THE PHYSICIAN WORKFORCE IN NEW JERSEY

An Analysis of the Supply, Demand and Distribution of Physicians

July 2000

Prepared For

The New Jersey Hospital Association
and
The University Health System of New Jersey

Prepared by

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PREFACE

This report presents the findings of a study of the physician workforce in New Jersey by the Center for Health Workforce Studies at the University at Albany. This study is designed to help planners and policy makers understand the supply, demand, and distribution of physicians in New Jersey. The report provides data about physicians licensed to practice in New Jersey, about Graduate Medical Education in the state, and about the job market experiences of physicians completing residency training in New Jersey in 1999.

The data on practicing physicians presented in the report are from the AMA Masterfile of Physicians in mid-1999. Although this file has limitations, it is widely recognized as the best source of physician workforce data in the US. In particular, it provides longitudinal data about physicians, including where they were educated and trained and where they are licensed and practicing.

The GME data are from the files of the Advisory Graduate Medical Education Council of New Jersey (AGMEC). With files that extend back into the 1980s, AGMEC files is the best source of basic data about residency programs in New Jersey.

The data about the job market experiences of 1999 residency program graduates in New Jersey are from a survey conducted by the Center in conjunction with AGMEC in May and June of 1999. This survey provides demographic information about residency program graduates and their job search experiences, latest practice plans, and assessments of the job market for different specialties.

The report was prepared by Paul Wing and Edward Salsberg of the Center. Mark Dionne of the Center provided assistance in tabulating the data from the AMA Master File of Physicians. The resident exit survey was designed by the Center, and administered with the assistance of AGMEC and residency programs directors in hospitals across New Jersey. Joe Nolan of the Center oversaw the tabulation of the resident exit survey data presented in this report.

The Center for Health Workforce Studies is a not-for-profit research center operating under the auspices of Health Research Incorporated (HRI) and the School of Public Health at the University at Albany, State University of New York. Funding and guidance for the project was provided by the New Jersey Hospital Association (NJHA) and the University Health System of New Jersey (UHSNJ). The ideas expressed in this report are those of the Center, and do not necessarily represent the views or positions of NJHA, UHSNJ, HRI, the School of Public Health, or the University at Albany.

Sponsor's Critical Analysis

THE PHYSICIAN WORKFORCE IN NEW JERSEY

Observations by the New Jersey Joint Teaching Hospital Forum

The New Jersey Joint Teaching Hospital Forum (Forum) would recommend the Center for Health Workforce Studies to other states interested in conducting a workforce study. The staff at the Center for Health Workforce Studies has been very cooperative and amenable to suggestions for revisions in the report and has incorporated them.

This report summarizes the findings of a study of the physician workforce in New Jersey. It provides a wide range of facts and figures about the supply, demand, and distribution of physicians in the state for a specified period of time. The study also compares projections of the supply of different specialists to several national benchmarks. The resulting projections provide an initial step in assessing the adequacy of the supply of 25 different specialties in New Jersey in 1999 and in the future.

The report also summarizes the responses to a special "exit survey" of residents completing their residency programs in New Jersey in 1999. In addition to describing the characteristics of these residents, this survey provides a snapshot of the job market for different specialties.

The physician workforce is a complex subject, with many aspects and dimensions. There are a great deal of data in the report and members of the Forum would advise the reader to be cautious about drawing conclusions from the information presented. In considering the findings and recommendations presented below, it is important to keep in mind that this report is a reflection of a dynamic, changing system at one point in time. Any of a number of economic, policy and environmental factors would necessitate a major reassessment of the conclusions and recommendations presented in this report, including:

- The recent "Update on the Physician Workforce" published by the Council on Graduate Medical Education (COGME) provides six (6) scenarios which could dramatically impact physician workforce requirements (tables 1-3, pages 3, 4, and 5);
- New policies about graduate medical education financing by HCFA, the Congress, or the state of New Jersey;
- Restrictions on the numbers of IMGs entering practice in the U.S., due to more (or less) stringent examinations and immigration requirements;
- A downturn in a strong economy, which has been helping health care providers to cope with downsizing and cost containment initiatives, and stimulating demand for elective medical and surgical procedures;
- New medical breakthroughs that change the incidence of disease or reshape the diagnosis or treatment of different diseases and illnesses; and
- A pull back from managed care in response to challenges by consumers.

The Forum learned a great deal at the completion of this study. Several members recognized that the scope of the study was unfortunately limited due to several factors, not the least of which was financial support for a more inclusive work. Further, the Forum feels that before conclusions can be drawn from the study, the reader should be advised of several limitations: 1) the impact of internal medicine graduates was not able to be included nor analyzed in the report; 2) an accounting of the osteopathic residents in training in New Jersey and their impact on New Jersey's physician workforce was not able to be included and analyzed in the report; and 3) there was no analysis of the aging population of the physician workforce, gender shifts, and the combined impact on productivity.

Of special relevance to the circumstances in New Jersey regarding graduate medical education (GME), Dr. Abraham Verghese, in his article "The Cowpath to America" in the *New Yorker* dated June 23 and 30, 1997, discusses in detail the desperation of IMGs who train in the USA, to remain here after they have completed their training. Unfortunately, the future influx of IMGs will be impacted by the new Education Commission for Foreign Medical Graduates' (OSCE) requirement for an objective standardized clinical examination. The fact that the OSCE at present is given in only one location in the world, Philadelphia, will further exacerbate and reduce the in-migration of IMGs, once the current pool is exhausted.

The Forum felt that future studies should take into consideration the elements mentioned above, as well as the inclusion of a chapter on medical student indebtedness and its impact on specialty selection and the role of extended practitioners and future workforce requirements. Of special relevance regarding workforce requirements is the recent study conducted by COGME. Their six (6) scenarios result in significantly different workforce requirements. The scenarios are: 1) status quo; 2) baseline insurance projections; 3) high managed care; 4) universal coverage; 5) equal access and universal coverage; and 6) doubled nonphysician provider use. The March issue of *Hospital & Health Networks*, a publication of the American Hospital Association (AHA), contains an article on the "Doctor Dearth" where they conclude that physicians are frustrated with managed care and flushed with wise investments. Physicians are retiring earlier, alarming hospitals and physician group practices. This highly fluid workforce environment will be exceptionally difficult to forecast.

Finally, this study should be utilized as a first step in the development of data and information on the physician workforce in New Jersey with the full recognition that the aforementioned shortcomings will need to be addressed before the study can be used in workforce projections and planning. Further, the work currently being conducted by the New Jersey Medical Society with sponsorship from the Robert Wood Johnson Foundation should be considered in any workforce projections and planning.

TABLE 1

Number of Generalist Physicians* per 100,000 Population

SUMMARY OF EXPERT RESPONSES TO QUESTIONS CONCERNING ADEQUATE AND MINIMAL LEVELS BELIEVED TO BE NEEDED TO PROVIDE:

Type of County	*"Average" level of availability*	*"Minimal" level of availability*	*Number providing patient care in 1995*
Metro-core	72.0	50.7	--
Poverty tracts	--	--	61.9
Nonpoverty tracts	--	--	76.8
Metro-fringe	57.6	41.3	46.8
Small city	71.5	51.5	61.4
Rural	54.7	41.8	48.1
Sparse	51.2	40.5	37.4

* Family medicine, general internal medicine, and general pediatrics.

Reprinted with permission of COGME.

Source: Council on Graduate Medical Education (COGME), *Update on the Physician Workforce,* August 2000, pp. 3-4.

TABLE 2

Changes in Generalist Physician Staffing Patterns -- Six Scenarios

Scenario	*Description*
1. Status Quo	Continuance of the health care insurance coverage and staffing patterns that existed in 1995.
2. Baseline Insurance Projections	Reasonably expected increases in managed care, coupled with reductions in the uninsured population. No change in health care staffing patterns for each established mode of delivery (staff HMO, IPA HMO, fee-for-service).
3. High Managed Care	Greater-than-expected growth in managed care penetration, with no change in staffing patterns afor each mode of delivery.
4. Universal Coverage	Managed care extended to 100 percent of the population with staffing levels increased to reflect higher expected utilization by the previously uninsured.
5. Equal Access and Universal Coverage	Same as scenario 4 with improved access, and therefore increased staffing, in medically underserved areas and to underserved populations.
6. Doubled Non-Physician Provider Use	Same as scenario 2 with staffing levels adjusted to reflect a doubling in the use of non-physician providers (nurse practitioners, physician assistants, etc.) in place of physicians.

Reprinted with permission of COGME.

Source: Council on Graduate Medical Education (COGME), *Update on the Physician Workforce,* August 2000, pp. 3-4.

TABLE 3

Summary of Deficits in Number of Generalist Physicians Reported for Each of Scenarios 1 Through 6

Scenario	*Based on COGME High Standard of 80 per 100,000*	*Based on Expert-Average Standards*	*Based on COGME Low Standard of 60 per 100,000*
1. Status Quo	41,359	15,441	7,676
2. Baseline Insurance Projections	43,665	16,597	8,050
3. High Managed Care	44,924	17,227	8,254
4. Universal Coverage	62,120	28,228	15,636
5. Equal Access and Universal Coverage	67,154	32,522	17,934
6. Doubled Non-Physician Provider Use	21,988	2,292	3,394

Reprinted with permission of COGME.

Source: Council on Graduate Medical Education (COGME), *Update on the Physician Workforce,* August 2000, pp. 3-4.

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THE PHYSICIAN WORKFORCE IN NEW JERSEY

Executive Summary

This report summarizes the findings of a study of the physician workforce in New Jersey. It provides a wide range of facts and figures about the supply, demand, and distribution of physicians in the state. The study also compares projections of the supply of different specialists to several national benchmarks. The resulting projections provide a partial basis for assessing the adequacy of the supply of 25 different specialties in New Jersey in 1999 and in the future.

The report also summarizes the responses to a special "exit survey" of residents completing their residency programs in New Jersey in 1999. In addition to describing the characteristics of these residents, this survey provides a snapshot of the job market for different specialties.

Background

The physician workforce is a complex subject, with many aspects and dimensions. In considering the findings and recommendations presented below, it is important to keep in mind that this report is just a snapshot of a dynamic, changing system at one point in time. Any of a number of changes would necessitate a major reassessment of the conclusions and recommendations presented in this report, including:

- New policies about graduate medical education financing by HCFA, the Congress, or the state of New Jersey;
- A downturn in the strong economy, which has been helping health care providers to cope with downsizing and cost containment initiatives, and stimulating demand for elective medical and surgical procedures;
- New medical breakthroughs that change the incidence of disease or reshape the diagnosis or treatment of different diseases and illnesses;
- Restrictions on the numbers of IMGs entering practice in the US, due to more (or less) stringent examinations and immigration requirements;
- A pull back from managed care in response to challenges by consumers.

KEY FINDINGS

The study has revealed a number of important patterns and trends related to the physician workforce in New Jersey. The key findings based on these patterns and trends are presented below.

Overall Physician Supply

- The AMA Master File included 21,915 licensed patient care physicians (MDs and DOs) in New Jersey as of July 1999. This was approximately 3.5% of all physicians in the U.S. as compared to 3.0% of the U.S. population.
- On a per capita basis New Jersey has 18% more physicians per capita than the US in 1999 (265 per 100,000 population versus 224 per 100,000 population). The New Jersey ratio also exceeds several national benchmarks for physician per capita ratios. Exhibit 1 shows, however, that the New Jersey ratio of physicians to population is comparable to those in most neighboring states. In 1997 the ratios for all but Delaware were higher than the national average, and even Delaware was higher than currently available benchmarks for physician supply. This raises questions about the benchmarks currently available to assess the adequacy of the physician workforce.

Exhibit 1. Active Patient Care Physicians and Medical Residents per 100,000 Population in New Jersey and Selected Other States, December, 1997

State/Benchmark	Active Pt Care Phys/100K Pop, '97	Medical Residents/100K Pop, '97
New Jersey	260	31
New York	332	79
Pennsylvania	255	54
Delaware	214	29
Connecticut	306	54
US	227	36
GMENAC ('80)	193	n/a
HMO (Hart, '92)	180	n/a

Source: AMA, Physician Characteristics and Distribution, 1999.

- New Jersey had fewer medical residents per capita than all neighboring states except Delaware in 1997. Exhibit 1 shows that New York, Pennsylvania, and Connecticut had significantly more residents per 100,000 population than did New Jersey.
- New Jersey is a net importer of physicians in most specialties, especially medical and surgical subspecialties. Many New Jersey-licensed physicians were educated and trained in New York and Pennsylvania.
- In 1999 41% of all New Jersey physicians received their undergraduate medical education in foreign countries (IMGs), and 48% of all primary care physicians were IMGs. The percentages of non-Federal patient care physicians in the US and New York who were IMGs in 1997 were 24% and 42%, respectively.
- New Jersey had 6.4% of all the IMG physicians in the US, and 7.0% of all primary care IMG physicians.

Future Physician Supply

- If the number of new physicians entering practice in New Jersey and the rate that older physicians leave practice remain constant over the next 15 years (i.e., "status quo" projections), the number of physicians will grow faster than the population. Under this status quo scenario the aggregate number of physicians per 100,000 population in New Jersey will grow from 264 in 1999 to 278 in 2014 (5.3%).
- Under these same status quo assumptions, the number of physicians per 100,000 population in New Jersey will increase for 18 of the 25 specialties examined separately in this study. The number of Primary Care physicians (Family Practice, General Internal Medicine, and General Pediatrics) per capita will increase by 8.4% between 1999 and 2014.

Physician Demographics: Gender

- The proportion of physicians in New Jersey that are women is 25%, compared with 22% for the entire US.
- The proportion of physicians in New Jersey that are women varies substantially across specialties, ranging from 2% of orthopedic surgeons and urologists to 52% of pediatricians.

- As is the case across the country, the proportion of physicians who are women is greater for younger age groups than for older age groups.

Medical Education

- In 1998-99 New Jersey had 2.0% of the medical school enrollment in the US, substantially less than its 3.0% share of the US population.

Graduate Medical Education

- Although in 1998-99 New Jersey had 2.6% of all residents training in the US, less than its share of the population, it had 5.3% of the IMG residents in the US. Comparable figures for New York were 15% of all residents and 30% of all IMG residents in the US. A high percentage of IMGs in a residency program is interpreted by some observers as a general indicator that the program is not viewed as attractive by US medical school graduates, but this interpretation has not been verified in the literature.
- There are significant differences in the practice choices of graduating residents based on their location of medical school. IMGs are more likely to choose Internal Medicine and Psychiatry than are USMGs. IMGs are also more likely to practice in inner city and rural locations, and somewhat more likely to work in hospitals.

Supply/Demand for Specialties

- Based on a statistical Supply-Demand Balance Index developed for this study, the specialties with the *best* job markets for new practitioners in 1999 were Emergency Medicine, followed by Family Practice, Otolaryngology, Ob-Gyn, and Orthopedic Surgery. This same index showed that General Internal Medicine had the *worst* job market, followed by Infectious Diseases, Pediatrics, and Nephrology.
- Six specialties that appear to have relatively low demand, based on the Supply-Demand Balance Index, are forecast to grow significantly in the coming years. These include Infectious Diseases, Critical Care, Gastroenterology, Nephrology, General Internal Medicine, and Pediatrics.
- On the other hand, there are two specialties that appear to be in relatively high demand but whose numbers per capita are decreasing: Family Practice and General Surgery. While the growth in non-physician practitioners may help meet potential gaps in Family Practice, a case

can also be made to increase training in both of these specialties. It may also be that General Surgery is losing out among new physicians to the various surgical subspecialties, although the extent to which this is true cannot be determined from this study.

- The supply of physicians varies significantly across the 21 counties in the state. Bergen County had the highest physician per capita ratio in New Jersey in 1999 (425 patient care physicians per 100,000 population), followed by Somerset (374) and Essex (330). Figures for counties in New York adjacent to New York City were Westchester (581), Nassau (518), and Rockland (328).
- Cumberland County with 101 patient care physicians per 100,000 population, had the lowest physician per capita ratio in 1999, followed by Salem (124) and Sussex (134). These figures are comparable to those for rural counties in New York [e.g., Sullivan (109), Delaware (82), and Chautauqua (119)].
- A number of physicians with mailing addresses in New Jersey list principal practice addresses in other states, and conversely, a number of physicians with mailing addresses out-of-state list principal practice addresses in New Jersey. New Jersey experienced a net loss of an estimated 920 of these "commuter physicians" to New York and Philadelphia, or about 4% of the total New Jersey physician base.

Questions for Policy Analysts

Since it is not possible to confirm the reasons for many of the patterns, relationships, and trends revealed in this study, it is important not to act precipitously in response to nominal indications of shortage or surplus of physicians in different specialties or geographic areas. Thus, we recommend that neither individual residency programs nor overall policy makers overreact to the data presented in this report. Overreaction typically initiates cyclical patterns of prosperity and decline which can be vexing for all concerned.

With this caveat in mind, this study raises a number of questions for policy analysts concerned about the physician workforce in New Jersey. These include:

- What are appropriate benchmarks for the numbers of different specialists in New Jersey and its counties? What are the factors that influence the demand for physician services? How important are factors like per capita income, population density, unemployment, and welfare

spending in determining the demand for physician services? To what extent do these factor have different effects on different specialties? How large a panel of people or patients is required to support a viable practice in the different specialties?

- How responsive are medical students and residents to changes in the job market for different specialties? Are so many students likely to "jump on—or off—the bandwagon" of a specialty on first word of a problem or opportunity, that serious problems might arise for a specialty or the patients served by the specialty?
- What will be the impact of the new examination that all IMGs are now required to take in order to qualify to enter residency training and practice in the US? Will this reduce the numbers of IMGs entering practice? If so, how will hospitals and communities in New Jersey that depend on IMGs to provide day-to-day services cope with any resulting reduction in IMGs? Are communities with high densities of ethnic groups better served by IMGs of the same ethnicity?
- What are the factors that influence the practice choices of residents completing training in different specialties? At what point in their educational process do physicians choose their practice specialty?
- What are the factors that influence the decisions of physicians in different specialties to retire from active practice?
- To what extent do male and female physicians have different practice patterns that significantly affect their career productivity?

These and other important questions about the supply and demand for physicians in New Jersey cannot be answered adequately with existing data resources. New data collection, especially about the demographic characteristics and patient care activities of physicians, will be essential if policy makers are to be able to formulate effective responses to physician workforce problems that may exist in New Jersey.

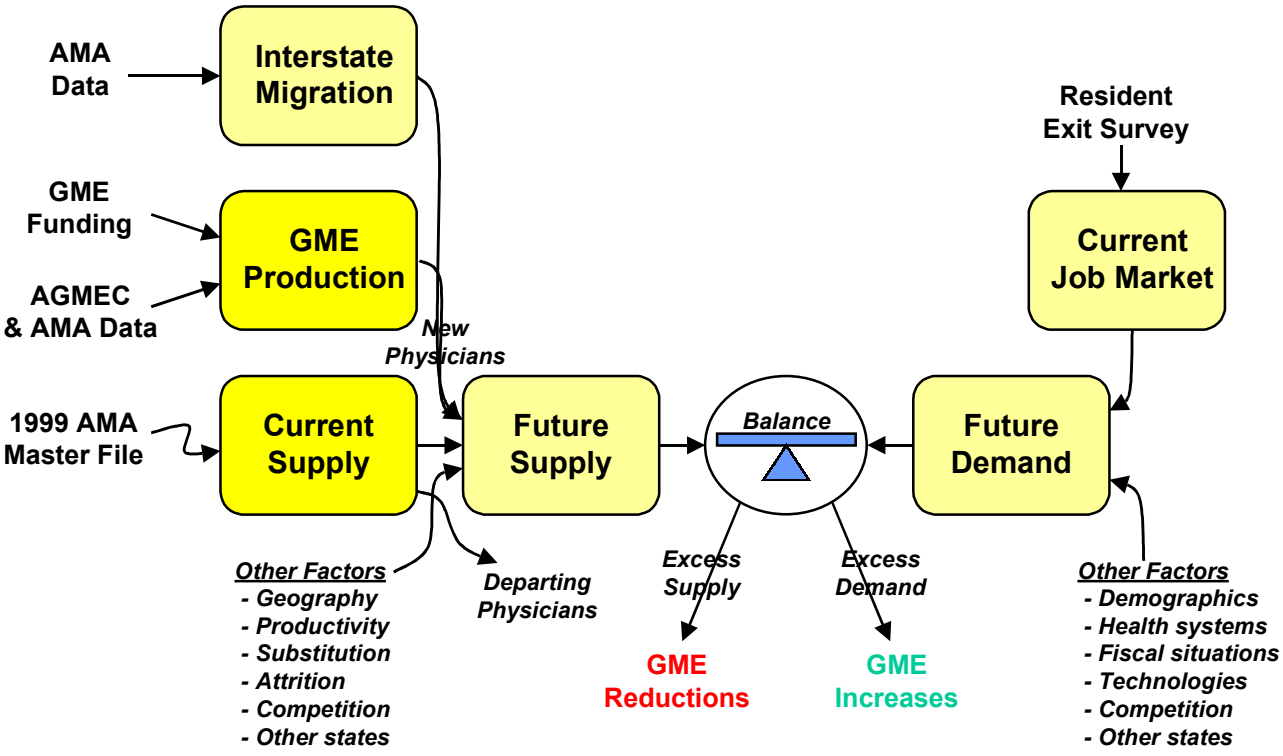
CHAPTER 1
THE PHYSICIAN WORKFORCE IN NEW JERSEY

There has been much discussion over the past several years in both academic and public policy circles regarding the adequacy of the current and future supply of physicians and the appropriateness of current levels of public support for graduate medical education (GME). This report summarizes the findings of a study that provides a variety of data related to the supply and demand for physicians in different specialties. It also provides a number of recommendations for policy makers in New Jersey to consider as they make plans for the physician workforce in the coming decade.

Conceptual Framework for the Study

This study is essentially a comparison of the supply of and demand for physicians in different specialties in New Jersey. The conceptual framework for the study is shown graphically in Exhibit 1-1, which shows the various components of the study.

Exhibit 1-1. Conceptual Frame of Reference for the New Jersey Physician Workforce Study



Structure of the Report

The report is divided into four major sections that represent the major components of the study:

- A statistical overview of the physician workforce in New Jersey in 1999. This section of the report is based on data for all physicians in the AMA Masterfile who are licensed to practice in New Jersey.
- A survey of the residents completing training in New Jersey in 1999. This section summarizes the survey responses and presents a number of general conclusions relevant to the physician workforce.
- A series of statistical profiles that present the data for physicians in each of 25 specialties. These profiles summarize large amounts of data in ways that help readers to interpret the workforce implications.
- A series of statistical profiles that present the data for physicians in each of the 21 counties in New Jersey. These profiles summarize large amounts of data in ways that help readers to interpret the workforce implications.

