

**Maryland Physician Workforce Study
Prepared by Boucher & Associates**

EXECUTIVE SUMMARY

SUMMARY OF FINDINGS

It is a silent crisis but a real one: Maryland has a serious shortage of clinical physicians to treat patients. Even more alarming, Maryland's inadequate supply of practicing clinicians will grow in intensity over the next seven years. If this shortage is not addressed promptly, patient care could be compromised throughout the state.

These conclusions are based on a comprehensive Maryland Physician Workforce Study commissioned by the Maryland Hospital Association (MHA), with the support of MedChi, The Maryland State Medical Society.

The study found that overall Maryland is 16 percent below the national average for number of physicians available for clinical practice. The most severe problems occur in rural parts of the state and will get much worse by 2015, based on the study's results. The biggest statewide gaps occur in Primary Care, Emergency Medicine, Anesthesiology, Hematology/Oncology, Thoracic Surgery and Vascular Surgery, Psychiatry, and Dermatology. The study also found Maryland has only a borderline supply of orthopedic surgeons.

The situation in Southern Maryland, Western Maryland, and the Eastern Shore is the most troubling. All three regions fall significantly below national levels in active practicing physicians. Southern Maryland already has critical shortages in 25 of the 30 physician categories (83.3%), Western Maryland 20 of 30 (66.7%), and the Eastern Shore 18 of 30 (60.0%).

Hospitals across the state report difficulty in finding Emergency Department coverage for medical specialties such as Gastroenterology. Indeed, every region in Maryland has a shortage in Pathology and Emergency Medicine. There are not enough anesthesiologists, either, except in Central Maryland. Meanwhile, the study indicates future shortages in all pediatric specialties except Neonatology and a projected statewide shortage in Diagnostic Radiology.

One of the reasons for these shortages is an aging physician workforce. In Maryland, 9.9 percent of all clinical physicians are 65 years or older and 33.4 percent of them are 55 years or older. The biggest concentration of older physicians occurs near Washington, D.C., in the Capital Region. Retirements in specialty surgical categories are particularly alarming. One-quarter (25%)

of the surgical workforce is 60 years or older. By 2015, 32 percent of the current workforce is expected to retire. The current supply of general surgeons statewide now only meets 90 percent of what is needed; that shortage is projected to fall to 80 percent by 2015. Also by 2015, the supply of thoracic surgeons will be only half of what is necessary to meet demand.

The number of residents trained at Maryland's hospitals who opt to practice in the state is insufficient to make up for this wave of retirements. Indeed, residency program directors indicate that the 52 percent of residents who now go on to practice in Maryland could fall to as low as 25 percent by 2015. Not nearly enough clinical practitioners will be moving into Maryland to offset these factors.

Medical residents and fellows who were surveyed indicated a strong preference for starting their careers as hospital employees or in a large group practice. This is in marked contrast to the current physician workforce that favors small private practices.

Unless medical and political leaders find ways to reduce physician shortages, patient care will suffer. Patients will spend far more time in a doctor's waiting room. There will be greater reliance on already crowded emergency departments for even the most minor ailments. Some emergency departments may have to close or divert patients who could otherwise be treated locally unless they find ways to get enough on-call specialists.

What can be done to end these critical, statewide and regional physician shortages?

- Raise physician fees so Maryland is competitive nationally.
- Change the state's medical liability laws so Maryland is competitive with states currently attracting physicians.
- Initiate a state loan forgiveness program that draws physicians to regions in need.
- Increase the number of residency slots.
- Strengthen H-1 visa (i.e., employment visa) regulations to protect hospitals/medical groups in rural areas.
- Offer incentives to encourage physicians to practice in the state's rural areas.
- Develop programs that encourage more residents who are training in Maryland to remain in state as clinical practitioners.
- Initiate a regional dialogue that leads to more on-call emergency department specialists.
- Place increased emphasis on information technology innovations.
- Sponsor educational programs on new physician practice models.

Maryland's physician shortage has an impact on everyone. It is real, and it is growing. Bold steps must be taken by elected leaders and by medical leaders. We cannot afford to put the state's residents in a position where no one answers when an emergency strikes and the call goes out, "Is there a doctor in the house?"

