9.5%
	Cheverly - Glenarden - New Carrollton	65,009	25.7	27.2%	34.2%	5.5%	27.5%	54.6%	14.5%
	District Heights	24,604	28.5	32.5%	48.1%	6.9%	29.4%	72.7%	8.3%
	Hyattsville - Bladensburg	14,242	28.6	33.4%	35.1%	4.5%	24.4%	46.3%	18.3%
	Langley Park - Mount Rainier	4,071	28.3	37.0%	38.3%	2.7%	18.7%	44.7%	11.9%
	Riverdale	9,288	27.6	30.0%	31.3%	3.4%	23.3%	43.5%	20.5%
	Suitland	17,299	30.2	34.1%	52.0%	6.0%	23.9%	68.7%	7.6%
Central	**Bowie - Central**	39,731	16.0	13.0%	10.6%	6.1%	22.2%	39.4%	12.0%
	Largo - Mitchellville	37,785	18.1	16.6%	17.2%	6.1%	23.6%	47.6%	11.6%
	Upper Marlboro - Central	575	25.2	10.6%	44.9%	5.2%	22.9%	61.4%	2.3%
	Upper Marlboro - South	38,970	18.1	13.3%	13.7%	7.1%	23.1%	49.4%	12.3%

North	**Beltsville - Berwyn Heights**	29,006	18.7	20.8%	16.2%	5.8%	18.6%	29.9%	17.2%
	Bowie - North	39,571	14.0	12.4%	6.0%	7.4%	18.8%	30.3%	13.9%
	Glenn Dale - Lanham	5,576	14.6	10.3%	9.5%	5.7%	23.0%	29.9%	14.7%
	Greenbelt - College Park	13,592	25.7	33.9%	36.3%	4.1%	14.9%	48.2%	9.8%
	Hyattsville	32,178	26.2	32.6%	30.5%	3.4%	22.0%	36.6%	21.1%
	Laurel	34,833	21.9	24.3%	24.9%	5.7%	19.6%	42.1%	13.9%
South	**Accokeek - Brandywine**	25,600	17.0	9.9%	11.7%	8.6%	22.7%	44.7%	13.1%
	Fort Washington	40,634	17.7	14.9%	17.9%	7.5%	26.4%	47.5%	12.0%
	Oxon Hill - Forest Heights - Clinton	72,715	22.8	23.1%	31.0%	7.9%	25.6%	58.9%	10.4%

Healthcare Utilization + Health Outcome Risk Factor Definitions:

- **Likelihood to be ED superuser:** Percentage of the population predicted to be an "emergency department super-user" (4+ visits) in the next 12 months
- **Likelihood for avoidable ED utilization:** Percentage of population predicted to have an “Avoidable Emergency Department” visit in the next 12 months
- **Asthma:** Likely to have asthma, mild, moderate, severe, unspecified asthma
- **Obesity:** Likely to have obesity, morbid obesity
- **Diabetes:** Likely to have type I/type II Diabetes
- **Substance abuse:** Likely to have a substance use disorder, such as alcohol, opioids, cannabis, sedatives, hypnotics, cocaine, hallucinogens, inhalants, and narcotics.