There are also appendices that provide additional detail related to the Resident Exit Survey and the physician specialty projections.

Overview

The AMA Masterfile included 21,915 physicians (MDs and DOs) licensed to practice in New Jersey in mid-1999. This represents 3.5% of all physicians in the US, which matches the 3.0% of the US population that is in New Jersey. Exhibit 1-2 shows that, despite the equal representation of population and physicians in New Jersey, the state's involvement in medical education does not achieve the same balance at either the undergraduate or graduate levels. New Jersey has only 2.0% of medical students and 2.6% of residents in the US. This excess of practicing physicians over physicians in training indicates that New Jersey is a net importer of physicians. This fact is borne out in other statistics presented later in this report.

Within this pattern of importation, New Jersey is especially dependent on international medical graduates (i.e., physicians who received their MD degrees from a foreign medical school). The ratio of IMGs to practicing physicians in New Jersey is more than twice the national average.

Exhibit 1-2. Population, Medical Education, & Physicians in New Jersey, as Percent of US, 1998

New Jersey As:	Percent
% of Population	**3.0%**
% of Medical Students	**2.0%**
% of Medical School Grads	**2.0%**
% of Residency Programs	**2.3%**
% of Residents	**2.6%**
% of IMG Residents	**5.3%**
% of Physicians	**3.5%**
% of IMG Physicians	**6.4%**
% of IMG Primary Care Physicians	**7.0%**

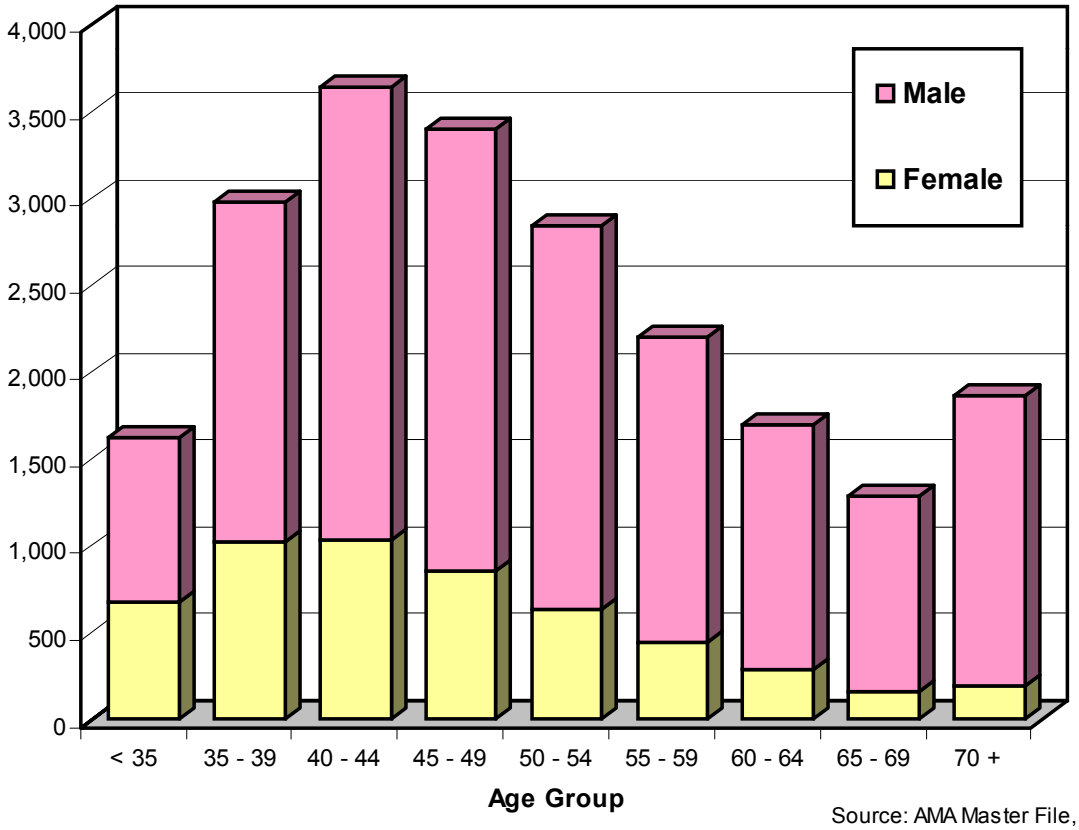
Sources: AMA Physician Characteristics and Distribution, 1998-99
US Bureau of Census
JAMA Medical Education Issue, 9/1/99
AMA State-level Data for GME Programs in the US, 1997-98

Profile of Physicians in New Jersey

Within this broad overview, there are many demographic and practice patterns and trends that reveal important insights about the physician workforce in New Jersey. This section of the report presents a variety of descriptive information that begins the process of defining the characteristics of physicians in the state. The charts that follow are based on data from the AMA Masterfile of Physicians on the 21,915 physicians (MDs and DOs) holding a license to practice in New Jersey. The data elements in the file include: gender; date of birth; racial/ethnic category; principal specialty; mailing address; principal practice address; location of medical school; and principal practice setting. This data file provides a sound basis for understanding many different aspects of the supply and distribution of physicians in New Jersey.

The age distribution of New Jersey physicians is shown in Exhibit 1-3. This pattern, which shows clearly the expansion of medical education that took place nationally in the late 1960s and 1970s, is quite typical for the late 1990s.

Exhibit 1-3. Age Distribution of NJ Physicians, 1999



Source: AMA Master File, 1999

The numbers in Exhibit 1-4 are the percentages of physicians in the different age groups that are women. The increasing proportion of physicians in New Jersey that are women is consistent with national trends.

The location of medical school of New Jersey practicing physicians is shown in Exhibit 1-5. This shows that only 11% of New Jersey physicians graduated from a New Jersey medical school. More than 40% of physicians in the state graduated from a foreign medical school, and the remaining half graduated from medical school elsewhere in the US. This chart shows that in terms of undergraduate medical education, New Jersey is very dependent on schools in other jurisdictions.

Exhibit 1-4. Percentage of Physicians Who Are Female
New Jersey, 1999

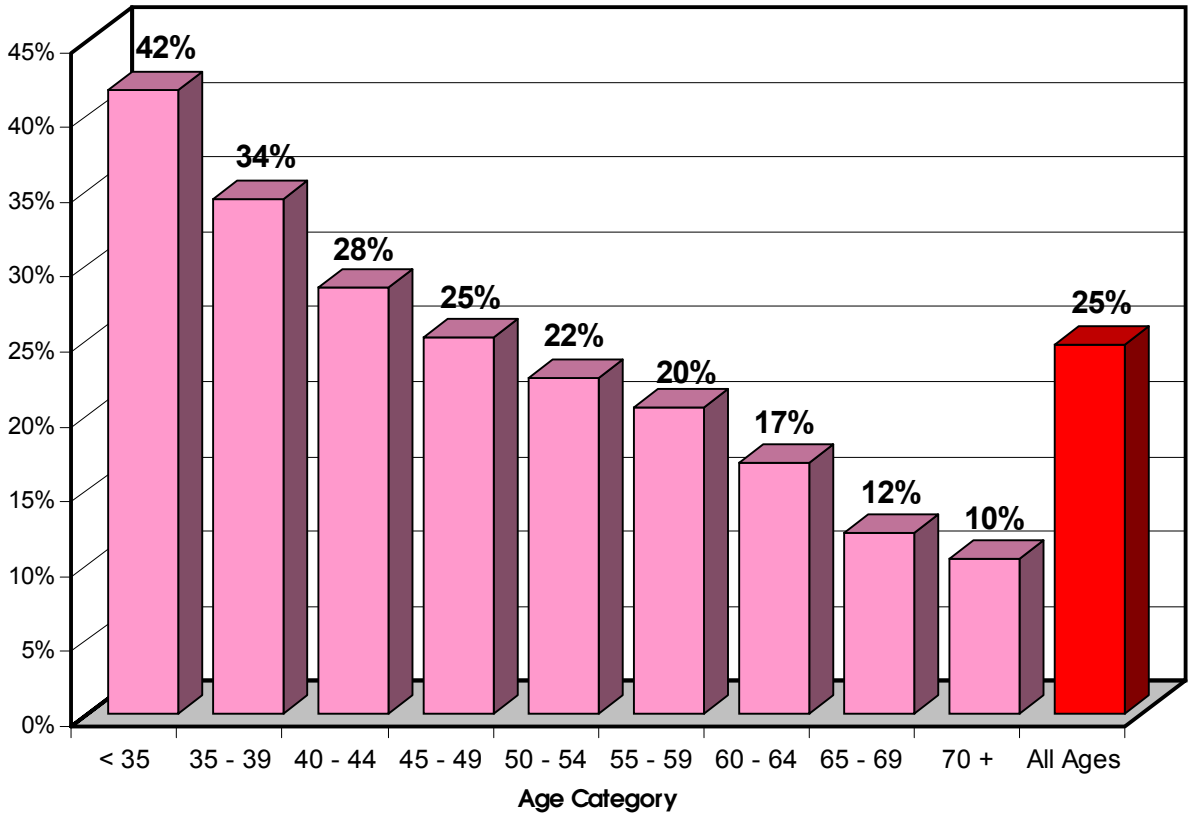
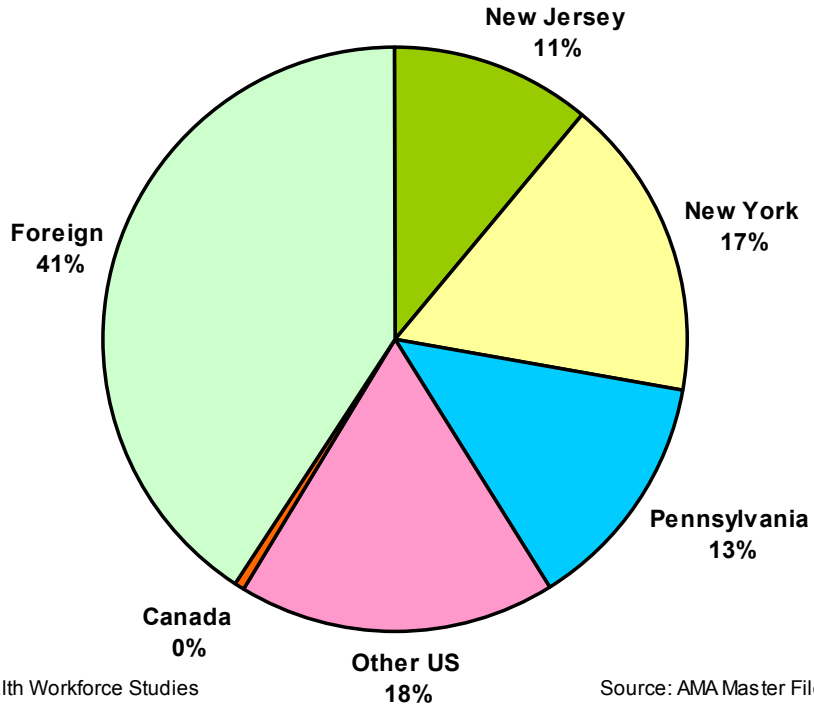


Exhibit 1-5. Medical School Location
New Jersey Physicians, 1999

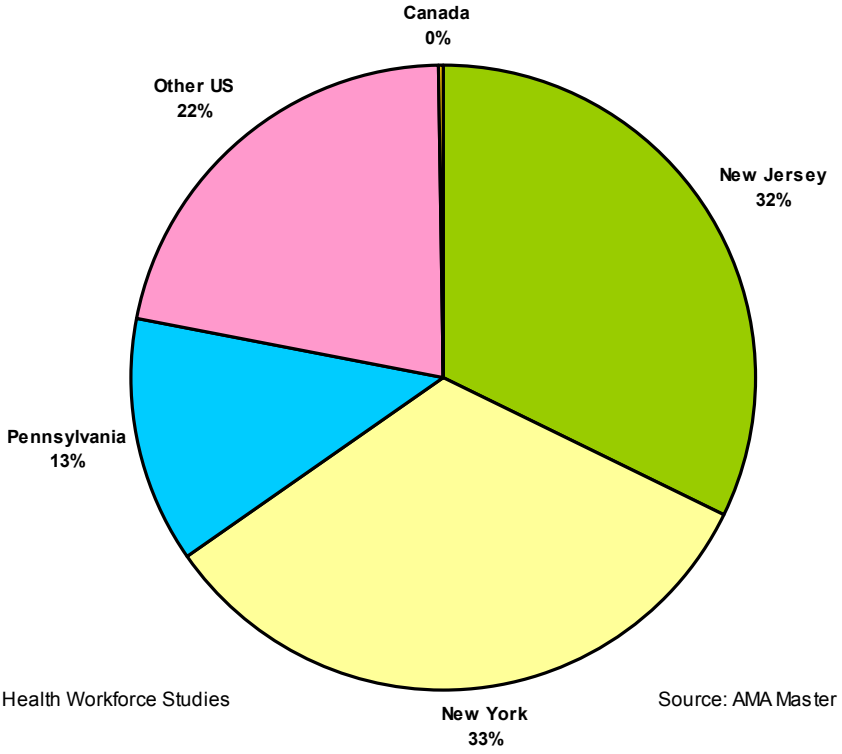


Center for Health Workforce Studies

Source: AMA Master File, 1999

The location of most recent residency training of New Jersey physicians is shown in Exhibit 1-6. Here, as in undergraduate medical education, New Jersey is highly dependent on residency programs in other states. Only 32% of physicians in New Jersey took their most recent training in New Jersey, while 33% trained in New York, and 35% in other states. This shows that New Jersey is dependent on other states for its graduate medical education as well, although the ratios are not as large as for undergraduate medical education. Of the nearly 1,900 physicians who attended medical school in New Jersey and left the state for residency training, 44% returned to practice in New Jersey.

Exhibit 1-6. Location of Most Recent Residency Program
New Jersey Physicians, 1999



Center for Health Workforce Studies

Source: AMA Master File, 1999

The specialty mix of physicians in New Jersey is shown in Exhibit 1-7 with comparable figures for the entire US. Although the specialty mixes for New Jersey and the US are similar, New Jersey has a lower proportion of physicians in Primary Care (Family Practice, General Practice, General Internal Medicine, Pediatrics, and Internal Medicine-Pediatrics) with just over 34% of all physicians, compared to more than 40% for the US. The most significant offset to this

difference is for the Internal Medicine Specialties, where New Jersey has nearly twice the percentage of physicians as the US.

Exhibit 1-8 shows the principal practice setting for all physicians in New Jersey in 1999. Solo practice, partnerships (2-physician groups), and group practice are clearly the dominant settings, representing 76% of the total among them. Hospitals employed only 11% of the total, and this did not include interns, residents, and fellows. Readers should use these figure with caution since this item was missing in 32% of the records in the AMA file.

Exhibit 1-7. Specialty Mix of Physicians
New Jersey and the US, 1998

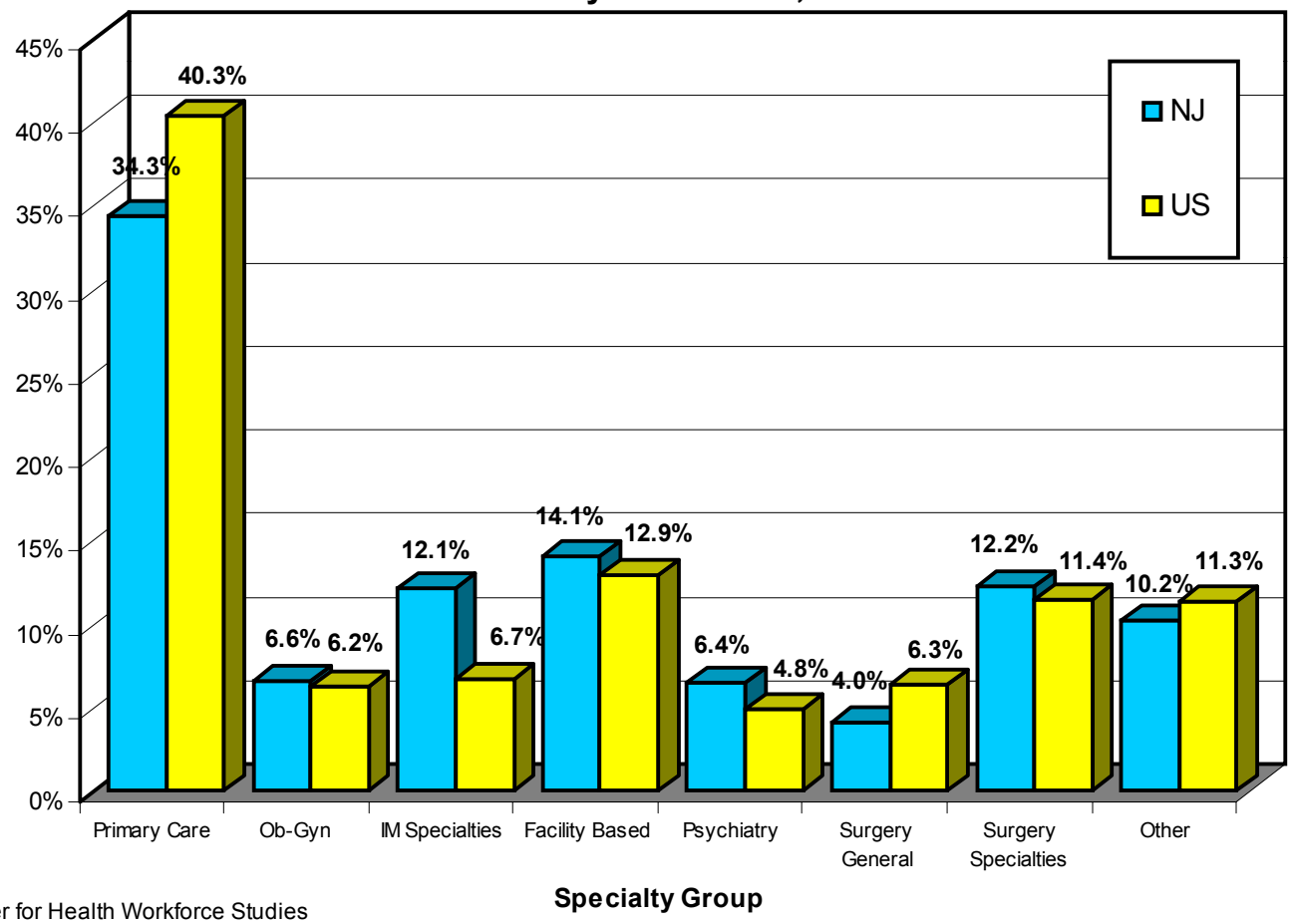


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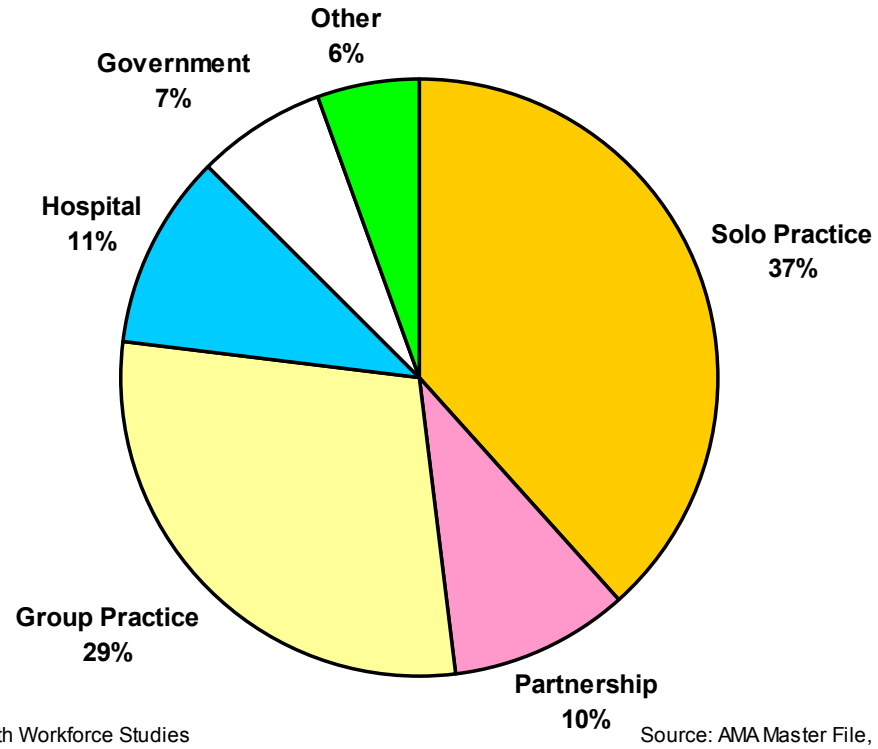
Exhibit 1-8. Practice Setting for NJ Physicians, 1999



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Source: AMA Master File, 1999
Excludes 32% missing

CHAPTER 2
THE 1999 NEW JERSEY RESIDENT EXIT SURVEY

There has been much discussion over the past several years in both academic and public policy circles regarding the adequacy of the current and future supply of physicians and the appropriateness of current levels of public support for graduate medical education (GME). As part of a larger strategy for assessing the adequacy of the physicians workforce in New Jersey, a survey was conducted in May and June of 1999 to collect data on the supply and demand for physicians in New Jersey. This report provides preliminary tabulations of the responses to this survey, and presents preliminary findings for review and comment.

The 1999 New Jersey Resident Exit Survey

In May and June of 1999, the Center for Health Workforce Studies, with assistance from Advisory Graduate Medical Education Council of New Jersey (AGMEC), conducted a survey of the 943 residents completing a training program in June of 1999. The survey, which was designed to help understand the job market for physicians by specialty in New Jersey, was administered with the help of the individual residency program directors in the 35 hospitals that have residency programs in the state.

The survey included questions about the plans of residents and their assessments of their experiences in searching for a practice position. The survey also collected information on age, gender, ethnicity, location of medical school, citizenship status, and other variable that might affect the experience of the resident in the job market.

Response Rates

A total of 574 residents responded to the Exit Survey out of the 943 who completed their training in New Jersey in June of 1999, for an overall response rate of 61%. Exhibit 2-1 breaks out the response rates for individual specialties and for eight different specialty groupings. The response rates for the eight groups range from 43% for General Surgery and Facility-Based specialties to 69% for Primary Care specialties.