SUMMARY OF CURRENT PHYSICIAN SHORTAGES BY REGION & SPECIALTY FOR 2007

Specialty	2007				
	Capital	Central	Eastern	Southern	Western
Primary Care*:					
Medical Spec:					
Allergy					
Cardiology					
Dermatology					
Endocrinology					
Gastroenterology					
Hem/Onc					
Infectious Disease					
Nephrology					
Neurology					
Psychiatry					
Pulmonary Med					
Rheumatology					
Hospital Based:					
Anesthesiology					
Diag Radiology					
Emergency Medicine					
Neonatology					
Pathology					
Phys.Med					
Rad. Oncology					
Surgical Spec.					
Gen. Surgery					
Neurosurgery					
OB/GYN					
Ophthalmology					
Orthopedic Surg					
Otolaryngology					
Plastic					
Thoracic Surg					
Urology					
Vascular Surg					
Total	8	5	18	25	20
% of Shortages	26.7%	16.7%	60.0%	83.3%	66.7%

Legend:

- Adequate Physician Supply
- Borderline Physician Supply
- Physician Shortage



BACKGROUND OF THE PHYSICIAN WORKFORCE STUDY

Early in 2007, the Maryland Hospital Association (MHA) invited MedChi, The Maryland State Medical Society, to join in a comprehensive examination of the state's physician workforce. Given projected national shortages and concerns about the professional environment in Maryland for physicians, MHA and MedChi decided to focus on the number of doctors providing direct clinical services to patients both now and in the future. Since medicine is practiced regionally in Maryland, the study was broken down by regions and by key specialties to pinpoint areas of greatest need.

In February 2007, a steering committee was formed. It included physicians, hospital officials, and state government representatives. The group identified key questions it wanted answered by the study.

- Does the presence of a large number of teaching and research institutions in the state reduce the supply of clinical physicians?
- What is the impact of an aging physician workforce?
- How does the increased number of female physicians affect supply?
- How competitive is Maryland in retaining medical residents after they complete their graduate education at Johns Hopkins and the University of Maryland?
- How much of an added impact will an aging population and a strong state economy have on the demand for physician services?
- Can improved productivity by doctors compensate for a shortage of physicians in the workforce?
- Can better medical management of patient care reduce the need for more physicians?
- Does the environment for physicians in Maryland help the state maintain its current supply of physicians?

MHA and MedChi retained Boucher & Associates to undertake a study designed to include a quantitative analysis¹ of physician supply along with a qualitative analysis of the physician environment. The process included interviews with the medical directors of 52 Maryland hospitals, interviews with a sample of residency program directors, an on-line survey of residents and fellows participating in Graduate Medical Education (GME) programs in the state, an on-line survey of primary care providers, and a written survey of specialists distributed by MedChi to its specialty societies.

¹ The quantitative analysis was customized to make use of the most appropriate measures for each specialty group and the most current data on physician workforce supply. The supply model included modeling the impact of physician retirements, the inclusion of residents in training and allied health professionals, residents electing to practice in Maryland after training, and the net in-migration of physicians into Maryland. The physician requirement model included modeling the impact of an aging population, economic expansion, and physician productivity changes. Finally, the impact of changes in medical management on physician requirements was examined at the macro level using comparative data from the Dartmouth Atlas Project.

The overarching goals of the study:

- Conduct an in-depth analysis of Maryland’s current and future physician supply and physician needs.
- Develop consensus on the steps needed to maintain Maryland’s competitiveness in attracting physicians in light of projected national shortages.
- Identify ways to increase Maryland’s physician workforce so all state residents have access to a full array of quality physician services.

KEY FINDINGS BY WORKFORCE AREA

Overall Maryland Physician Workforce: Shortages Now Will Grow

- When adjustments are made for the percent of time Maryland physicians spend in clinical practice and converted to clinical full-time equivalents (CFTE)², Maryland is 16 percent below national levels: US-212 CFTE/100K vs. Md. 178 CFTE/100K.
- The average physician in Maryland spends less time in clinical practice than the national average (0.69 clinical FTE compared to a national average of 0.79 clinical FTE³).
- Statewide, there are 10,227 clinical physicians available to treat patients. There are shortages in Primary Care, Emergency Medicine, Anesthesiology, Hematology/Oncology, Thoracic Surgery and Vascular Surgery, Psychiatry, and Dermatology. Maryland also has only a borderline supply of orthopedic surgeons.
- Three of the five regions in the state (i.e., Eastern, Southern and Western) fall significantly below national levels in active practicing physicians per 100,000 residents.
- The Central region is the **only** region in the state that is above the US average in active physicians per 100,000 residents: US 269/100K, Central 307/100K.
- The Southern, Western, and Eastern regions of the state have the greatest physician shortages. Southern Maryland has critical shortages in 25 of the 30 physician categories (83.3%); Western Maryland 20 of 30 (66.7%); and the Eastern Shore 18 of 30 (60.0%). Refer to Summary of Current Physician Shortages by Region & Specialty For 2007 on Page 3.
- By 2015, shortages worsen in three of five regions of the state. Only the Central region maintains an adequate supply of physicians overall.
- Statewide, 9.9 percent of the clinical full-time equivalent physicians are age 65 or older and 33.4 percent are age 55 or older.