Appendix B: Clinical Resource Assessment

DC-MD Metro Area: 2027 Detailed Outlook

	Specialty	Prince George's County			Montgomery County			District Of Columbia			DC-MD Metro Area		
		Supply	Demand	Gap To Target	Supply	Demand	Gap To Target	Supply	Demand	Gap To Target	Supply	Demand	Gap To Target
Primary Care	Family & General Practice	102.0	272.0	-170.0	121.0	299.2	-178.2	153.0	191.3	-38.3	376.0	762.5	-386.5
	Internal Medicine	180.0	287.2	-107.2	298.0	315.9	-17.9	435.0	201.9	233.1	913.0	805.0	108.0
	Pediatrics	1.0	167.1	-166.1	155.0	183.7	-28.7	221.0	117.5	103.5	377.0	468.2	-91.2
	Obstetrics & Gynecology	9.0	112.7	-103.7	106.0	123.9	-17.9	100.0	79.2	20.8	215.0	315.9	-100.9
	Primary Care Total	***292.0***	***839.0***	***-547.0***	***680.0***	***922.7***	***-242.7***	***909.0***	***590.0***	***319.0***	***1,881.0***	***2,351.7***	***-470.7***
Medicine Specialties	Allergy & Immunology	8.0	11.4	-3.4	21.0	12.6	8.4	8.0	8.0	0.0	37.0	32.0	5.0
	Cardiology	31.0	43.2	-12.2	55.0	47.5	7.5	81.0	30.4	50.6	167.0	121.1	45.9
	Dermatology	7.0	28.3	-21.3	54.0	31.1	22.9	36.0	19.9	16.1	97.0	79.3	17.7
	Endocrinology	18.0	11.2	6.8	24.0	12.3	11.7	23.0	7.9	15.1	65.0	31.3	33.7
	Gastroenterology	31.0	27.8	3.2	53.0	30.6	22.4	56.0	19.5	36.5	140.0	77.9	62.1
	Hematology & Oncology	15.0	28.8	-13.8	22.0	31.7	-9.7	35.0	20.2	14.8	72.0	80.7	-8.7
	Infectious Disease	2.0	10.2	-8.2	23.0	11.2	11.8	31.0	7.2	23.8	56.0	28.5	27.5
	Nephrology	25.0	14.1	10.9	14.0	15.6	-1.6	40.0	9.9	30.1	79.0	39.7	39.3
	Neurology	8.0	27.3	-19.3	39.0	30.0	9.0	59.0	19.2	39.8	106.0	76.5	29.5
	Pulmonary Medicine	7.0	19.1	-12.1	19.0	21.0	-2.0	33.0	13.4	19.6	59.0	53.6	5.4
	Rheumatology	8.0	9.4	-1.4	19.0	10.4	8.6	23.0	6.6	16.4	50.0	26.4	23.6
	Medicine Specialties Total	***160.0***	***230.8***	***-70.8***	***343.0***	***253.9***	***89.1***	***425.0***	***162.3***	***262.7***	***928.0***	***647.1***	***280.9***
Psych	***Psychiatry***	***8.0***	***94.8***	***-86.8***	***30.0***	***104.3***	***-74.3***	***31.0***	***66.7***	***-35.7***	***69.0***	***265.8***	***-196.8***
Surgery Specialties	General Surgery	11.0	88.6	-77.6	32.0	97.5	-65.5	57.0	62.3	-5.3	100.0	248.4	-148.4
	Neurosurgery	5.0	13.2	-8.2	8.0	14.5	-6.5	20.0	9.3	10.7	33.0	36.9	-3.9
	Ophthalmology	27.0	47.2	-20.2	72.0	51.9	20.1	53.0	33.2	19.8	152.0	132.2	19.8
	Orthopedics	24.0	60.8	-36.8	81.0	66.9	14.1	65.0	42.8	22.2	170.0	170.5	-0.5
	Otolaryngology	5.0	29.3	-24.3	22.0	32.2	-10.2	32.0	20.6	11.4	59.0	82.1	-23.1
	Plastic & Reconstructive Surgery	0.0	9.4	-9.4	9.0	10.4	-1.4	15.0	6.6	8.4	24.0	26.4	-2.4
	Thoracic Surgery	3.0	5.7	-2.7	6.0	6.3	-0.3	16.0	4.0	12.0	25.0	16.0	9.0
	Urology	15.0	29.8	-14.8	21.0	32.8	-11.8	42.0	20.9	21.1	78.0	83.5	-5.5
	Surgery Specialties Total	***90.0***	***284.0***	***-194.0***	***251.0***	***312.3***	***-61.3***	***300.0***	***199.7***	***100.3***	***641.0***	***795.9***	***-154.9***
Hospital Based Specialty	Emergency Medicine	50.0	66.0	-16.0	109.0	72.6	36.4	206.0	46.4	159.6	365.0	185.1	179.9
	Physical Medicine & Rehabilitation	4.0	10.7	-6.7	7.0	11.7	-4.7	1.0	7.5	-6.5	12.0	29.9	-17.9
	Anesthesia	20.0	87.4	-67.4	83.0	96.1	-13.1	106.0	61.4	44.6	209.0	244.9	-35.9
	Radiology	32.0	90.4	-58.4	58.0	99.4	-41.4	101.0	63.5	37.5	191.0	253.3	-62.3
	Pathology	9.0	35.0	-26.0	26.0	38.5	-12.5	32.0	24.6	7.4	67.0	98.1	-31.1
	Hospital Based Specialty Total	***115.0***	***289.4***	***-174.4***	***283.0***	***318.3***	***-35.3***	***446.0***	***203.5***	***242.5***	***844.0***	***811.3***	***32.7***
Other	***Other***	***8.0***			***34.0***			***67.0***			***109.0***		
	TOTAL PHYSICIANS	***673.0***	***1,738.0***	***-1,065.0***	***1,621.0***	***1,911.5***	***-290.5***	***2,178.0***	***1,222.2***	***955.8***	***4,472.0***	***4,871.7***	***-399.7***

Supply > Demand Supply < Demand Supply << Demand

Figure 55. 2027 Physician needs summary by service line, DC-MD metro area.

Prince George's County Bed Capacity

Hospital	# ICU Beds	# Of Staffed Beds	# Of Licensed Beds	Bed Utilization Rate
Prince George's County, MD	***78***	***602***	***633***	***73%***
Adventist Healthcare Fort Washington Medical Center	6	28	28	84%
Luminis Health Doctors Community Medical Center	22	206	206	69%
Medstar Southern Maryland Hospital Center	18	153	182	75%
UM Capital Region Medical Center[1]	32	215	217	N/A
Montgomery County, MD[2]	***138***	***1,015***	***1,373***	***76%***
Adventist Healthcare Rehabilitation - Rockville		53	87	81%
Adventist Healthcare Shady Grove Medical Center	22	185	329	78%
Adventist Healthcare White Oak Medical Center[3]	26	178	178	100%
Holy Cross Germantown Hospital	8	58	70	78%
Holy Cross Hospital	46	209	377	68%
Medstar Montgomery Medical Center	12	104	104	67%
Suburban Hospital	24	228	228	71%
Washington, DC[4]	***222***	***2,994***	***3,909***	***73%***
Bridgepoint Continuing Care Hospital - Capitol Hill		60	60	72%
Bridgepoint Continuing Care Hospital - National Harborside		82	82	48%
Childrens National Hospital	73	323	313	90%
George Washington University Hospital	56	339	385	79%
Howard University Hospital	36	228	482	50%
Medstar Georgetown University Hospital	19	394	609	81%
Medstar National Rehabilitation Hospital		137	137	66%
Medstar Washington Hospital Center	38	719	926	80%
Psychiatric Institute Of Washington		130	124	83%
Sibley Memorial Hospital		187	369	64%
St Elizabeths Hospital		292	292	69%
Hospital For Sick Children Pediatric Center		103	130	N/A

Footnotes:

1. UM Capital Region Medical Center Bed Counts Obtained From UMMS On Jun 28, 2023 Via Erica Wilson ICU Bed Count From Https://Www.Umms.Org/Capital/About/Future/Um-capital-region-medical-center Bed Utilization Not Available Due To Recent Opening Of Facility
2. Beds In Federal Facilities In Montgomery County Are Excluded From Analysis. 444 Total Beds At National Institutes Of Health Clinical Center And Walter Reed National Military Medical Center.
3. Facility Did Not Publish Licensed Bed Count. Conservatively Estimated To Be Same As Staffed Bed Count.
4. Beds In Federal Facilities In DC Are Excluded From Analysis. 164 Total Beds At Washington DC VA Medical Center.
Definitive 2021, Unless Previously Noted. Includes Facility Types: Short Term Acute Care Hospital, Long Term Acute Care Hospital, Children's Hospital, Rehabilitation Hospital, Psychiatric Hospital