Exhibit 2-1 also shows that 241 residents (42% of the respondents) reported that they had confirmed plans to enter patient care on completion of their training. The others either did not

Exhibit 2-1. Response Rates for the 1999 New Jersey Resident Exit Survey

Specialty	Graduates	Responses	Response Rate	Confirmed Pt Care Position	Percent Pt Care
Primary Care	**518**	**360**	**69%**	**139**	**39%**
Family Practice	113	88	78%	58	66%
IM - General	302	215	71%	55	26%
Pediatrics - General	88	53	60%	23	43%
IM & Peds (Combined)	15	4	27%	3	75%
Obstetrics/Gynecology	**41**	**24**	**59%**	**20**	**83%**
Internal Med Specialties	**80**	**39**	**49%**	**19**	**49%**
Cardiology	26	17	65%	9	53%
Geriatrics	6	3	50%	1	33%
Hematology/Oncology	3	1	33%	1	100%
Nephrology	4	4	100%	2	50%
Pulmonary Disease	11	3	27%	1	33%
Other IM Specialties	30	11	37%	5	45%
Critical Care	4	0	0%	0	n/a
Endocrinology & Metabolism	2	1	50%	1	100%
Gastroenterology	13	3	23%	3	100%
Infectious Diseases	10	1	10%	1	100%
Rheumatology	1	0	0%	0	n/a
Surgery General	**37**	**16**	**43%**	**3**	**19%**
Surgery (Subspecialties)	**58**	**29**	**50%**	**15**	**52%**
Ophthalmology	9	1	11%	1	100%
Orthopedics	17	11	65%	1	9%
Otolaryngology	3	1	33%	1	100%
Urology	4	3	75%	2	67%
Other Surgical Subspecs	25	13	52%	10	77%
Plastic Surgery	6	4	67%	3	75%
Thoracic Surgery	9	4	44%	3	75%
Other Surgical Subspecs	10	5	50%	4	80%
Facility Based	**122**	**53**	**43%**	**25**	**47%**
Anesthesiology	29	12	41%	8	67%
Anesthesiology Subspecs	7	2	29%	1	50%
Pain Management	5	1	20%	1	100%
Other Anesth Subspecs	2	0	0%	0	n/a
Emergency Medicine	29	10	34%	9	90%
Pathology	13	12	92%	2	17%
Radiology (Diagnostic)	44	17	39%	5	29%
Psychiatry	**38**	**24**	**63%**	**9**	**38%**
Psychiatry (General)	31	19	61%	7	37%
Psychiatry Subspecialties	7	5	71%	2	40%
Child & Adolescent Psych	4	2	50%	1	50%
Other Psychiatry Subspecs	3	3	100%	1	33%
Other	**49**	**29**	**59%**	**11**	**38%**
Dermatology	4	0	0%	0	n/a
Neurology	14	9	64%	2	22%
Pediatric Specialties	10	4	40%	2	50%
Physical Medicine & Rehab	15	12	80%	6	50%
Other	6	4	67%	1	25%
Allergy & Immunology	2	2	100%	1	50%
Preventive Medicine	2	2	100%	0	0%
All Other	2	0	0%	0	n/a
TOTAL	**943 ***	**574**	**61%**	**241**	**42%**

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* Total number from AGMEC

have confirmed plans at the time of the survey (35%) or they were planning something other than patient care. The percentages of respondents with confirmed plans to enter patient care ranged from 19% for General Surgery to 83% for Ob-Gyn.

Resident Demographics

Of the 574 respondents to the exit survey, 212 or 37% were female. This is consistent with the growing numbers of women entering medicine. Exhibit 2-2 shows that the percentage of women in the eight broad specialty categories used in this study ranged from 50% in obstetrics/gynecology to 10% in surgical specialties.

Exhibit 2-2. Residents Completing Training in New Jersey, 1999
By Gender and Specialty Category

	Gender		
Specialty Category	**Male**	**Female**	**Total**
Primary Care	209	150	359
	58.2%	*41.8%*	*100.0%*
Ob/Gyn	12	12	24
	50.0%	*50.0%*	*100.0%*
IM Specialties	40	8	48
	83.3%	*16.7%*	*100.0%*
Surgery General	13	3	16
	81.3%	*18.8%*	*100.0%*
Surgery Specialties	26	3	29
	89.7%	*10.3%*	*100.0%*
Facility Based	38	14	52
	73.1%	*26.9%*	*100.0%*
Psychiatry	14	10	24
	58.3%	*41.7%*	*100.0%*
Total*	**352**	**200**	**552**
	63.8%	***36.2%***	***100.0%***

* Excludes Other Specialty Category

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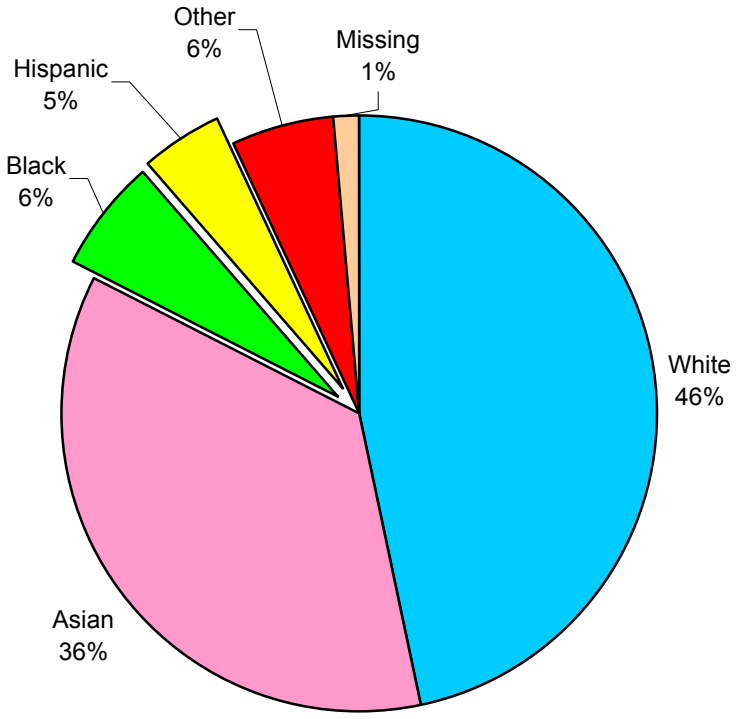
Exhibit 2-3 shows the racial/ethnic composition of the residents completing training in New Jersey in 1999. Just under half (47%) of residents were white and 36% were Asian or Pacific Islander. Blacks and Hispanics were 11% of the total, although 24.7% of the New Jersey population was Black or Hispanic in 1998.

The location of high school and medical school of residents completing training in New Jersey in 1999 is shown in Exhibit 2-4. Nearly 56% of the residents attended medical school in a foreign country (other than Canada), compared to 26% of all residents in the U.S. Forty-seven percent (47%) of respondents attended high school in a foreign country. The fact that 27% of the residents attended high school in New Jersey, while only 19% attended medical school in New Jersey is an indication that 8% of the residents were New Jersey residents who left New Jersey to attend medical school and subsequently returned to complete their training.

Exhibit 2-3. Racial/Ethnic Category of Residents Completing Training in New Jersey in 1999



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Practice Characteristics

This section of the report provides information and insights about the characteristics of the practices of those residents with confirmed plans to enter patient care. Exhibit 2-5 shows that over half of these graduates (57%) were planning to enter a group practice, with the vast majority of these as employees. Other respondents were planning to enter solo practice (7%) or a

Exhibit 2-4. Residents Completing Training in New Jersey in 1999 by Location of High School and Location of Medical School

	High School		Medical School	
Location	**Number**	**Percent**	**Number**	**Percent**
New Jersey	156	27.2%	111	19.3%
Other US	138	24.0%	139	24.2%
Canada	3	0.5%	3	0.5%
Other Country	269	46.9%	319	55.6%
Total	**566**	**98.6%**	**572**	**99.7%**
Missing	8	1.4%	2	0.3%
Total	**574**	**100.0%**	**574**	**100.0%**

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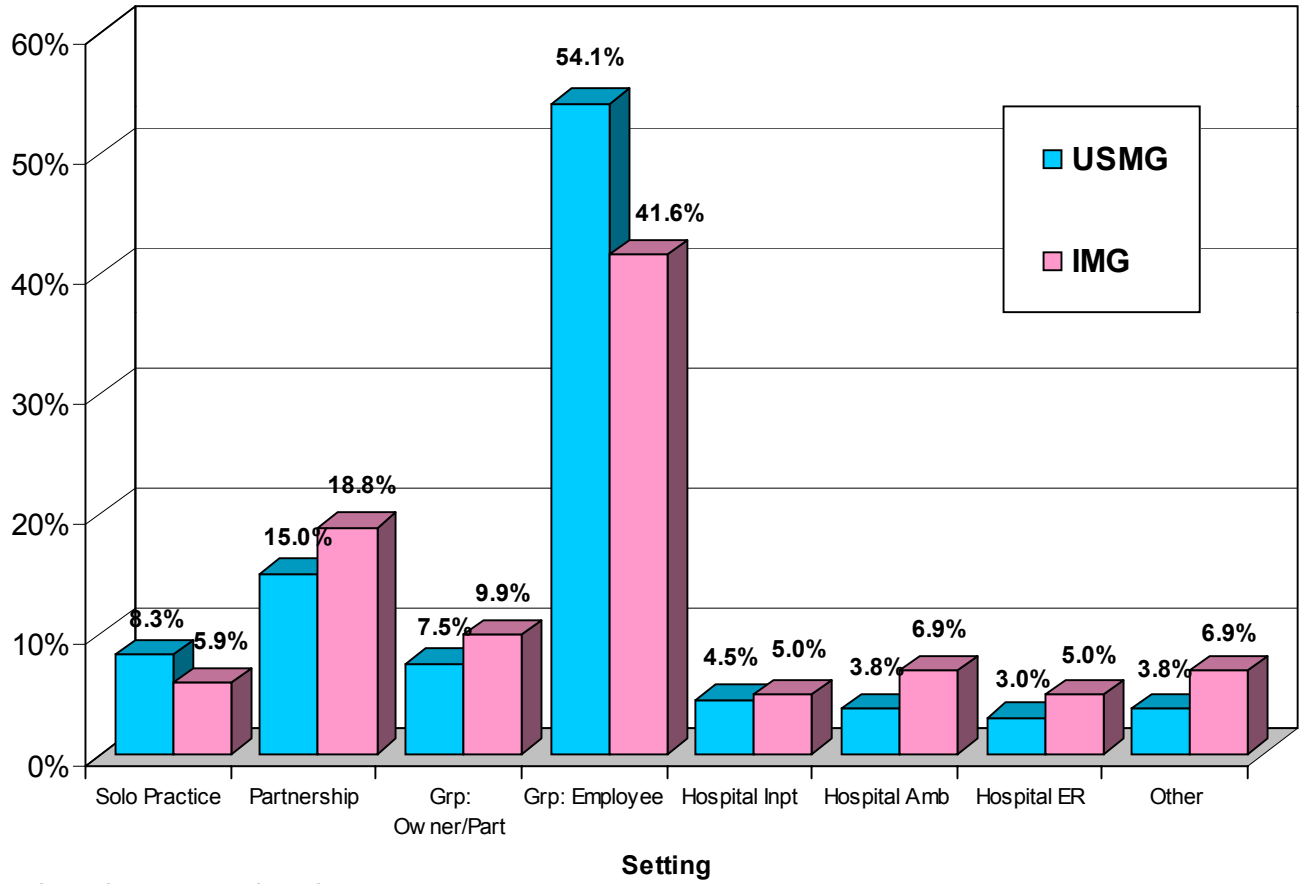
Exhibit 2-5. Principal Practice Setting of Residents Completing Training in New Jersey, by Location of Medical School, 1999



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partnership (17%). Less than 14% of the residents with confirmed plans were expecting to be working in a hospital, and only 1% were expecting to be working in an HMO. IMGs were more likely than USMGs to be planning practice in a hospital.

The were some interesting differences in the demographics of practice locations for IMGs and USMGs. Exhibit 2-6 shows that IMGs were twice as likely as USMGs to be practicing in inner city, major city, or rural locations, while USMGs were more likely to be practicing in suburban locations and small cities.

These differences were even more pronounced in relation to obligations to practice in Health Practice Shortage Areas (HPSAs). Exhibit 2-7 shows that only one of 52 residents with HPSA obligations was a USMG.

The specialty choices of residents completing training are shown in Exhibit 2-8 for different medical school locations. The large numbers of IMGs are especially noticeable in this table, because the US-educated physicians are divided between New Jersey and the rest of the US. In terms of specialty choice, thee were major differences among the three groups. Physicians who attended a New Jersey medical school were more likely to choose Family Practice and less likely to choose IM Specialties. IMGs were much more likely to choose Internal Medicine and IM Specialties than those trained in the US. Those attending medical school in other states were less likely to choose Pediatrics or Internal Medicine, and more likely to choose Ob-Gyn or a Surgical Specialty.

Salary Levels

Although there are some specialists with relatively low incomes, the incomes of primary care physicians are generally lower than for specialist physicians. The overall average income figure for all specialties, which includes base salary plus additional/incentive salary, is $128,000. Average base salaries by specialty for respondents with confirmed plans to enter patient care are shown in Exhibit 2-9. The overall average is shown in the dark bar, and the primary care specialties are shown in the gray bars. The numbers next to the specialty names are the numbers of respondents for the respective specialty.

Exhibit 2-6. Demographics of Practice Location and IMG Status of Residents Completing Training in New Jersey, 1999

Demographics of Practice Location	USMGs	IMGs	Total
Inner City	12	18	30
	8.9%	*17.8%*	*12.7%*
Major City	11	20	31
	8.1%	*19.8%*	*13.1%*
Suburban	75	32	107
	55.6%	*31.7%*	*45.3%*
Small City	26	13	39
	19.3%	*12.9%*	*16.5%*
Rural	11	18	29
	8.1%	*17.8%*	*12.3%*
Total	**135**	**101**	**236**
	100.0%	***100.0%***	***100.0%***

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Exhibit 2-7. Residents Completing Training in New Jersey, 1999 By IMG Status and HPSA Obligation

HPSA Obligation	USMGs	IMGs	Total
Yes	1	51	52
	0.4%	*16.0%*	*9.1%*
No	250	267	517
	99.6%	*84.0%*	*90.9%*
Total	**251**	**318**	**569**
	100.0%	***100.0%***	***100.0%***

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Exhibit 2-8. Specialty Category of Resident Completing Training in NJ By Medical School Location, 1999

	Medical School Location							
	New Jersey		Other US		Foreign		Total	
Specialty Category	#	%	#	%	#	%	#	%
Primary Care	72	64.9%	57	40.1%	231	72.4%	360	62.9%
Family Practice	*33*	*29.7%*	*36*	*25.4%*	*19*	*6.0%*	*88*	*15.4%*
Internal Med	*27*	*24.3%*	*13*	*9.2%*	*175*	*54.9%*	*215*	*37.6%*
Pediatrics	*12*	*10.8%*	*6*	*4.2%*	*35*	*11.0%*	*53*	*9.3%*
Ob/Gyn	5	4.5%	16	11.3%	3	0.9%	24	4.2%
IM Specialties	3	2.7%	11	7.7%	34	10.7%	48	8.4%
Surgery General	7	6.3%	6	4.2%	2	0.6%	15	2.6%
Surgery Specialties	4	3.6%	21	14.8%	4	1.3%	29	5.1%
Facility Based	12	10.8%	17	12.0%	23	7.2%	52	9.1%
Psychiatry	4	3.6%	1	0.7%	19	6.0%	24	4.2%
Other	4	3.6%	13	9.2%	3	0.9%	20	3.5%
Total	111	100.0%	142	100.0%	319	100.0%	572	100.0%

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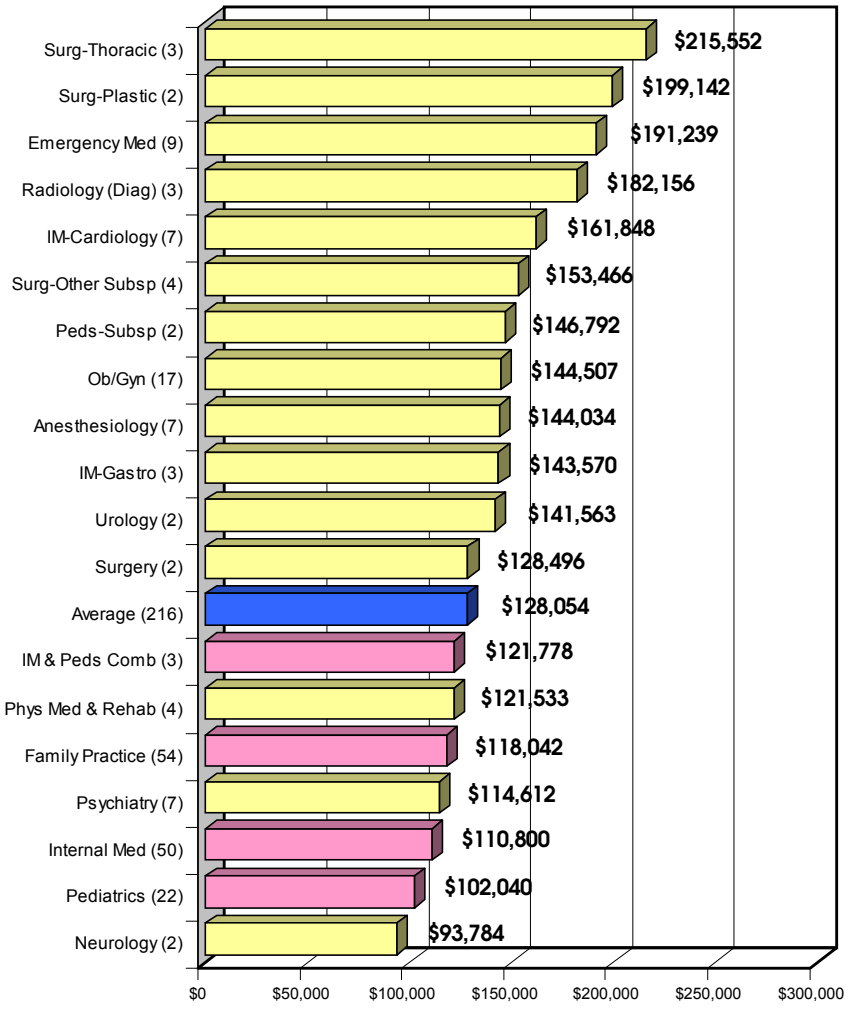
Exhibit 2-9
Average Income of Residents Completing Training in NJ with Confirmed Patient Care Plans, Selected Specialties, 1999



Job Market

Of the 552 residents responding to the survey who answered the questions about the job market, 35% hadn't looked for a job. Of those that had looked, approximately half indicated they had had difficulty finding a job. Exhibit 2-10 shows that the percentages reporting difficulty were higher for primary care specialties and psychiatry and lower for facility based specialties, surgery specialties, and internal medicine specialties.

Exhibit 2-11 presents a second indicator of the tightness of the job market, the percentages of respondents who had to change their employment plans. It shows that psychiatry, primary care, and surgery specialties had more than 30% of respondents changing plans, while ob/gyn and facility based specialties had fewer than 15%.

The reasons for changing practice plans are shown in Exhibit 2-12 for each or the 8 specialty categories. The figures show that, while there were significant variations across the specialty categories, the reason most frequently mentioned (36% of the time) was lack of jobs in the desired location.

Exhibit 2-13 summarizes the overall view of the regional and national job markets of all the exit survey respondents. As is the case in all previous surveys of this type, the regional job market is viewed less favorably than the national job market. Even in the regional job market, however, fewer than 20% of respondents indicated few or no jobs were available in their specialties. Additional detail on impressions of the regional and national job markets is provided for the eight specialty categories in Exhibits 2-14 and 2-15, respectively. The results are generally consistent with the responses to the questions summarized above.

