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**APPENDIX D:**  
**THE FUTURE SUPPLY AND DEMAND FOR PHYSICIANS IN**  
**MICHIGAN REPORT: EXECUTIVE SUMMARY**



**MSMS**  
*The Voice of 15,000*  
Michigan Physicians

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Michigan State Medical Society

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## EXECUTIVE SUMMARY

After more than a decade in which the health care community anticipated a physician surplus, there is widespread recognition that this pattern may be reversing and that there may be growth in the demand for physicians services that will not be fully met by practicing physicians or by the addition of new physicians as they finish their medical education. The aging baby boom generation, the anticipated retirement of older physicians, and the changing demographics and practice patterns of physicians across the nation are all contributing towards this expectation.

Despite growing recognition of a potential shortfall in the physician workforce in the United States over the next decade, the actual number of physicians that will be needed is not well defined. In addition, the anticipated need for family physicians versus specialists is not entirely clear.

An adequate supply of physicians of all types is central to the overall health and stability of Michigan's health care system, and there are a number of health care policy issues that may be addressed more fully and accurately with an accounting of the future supply and demand for physicians in the state. In response to this challenge, the Michigan State Medical Society asked Public Policy Associates, Incorporated to compile a detailed analysis of Michigan's current physician supply and to forecast the supply and demand for physicians in Michigan out to the year 2020.

## PROFILE OF MICHIGAN PHYSICIANS

Michigan currently has almost 30,000 allopathic (82.0%) and osteopathic (18.0%) physicians actively engaged in the practice of medicine or in a closely related activity such as medical research, medical administration, or medical teaching. Approximately one-third of all Michigan physicians provide primary care services as family practitioners, internists, pediatricians, and OBGYNs. More than 50% provide more specialized medical services; five percent serve as medical faculty, medical researchers, or administrators; and ten percent did not report their principal activities. These physicians are located in every Michigan county and, typically, the larger the county, the greater the number of active physicians. Wayne and Oakland Counties have the largest number of physicians. Washtenaw County has the largest concentration of physicians (1,025 physicians per 100,000 residents), followed by Oakland, Emmet (Petoskey), Grand Traverse (Traverse City), and Ingham Counties.

The average age of actively practicing physicians in Michigan is 45, and 29.0% of all currently active Michigan physicians are women. A large proportion of Michigan physicians (approximately one in three) are graduates of Michigan's four medical schools. The remainder were educated throughout the United States and other nations. Forty percent of Michigan physicians, including residents and fellows, are international medical graduates. Michigan physicians practice a broad spectrum of specialties and sub-specialties, and more than half of them received their postgraduate training in Michigan hospitals and health systems. More than 17,000 Michigan physicians indicated that they are board certified in practice areas as broad as internal medicine and as specialized as addiction psychiatry and vascular surgery.

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# PHYSICIAN FORECASTING METHODS AND ASSUMPTIONS

Projected supply and demand for physicians in Michigan were prepared separately and then compared to determine what future trends and options might look like in the years 2010, 2015, and 2020. Both sets of forecasts incorporate broad economic and cultural assumptions: (1) there will be no significant change in the overall economic structure and reimbursement environment of American medicine during the next 15 years; (2) there will be no dramatic change in the availability, size, scope, and mission of medical education in the United States, including little or no change in the number of student enrollments in American colleges of medicine; and (3) post-graduate medical education will continue to recruit international medical graduates to fill approximately 20% of the residencies available in Michigan each year.

Physician supply was forecasted using a trend model that tracks cohorts of physicians over time, adding in new residents each year, subtracting out expected retirees and deaths each year, and testing various changes in work effort that are anticipated as younger physicians complete their residencies and move into private practice. Factors held constant in this model include the number of medical school graduates and the number of residency and fellowship positions that are filled each year in Michigan hospitals and medical centers. It is assumed that there will be no significant increases in medical school graduates in this country and, thus, there will be no significant increase in medical graduates educated in the United States available for postgraduate medical training positions. This approach also assumes no new medical schools are established in the United States between now and 2020 and that any expansion of existing medical school enrollments will be kept to a minimum. Other assumptions of the supply model are:

- ◆ Approximately 3,900 residency and fellowship positions available in Michigan hospitals and medical centers are held constant for each year of the forecast.
- ◆ U.S. medical school graduates will fill approximately 80% of these positions; the rest will be filled by international medical graduates (IMGs).
- ◆ As 54% of all Michigan physicians completed their residencies and/or fellowships in Michigan and stayed to practice, this model assumes that 50% of all residents and fellows will remain in Michigan after completing their postgraduate training.
- ◆ The number of medical administrators, full-time medical school faculty, and medical researchers in Michigan will remain constant between now and 2020.