Appendix C: Care Consumption Patterns

Percent Care Consumption by County Region

North County and Central County residents received more care outside of Prince George's County (~65 and 55%, respectively) than patients who live in the Inner Beltway or South County. Variations in care patterns can be attributed to:

1. Patient choice (especially North/Central County)
2. Lack of access (leading to delaying care until crisis level or seeking care in the county despite lack of proximity)

	% Care Outside Of Prince George's County By Residency Region[5]				
	Inner Beltway *(Pop. 302,074)*	Central *(Pop. 110,313)*	North *(Pop. 312,991)*	South *(Pop. 251,499)*	Overall
Overall	**37.1%**	**54.5%**	**65.4%**	**27.4%**	**42.55%**
Cardiovascular	29.7%	43.2%	49.6%	21.4%	30.33%
Dermatology	7.7%	38.1%	29.0%	38.9%	30.12%
Endocrinology	25.0%	50.0%	59.6%	26.2%	39.70%
ENT (i.e., otolaryngologist)	41.7%	84.6%	60.0%	73.3%	65.00%
Gastroenterology	24.3%	43.0%	50.9%	22.6%	32.95%
General Medicine	50.0%	80.0%	90.0%	51.2%	66.67%
General Surgery	45.5%	58.3%	67.1%	37.6%	51.30%
Gynecology	56.3%	57.7%	50.0%	55.6%	55.07%
Infectious Disease	27.2%	40.7%	62.5%	8.4%	25.02%
Neonatology	71.4%	73.3%	88.8%	20.5%	60.50%
Nephrology	25.0%	36.0%	51.7%	9.8%	22.84%
Neurology	49.5%	45.0%	69.0%	28.2%	41.96%
Neurosurgery	50.0%	76.5%	100.0%	89.5%	83.67%
OB	72.1%	83.3%	86.6%	53.8%	74.22%
Oncology/Hematology	46.8%	77.0%	68.0%	43.2%	58.70%
Ophthalmology	100.0%		100.0%	60.0%	88.89%
Orthopedics	61.0%	76.3%	45.9%	61.9%	60.99%
Psychiatry	18.8%	48.7%	76.8%	24.2%	37.84%
Pulmonology	41.2%	58.7%	70.1%	23.8%	43.01%
Rheumatology	18.2%	33.3%	77.8%	18.2%	35.14%
Spine	30.4%	34.3%	39.2%	81.1%	50.46%
Substance Abuse	35.3%	40.0%	60.4%	11.4%	37.41%
Thoracic Surgery	60.0%	71.4%	100.0%	41.7%	60.61%
Transplant	100.0%		100.0%	100.0%	100.00%
Trauma/Burns	100.0%	83.3%	100.0%	63.6%	86.11%
Urology	55.0%	50.0%	64.9%	42.4%	53.52%

[5] Inpatient Encounters Only. Care In/Outside County Is Defined Based On Estimated/Actual County On Claims Date Range: Jan 1, 2022 – Dec 31, 2022

Top 15 Patient Destinations (# and % Inpatient Encounters)

Top 15 Patient Destinations (By # Of Inpatient Encounters)

■ In County
■ Outside County

Hospital System	City	State	Patient Region				Overall
			Inner Beltway (Pop. 302,074)	Central (Pop. 110,313)	North (Pop. 312,991)	South (Pop. 251,499)	
MEDSTAR SOUTHERN MARYLAND HOSPITAL	CLINTON	MD	262	346	240	2218	3066
DOCTORS COMMUNITY HOSPITAL	LANHAM	MD	934	474	481	162	2051
ANNE ARUNDEL MEDICAL CENTER, INC.	ANNAPOLIS	MD	120	299	265	72	756
ADVENTIST WHITE OAK MEDICAL CENTER	SILVER SPRING	MD	133	121	280	106	640
MEDSTAR WASHINGTON HOSPITAL CENTER	WASHINGTON	DC	87	130	90	284	591
FORT WASHINGTON HOSPITAL	FT WASHINGTON	MD	19	19	9	504	551
HOLY CROSS HOSPITAL	SILVER SPRING	MD	61	88	158	58	365
CHILDREN'S HOSPITAL	WASHINGTON	DC	57	54	98	38	247
GEORGETOWN UNIVERSITY HOSPITAL	WASHINGTON	DC	16	24	23	92	155
UMMS CAPITAL REGION	UPPER MARLBORO	MD	83	25	13	18	139
THE JOHNS HOPKINS HOSPITAL	BALTIMORE	MD	24	23	55	9	111
HOWARD UNIVERSITY HOSPITAL	WASHINGTON	DC	21	27	36	23	107
SUBURBAN HOSPITAL HEALTH SYSTEM	BETHESDA	MD	38	24	14	28	104
HOWARD COUNTY GENERAL HOSPITAL	COLUMBIA	MD	15	15	60	3	93
INOVA ALEXANDRIA HOSPITAL	ALEXANDRIA	VA	20	27	11	32	90

Top 15 Patient Destinations (By % Of Inpatient Encounters)