Exhibit 2-10. Residents Completing Training in New Jersey, 1999 Having Difficulty Finding a Job by Specialty Category

	Difficulty Finding a Job		Haven't	
Specialty Category	Yes	No	Looked	Total
Primary Care	120	97	126	343
	35.0%	*28.3%*	*36.7%*	*100.0%*
Ob/Gyn	8	12	4	24
	33.3%	*50.0%*	*16.7%*	*100.0%*
IM Specialties	16	20	11	47
	34.0%	*42.6%*	*23.4%*	*100.0%*
Surgery General	2	2	10	14
	14.3%	*14.3%*	*71.4%*	*100.0%*
Surgery Specialties	8	11	10	29
	27.6%	*37.9%*	*34.5%*	*100.0%*
Facility Based	7	24	21	52
	13.5%	*46.2%*	*40.4%*	*100.0%*
Psychiatry	8	6	10	24
	33.3%	*25.0%*	*41.7%*	*100.0%*
Other	7	8	4	19
	36.8%	*42.1%*	*21.1%*	*100.0%*
Total	**176**	**180**	**196**	**552**
	31.9%	***32.6%***	***35.5%***	***100.0%***

Exhibit 2-11. Necessity to Change Job Plans by Specalty Category Residents Completing Training in New Jersey, 1999

	Necessary to Change Plans		
Specialty Category	Yes	No	Total
Primary Care	82	164	246
	33.3%	*66.7%*	*100.0%*
Ob/Gyn	3	18	21
	14.3%	*85.7%*	*100.0%*
IM Specialties	8	30	38
	21.1%	*78.9%*	*100.0%*
Surgery General	1	3	4
	25.0%	*75.0%*	*100.0%*
Surgery Specialties	6	14	20
	30.0%	*70.0%*	*100.0%*
Facility Based	3	33	36
	8.3%	*91.7%*	*100.0%*
Psychiatry	8	12	20
	40.0%	*60.0%*	*100.0%*
Other	4	10	14
	28.6%	*71.4%*	*100.0%*
Total	**115**	**284**	**399**
	28.8%	***71.2%***	***100.0%***

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Exhibit 2-12. Reason for Difficulty Finding a Job For Residents Who Had Difficulty Finding a Job On Completing Training in New Jersey in 1999

	Main Reason for Difficulty							
Specialty Category	**Overall Lack of Jobs**	**Lack of Jobs in Desired Loc**	**Lack of Jobs in Desired Setting**	**Inadequate Compensation**	**Family/Spouse Considerations**	**Visa Status**	**Other**	**Total**
Primary Care	24	44	9	10	6	17	9	119
	20.2%	*37.0%*	*7.6%*	*8.4%*	*5.0%*	*14.3%*	*7.6%*	*100.0%*
Ob/Gyn	1	1		3	1		2	8
	12.5%	*12.5%*	*0.0%*	*37.5%*	*12.5%*	*0.0%*	*25.0%*	*100.0%*
IM Specialties	1	6	1	5	2	1		16
	6.3%	*37.5%*	*6.3%*	*31.3%*	*12.5%*	*6.3%*	*0.0%*	*100.0%*
Surgery General		2						2
	0.0%	*100.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*100.0%*
Surgery Specialties	4	2		1				7
	57.1%	*28.6%*	*0.0%*	*14.3%*	*0.0%*	*0.0%*	*0.0%*	*100.0%*
Facility Based	3		1	1	1			6
	50.0%	*0.0%*	*16.7%*	*16.7%*	*16.7%*	*0.0%*	*0.0%*	*100.0%*
Psychiatry		4	1		1	2		8
	0.0%	*50.0%*	*12.5%*	*0.0%*	*12.5%*	*25.0%*	*0.0%*	*100.0%*
Other	1	4			1		1	7
	14.3%	*57.1%*	*0.0%*	*0.0%*	*14.3%*	*0.0%*	*14.3%*	*100.0%*
Total	**34**	**63**	**12**	**20**	**12**	**20**	**12**	**173**
	19.7%	***36.4%***	***6.9%***	***11.6%***	***6.9%***	***11.6%***	***6.9%***	***100.0%***

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Exhibit 2-13. View of Regional and National Job Markets
Residents Completing Training in New Jersey, 1999

View of Job Market	Regional	Percent	National	Percent
Many Jobs	52	*9.1%*	225	*39.2%*
Some Jobs	193	*33.6%*	193	*33.6%*
Few Jobs	123	*21.4%*	41	*7.1%*
Very Few Jobs	91	*15.9%*	19	*3.3%*
No Jobs	20	*3.5%*	2	*0.3%*
Missing	95	*16.6%*	94	*16.4%*
Total	**574**	***100.0%***	**574**	***100.0%***

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Exhibit 2-14. View of Regional Job Market by Specialty Category
Residents Completing Training in New Jersey, 1999

Specialty Category	Many Jobs	Some Jobs	Few Jobs	Very Few Jobs	No Jobs	Total
Primary Care	27	106	91	58	12	294
	9.2%	*36.1%*	*31.0%*	*19.7%*	*4.1%*	*100.0%*
Ob/Gyn	1	12	6	4		23
	4.3%	*52.2%*	*26.1%*	*17.4%*	*0.0%*	*100.0%*
IM Specialties	4	23	5	6	3	41
	9.8%	*56.1%*	*12.2%*	*14.6%*	*7.3%*	*100.0%*
Surgery General		4	2			6
	0.0%	*66.7%*	*33.3%*	*0.0%*	*0.0%*	*100.0%*
Surgery Specialties	5	5	7	8	1	26
	19.2%	*19.2%*	*26.9%*	*30.8%*	*3.8%*	*100.0%*
Facility Based	9	18	8	11	2	48
	18.8%	*37.5%*	*16.7%*	*22.9%*	*4.2%*	*100.0%*
Psychiatry	5	16	2		1	24
	20.8%	*66.7%*	*8.3%*	*0.0%*	*4.2%*	*100.0%*
Other	1	9	2	4	1	17
	5.9%	*52.9%*	*11.8%*	*23.5%*	*5.9%*	*100.0%*
Total	**52**	**193**	**123**	**91**	**20**	**479**
	10.9%	***40.3%***	***25.7%***	***19.0%***	***4.2%***	***100.0%***

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Exhibit 2-15. View of National Job Market by Specialty Category
Residents Completing Training in New Jersey, 1999

Specialty Category	Many Jobs	Some Jobs	Few Jobs	Very Few Jobs	No Jobs	Total
Primary Care	127	125	27	10	2	291
	43.6%	*43.0%*	*9.3%*	*3.4%*	*0.7%*	*100.0%*
Ob/Gyn	11	12	1			24
	45.8%	*50.0%*	*4.2%*	*0.0%*	*0.0%*	*100.0%*
IM Specialties	25	15	3			43
	58.1%	*34.9%*	*7.0%*	*0.0%*	*0.0%*	*100.0%*
Surgery General	4	2	1			7
	57.1%	*28.6%*	*14.3%*	*0.0%*	*0.0%*	*100.0%*
Surgery Specialties	10	9	4	4		27
	37.0%	*33.3%*	*14.8%*	*14.8%*	*0.0%*	*100.0%*
Facility Based	22	18	3	4		47
	46.8%	*38.3%*	*6.4%*	*8.5%*	*0.0%*	*100.0%*
Psychiatry	18	4	1			23
	78.3%	*17.4%*	*4.3%*	*0.0%*	*0.0%*	*100.0%*
Other	8	8	1	1		18
	44.4%	*44.4%*	*5.6%*	*5.6%*	*0.0%*	*100.0%*
Total	**225**	**193**	**41**	**19**	**2**	**480**
	46.9%	***40.2%***	***8.5%***	***4.0%***	***0.4%***	***100.0%***

Center for Health Workforce Studies, 10/7/99

CHAPTER 3

PROJECTIONS OF FUTURE SUPPLY OF PHYSICIANS IN NEW JERSEY

Physician workforce policy makers cannot base programs and recommendations solely on the current supply of physicians. It is essential that projections be available so that the impact of changes already underway in medical education, migration, and specialty choice can be factored into any new plans and initiatives. This section of the report provides these projections for 25 selected specialties for the entire state of New Jersey. Working tables are also available separately that provide supporting details for all the projections shown in this report and a number of additional ones not included here.

Physician Projections for Selected Specialties

Critical information for physician workforce planning in New Jersey are estimates of the current and future supply of physicians in different specialties for the state as a whole. These estimates, coupled with specialty-specific benchmark demand/requirement standards and US averages, provide a basis for assessing the adequacy of the aggregate supply of different specialists in the state.

Although a thorough study of the supply and demand for individual specialties in New Jersey is beyond the scope of this study, the statistical profiles that follow provide a current snapshot of each of 25 largest specialties in New Jersey. These supply projections along with selected numerical workforce indicators provide information and insights about the physician supply that support the conclusions and recommendations presented in the Executive Summary.

The profiles include a variety of basic data about each specialty:

- The numbers and characteristics of specialists in comparison with the US;
- The numbers of residents trained in New Jersey with selected descriptive statistics;
- The job market for the specialty based on the 1999 resident exit survey.

Assumptions for the Projections

- The projections of the future supply of specialists do not reflect any marketplace dynamics (e.g., new treatments that eradicate a disease, new diseases that require treatment, new organizational arrangements that reduce the need for physicians, the aging of the population)

that might result in a new mix of specialties. The baseline projections assume that past patterns of entry into and exit from the different specialties will continue into the future.

- The demand/requirement benchmarks are not based on any special analyses or considerations of New Jersey.
- The projections of the impact of reducing reliance on International Medical School Graduates (IMGs) are not based on any special knowledge of future restrictions on IMGs entering medical practice in either the US or New Jersey.
- The numbers of specialists are based on the specialty declarations by the physicians and do not necessarily reflect board certification.
- No effort has been made to compute or estimate FTE physician counts based on the full- and part-time designation available in the AMA Masterfile. All counts in this report are headcounts that count full-time and part-time physicians as equal.
- No adjustments have been made to reflect possible productivity differences between male and female physicians, or younger and older physicians.
- No effort has been made to assess the impact of competition or substitution of physicians in different specialties.
- No effort has been made to incorporate the rapidly growing numbers of Physician Assistants, Nurse Practitioners, and other non-physicians clinicians into the supply estimates.

The projections in the profiles are referred to as "constant additions" projections. This means that the same number of new physicians are expected to enter practice in the specialty or county in future 5-year intervals as entered in the past five years. To simplify the analysis, only entrants in the three youngest age categories (< 35, 35 – 39, 40 – 44) have been incorporated into the models. Although this assumption omits a small number of older entrants into the medical profession, the impact of this omission on the projection estimates is less than 1% for most specialties.

The individual profiles presented below contain a wealth of information about the respective specialties. In general, New Jersey has more physicians per capita than the US averages for nearly all specialties.

When interpreting the figures in the profiles, it is important to keep in mind that the projections are not meant to be *predictions*. They are simply an estimate of the future numbers of specialists one would expect to see in New Jersey *if* the number of new entrants to the specialty over the past five years and the proportions of older specialists leaving practice were to continue in the future.

Anesthesiologists	1999	% Female	% IMG	Ave Age
Anesthesiologists in NJ	1,200	25%	55%	48.7
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	5.6%			
NJ # per 100,000 Pop	14.8			
US # per 100,000 Pop (12/97)	11.8 *			

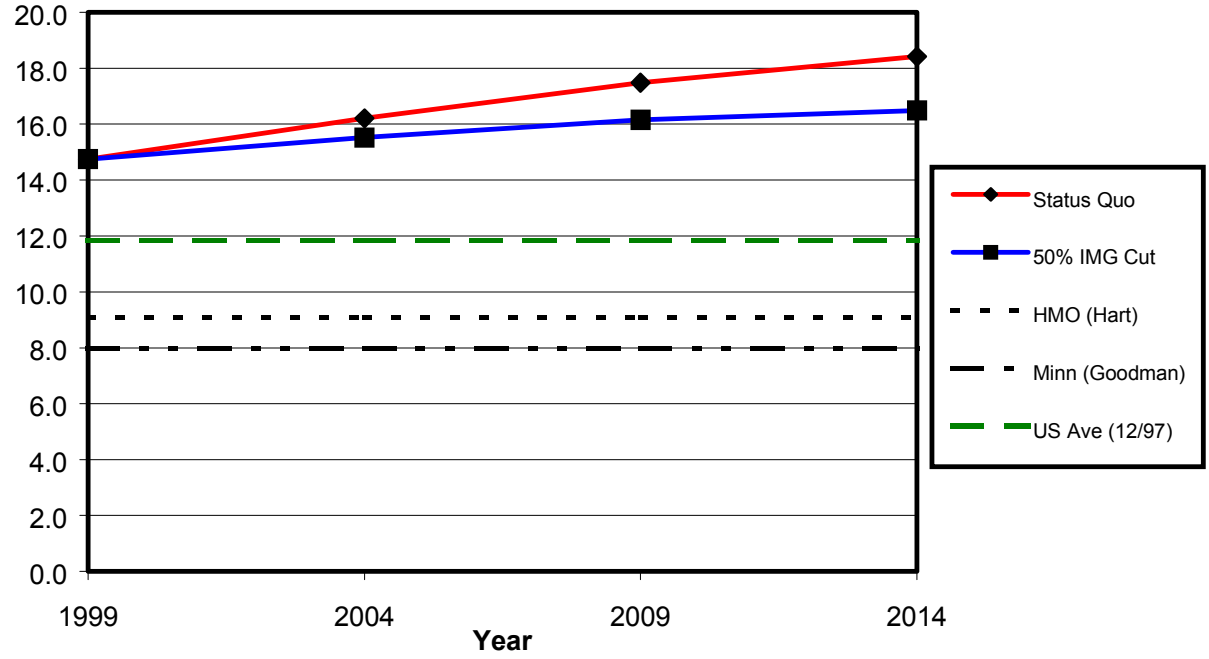
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Anesthesiology**	109	95	76	78	87	
% IMG	55%	60%	68%	79%	80%	42%
Completing Training	n/a	n/a	n/a	n/a	29	
% Completers Staying in NJ (estimated)					66%	51%
% Recent New Physicians from Out-of State					76%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Anesthesiology	'98-99 All Spec
% Entering Pt Care	79%	60%
% Practicing in HPSA	0%	12%
Median Salary for Those with Confirmed Practice Plans	$140,063	$119,625
% Reporting Difficulty Finding Practice Position	27%	46%
% Having to Change Plans Due to Limited Practice Opportunities	9%	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	1.08	0.37

Projections of Anesthesiologists per 100,000 Population
New Jersey, 1999 to 2014



Cardiologists	1999	% Female	% IMG	Ave Age
Cardiologists in NJ	839	6%	39%	48.9
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	3.9%			
NJ # per 100,000 Pop	10.3			
US # per 100,000 Pop (12/97)	6.5 *			

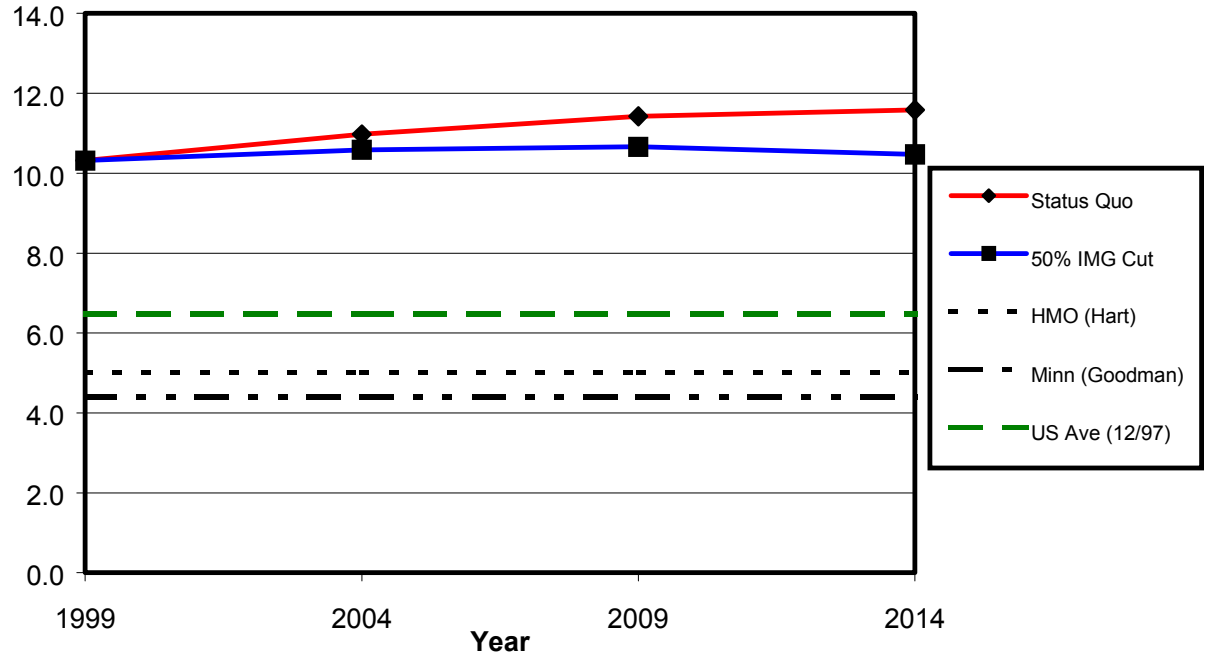
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Cardiology**	81	59	52	46	56	
% IMG	35%	39%	37%	43%	45%	42%
Completing Training	n/a	n/a	n/a	n/a	26	
% Completers Staying in NJ (estimated)					66%	51%
% Recent New Physicians from Out-of State					69%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Cardiology	'98-99 All Spec
% Entering Pt Care	65%	60%
% Practicing in HPSA	0%	12%
Median Salary for Those with Confirmed Practice Plans	$142,733	$119,625
% Reporting Difficulty Finding Practice Position	27%	46%
% Having to Change Plans Due to Limited Practice Opportunities	27%	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	0.80	0.37

Projections of Cardiologists per 100,000 Population
New Jersey, 1999 to 2014



Critical Care Physicians	1999	% Female	% IMG	Ave Age
Critical Care Physicians in NJ	336	13%	46%	46.2
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	1.6%			
NJ # per 100,000 Pop	4.1			
US # per 100,000 Pop (12/97)	2.6 *			

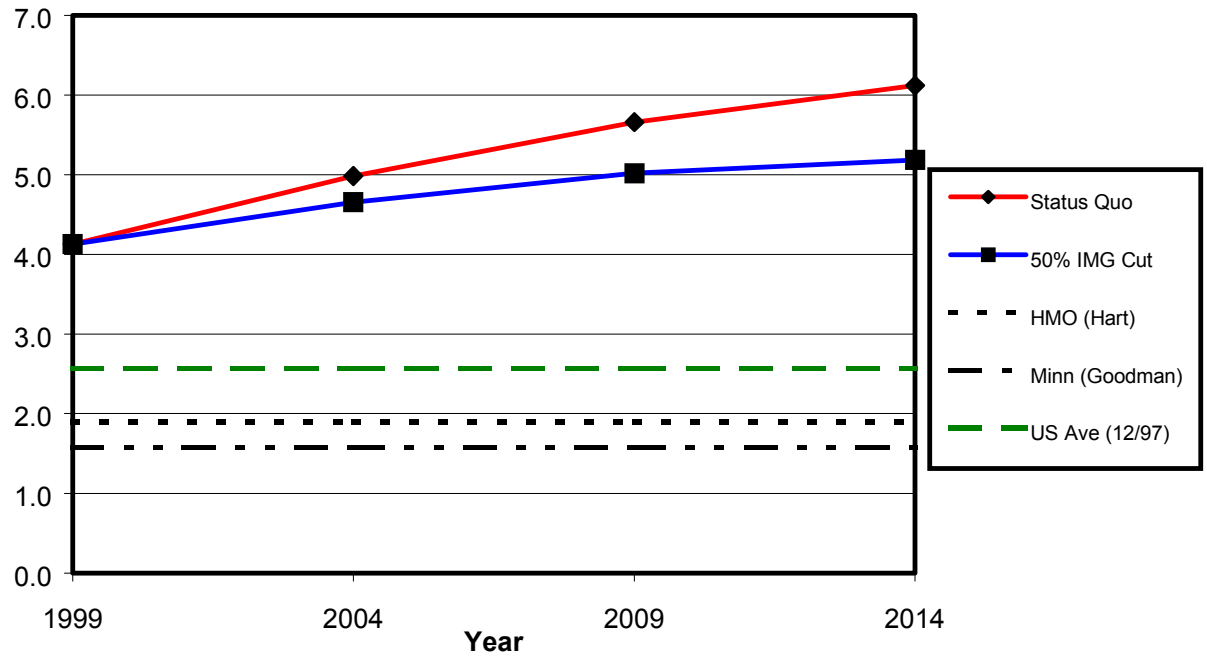
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Critical Care**	23	34	29	30	28	
% IMG	26%	29%	41%	57%	57%	42%
Completing Training	n/a	n/a	n/a	n/a	15	
% Completers Staying in NJ (estimated)					n/a	51%
% Recent New Physicians from Out-of State					66%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Critical Care	'98-99 All Spec
% Entering Pt Care	67%	60%
% Practicing in HPSA	n/a	12%
Median Salary for Those with Confirmed Practice Plans	n/a	$119,625
% Reporting Difficulty Finding Practice Position	n/a	46%
% Having to Change Plans Due to Limited Practice Opportunities	n/a	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	n/a	0.37

Projections of Critical Care Physicians per 100,000 Population
New Jersey, 1999 to 2014



Dermatologists	1999	% Female	% IMG	Ave Age
Dermatologists in NJ	307	32%	9%	51.0
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	1.4%			
NJ # per 100,000 Pop	3.8			
US # per 100,000 Pop (12/97)	3.2 *			

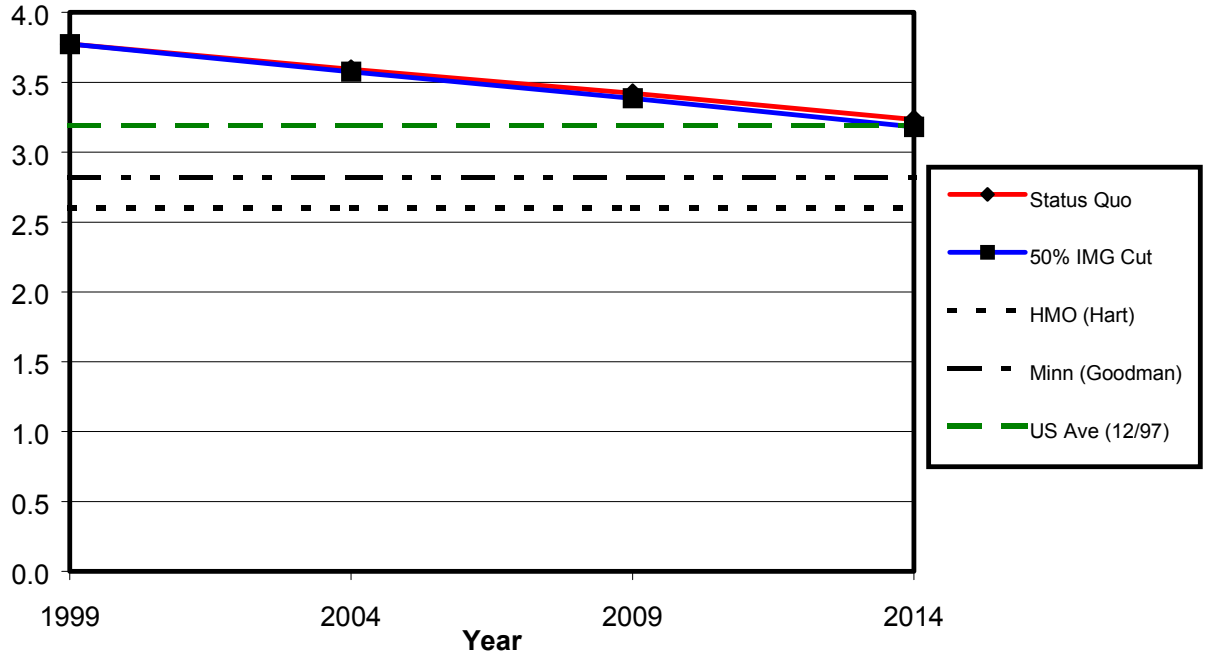
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Dermatology**	5	5	5	7	7	
% IMG	0%	0%	0%	0%	0%	42%
Completing Training	n/a	n/a	n/a	n/a	4	
% Completers Staying in NJ (estimated)					n/a	51%
% Recent New Physicians from Out-of State					97%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Dermatology	'98-99 All Spec
% Entering Pt Care	n/a	60%
% Practicing in HPSA	n/a	12%
Median Salary for Those with Confirmed Practice Plans	n/a	$119,625
% Reporting Difficulty Finding Practice Position	n/a	46%
% Having to Change Plans Due to Limited Practice Opportunities	n/a	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	n/a	0.37

Projections of Dermatologists per 100,000 Population
New Jersey, 1999 to 2014



Emergency Physicians	1999	% Female	% IMG	Ave Age
Emergency Physicians in NJ	521	22%	36%	47.1
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	2.4%			
NJ # per 100,000 Pop	6.4			
US # per 100,000 Pop (12/97)	7.2 *			