² This is the percent of time a physician spends in direct patient care excluding teaching, research, and administration.

³ Baicker K, Chandra A. “Medicare Spending, the Physician Workforce, And Beneficiaries Quality of Care.” *Health Affairs* (Millwood). 2004; Suppl. Web Exclusive W184-97.

Primary Care Workforce: New Doctors Can't Fill the Gaps

- Maryland has 3,274 physicians in clinical practice, which translate into 57 clinical FTE physicians per 100,000 residents.
- The Southern region has the fewest primary care clinicians (44/100K), while the Central region has the greatest number (61/100K).
- The state's primary care workforce has already seen a significant shift from male to female physicians and is expected to see that shift become more dramatic by 2015. Currently, over 60 percent of primary care physicians under age 35 are female.
- There is a current shortage of primary care physicians at state and regional levels. Only the Central region has an adequate supply.
- In 2010 and 2015, shortages are projected in three out of five regions. Both the Capital and Central regions have adequate supplies, principally because of their lower retirement rates and ability to attract residents setting up their first practices.
- When residents-in-training are added to supply, there are still shortages in all regions except in the Central region, due to the presence of two teaching hospitals there.
- Even with an adjusted work factor added for Allied Health Professionals (AHP), the Southern region is projected to have current and future shortages of primary care providers.

Medical Specialty Workforce: Retirements Add to Lack of Specialists

- Medical specialists are projected to decrease from 40 clinical physicians per 100,000 residents in 2007 to 37 per 100,000 residents in 2015.
- The principal reason for the reduction is retirements. In-migration of physicians from other states and residents setting up new practices in Maryland do not offset the large number of specialists leaving their fields.
- Hospitals across the state report difficulty in finding Emergency Department coverage for medical specialties such as Gastroenterology.
- The Eastern, Southern, and Western regions have current shortages across most medical specialties; these shortages are projected to increase through 2015.
- Currently, there are statewide shortages in Hematology/Oncology, Dermatology, and Psychiatry that are expected to continue through 2015.
- Only the Capital region has an adequate current supply of dermatologists, but there will be a shortage by 2015.
- At present, every region of the state has a shortage of hematologists/oncologists.
- Four of five regions have a shortage of psychiatrists. Only the Central region has an adequate supply.
- By 2015, Gastroenterology is projected to experience a statewide shortage.
- There are projected shortages for all pediatric specialties except for Neonatology.

Hospital-Based Specialty Workforce: Emergency Departments Feel the Pinch

- The study found statewide shortages in Diagnostic Radiology and Pathology.
- There is currently a shortage of anesthesiologists in all parts of Maryland, except the Central region. Those shortages are projected to continue for Anesthesiology through 2015.
- Emergency Medicine shortages are statewide and in the Central, Southern, and Western regions for 2007 and 2010. Shortages in the Southern and Western regions also are forecasted for 2015.
- Retention of residents should compensate for retirements among hospital specialists in all areas except Diagnostic Radiology and Neonatology.
- Hospital-based specialists are on average the youngest of the four groups with only 14 percent age 60 or older.
- Every region in Maryland has a shortage of pathologists.

Surgical Specialty Workforce: Inadequate Supply Grows

- Twenty-five percent of the surgical workforce is age 60 or older, making it the oldest of the four groups. By 2015, 32 percent of the current workforce is expected to retire.
- Critical Care specialties—General Surgery, Thoracic Surgery, and Vascular Surgery—all have projected current statewide shortages with worsening shortages projected by 2015.
- Current OB/GYN shortages in the Southern and Western regions are expected to continue through 2015, while supply in the Eastern region barely meets the requirement. (OB/GYN supply projections could not be adjusted for OB/GYNs who are no longer providing obstetrical care due to lack of data. But anecdotally, this practice trend was widely reported by medical directors.)
- The current supply of general surgeons statewide meets only 90 percent of the requirement and is projected to fall to 80 percent by 2015.
- By 2015, the supply of thoracic surgeons will be only half what is needed to meet demand.
- Only Neurosurgery and Otolaryngology (ENT) will attract enough residents as in-state practitioners to offset retirements.
- In the face of projected shortages and national competition for physicians in surgical specialties, hospitals have begun to employ physicians on staff as a way to retain critical specialists.