■ In County
■ Outside County

Hospital System	City	State	% From Each Patient Region			
			Inner Beltway (Pop. 302,074)	Central (Pop. 110,313)	North (Pop. 312,991)	South (Pop. 251,499)
MEDSTAR SOUTHERN MARYLAND HOSPITAL	CLINTON	MD	8.55%	11.29%	7.83%	72.34%
DOCTORS COMMUNITY HOSPITAL	LANHAM	MD	45.54%	23.11%	23.45%	7.90%
ANNE ARUNDEL MEDICAL CENTER, INC.	ANNAPOLIS	MD	15.87%	39.55%	35.05%	9.52%
ADVENTIST WHITE OAK MEDICAL CENTER	SILVER SPRING	MD	20.78%	18.91%	43.75%	16.56%
MEDSTAR WASHINGTON HOSPITAL CENTER	WASHINGTON	DC	14.72%	22.00%	15.23%	48.05%
FORT WASHINGTON HOSPITAL	FT WASHINGTON	MD	3.45%	3.45%	1.63%	91.47%
HOLY CROSS HOSPITAL	SILVER SPRING	MD	16.71%	24.11%	43.29%	15.89%
CHILDREN'S HOSPITAL	WASHINGTON	DC	23.08%	21.86%	39.68%	15.38%
GEORGETOWN UNIVERSITY HOSPITAL	WASHINGTON	DC	10.32%	15.48%	14.84%	59.35%
UMMS CAPITAL REGION	UPPER MARLBORO	MD	59.71%	17.99%	9.35%	12.95%
THE JOHNS HOPKINS HOSPITAL	BALTIMORE	MD	21.62%	20.72%	49.55%	8.11%
HOWARD UNIVERSITY HOSPITAL	WASHINGTON	DC	19.63%	25.23%	33.64%	21.50%
SUBURBAN HOSPITAL HEALTH SYSTEM	BETHESDA	MD	36.54%	23.08%	13.46%	26.92%
HOWARD COUNTY GENERAL HOSPITAL	COLUMBIA	MD	16.13%	16.13%	64.52%	3.23%
INOVA ALEXANDRIA HOSPITAL	ALEXANDRIA	VA	22.22%	30.00%	12.22%	35.56%

Appendix D: Financial Model Details

Service Line Scorecard Ranges

County Care Consumption, Market Share, And Migration Patterns:

Total Market Size Scorecard Rating	
IP Encounters	**Score**
0	1
173	2
389	3
605	4
820	5

Each score value represents 0.5 standard deviation above/below the average, with 3 representing average encounters across all service lines.

Total Volume Outside County Scorecard Rating	
IP Encounters	**Score**
0	1
82	2
166	3
249	4
333	5

Each score value represents 0.5 standard deviation above/below the average, with 3 representing average volume outside the county across all service lines.

% Outside Of County Scorecard Rating	
% IP Encounters	**Score**
0%	1
32%	2
43%	3
53%	4
63%	5

Each score value represents 0.5 standard deviation above/below the average care outside the county, with 3 representing average for the county.

Physician Supply:

Total Physician Gap Scorecard Rating	
% Less Than Demand	**Score**
-108%	1
-9%	2
20%	3
48%	4
77%	5

Each score value represents 0.5 Standard Deviation Above/Below The Average, With 3 Representing Average Across All Specialties

*-9% = Supply Is **Greater Than** Demand By 9%*

*20% = Supply Is **Less Than** Demand By 20%*

Regional Scorecard Components:

Regional Variation Scorecard Rating	
% Different Than County Average Market Share Outside County	**Score**
-100%	1
-10%	2
0%	3
10%	4
20%	5

Each score value represents 10% greater or less than overall county average % care outside county. (1 represents anything less than -10%)

-10% = For Service Line X, Patients Received Care Outside Of The County 10% ***Less Frequently*** *Than The County Average*

10% = For Service Line X, Patients Received Care Outside Of The County 10% ***More Frequently*** *Than The County Average*

Regional PCP Disparity Scorecard Rating	
Population : Primary Care Ratio	**Score**
0	1
2,128	2
2,315	3
2,502	4
2,688	5

Each score value represents 0.5 standard deviation above/below the average, with 3 representing average encounters across all service lines.

Regional Provider Disparity Scorecard Rating	
Population : Provider Ratio	**Score**
0	1
744	2
805	3
866	4
927	5

Each score value represents 0.5 standard deviation above/below the average, with 3 representing average encounters across all service lines.

Volumes Breakdown (Priority Service Model)

Baseline annual inpatient volume included the number of claims in each of the prioritized service lines.

Inpatient Volume Breakdown:

Service Line	Annual IP Admissions	Annual Patient Days
Cardiovascular	680	3,267
Pulmonology	589	2,887
General Surgery	385	1,998
OB/GYN	801	2,930
Psychiatry	268	1,064
Hematology/Oncology	243	1,168
Primary Care	n/a	n/a
Grand Total	**2,967**	**13,313**

Figure 56. Total inpatient encounter volume outside of Prince George's County. Values are projected out from raw care consumption data for county residents based on estimated 82% coverage. Annual patient days are calculated as the geometric mean length of stay by service line.

Calculate Total Healthcare Consumption:
Outpatient volume was estimated using an **outpatient-to-inpatient (OP: IP) claims ratio** to translate IP claims to estimated outpatient volume.

Methodology Approach: 1) All encounters were categorized by place of service (OP vs. IP), **2)** Service lines were then grouped to increase sample size and account for any variations in coding practices across organizations and providers, **3)** OP encounters, which are less service line specific than IP encounters were then evaluated, **4)** Findings indicated ~50% of all OP encounters were not service line specific, indicating a need for a multiplier of 2x for relevant service lines, and **5)** Data indicated ratios were then shared with local provider networks to provide feedback/adjustments

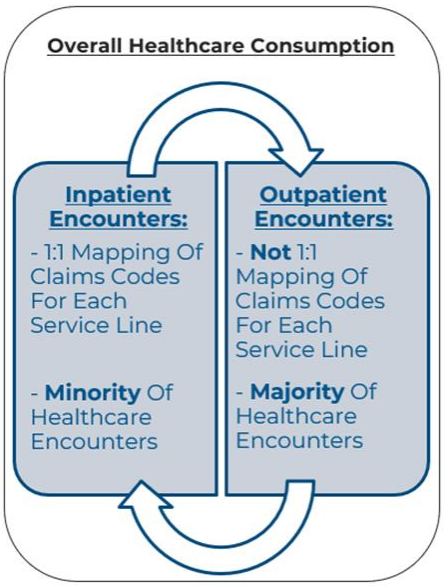


Figure 57. Inpatient encounters represent a portion of total healthcare needs. Outpatient care represents the majority of care.