* excluding osteopaths

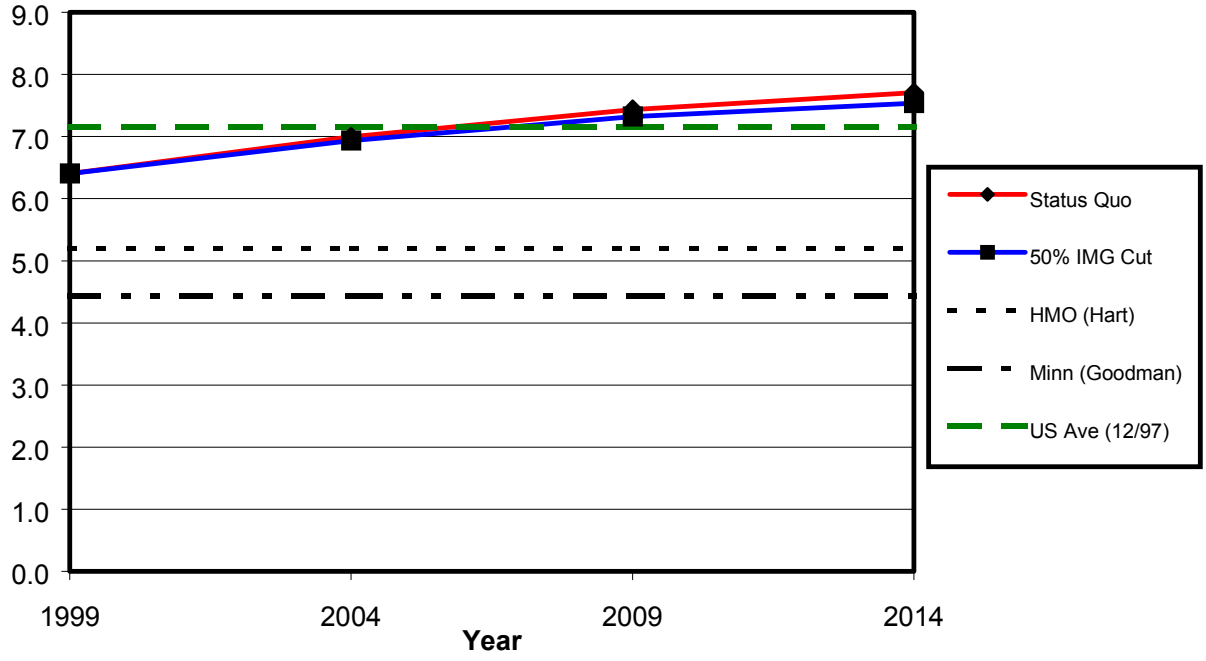
Graduate Medical Education

Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Emergency Medic	33	44	58	69	74	
% IMG	3%	2%	0%	0%	0%	42%
Completing Training	n/a	n/a	n/a	n/a	29	
% Completers Staying in NJ (estimated)					77%	51%
% Recent New Physicians from Out-of State					78%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Emergency Medicine	'98-99 All Spec
% Entering Pt Care	90%	60%
% Practicing in HPSA	0%	12%
Median Salary for Those with Confirmed Practice Plans	$188,683	$119,625
% Reporting Difficulty Finding Practice Position	0%	46%
% Having to Change Plans Due to Limited Practice Opportunities	0%	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	1.40	0.37

Projections of Emergency Physicians per 100,000 Population
New Jersey, 1999 to 2014



Family Physicians	1999	% Female	% IMG	Ave Age
Family Physicians in NJ	2,071	22%	31%	48.9
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	9.6%			
NJ # per 100,000 Pop	25.5			
US # per 100,000 Pop (12/97)	28.6 *			

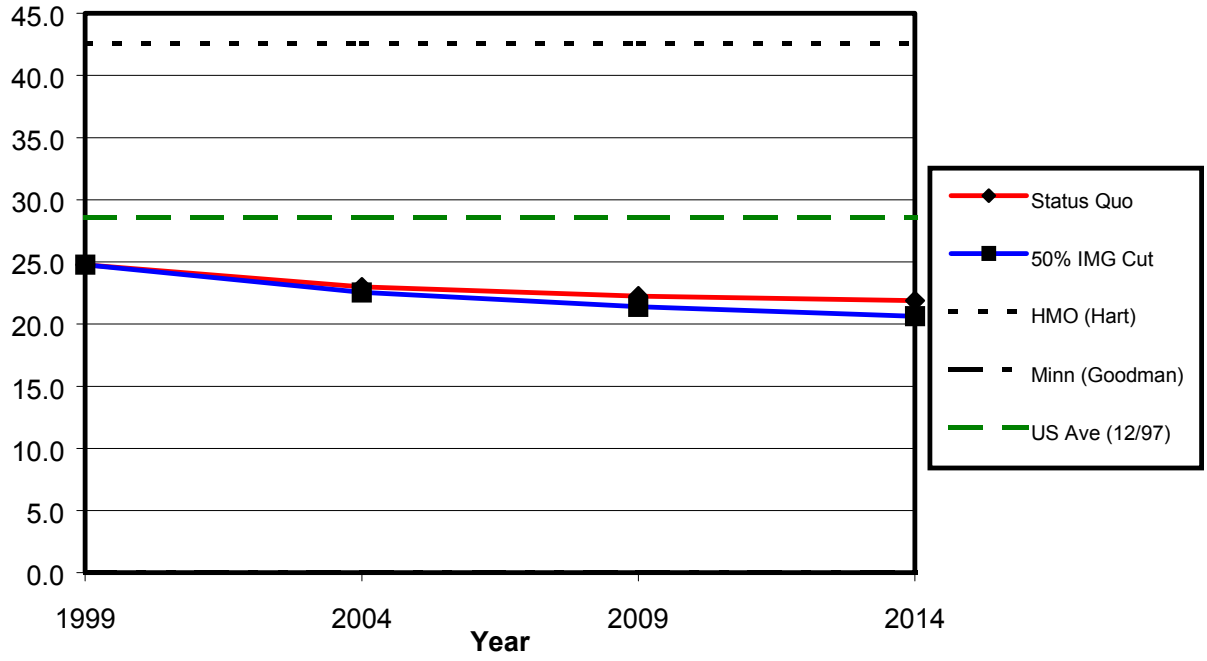
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Family Practice**	266	279	302	297	318	
% IMG	26%	26%	23%	19%	12%	42%
Completing Training	n/a	n/a	n/a	n/a	113	
% Completers Staying in NJ (estimated)					58%	51%
% Recent New Physicians from Out-of State					30%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Family Practice	'98-99 All Spec
% Entering Pt Care	89%	60%
% Practicing in HPSA	11%	12%
Median Salary for Those with Confirmed Practice Plans	$118,566	$119,625
% Reporting Difficulty Finding Practice Position	45%	46%
% Having to Change Plans Due to Limited Practice Opportunities	28%	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	0.55	0.37

Projections of Family Physicians per 100,000 Population
New Jersey, 1999 to 2014



Gastroenterologists	1999	% Female	% IMG	Ave Age
Gastroenterologists in NJ	424	7%	29%	47.0
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	2.0%			
NJ # per 100,000 Pop	5.2			
US # per 100,000 Pop (12/97)	3.3 *			

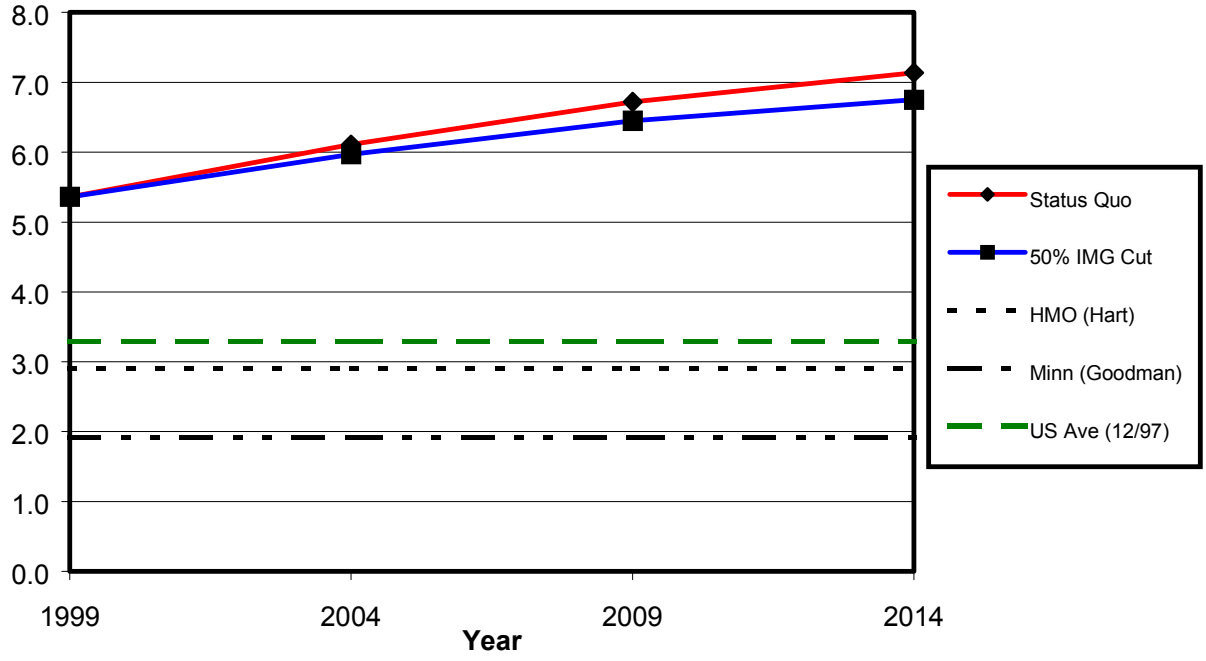
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Gastroenterology	33	23	16	18	21	
% IMG	39%	61%	50%	44%	48%	42%
Completing Training	n/a	n/a	n/a	n/a	13	
% Completers Staying in NJ (estimated)					50%	51%
% Recent New Physicians from Out-of State					72%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Gastroenterology	'98-99 All Spec
% Entering Pt Care	83%	60%
% Practicing in HPSA	0%	12%
Median Salary for Those with Confirmed Practice Plans	$138,355	$119,625
% Reporting Difficulty Finding Practice Position	40%	46%
% Having to Change Plans Due to Limited Practice Opportunities	0%	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	0.50	0.37

Projections of Gastroenterologists per 100,000 Population
New Jersey, 1999 to 2014



Oncologists	1999	% Female	% IMG	Ave Age
Oncologists in NJ	391	25%	39%	48.9
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	1.8%			
NJ # per 100,000 Pop	4.8			
US # per 100,000 Pop (12/97)	2.0 *			

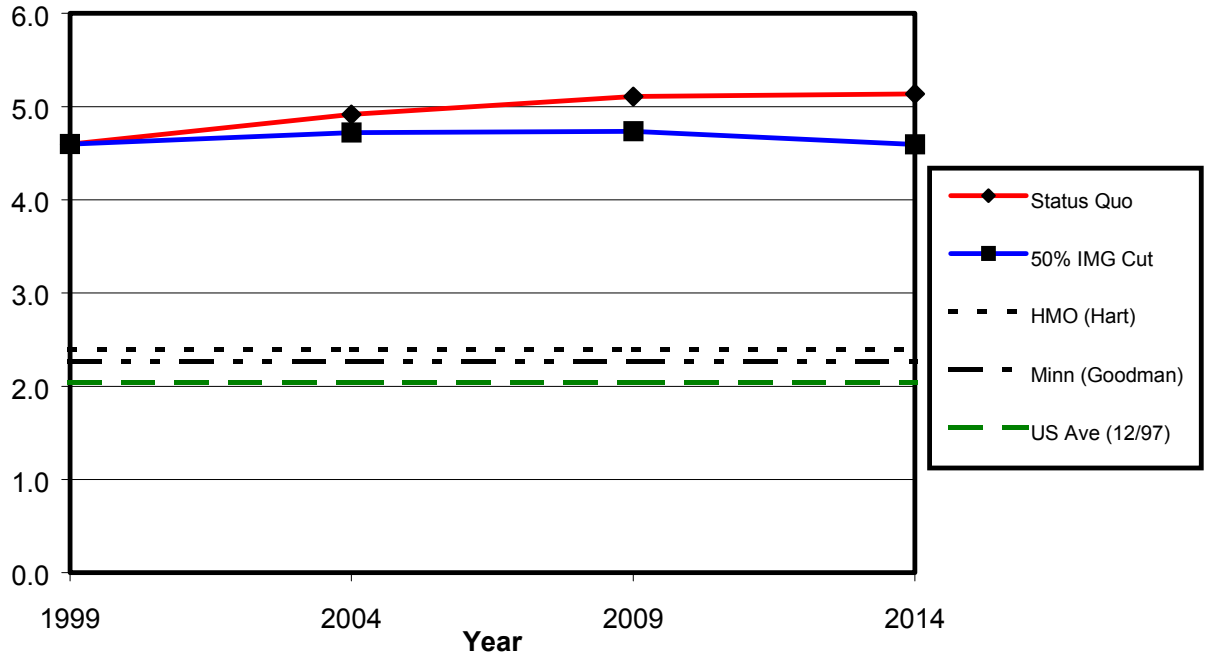
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Hem/Onc**	17	16	9	11	10	
% IMG	76%	81%	100%	91%	80%	42%
Completing Training	n/a	n/a	n/a	n/a	3	
% Completers Staying in NJ (estimated)					100%	51%
% Recent New Physicians from Out-of State					70%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Hem/Onc	'98-99 All Spec
% Entering Pt Care	100%	60%
% Practicing in HPSA	0%	12%
Median Salary for Those with Confirmed Practice Plans	n/a	$119,625
% Reporting Difficulty Finding Practice Position	n/a	46%
% Having to Change Plans Due to Limited Practice Opportunities	0%	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	1.00	0.37

Projections of Oncologists per 100,000 Population
New Jersey, 1999 to 2014



Infectious Disease Physicians	1999	% Female	% IMG	Ave Age
Infectious Disease Physicians in NJ	155	27%	54%	44.3
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	0.7%			
NJ # per 100,000 Pop	1.9			
US # per 100,000 Pop (12/97)	1.2 *			

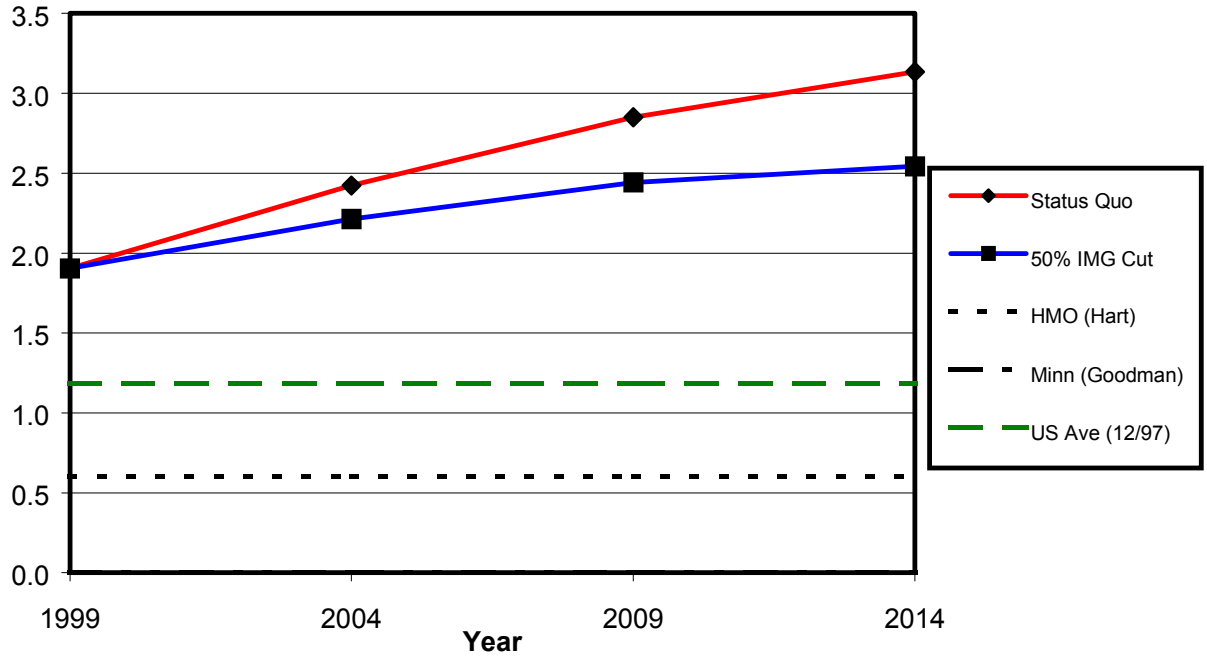
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Infectious Diseas	19	10	17	18	19	
% IMG	84%	90%	47%	67%	89%	42%
Completing Training	n/a	n/a	n/a	n/a	10	
% Completers Staying in NJ (estimated)					100%	51%
% Recent New Physicians from Out-of State					46%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Infectious Diseases	'98-99 All Spec
% Entering Pt Care	100%	60%
% Practicing in HPSA	0%	12%
Median Salary for Those with Confirmed Practice Plans	n/a	$119,625
% Reporting Difficulty Finding Practice Position	100%	46%
% Having to Change Plans Due to Limited Practice Opportunities	67%	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	-0.67	0.37

Projections of Infectious Disease Physicians per 100,000 Population
New Jersey, 1999 to 2014



General Internists	1999	% Female	% IMG	Ave Age
General Internists in NJ	3,453	25%	54%	48.6
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	16.0%			
NJ # per 100,000 Pop	42.4			
US # per 100,000 Pop (12/97)	34.7 *			

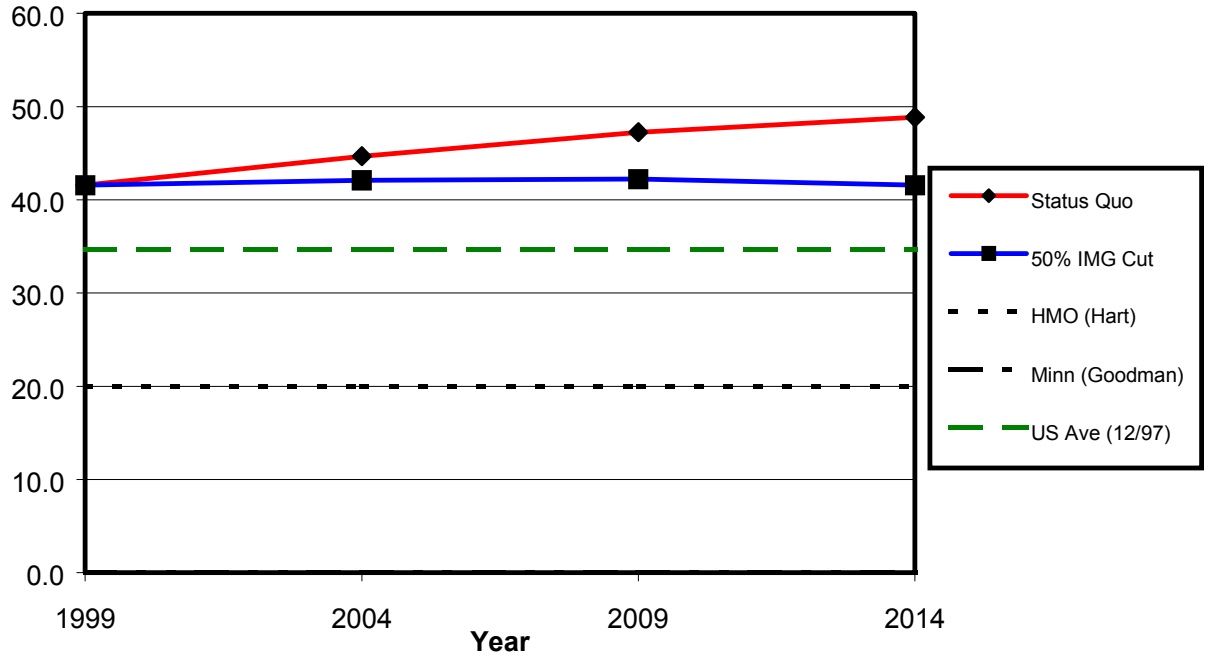
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total IM General**	940	940	936	898	902	
% IMG	75%	72%	68%	67%	63%	42%
Completing Training	n/a	n/a	n/a	n/a	302	
% Completers Staying in NJ (estimated)					47%	51%
% Recent New Physicians from Out-of State					45%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 IM General	'98-99 All Spec
% Entering Pt Care	45%	60%
% Practicing in HPSA	29%	12%
Median Salary for Those with Confirmed Practice Plans	$111,629	$119,625
% Reporting Difficulty Finding Practice Position	58%	46%
% Having to Change Plans Due to Limited Practice Opportunities	30%	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	0.14	0.37

Projections of General Internists per 100,000 Population
New Jersey, 1999 to 2014



Nephrologists	1999	% Female	% IMG	Ave Age
Nephrologists in NJ	172	18%	50%	47.6
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	0.8%			
NJ # per 100,000 Pop	2.1			
US # per 100,000 Pop (12/97)	1.6 *			

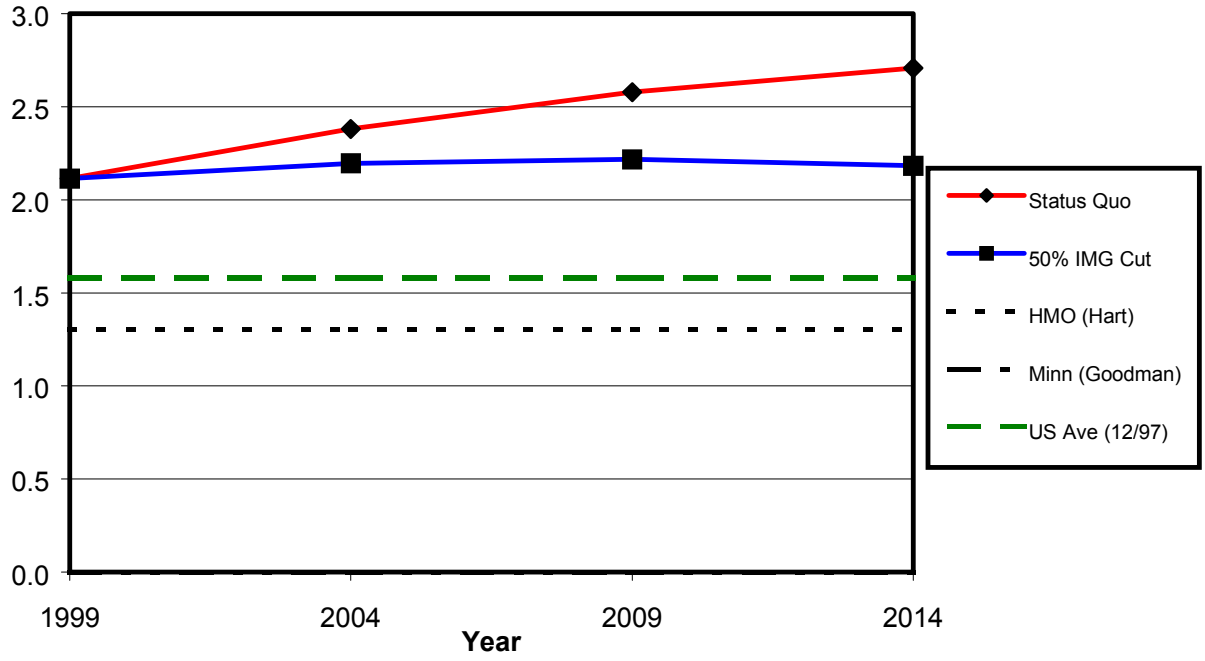
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Nephrology**	11	10	11	13	12	
% IMG	91%	90%	82%	85%	83%	42%
Completing Training	n/a	n/a	n/a	n/a	4	
% Completers Staying in NJ (estimated)					100%	51%
% Recent New Physicians from Out-of State					69%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Nephrology	'98-99 All Spec
% Entering Pt Care	100%	60%
% Practicing in HPSA	0%	12%
Median Salary for Those with Confirmed Practice Plans	n/a	$119,625
% Reporting Difficulty Finding Practice Position	100%	46%
% Having to Change Plans Due to Limited Practice Opportunities	67%	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	-0.75	0.37