Medical Management: Efficiencies Can't Compensate for Shortages

- Improvements in medical management have been shown in a number of studies⁴ to reduce utilization of medical services and physician services while improving outcomes and customer satisfaction.
- Yet even with reduced utilization, physician shortages will continue to exist in the Eastern, Western, and Southern regions of the state.

⁴ The Dartmouth Atlas of Healthcare; www.dartmouthatlas.org

- Significant changes in medical management require the participation of all parties—physicians, hospitals, ancillary service providers, and insurers.
- Integrated delivery systems in other states have been most successful in improving medical management when incentives are aligned and offered throughout the system.

KEY FINDINGS FROM QUALITATIVE ANALYSIS

- Hospital medical directors who were interviewed pointed to increased difficulty getting specialty call coverage for Emergency Departments.
- Hospitals are hiring more specialty physicians to ensure coverage in the ED. This is also a response to the desire of new physicians coming out of medical schools to be employed by hospitals.
- Of residency program directors interviewed, most indicate that fewer graduating residents are likely to practice in Maryland, declining from the present 52 percent to as low as 25 percent.
- Responses to an on-line survey of medical residents and fellows indicated:
 - The vast majority of residents want to set up their practices close to family and be connected to professional relationships. This is the number one factor in choosing a locale for their first practice.
 - A preponderance of respondents want to be employed by a hospital or a large group practice rather than traditional small group practice settings.
 - With the exception of surgeons, a majority of women residents/fellows (as well as a small percentage of male respondents) indicated an intention to work part-time after residency training.

SUMMARY OF MAJOR CONCLUSIONS

- There are critical statewide physician shortages in Primary Care, General Surgery, Thoracic Surgery, Vascular Surgery, Anesthesiology, Emergency Medicine, and Psychiatry.
- Regionally, there are significant physician shortages in the Eastern, Southern, and Western regions.
- Maryland has an aging physician workforce with 9.9 percent of the clinical full-time equivalent physicians age 65 or older and 33.4 percent age 55 or older. This aging physician workforce is most prevalent in the Capital region and in surgical specialties.
- Maryland is very dependent on maintaining a net in-migration of physicians to maintain its physician workforce—particularly in surgical specialties.
- Hospital medical directors continually cited the significant challenge of maintaining adequate emergency call coverage for specialists.
- A preponderance of residents in training wants to be hired by hospitals or large group practices. Their professional interests are in marked contrast to the current physician workforce that works in small private practices.

SUMMARY OF KEY POLICY RECOMMENDATIONS

Health care and political leaders must find ways to reduce physician shortages so patient care does not suffer. The Steering Committee has endorsed the following recommendations:

- The Governor's Task Force on Health Care Access and Reimbursement should recommend higher physician reimbursement rates that make Maryland's rates competitive nationally, particularly with states currently attracting physicians.
- The state should pursue medical liability initiatives that will make Maryland competitive with states currently attracting physicians.
- Maryland should develop a state loan forgiveness program to attract and retain medical residents in rural areas, especially specialists who are in short supply.
- Maryland should seek an increase in the number of its residency slots to increase the pool of residents available to practice in the state.
- H-1 visa (i.e., employment visa) regulations should be strengthened to protect hospitals/medical groups in rural areas that recruit and employ physicians working under this type of visa.
- A regional dialogue should be initiated among hospitals and specialists with the goal of finding regional solutions to handle emergency call coverage.
- Maryland should foster information technology innovations as a way to enhance this state's reputation for medical excellence and an attractive place to practice medicine.
- MedChi and MHA should jointly sponsor educational programs on innovative practice models and structures.
- The Maryland Board of Physicians and Maryland Board of Nursing should gather additional licensing data information on physicians and allied health professionals.

MEMBERSHIP OF THE STEERING COMMITTEE

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* State agency representatives participated on the Steering Committee to assist the effort without taking a position on its policy recommendations.