Service Line Groupings

Where appropriate, the prioritized service lines were grouped together with like service lines to provide a more robust sample size when determining the OP:IP ratio. Once calculated, these ratios were applied to each service line's specific inpatient volume to calculate outpatient volume.

- Not grouped - cardiovascular, psychiatry, hematology/oncology
- Pulmonology was grouped with other medical specialties – pulmonology, dermatology, endocrinology, nephrology, and ophthalmology.
- General surgery was grouped with other surgical specialties – otolaryngology, general surgery, orthopedic surgery, and thoracic surgery.
- OB/GYN – obstetrics, gynecology

Results:

Service Line	OP/IP Ratio – Huron	OP/IP Ratio – UMMS	OP/IP Ratio – Luminis	Adjusted OP/IP Ratio[1]
Cardiovascular	8:1	30:1	Huron Ratio Seems Low	19:1
Pulmonology	26:1	37:1	n/a	32:1
General Surgery	10:1	34:1	n/a	22:1
OB/GYN	16:1	29:1	n/a	23:1
Psychiatry	174:1	159:1	n/a	174:1
Hematology/ Oncology	127:1	146:1	n/a	137:1

1. Adjusted OP:IP Ratio was calculated taking the average of the UMMS figures and the Huron figures, with the exclusion of Psychiatry which was held at its original ratio per direction from Prince George's County Leadership

Figure 58. Outpatient to inpatient (OP : IP) ratios were calculated using claims data and county provider feedback to calculate total care volume needs of the county based off of inpatient volumes in Figure 55.

Primary Care Volume Estimate:

Due to the lack of specificity in the coding of office visits (E&M/evaluation & management codes), volumes specific to primary care are challenging to identify directly. To model this, our team began with the Physician Needs Analysis to estimate total volume. Due to feasibility concerns around recruiting 500+ primary care providers (PCPs) in 0-3 years, 25% of the total gap was targeted for the initial phase model.

Primary Care Encounters Calculation	
Total Physician Gap	547 Physicians
25% to Target Gap	137 Physicians
Encounters per MD[1]	5,176
Implied Annual Encounters	**707,798**

1. Encounters per MD sourced via MGMA Median for Single-Specialty Primary Care Clinics in the Eastern United States

Figure 59. Total primary care consumption was estimated as 25% of the total primary care physician gap.

Annual Volume Summary (as of Year 3 of the Model):

Service Line	Annual IP Admissions	Annual Patient Days	Annual Outpatient Encounters
Cardiovascular	680	3,267	12,929
Pulmonology	589	2,887	18,849
General Surgery	385	1,998	8,478
OB/GYN	801	2,930	18,428
Psychiatry	268	1,064	35,649
Hematology/Oncology	243	1,168	33,248
Primary Care	n/a	n/a	707,798
Grand Total	**2,967**	**13,313**	**835,378**
Grand Total (excl. Primary Care)	**n/a**	**n/a**	**127,580**

Figure 60. Total volume of inpatient and outpatient care consumption across inpatient and outpatient settings for priority service lines.

Assumptions Breakdown (Priority Service Model)

Revenue Assumptions:

- Baseline net reimbursement per encounter/admission annual increase: 2.0%
- Volume included is the IP encounters going outside of Prince George's County in the targeted service lines, with OP encounter volume derived from OP: IP mix ratios (excluding primary care)
- Three-year ramp up to baseline volume, volume increases at 0.18% annually thereafter (population growth)
- Inpatient-specific: Reimbursement per admission x admission volume
    - Reimbursement per admission based on publicly available Maryland reimbursement rates by APR-DRG: APR-DRGs mapped to relevant service lines
- Outpatient Specific: Gross/Net Charge per Encounter x Encounter Volume
    - Gross and net revenue per encounter based on MGMA Medians by Service Line for the Eastern United States
    - Contractual allowance for year 1 implied based on the difference in Gross/Net, held constant in Years 2-5

Inpatient and Outpatient Reimbursement Breakdown

Year 0 Reimbursement Breakdown (in $'s)		
Service Line	**IP Reimbursement per Admission**	**OP Reimbursement per Encounter**
Cardiovascular	20,068	114
Pulmonology	18,523	134
General Surgery	31,440	211
OB/GYN	12,454	149
Psychiatry	15,338	118
Hematology/Oncology	32,469	338
Primary Care	n/a	136

Figure 61. Reimbursement per encounter ($) across prioritized service lines, both inpatient (IP) and outpatient (OP).

Staffing Assumptions

- Physician annual merit increase: 3.0% - industry standard
- Other staff annual merit increase: 3.0% - industry standard
- Physician benefits as a % of salaries: 20% - industry standard
- Other staff benefits as a % of salaries: 25% - industry standard
- Assumed physicians and support staff cover both outpatient and inpatient care locations at the median productivity levels (excluding primary care) provided by MGMA medians
- Allocated physician and support staff salaries/benefits to OP/IP operations based on % of net patient revenue
- Physicians are assumed to be employed
- Outpatient-specific
    - Physician need based on volume/encounters per MD by service line sourced from MGMA Medians by Service Line for the Eastern United States.
- Inpatient-Specific
    - Physician need based on volume/encounters per MD by service line sourced from MGMA Medians by Service Line for the Eastern United States.

Supplies and Other Expenses

- Physician need based on volume/encounters per MD by service line sourced from MGMA Medians by Service Line for the Eastern United States.