Projections of Nephrologists per 100,000 Population
New Jersey, 1999 to 2014



Neurologists	1999	% Female	% IMG	Ave Age
Neurologists in NJ	366	19%	36%	48.4
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	1.7%			
NJ # per 100,000 Pop	4.5			
US # per 100,000 Pop (12/97)	3.8 *			

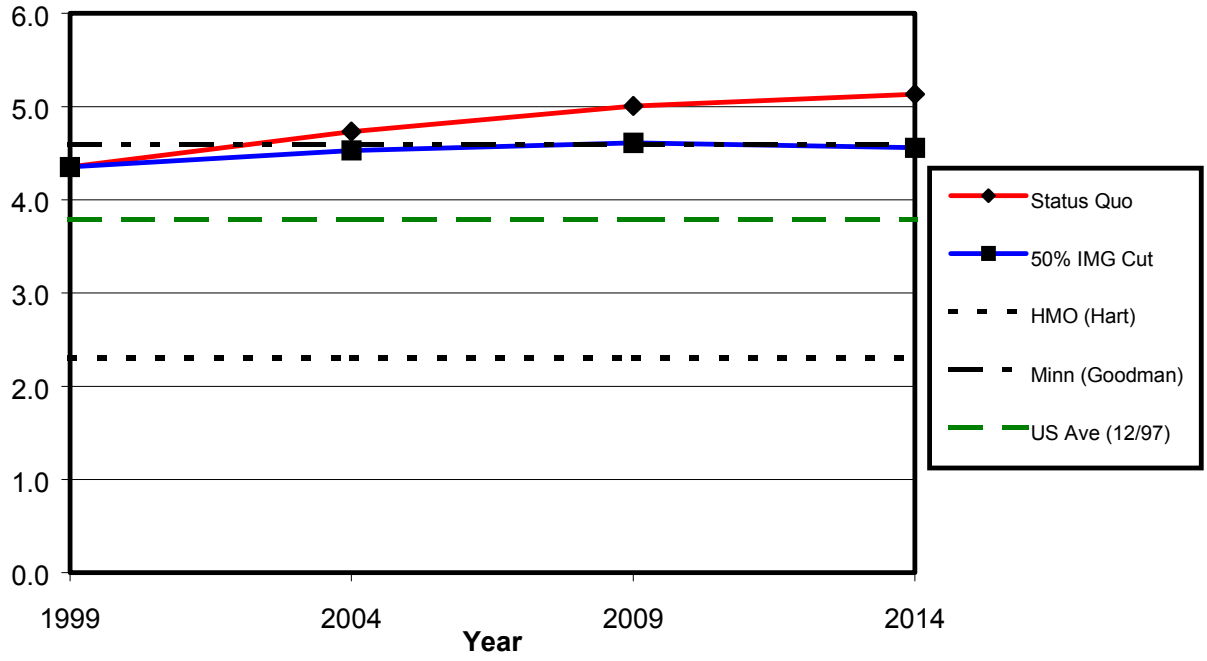
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Neurology**	23	22	19	20	33	
% IMG	57%	77%	74%	80%	85%	42%
Completing Training	n/a	n/a	n/a	n/a	14	
% Completers Staying in NJ (estimated)					50%	51%
% Recent New Physicians from Out-of State					86%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Neurology	'98-99 All Spec
% Entering Pt Care	33%	60%
% Practicing in HPSA	0%	12%
Median Salary for Those with Confirmed Practice Plans	$93,784	$119,625
% Reporting Difficulty Finding Practice Position	0%	46%
% Having to Change Plans Due to Limited Practice Opportunities	0%	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	1.17	0.37

Projections of Neurologists per 100,000 Population
New Jersey, 1999 to 2014



Neurosurgeons	1999	% Female	% IMG	Ave Age
Neurosurgeons in NJ	102	3%	25%	52.4
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	0.5%			
NJ # per 100,000 Pop	1.3			
US # per 100,000 Pop (12/97)	1.7 *			

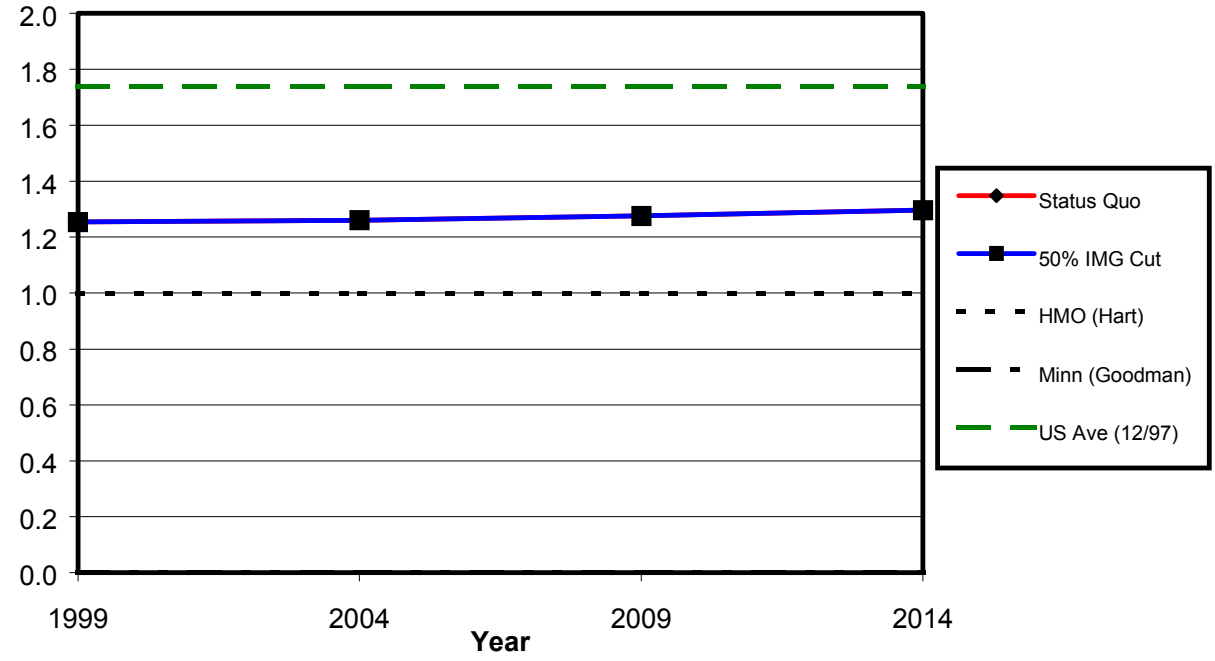
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Neurosurgery**	4	4	5	5	6	
% IMG	50%	50%	60%	60%	50%	42%
Completing Training	n/a	n/a	n/a	n/a	n/a	
% Completers Staying in NJ (estimated)					n/a	51%
% Recent New Physicians from Out-of State					90%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Neurosurgery	'98-99 All Spec
% Entering Pt Care	n/a	60%
% Practicing in HPSA	n/a	12%
Median Salary for Those with Confirmed Practice Plans	n/a	$119,625
% Reporting Difficulty Finding Practice Position	n/a	46%
% Having to Change Plans Due to Limited Practice Opportunities	n/a	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	n/a	0.37

Projections of Neurosurgeons per 100,000 Population
New Jersey, 1999 to 2014



Obstericians/Gynecologists	1999	% Female	% IMG	Ave Age
Obstericians/Gynecologists in NJ	1,346	31%	33%	49.7
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	6.3%			
NJ # per 100,000 Pop	16.5			
US # per 100,000 Pop (12/97)	13.9 *			

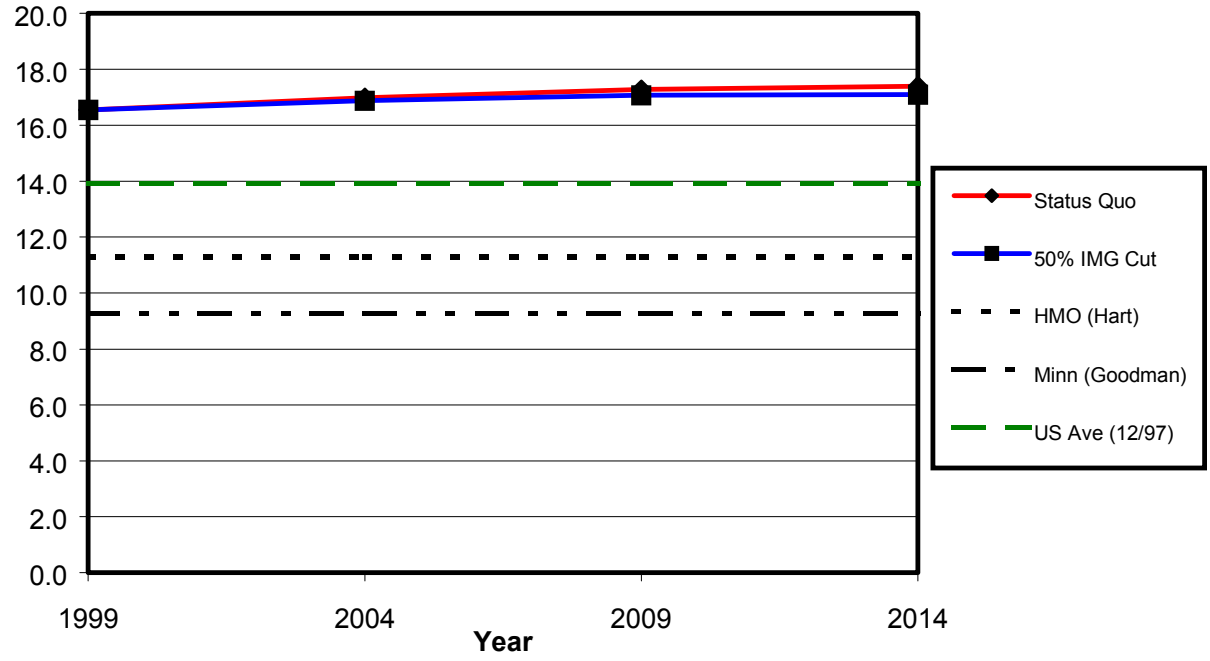
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Ob/Gyn**	144	140	142	147	155	
% IMG	6%	8%	12%	11%	11%	42%
Completing Training	n/a	n/a	n/a	n/a	41	
% Completers Staying in NJ (estimated)					50%	51%
% Recent New Physicians from Out-of State					61%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Ob/Gyn	'98-99 All Spec
% Entering Pt Care	88%	60%
% Practicing in HPSA	11%	12%
Median Salary for Those with Confirmed Practice Plans	$149,279	$119,625
% Reporting Difficulty Finding Practice Position	42%	46%
% Having to Change Plans Due to Limited Practice Opportunities	15%	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	0.43	0.37

Projections of Obstericians/Gynecologists per 100,000 Population
New Jersey, 1999 to 2014



Ophthalmologists	1999	% Female	% IMG	Ave Age
Ophthalmologists in NJ	648	15%	13%	50.2
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	3.0%			
NJ # per 100,000 Pop	8.0			
US # per 100,000 Pop (12/97)	6.4 *			

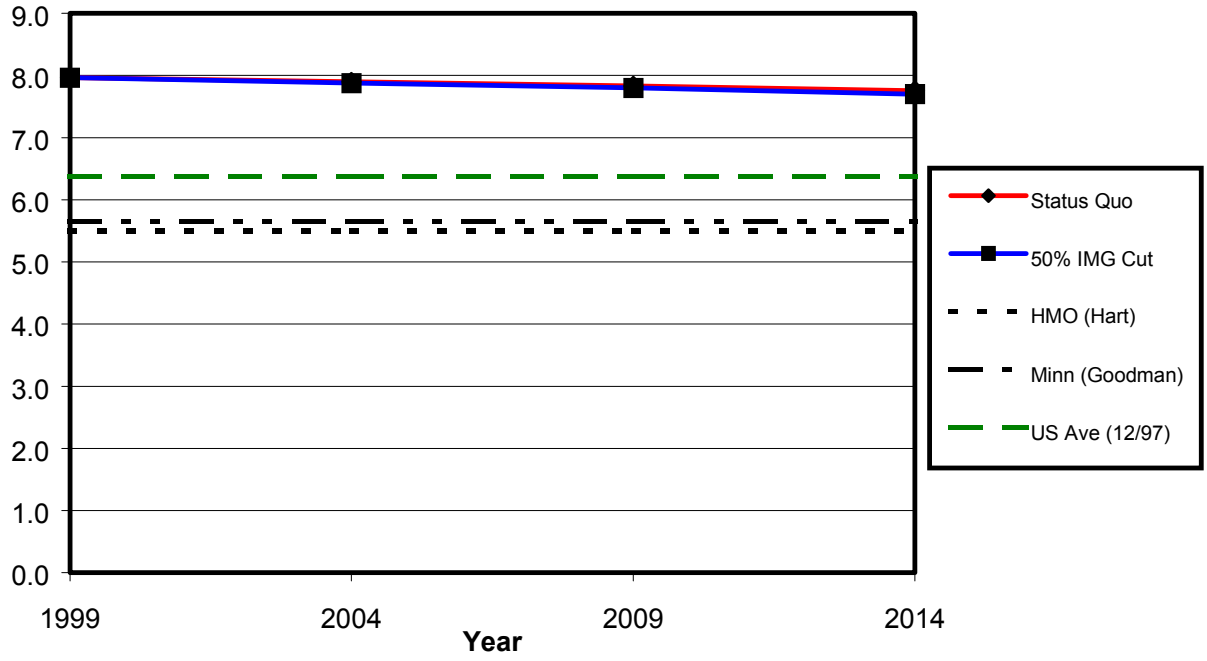
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Ophthalmology**	22	24	24	23	24	
% IMG	5%	8%	25%	17%	29%	42%
Completing Training	n/a	n/a	n/a	n/a	9	
% Completers Staying in NJ (estimated)					0%	51%
% Recent New Physicians from Out-of State					88%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Ophthalmology	'98-99 All Spec
% Entering Pt Care	100%	60%
% Practicing in HPSA	0%	12%
Median Salary for Those with Confirmed Practice Plans	n/a	$119,625
% Reporting Difficulty Finding Practice Position	100%	46%
% Having to Change Plans Due to Limited Practice Opportunities	0%	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	-1.00	0.37

Projections of Ophthalmologists per 100,000 Population
New Jersey, 1999 to 2014



Orthopedic Surgeons	1999	% Female	% IMG	Ave Age
Orthopedic Surgeons in NJ	712	2%	17%	50.8
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	3.3%			
NJ # per 100,000 Pop	8.8			
US # per 100,000 Pop (12/97)	8.1 *			

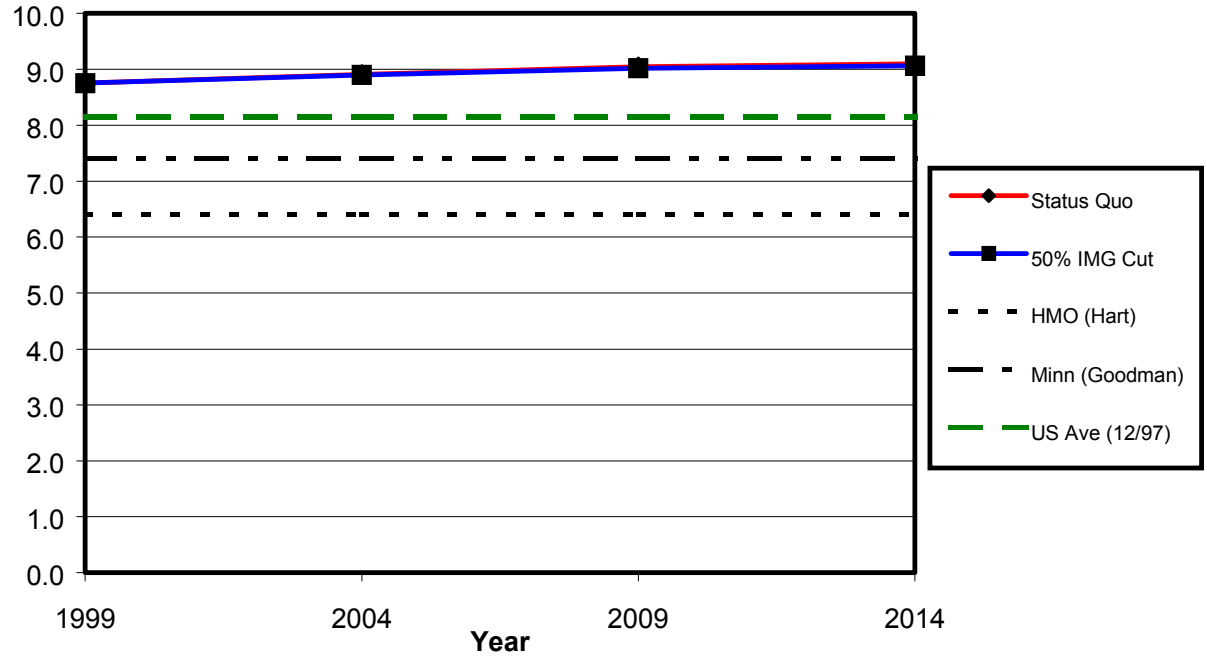
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Orthopedics**	64	64	60	61	63	
% IMG	0%	2%	2%	3%	3%	42%
Completing Training	n/a	n/a	n/a	n/a	17	
% Completers Staying in NJ (estimated)					0%	51%
% Recent New Physicians from Out-of State					76%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Orthopedics	'98-99 All Spec
% Entering Pt Care	9%	60%
% Practicing in HPSA	0%	12%
Median Salary for Those with Confirmed Practice Plans	n/a	$119,625
% Reporting Difficulty Finding Practice Position	0%	46%
% Having to Change Plans Due to Limited Practice Opportunities	0%	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	1.00	0.37

Projections of Orthopedic Surgeons per 100,000 Population
New Jersey, 1999 to 2014



Otolaryngologists	1999	% Female	% IMG	Ave Age
Otolaryngologists in NJ	266	9%	27%	51.2
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	1.2%			
NJ # per 100,000 Pop	3.3			
US # per 100,000 Pop (12/97)	3.2 *			

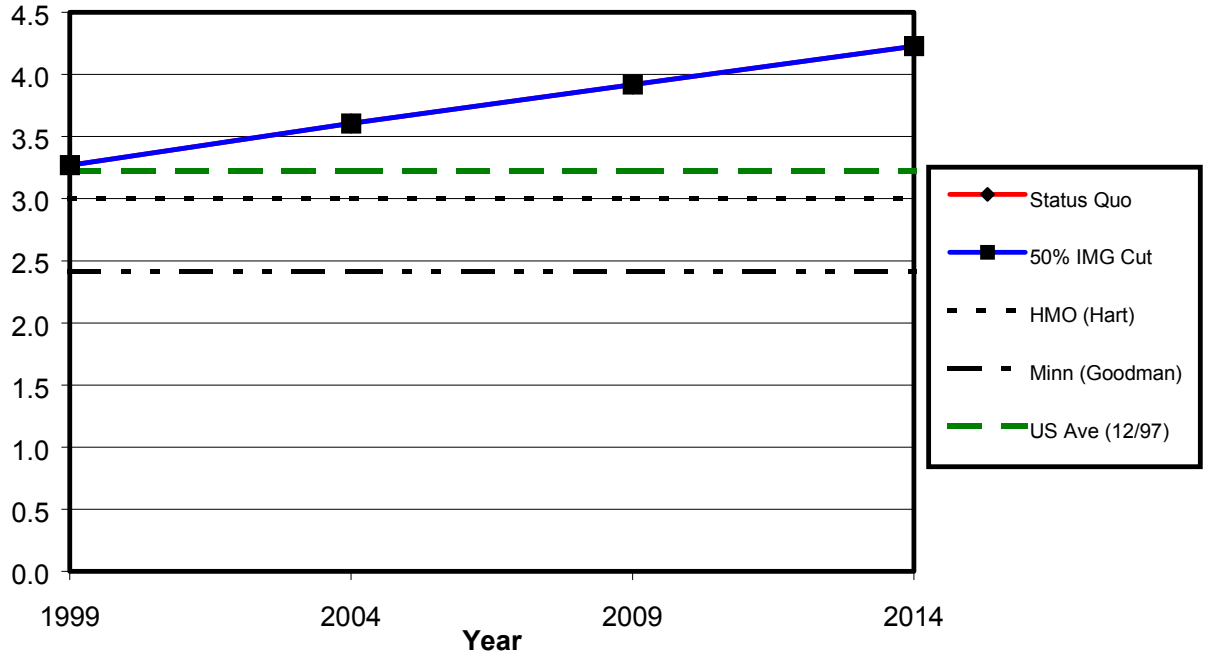
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Otolaryngology**	14	14	14	14	15	
% IMG	0%	0%	0%	0%	0%	42%
Completing Training	n/a	n/a	n/a	n/a	3	
% Completers Staying in NJ (estimated)					0%	51%
% Recent New Physicians from Out-of State					89%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Otolaryngology	'98-99 All Spec
% Entering Pt Care	100%	60%
% Practicing in HPSA	0%	12%
Median Salary for Those with Confirmed Practice Plans	n/a	$119,625
% Reporting Difficulty Finding Practice Position	0%	46%
% Having to Change Plans Due to Limited Practice Opportunities	0%	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	0.00	0.37

Projections of Otolaryngologists per 100,000 Population
New Jersey, 1999 to 2014



Pathologists	1999	% Female	% IMG	Ave Age
Pathologists in NJ	365	35%	61%	53.6
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	1.7%			
NJ # per 100,000 Pop	4.5			
US # per 100,000 Pop (12/97)	5.5 *			