The future demand for physicians in Michigan is based on current physician-to-population ratios. Ratios of physicians to the overall population and, separately, to the population aged 65 and older are used in these calculations. Given that Michigan's total population growth over the next 15 years will be among the slowest in the nation, physician demand based on overall growth alone implies very little increase in demand. Alternatively, it is well documented that the older population generates a disproportionate demand

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for medical services, and the aging of the baby-boom generation implies that demand for service will likely reflect the expanding numbers of people in this age group over the next 10 to 15 years. Demand calculations based on the 65-and-older population is an attempt to reflect this.

The most important assumptions about physician-to-population ratios incorporated into this are:

- ◆ No ideal ratio of physicians per 100,000 residents has been identified, and the demand forecast presented here is not an attempt to identify an ideal ratio of physicians per 100,000 residents.
- ◆ The ratios used in this forecast reflect current demand for physician services and are held constant.
- ◆ The demand for physician services is greater among those aged 65 and older than for those below age 65 or for the population at large, regardless of age.

## **PHYSICIAN SUPPLY AND DEMAND FORECASTS**

A total of five supply scenarios and four demand scenarios were devised to provide a range of possible outcomes that reflect both extreme and more modest likelihoods. Five supply scenarios are based on varying assumptions concerning reductions in work effort.

- ◆ 5% reduction in work effort among all female physicians after 2005
- ◆ 10% reduction in work effort among all female physicians after 2005 and 5% work effort reduction among younger male physicians phased in after 2005
- ◆ 5% reduction in work effort for all physicians after 2005
- ◆ 10% reduction in work effort for all physicians after 2005
- ◆ No reduction in work effort among physicians

The demand scenarios in this report are based on the simple premise that if all present economic and social conditions remain the same, the most important dynamic factors associated with the demand for physician services are demographic ones (e.g., the number of physicians per 100,000 Michigan residents and the number of physicians per 100,000 residents ages 65 and older). Four scenarios were employed to estimate the future demand for physicians in Michigan:

- ◆ Physicians per 100,000 total population, all ages
- ◆ Physicians per 100,000 residents aged 65 and older
- ◆ Weighted average of 34% demand based on total population and 66% demand based on population aged 65 and older
- ◆ Weighted average of 50% demand based on total population and 50% demand based on population aged 65 and older

Twenty different combinations of physician supply and demand were developed, with the most reasonable forecasts of the supply and demand for physicians in Michigan falling between the extremes. There is considerable likelihood that physicians will limit some of their work effort in the near future, but drastic reductions in overall physician activity are not likely. The likelihood of significant numbers of new medical graduates and residents in

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the near future is equally unlikely. There will also be some help in meeting physician demand from the growing number of non-physician clinicians in Michigan. The scenario that assumes all physicians below retirement age are likely to modestly reduce their work effort between now and 2020 is the most reasonable model of future physician supply. This scenario indicates that Michigan's physician supply will remain relatively flat or even slightly decline over the next 15 years, fluctuating between 30,000 and 30,500 active practitioners across the entire state. The most reasonable scenario for physician demand is one that accounts for but does not overly emphasize the impact of the aging baby boom generation. This assumption produces an estimate of physician demand in Michigan that is expected to grow at a moderate pace as the older population increases, reaching a level that may require as many as 36,200 physicians by 2020.

If correct, these two moderate forecasts foretell a potential difference of as many as 6,000 physicians between what Michigan's population is likely to require and the number of physicians available to meet those demands in Michigan by the year 2020.

#### **For more information about the physician shortage**

For a complete copy of the Michigan State Medical Society's report on "The Future Supply and Demand for Physicians in Michigan," please go to:  
<http://www.msms.org/bsyp/news/PhysicianShortageFull.pdf>

Additional information about the physician shortage is contained in a report from The Blue Ribbon Physician Workforce Committee at:  
<http://www.msms.org/bsyp/news/MIPhysicianSD2020.pdf>

The Michigan Department of Community Health's Survey of Physicians 2005 is available at:  
<http://www.msms.org/bsyp/news/MDCHPhysicianShortage.pdf>