Physician Recruitment Expenses

- Physician need based on volume/encounters per MD by service line sourced from MGMA Medians by Service Line for the Eastern United States

Capital Expenditures

- Physician need based on volume/encounters per MD by service line sourced from MGMA Medians by Service Line for the Eastern United States

Inpatient Construction Costs: Total bed need x construction costs per bed

- Bed need determined by implied ADC at full ramp-up divided by the bed utilization target
- Bed utilization target: 75%
- Construction costs: $1.6 million per bed – sourced via Proest and Assets America benchmarks

Outpatient Construction Costs: Square feet x cost per square foot

- Specialty clinics' square feet were determined by multiplying the number of (full-time equivalent) FTE physicians at full ramp-up by square foot per FTE benchmark sourced from MGMA Medians for Multispecialty OP Clinic in the eastern United States: 2,400 square feet per FTE physician
- Cost per square foot (specialty): $619 – sourced via LevelSet using Cummings U.S. construction per square foot
- Primary care square feet determined by multiplying the number of FTE physicians at full ramp-up by square foot per FTE benchmark sourced from MGMA Medians for Primary Care Clinics in the Eastern United States: 789 square feet per FTE physician
- Cost per square foot (primary care): $498 – sourced via LevelSet using Cummings U.S. Construction Per Square Foot

Priority Service Model Results

Capital Expenditures

Inpatient

Short-term investments were assumed to be multi-campus, not 49 beds in a single campus. Soft cost escalators were increased from 30% to 35% to account for the increased FF&E (i.e., furniture, fixtures, and equipment), design costs, etc.

Inpatient Capital Expenditures Calculation	
Total Patient Days	13,313
Implied ADC	36.5
Target Bed Utilization Rate	75%
Implied Bed Need	**49 beds**
Construction Cost Per Bed	$1.6M
Total Construction Costs	$78.4M
Soft Costs Escalator (30%)	$23.5M
Contingency & Escalation (15%)	$11.8M
Total IP CapEx	**$113.7M**

Outpatient

Total Combined Outpatient CapEx: $158.4M

Primary Care Capital Expenditures Calculation	
Square Feet per FTE PCP	789
PCP FTEs	137
Total Square Footage	108,093
Cost Per Square Foot	**$498**
Total Construction Costs	$53.9M
Soft Costs Escalator (35%[1])	$18.9M
Contingency & Escalation (15%)	$8.1M
Total Primary Care CapEx	**$80.9M**

Specialty Outpatient Capital Expenditures Calculation	
Square Feet per FTE Specialist	2,400
FTE Specialists	35
Total Square Footage	83,510
Cost Per Square Foot	**$619**
Total Construction Costs	$51.7M
Soft Costs Escalator (35%[1])	$18.1M
Contingency & Escalation (15%)	$7.8M
Total Specialty OP CapEx	**$77.5M**

1. Assumed to be multi-campus, not one large clinic. Soft costs escalation has been increased from 30% to 35% to account for the increased FF&E costs, design costs, etc.

Figure 62. Combined $158 million short-term capital expenditure across primary care and specialty care outpatient settings.

Service Line Summary

$ in 000s	Cardiology	Pulmonology	General Surgery	OB/GYN	Psychiatry	Oncology / Hematology	Primary Care	Combined
Total Implied Bed Need[1]	12	11	7	11	4	4	-	49
Total OP Square Footage	6,395	14,130	7,475	9,390	21,661	24,490	108,281	190,920
Total Capital Expenditures	**$34,710**	**$39,520**	**$23,740**	**$35,119**	**$29,713**	**$32,339**	**$80,886**	**$276,026**
Total IP Capital Expenditures	$28,800	$26,400	$16,800	$26,400	$9,600	$9,600	$ -	$117,600
Total OP Capital Expenditures	$5,910	$13,120	$6,940	$8,719	$20,113	$22,739	$80,886	$157,617

Figure 63. $276 million short-term investment across seven service lines is distributed across IP and OP settings, with ~57% of expenditure in OP space.

Results Summary – Profit and Loss

$ in 000s

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue						
Net patient service revenue	$ -	$ 60,724	$ 123,877	$ 189,722	$ 193,865	$ 198,098
Expenses						
Physician Comp. & Benefits	-	16,506	34,002	52,585	54,260	55,989
Support Salaries & Benefits	-	24,650	49,659	75,119	75,826	76,553
Supplies & Other	-	15,985	32,930	50,927	52,550	54,223
Physician Recruitment Costs	8,530	8,530	8,556	-	-	-
Interest	-	-	-	-	-	-
Depreciation & Amortization	-	6,901	6,901	6,901	6,901	6,901
Total Expenses	**8,530**	**72,571**	**132,047**	**185,532**	**189,537**	**193,665**
	-	-	-	-	-	-
Net Income	**(8,530)**	**(11,847)**	**(8,170)**	**4,190**	**4,328**	**4,433**
EBIDA	**$ (8,530)**	**$ (4,947)**	**$ (1,269)**	**$ 11,091**	**$ 11,229**	**$ 11,333**
EBIDA Margin		*-8.1%*	*-1.0%*	*5.8%*	*5.8%*	*5.7%*

Figure 64. Summary of projected operating EBIDA of $276 million short-term investment across seven service lines distributed across IP and OP settings. The projected operating EBIDA is anticipated to be positive in year 3 of projections.

Results Summary – Cash Flow and Internal Rate of Return (IRR)

Cashflow ($ in 000s)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	
Income Before Recruitment Costs	$ -	$ (3,317)	$ 386	$ 4,190	$ 4,328	$ 4,433	
Less: Physician Recruitment Costs	8,530	8,530	8,556	-	-	-	
Add: Depreciation & amortization	-	6,901	6,901	6,901	6,901	6,901	
Add: Interest Expense	-	-	-	-	-	-	
Less: Capital expenditures	276,026	-	3,450	3,450	3,450	3,450	
Plus: External Funding	-	-	-	-	-	-	
Proceeds from LT Debt	-	-	-	-	-	-	
Principal Repayments	-	-	-	-	-	-	**Terminal Value**
Internal Cash Flow	**$(284,556)**	**$ (4,947)**	**$ (4,719)**	**$ 7,640**	**$ 7,778**	**$ 7,883**	**$ 115,990**
Discounted Cash Flows	**$ (271,313)**	**$ (4,288)**	**$ (3,719)**	**$ 5,473**	**$ 5,065**	**$ 4,667**	**$ 68,669**

IRR	**-19.2%**

Terminal value calculated using a 10% discount rate and a 3% terminal growth rate

Figure 65. Summary of projected return on $276 million short-term investment across seven service lines distributed across IP and OP settings. Assuming a 10% discount rate and a 3% terminal growth rate on projected cash flows, the expected IRR is (19.2%).