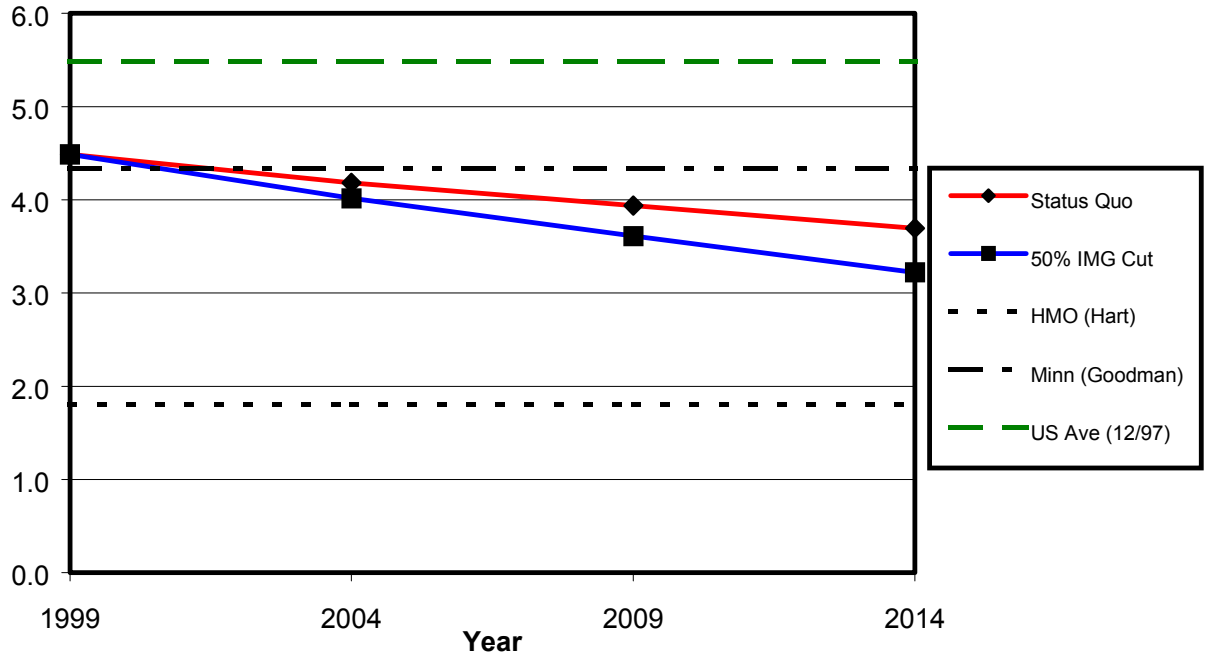
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Pathology**	43	43	43	50	45	
% IMG	65%	63%	77%	84%	89%	42%
Completing Training	n/a	n/a	n/a	n/a	13	
% Completers Staying in NJ (estimated)					50%	51%
% Recent New Physicians from Out-of State					66%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Pathology	'98-99 All Spec
% Entering Pt Care	17%	60%
% Practicing in HPSA	0%	12%
Median Salary for Those with Confirmed Practice Plans	n/a	$119,625
% Reporting Difficulty Finding Practice Position	100%	46%
% Having to Change Plans Due to Limited Practice Opportunities	25%	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	-0.92	0.37

Projections of Pathologists per 100,000 Population
New Jersey, 1999 to 2014



Pediatricians	1999	% Female	% IMG	Ave Age
Pediatricians in NJ	1,861	52%	55%	48.8
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	8.6%			
NJ # per 100,000 Pop	22.9			
US # per 100,000 Pop (12/97)	18.9 *			

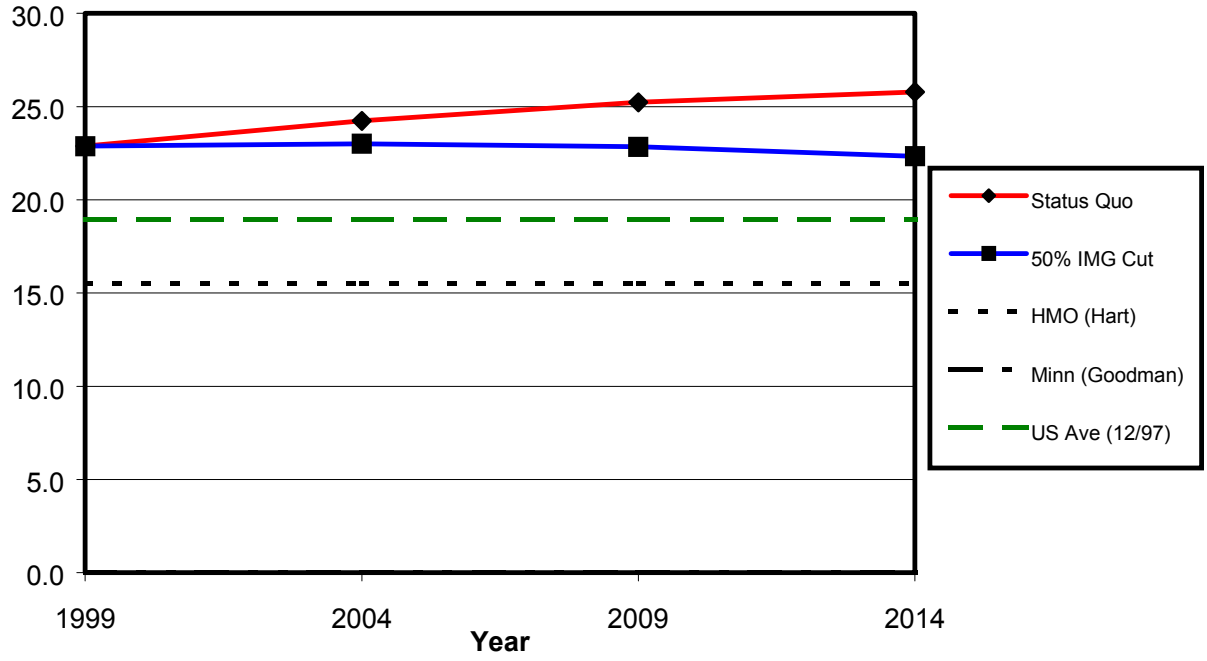
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Pediatrics**	279	293	277	279	258	
% IMG	73%	68%	62%	55%	51%	42%
Completing Training	n/a	n/a	n/a	n/a	88	
% Completers Staying in NJ (estimated)					48%	51%
% Recent New Physicians from Out-of State					50%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Pediatrics	'98-99 All Spec
% Entering Pt Care	58%	60%
% Practicing in HPSA	13%	12%
Median Salary for Those with Confirmed Practice Plans	$97,822	$119,625
% Reporting Difficulty Finding Practice Position	53%	46%
% Having to Change Plans Due to Limited Practice Opportunities	41%	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	0.21	0.37

Projections of Pediatricians per 100,000 Population
New Jersey, 1999 to 2014



Physiatrists	1999	% Female	% IMG	Ave Age
Physiatrists in NJ	303	36%	46%	47.5
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	1.4%			
NJ # per 100,000 Pop	3.7			
US # per 100,000 Pop (12/97)	2.0 *			

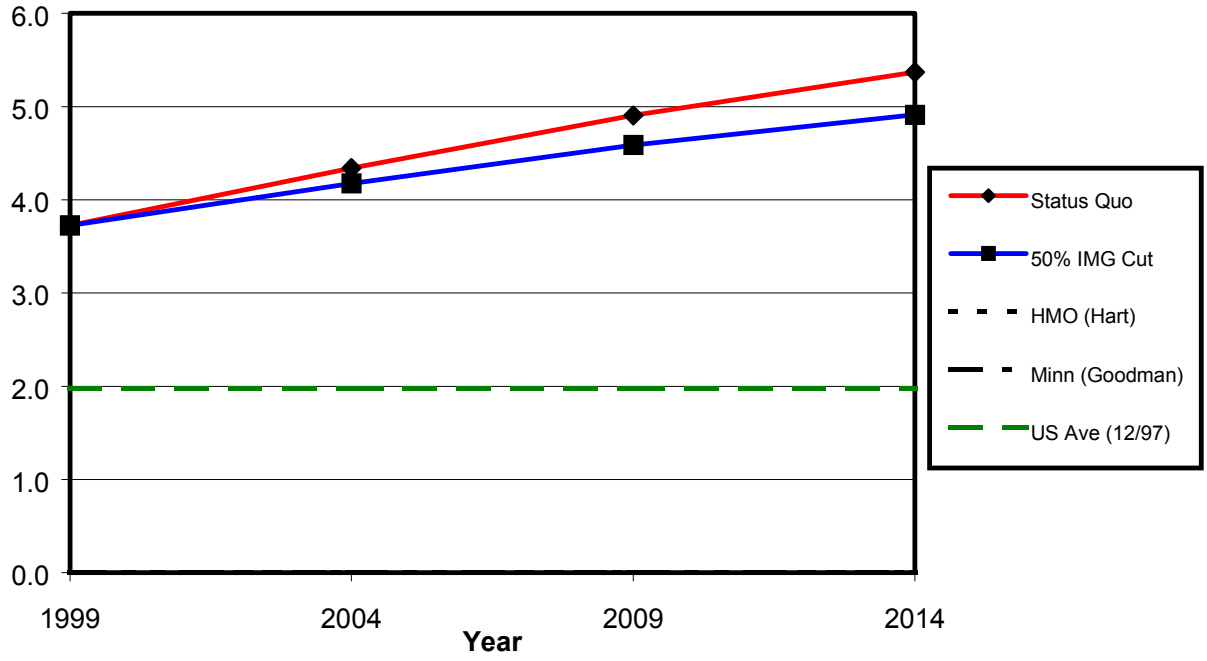
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total PM&R**	41	41	43	41	35	
% IMG	10%	24%	7%	2%	9%	42%
Completing Training	n/a	n/a	n/a	n/a	15	
% Completers Staying in NJ (estimated)					50%	51%
% Recent New Physicians from Out-of State					58%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 PM&R	'98-99 All Spec
% Entering Pt Care	58%	60%
% Practicing in HPSA	0%	12%
Median Salary for Those with Confirmed Practice Plans	$113,454	$119,625
% Reporting Difficulty Finding Practice Position	33%	46%
% Having to Change Plans Due to Limited Practice Opportunities	22%	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	0.33	0.37

Projections of Physiatrists per 100,000 Population
New Jersey, 1999 to 2014



Plastic Surgeons	1999	% Female	% IMG	Ave Age
Plastic Surgeons in NJ	188	11%	25%	50.5
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	0.9%			
NJ # per 100,000 Pop	2.3			
US # per 100,000 Pop (12/97)	2.2 *			

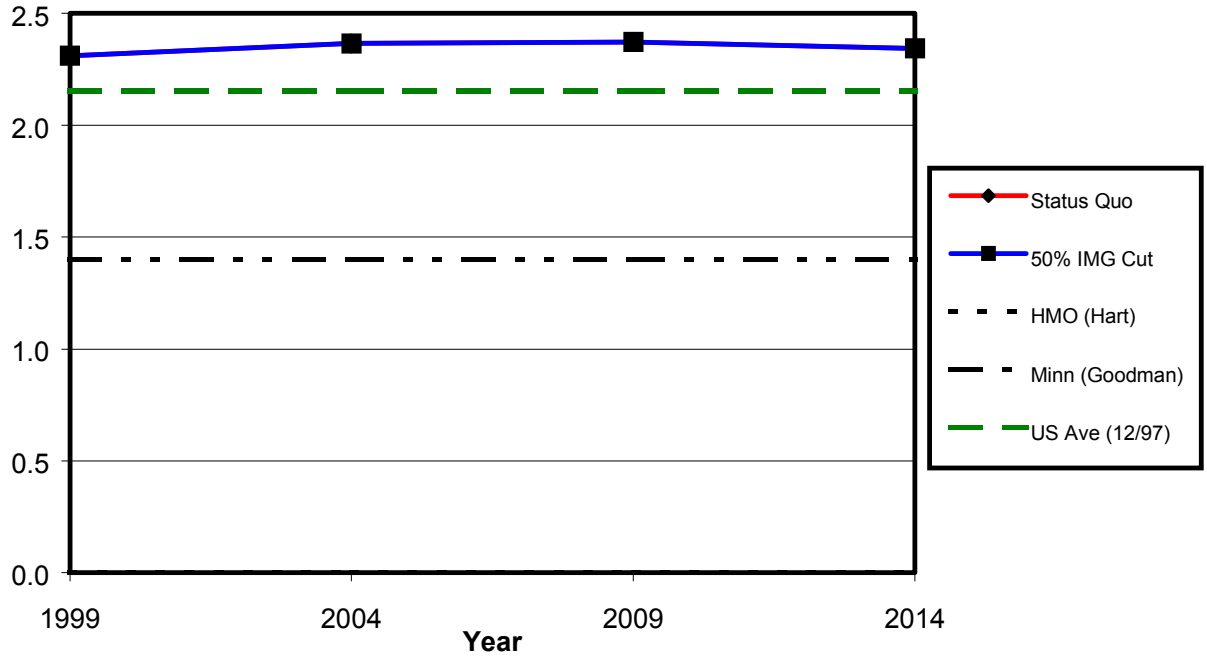
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Plastic Surgery**	6	6	6	6	6	
% IMG	0%	0%	0%	0%	17%	42%
Completing Training	n/a	n/a	n/a	n/a	6	
% Completers Staying in NJ (estimated)					n/a	51%
% Recent New Physicians from Out-of State					78%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Plastic Surgery	'98-99 All Spec
% Entering Pt Care	75%	60%
% Practicing in HPSA	n/a	12%
Median Salary for Those with Confirmed Practice Plans	n/a	$119,625
% Reporting Difficulty Finding Practice Position	n/a	46%
% Having to Change Plans Due to Limited Practice Opportunities	n/a	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	n/a	0.37

Projections of Plastic Surgeons per 100,000 Population
New Jersey, 1999 to 2014



Psychiatrists	1999	% Female	% IMG	Ave Age
Psychiatrists in NJ	1,383	36%	51%	54.9
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	6.4%			
NJ # per 100,000 Pop	17.0			
US # per 100,000 Pop (12/97)	12.7 *			

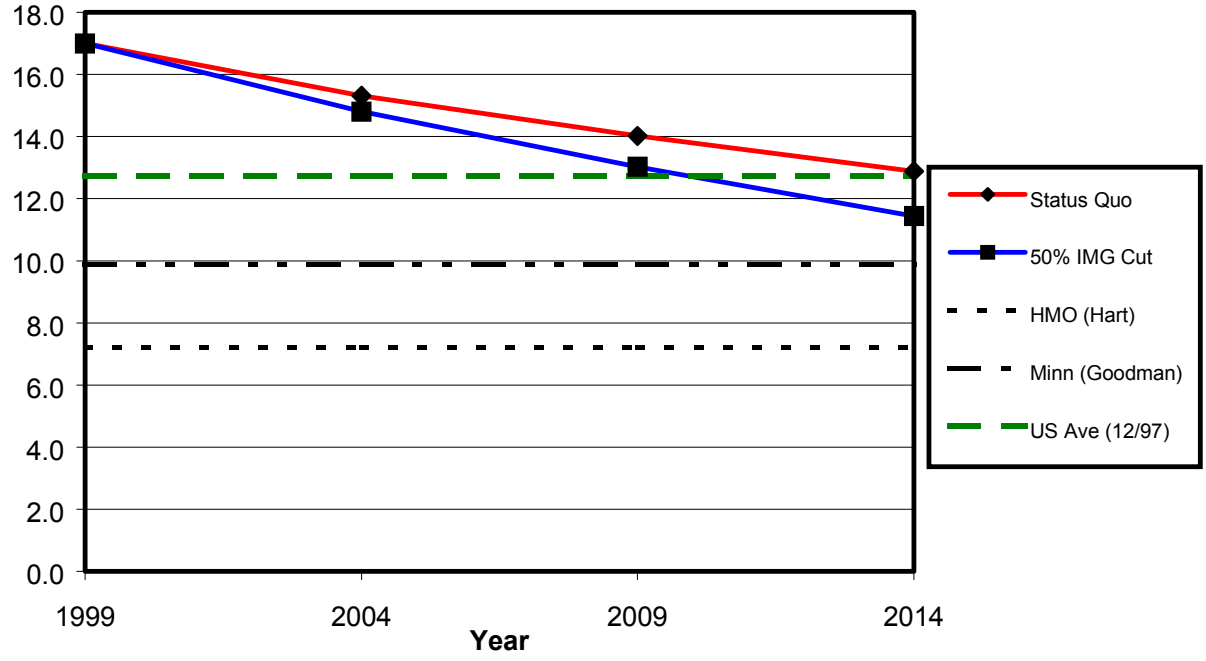
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Psychiatry**	111	115	104	106	97	
% IMG	68%	68%	69%	64%	66%	42%
Completing Training	n/a	n/a	n/a	n/a	38	
% Completers Staying in NJ (estimated)					36%	51%
% Recent New Physicians from Out-of State					59%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Psychiatry	'98-99 All Spec
% Entering Pt Care	58%	60%
% Practicing in HPSA	0%	12%
Median Salary for Those with Confirmed Practice Plans	$121,660	$119,625
% Reporting Difficulty Finding Practice Position	50%	46%
% Having to Change Plans Due to Limited Practice Opportunities	38%	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	1.00	0.37

Projections of Psychiatrists per 100,000 Population
New Jersey, 1999 to 2014



Radiologists	1999	% Female	% IMG	Ave Age
Radiologists in NJ	880	20%	25%	50.1
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	4.1%			
NJ # per 100,000 Pop	10.8			
US # per 100,000 Pop (12/97)	4.1 *			

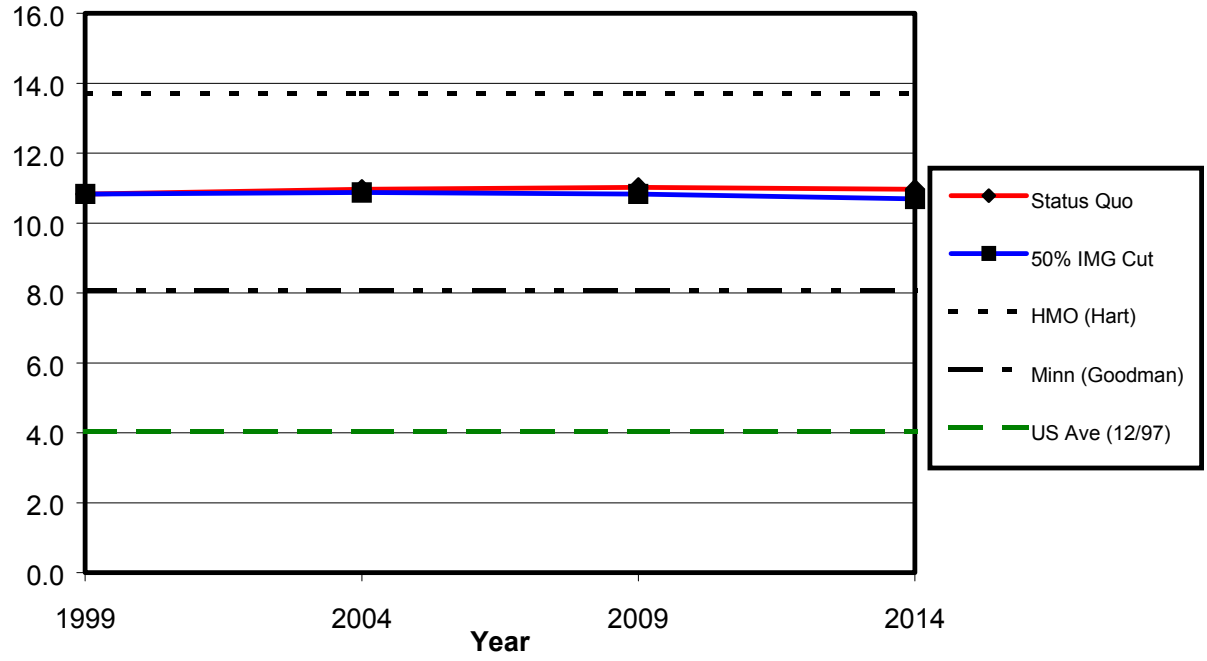
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Radiology**	102	107	106	105	98	
% IMG	6%	6%	8%	17%	23%	42%
Completing Training	n/a	n/a	n/a	n/a	44	
% Completers Staying in NJ (estimated)					40%	51%
% Recent New Physicians from Out-of State					78%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Radiology	'98-99 All Spec
% Entering Pt Care	41%	60%
% Practicing in HPSA	0%	12%
Median Salary for Those with Confirmed Practice Plans	$150,555	$119,625
% Reporting Difficulty Finding Practice Position	14%	46%
% Having to Change Plans Due to Limited Practice Opportunities	0%	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	0.31	0.37

Projections of Radiologists per 100,000 Population
New Jersey, 1999 to 2014



General Surgeons	1999	% Female	% IMG	Ave Age
General Surgeons in NJ	867	9%	44%	55.4
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	4.0%			
NJ # per 100,000 Pop	10.7			
US # per 100,000 Pop (12/97)	14.2 *			