Full-Care Gap Cost Analysis

Estimated total cost of addressing the full care gap indicated by the physician needs analysis and bed needs analysis.

Prince George's County Bed Need Analysis	
Beds per 1,000 Population: Maryland	1.1 beds
Beds per 1,000 Population: PGC	0.6 beds
Total PGC Population	976,877
Implied Total Bed Need	1,075 beds
Current Staffed Beds in County	602 beds
Incremental Bed Need	**473 beds**

County Physician Needs Analysis

Prince George's County				
Specialty	**Supply**	**Demand**	**% Gap**	**Gap To Target**
Primary Care	292	839	-65%	-547
Medicine Specialties	160	231	-31%	-71
Psychiatry	8	95	-92%	-87
Surgery Specialties	90	284	-68%	-194
Hospital Based Specialties	115	289	-60%	-174
Total	***665***	***1,738***	***-62%***	***-1073***

Figure 66. Prince George's County has a ~475 bed gap and ~1,073 physician gap to address the full care gap for a population the size of Prince George's County.

Inpatient Capital Expenditures – Full Care Gap

Inpatient Capital Expenditures Calculation	
Total Annual Patient Days	294,300
Implied ADC	806.3
Target Bed Utilization Rate	75%
Implied Bed Need	**473 beds**
Construction Cost Per Bed	$1.6M
Total Construction Costs	$756.8M
Soft Costs Escalator (35%)	$264.9M
Contingency & Escalation (15%)	$113.5M
Total IP CapEx	**$1,135.2M**

Figure 67. Total capital required to close the inpatient bed gap is $~1.14 billion.

Outpatient Capital Expenditures – Full Care Gap

Total Combined Outpatient CapEx: $1,446.9M

Primary Care Capital Expenditures Calculation	
Square Feet per FTE PCP	789
PCP FTEs	547
Total Square Footage	431,583
Cost Per Square Foot	**$498**
Total Construction Costs	$214.9M
Soft Costs Escalator (35%)	$75.2M
Contingency & Escalation (15%)	$32.2M
Total Primary Care CapEx	**$322.3M**

Specialty Outpatient Capital Expenditures Calculation	
Square Feet per FTE Specialist	2,400
FTE Specialists	352
Total Square Footage	844,800
Cost Per Square Foot	**$619**
Total Construction Costs	$522.9M
Soft Costs Escalator (35%)	$183.0M
Contingency & Escalation (15%)	$78.4M
Total Specialty OP CapEx	**$784.3M**

Figure 68. Combined $1.45 billion long-term capital expenditure across primary care and specialty care outpatient settings.

Combined Capital Expenditures – Full Care Gap

Summary Capital Expenditures	
Construction Costs - Inpatient	$756.8M
Construction Costs – Primary Care	$214.9M
Construction Costs – Specialty OP	$522.9M
Total Construction Costs	$1,494.6M
Soft Costs Escalator (35%)	$523.1M
Contingency & Escalation (15%)	$224.2M
Total Capital Expenditures	**$2,241.9M**
Adjustment for CapEx Included in Short-Term	**($276.0M)**
Total Medium/Long-Term CapEx	**$1,965.9M**

Figure 69. Total $1.96 billion expenditure across medium and long-term to close full care gap.

Allocating Capital Costs to County Regions

Methodology

Service Line Allocation (only applicable to the Full-Care Gap): Service Lines are grouped and allocated based on the results of the physician needs analysis.

Service Line Allocation – Only Applicable to Full Care Gap		
Service Line	**Physician Gap**	**% of Total Gap**
Medical Specialties	71	13.5%
Psychiatry	87	16.5%
Surgical Specialties	194	36.9%
Hospital-Based Specialties	174	33.1%
Total	**526**	**100.0%**

Figure 70. The overall capital investment for specialty services was allotted across service lines in line with the magnitude of the physician gap.

Regional Allocation (Non-Primary Care): Based on adjusted results from the bed needs analysis performed by specialty area.

Regional Allocation (Non-Primary Care)			
Region	**Bed Gap**	**% of Total Gap**	**% of Total Gap (Adjusted)**
North Region	135	28.4%	22.2%
South Region	101	21.3%	15.0%
Central Region	-89	(18.7%)	-
Beltway	327	69.1%	62.8%
Total	**474**	**100.0%**	**100.0%**

Figure 71. The overall capital investment was allotted across regions in line with the bed gap.

Regional Allocation (Primary Care): Based on the primary care physician gaps by region as a percentage of the total physician gap.

Regional Allocation – Primary Care		
Region	**Primary Care Physician Gap**	**% of Total Gap**
North Region	176	32.3%
South Region	151	27.7%
Central Region	52	9.5%
Beltway	166	30.5%
Total	**545**	**100.0%**

Figure 72: The overall capital investment for primary care was allotted across regions in line with the magnitude of the primary care physician gap.

Priority Service Financial Model: Sensitivity Results

IRR Sensitivity Results – External Funding, Debt Financing

% Externally Funded	Total Capital Expenditures ($ in 000s)	Total External Funding ($ in 000s)	Resulting Project IRR	Remainder to be Financed with Debt	Resulting Project IRR – Remainder Financed with Debt[1]
0%	276,026	-	(19.2%)	276,026	11.9%
10%		27,603	(17.8%)	248,423	15.4%
20%		55,205	(16.2%)	220,821	18.7%
30%		82,808	(14.4%)	193,218	21.7%
40%		110,410	(12.2%)	165,615	24.7%
50%		138,013	(9.7%)	138,0138	27.5%
60%		165,615	(6.4%)	110,410	30.3%
70%		193,218	(2.3%)	82,808	32.9%
80%		220,821	3.7%	55,205	35.5%
90%		248,423	13.6%	27,603	38.0%
100%		276,026	40.5%	-	40.5%

Figure 73. Adjusting levels of external funding and debt financing can improve the IRR.

IRR Sensitivity Results – Out-migration Volume Capture

% of Outmigration Captured	Resulting Capital Expenditures ($ in 000s)	Resulting EBITDA Margin in Year 5	Resulting Project IRR – No External Funding, Debt	Resulting Project IRR – 50% External Funding, Remainder Financed with Debt
50%	177,256	3.4%	(27.1%)	(4.3%)
60%	197,010	4.0%	(24.6%)	5.0%
70%	216,764	4.5%	(22.7%)	12.1%
80%	236,518	4.9%	(21.3%)	18.0%
90%	256,272	5.4%	(20.1%)	23.1%
100%	276,026	5.7%	(19.2%)	27.5%

Figure 74. Adjusting levels of out-migration can improve IRR.

IRR Sensitivity Results – EBIDA Margin, External Funding, Debt Financing

EBIDA Margin (Year 5)	IRR – No External Funding, No Debt	IRR – 40% External Funding, No Debt	IRR – 40% External Funding, 40% Debt Funded, 20% Partner Funded
5.7% - Baseline	(19.2%)	(12.2%)	(1.6%)
6.0%	(18.2%)	(11.2%)	(0.1%)
7.0%	(15.2%)	(7.8%)	4.8%
8.0%	(12.5%)	(4.9%)	8.9%
9.0%	(10.2%)	(2.3%)	12.5%
10.0%	(8.1%)	0.0%	15.6%

Figure 75. Higher than expected operational performance can improve IRR.

Appendix E: SDoH Model Details

Meal Delivery

Consumer Engagement		
# of Consumers in Program	**# of Meals / Patient Weekly**	**Total # of Meals Annually**
5,000	10	2,600,000

Direct Investment Required	
Cost of Meals / Patient / Month	**Total Annual cost**
$ 147	$ 8,820,000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Meal Delivery Programs Reduce The Use Of Costly Health Care In Dually Eligible Medicare And Medicaid Beneficiaries

Seth A. Berkowitz, Jean Terranova, Caterina Hill, Toyin Ajayi, Todd Linsky, Lori W. Tishler, and Darren A. DeWalt

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Benefits & Impact			
Monthly Cost of Poorly Managed Care	**Monthly Cost of well managed care**	**Monthly Cost Savings / Patient**	**Annual Savings**
$ 1,413	$ 843	$ 570	$ 34,200,000

Cost Effectiveness Ratio	10 Year Investment	10 Year Savings
3.88	$ 88,200,000	$ 342,000,000

Model Description
Provide tailored meals, 5 days of lunches, dinners delivered weekly to determine whether home delivery of medically tailored reduces the use of health care services and medical spending among diabetic population

Source: Health Affairs - Meal Delivery

https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2017.0999

Figure 76. Tailored food delivery interventions can be dynamically adjusted in response to cost variation, care savings, and investment timeframe by changing variables in yellow.

Transportation

Consumer Engagement		
# of Consumers in Program	# of Trips / Patient annually	Total # of Trips
5,000	4	20,000

Direct Investment Required	
Avg roundtrip cost	Estimated Transportation Cost
$60	$ 1,200,000

Benefits & Impact				
Annual Cost of Poorly Managed Care	Annual Cost of well managed care	Annual Cost Savings / Patient	PMPM Savings	Annual Savings
$ 6,117	$ 5,033	$1,084	$ 90	$ 5,420,000

Cost Effectiveness Ratio	10 Year Investment	10 Year Savings
4.52	$ 12,000,000	$ 54,200,000

Model Description
Provide non-emergency transportation to and from appointments for diabetic patients.

Source: NEMT - MTA Coalition

https://mtaccoalition.org/wp-content/uploads/2018/07/NEMT-ROI-Methodology-Paper.pdf

Figure 77. Non-urgent medical transportation interventions can be dynamically adjusted in response to cost variation, care savings, and investment timeframe by changing variables in yellow.

Housing Build

Upfront Investment Costs			
estment	Avg Unit Cost	Avg Unit Size (Sq Ft)	# of Units
$ 120,000,000	$ 200,000	1000	600

Maintenence Costs		
Total Housing Sq Ft	Avg Cost per sq ft	Annual Cost
600,000	$ 2.5	$ 1,500,000

Benefits & Impact: Housing Revenue		
# of Units	Monthly Rent	Annual Revenue Generation
600	$ 975	$ 7,020,000

Straight Life Depreciation Term (Years)	30	Annual Investment	$ 4,000,000
		Annual Investment (W/ Maintenance)	$ 5,500,000

Benefits & Impact: Healthcare Cost Savings					
Average Unit Occupancy	Annual HealthCare Patient Cost	% Reduction in cost	Annual Healthcare Patient Cost with Intervention	Annual Savings / Unit	Total Annual Savings
1.0	$ 51,000	67%	$ 16,830	$ 34,170	$ 20,502,000

Model Description
Build affordable housing for highest risk population with embedded health services

Cost Effectiveness Ratio	10 Year Investment	10 Year Savings
3.73	$ 55,000,000	$ 205,020,000

Source: American Hospital Association, Denver Housing Authority

https://www.denverhousing.org/denver-housing-authority-and-denver-health-collaborate-on-rx-for-unsheltered-patients/

https://www.aha.org/news/insights-and-analysis/2018-03-06-case-study-university-illinois-hospital-health-sciences

Figure 78. Housing interventions can be dynamically adjusted in response to cost variation, care savings, and investment timeframe by adjusting the variables in yellow.