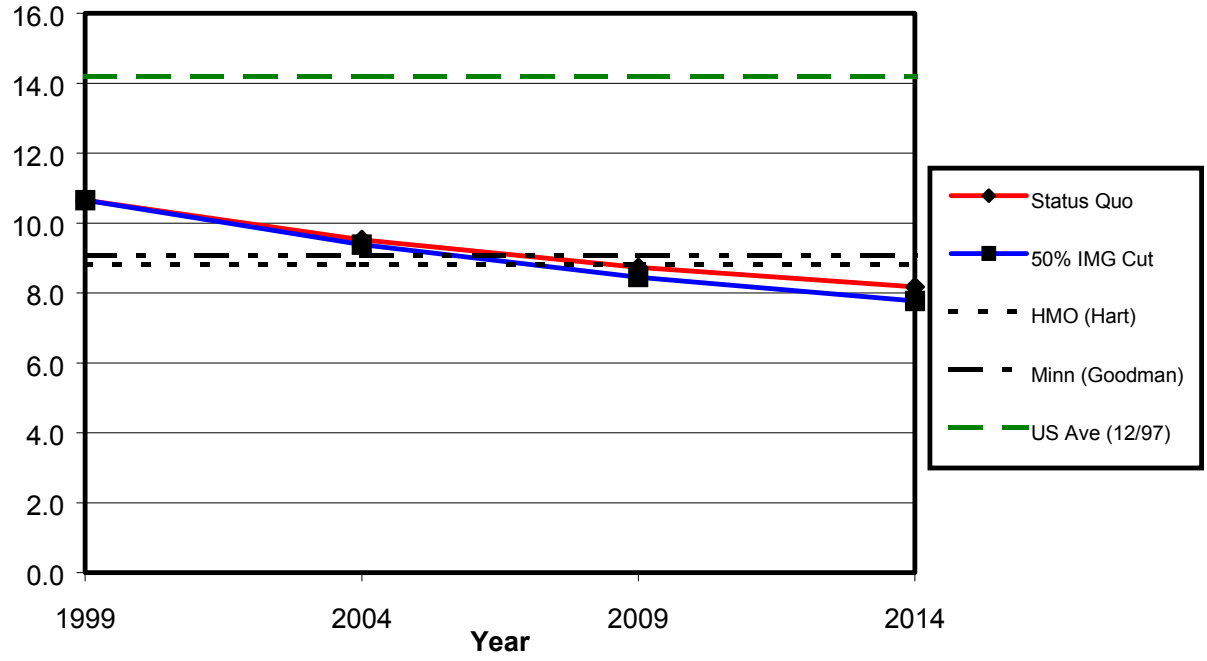
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Surgery General*	197	208	205	203	207	
% IMG	17%	15%	13%	11%	13%	42%
Completing Training	n/a	n/a	n/a	n/a	37	
% Completers Staying in NJ (estimated)					33%	51%
% Recent New Physicians from Out-of State					56%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Surgery General	'98-99 All Spec
% Entering Pt Care	31%	60%
% Practicing in HPSA	0%	12%
Median Salary for Those with Confirmed Practice Plans	$128,496	$119,625
% Reporting Difficulty Finding Practice Position	33%	46%
% Having to Change Plans Due to Limited Practice Opportunities	33%	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	0.67	0.37

Projections of General Surgeons per 100,000 Population
New Jersey, 1999 to 2014



Urologists	1999	% Female	% IMG	Ave Age
Urologists in NJ	341	2%	26%	52.5
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	1.6%			
NJ # per 100,000 Pop	4.2			
US # per 100,000 Pop (12/97)	3.5 *			

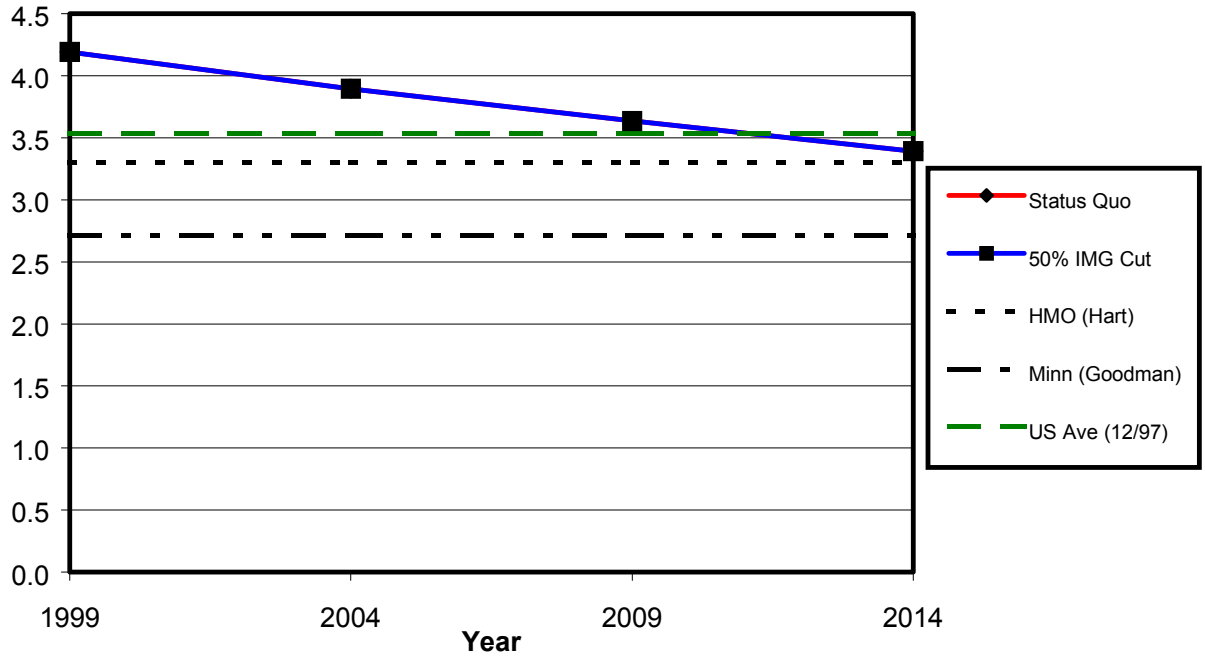
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Urology**	16	17	20	17	18	
% IMG	19%	24%	25%	24%	17%	42%
Completing Training	n/a	n/a	n/a	n/a	4	
% Completers Staying in NJ (estimated)					50%	51%
% Recent New Physicians from Out-of State					85%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Urology	'98-99 All Spec
% Entering Pt Care	67%	60%
% Practicing in HPSA	n/a	12%
Median Salary for Those with Confirmed Practice Plans	n/a	$119,625
% Reporting Difficulty Finding Practice Position	n/a	46%
% Having to Change Plans Due to Limited Practice Opportunities	n/a	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	n/a	0.37

Projections of Urologists per 100,000 Population
New Jersey, 1999 to 2014



Primary Care Physicians	1999	% Female	% IMG	Ave Age
Primary Care Physicians in NJ	7,385	31%	48%	48.7
All Specialists in NJ	21,515	25%	41%	50.3
% of All NJ Physicians	34.3%			
NJ # per 100,000 Pop	90.8			
US # per 100,000 Pop (12/97)	82.2 *			

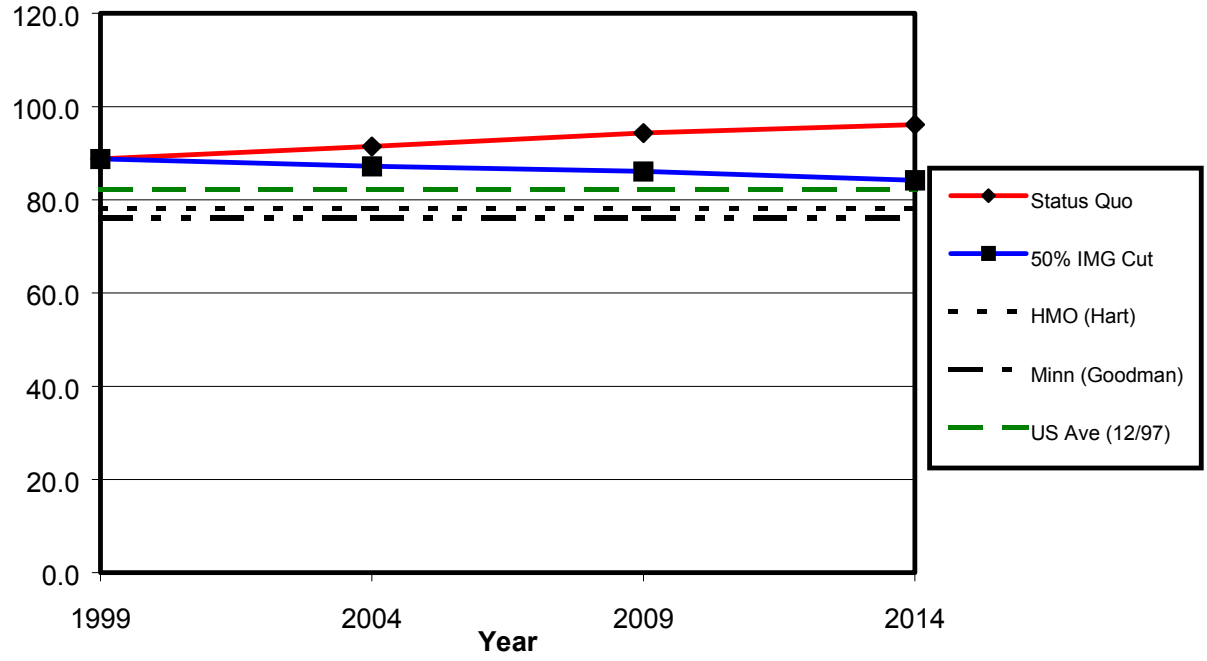
* excluding osteopaths

Graduate Medical Education Residents	'94-95	'95-96	'96-97	'97-98	'98-99	'98-99 All spec
Total All Specialties**	2,890	2,905	2,858	2,859	2,839	
Total Primary Care**	1,529	1,553	1,559	1,532	1,538	
% IMG	64%	61%	56%	53%	48%	42%
Completing Training	n/a	n/a	n/a	n/a	503	
% Completers Staying in NJ (estimated)					52%	51%
% Recent New Physicians from Out-of State					43%	61%

** including osteopathic

Resident Exit Survey Responses	'98-99 Primary Care	'98-99 All Spec
% Entering Pt Care	58%	60%
% Practicing in HPSA	19%	12%
Median Salary for Those with Confirmed Practice Plans	$114,350	$119,625
% Reporting Difficulty Finding Practice Position	52%	46%
% Having to Change Plans Due to Limited Practice Opportunities	31%	26%
Perceptions of Regional Job Market (No Jobs = -2; Many Jobs = +2)	0.27	0.37

Projections of Primary Care Physicians per 100,000 Population
New Jersey, 1999 to 2014



An Experimental Composite Specialty Supply-Demand Balance Index

Exhibit 3-1 is an effort to summarize the data in the 25 different specialty profiles. It presents a statistical "supply-demand balance index" for each of the 25 specialties based on 11 different indicators extracted from the profiles. Each of the 11 indicators receives a score of –1, 0, or +1 that indicate relatively strong demand, neutral demand, or weak demand for the specialty. Because two of the indicators (Assessment of the regional job market by graduating residents [# 6] and Percentage of graduating residents reporting they had to change their practice plans [#8]) are felt to be especially important indicators of demand, they have been assigned a score of +2 or –2 for some specialties that are very different from all-specialty averages.

The Composite Score in Exhibit 3-1, which is the sum of the scores for the 11 indicators, provides a general assessment of the strength of the job market for the 25 specialties in New Jersey. The resulting rankings, which generally conform to anecdotal observations from the field, show that Emergency Medicine has the best job market, followed by Family Practice and Otolaryngology. On the other end of the demand spectrum, General Internal Medicine has the worst job market, followed by Infectious Diseases, Pediatrics, and Nephrology.

Readers should note that the index presented in Exhibit 3-1 is experimental and has not yet been validated beyond this study. Thus, although the results may seem reasonable, it would not be wise to base major resource decisions on the scores in the exhibit. Additional details about the index can be obtained from an unpublished working paper by the Center for Health Workforce Studies.

Exhibit 3-1. INDICATORS OF POSSIBLE SHORTAGE/SURPLUS OF SPECIALISTS IN NEW JERSEY

SPECIALTY	1 NJ#/Pop Relative to US#/Pop	2 Relative Median Starting Salary	3 % Entering Pt Care	4 % of Recent New Physicians from OOS	5 % 1999 Residency Grads Remaining in NJ	6 Score for Regional Job Market (2)	7 % of Grads Reporting Difficulty	8 % of Grads Reporting Plan Change (2)	9 Current Supply Relative to Benchmarks	10 Supply Trend Projection	11 % of Residents Who Are USMGs	Composite Score
Emergency Medicine	1	1	1	1	-1	2	1	2	0	-1	1	8
Family Practice	1	0	1	-1	1	1	0	0	1	1	1	6
Otolaryngology	0		1	1	1	-1	1	2	0	-1	1	5
Orthopedics	0		-1	1	1	1	1	2	-1	0	1	5
Ob/Gyn	-1	1	1	0	1	1	0	1	-1	0	1	4
Gastroenterology	-1	1	1	0	0	1	1	2	-1	-1	1	4
Neurosurgery	1			1					1	0	1	4
Anesthesiology	-1	1	1	1	1	1	1	1	-1	-1	-1	3
Radiology	-1	1	-1	1	-1	0	1	2	0	0	1	3
Hem/Onc	-1		1	0	1	1		2	-1	-1	0	2
Urology	-1		1	1	0				-1	1	1	2
Cardiology	-1	1	0	1	1	1	1	0	-1	-1	0	2
Neurology	-1	-1	-1	1	0	1	1	2	0	-1	1	2
Plastic Surgery	0		1	1	-1				-1	0	1	1
Surgery General	1	0	-1	0	-1	1	1	-1	-1	1	0	0
Dermatology	-1			1	-1				-1	1	1	0
Ophthalmology	-1		1	1	-1	-2	-1	2	-1	0	1	-1
Critical Care	-1		1	0	1				-1	-1	-1	-2
Pathology	1		-1	0	0	-2	-1	0	1	1	-1	-2
PM&R	-1	-1	0	0	0	0	1	0		-1	-1	-3
Psychiatry	-1	0	0	0	-1	1	0	-1	-1	1	-1	-3
Nephrology	-1		1	1	1	-2	-1	-2	-1	-1	-1	-6
IM General	-1	0	-1	-1	0	-1	-1	0	-1	-1	-1	-8
Infectious Diseases	-1		1	-1	1	-2	-1	-2	-1	-1	-1	-8
Pediatrics	-1	-1	0	-1	0	-1	-1	-1	-1	-1	-1	-9
Primary Care	-1	0	0	-1	0	-1	0	0	-1	0	-1	-5

Notes

1) Positive Score Indicates Strong Job Market
2) Low NJ supply per pop compared to US = +1
3) High median salary relative to all specialties = +1
4) High % of new physicians from out-of-state = +1
5) High % entering pt care relative to all specialties = +1
6) High % remaining in NJ relative to all specialties = +1
7) High score on regional job market rel to all specs = +1
8) Low % w/ difficulties relative to all specialties = +1
9) Low % changing plans relative to all specialties = +1
10) Low #/pop relative to benchmarks = +1
11) Future trend toward benchmarks = +1
12) Low % IMG residents relative to all specs = +1

13) Large differences for #s 6 and 8 are weighted 2

CHAPTER 4
PHYSICIAN SUPPLY PROJECTIONS IN NEW JERSEY COUNTIES

The supply of physicians is far from homogeneous across the 21 counties in New Jersey. Exhibit 4-1 illustrates that, as is true in many states, physicians in New Jersey tend to concentrate in areas that are more urban and more affluent. Exhibits 4-2 and 4-3 show that this pattern holds true for both primary care and specialist physicians.

The specific reasons for this phenomenon cannot be determined from the data available for this study, but it almost certainly related to the fact that urban areas tend to have more wealth, more hospitals and other health care facilities, and more cultural and social opportunities than do rural areas. Whatever the reason, this is clearly a situation that physician workforce planners must take into account in their programs and policies.

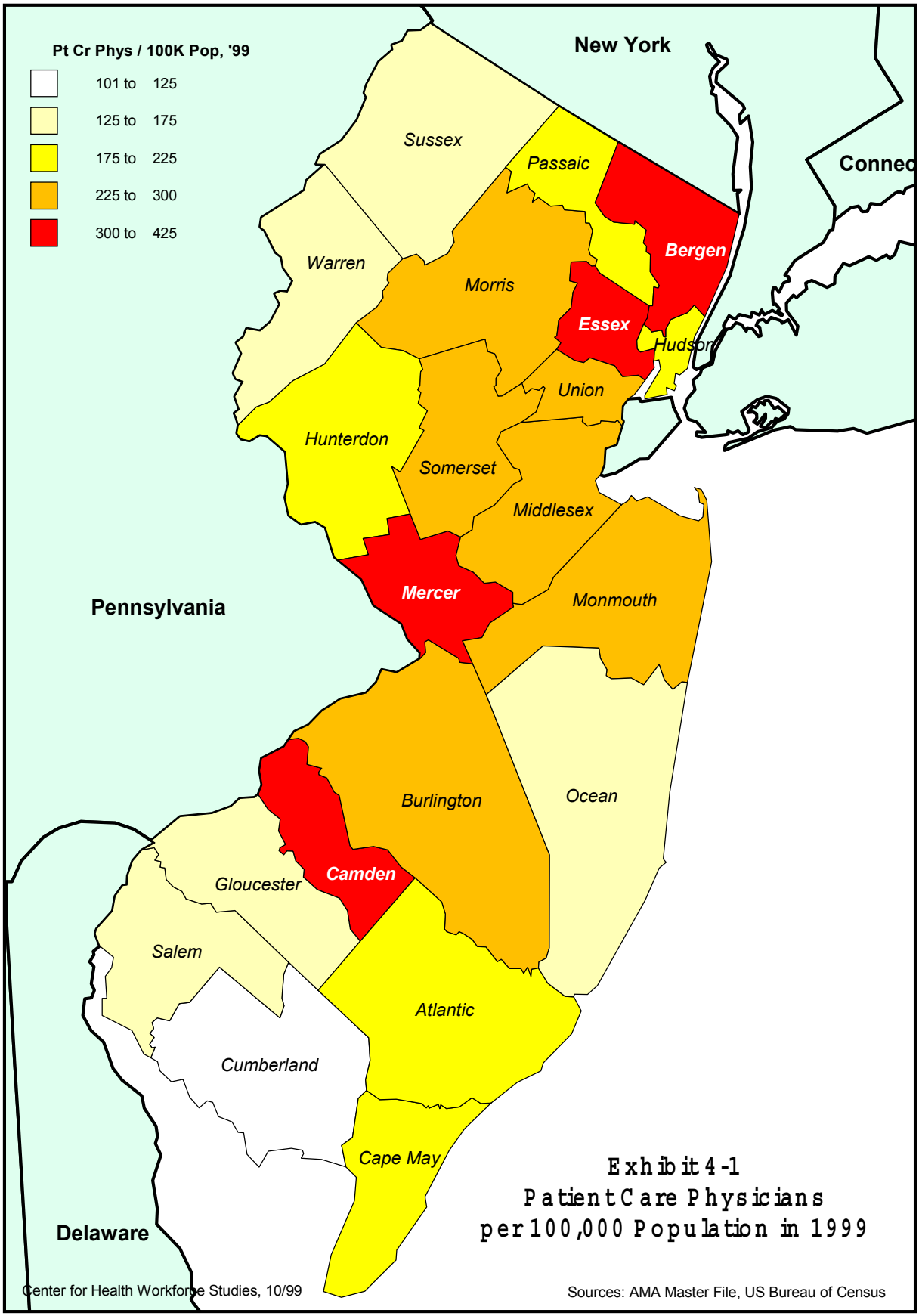
Although careful examination of the physician workforce in each of the 21 counties in New Jersey is beyond the scope of this study, the statistical profiles presented at the end of this chapter provide a current snapshot of the physician workforce with comparisons to all of New Jersey. Projections are provided for only primary care specialties (Family Practice, General Practice, General Internal Medicine, and Pediatrics). Although statistics by themselves cannot tell the whole story of the physician workforce in a county, a number of the statistics indicate potential imbalances of supply and requirements, and these are summarized briefly below.

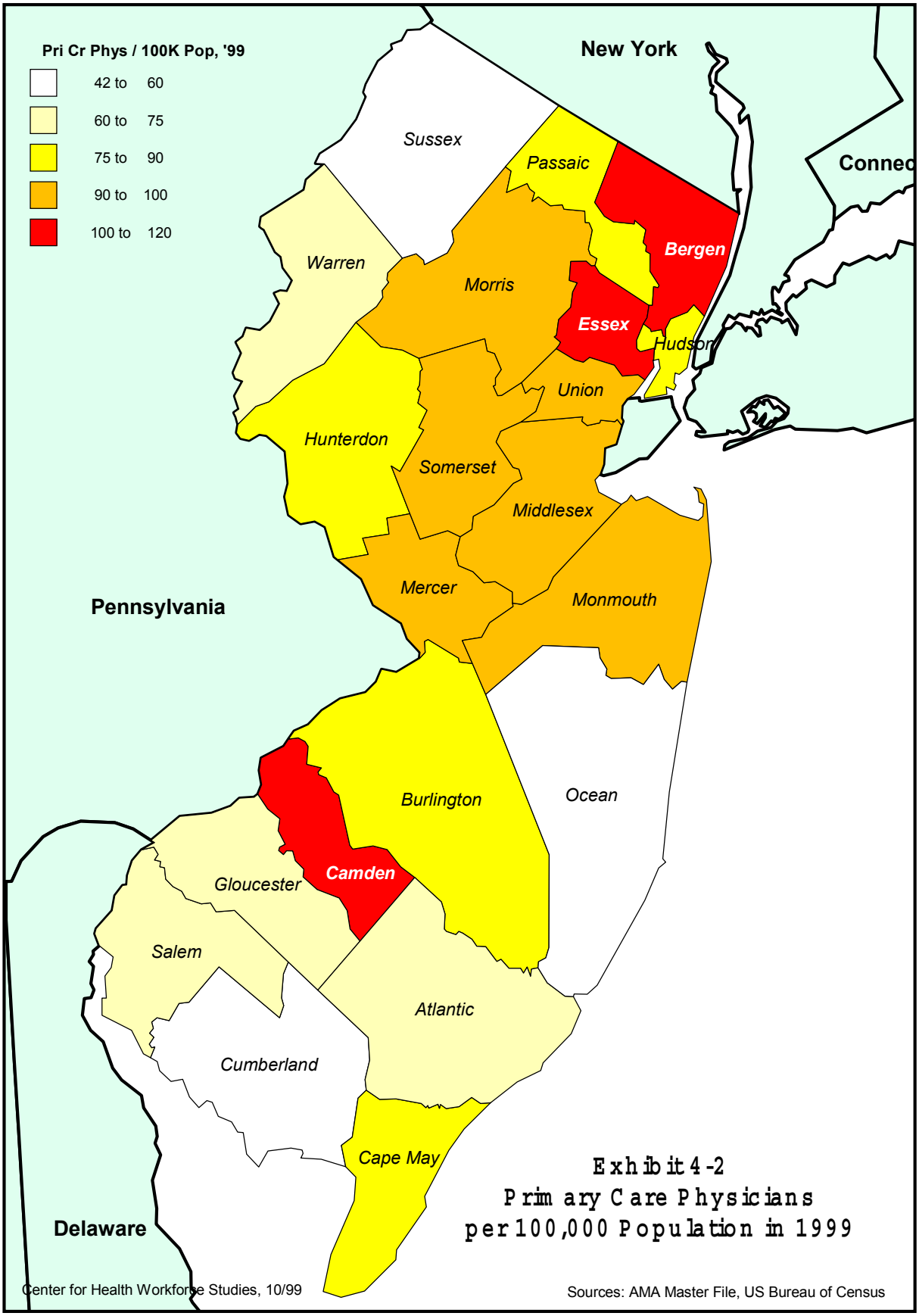
Assumptions

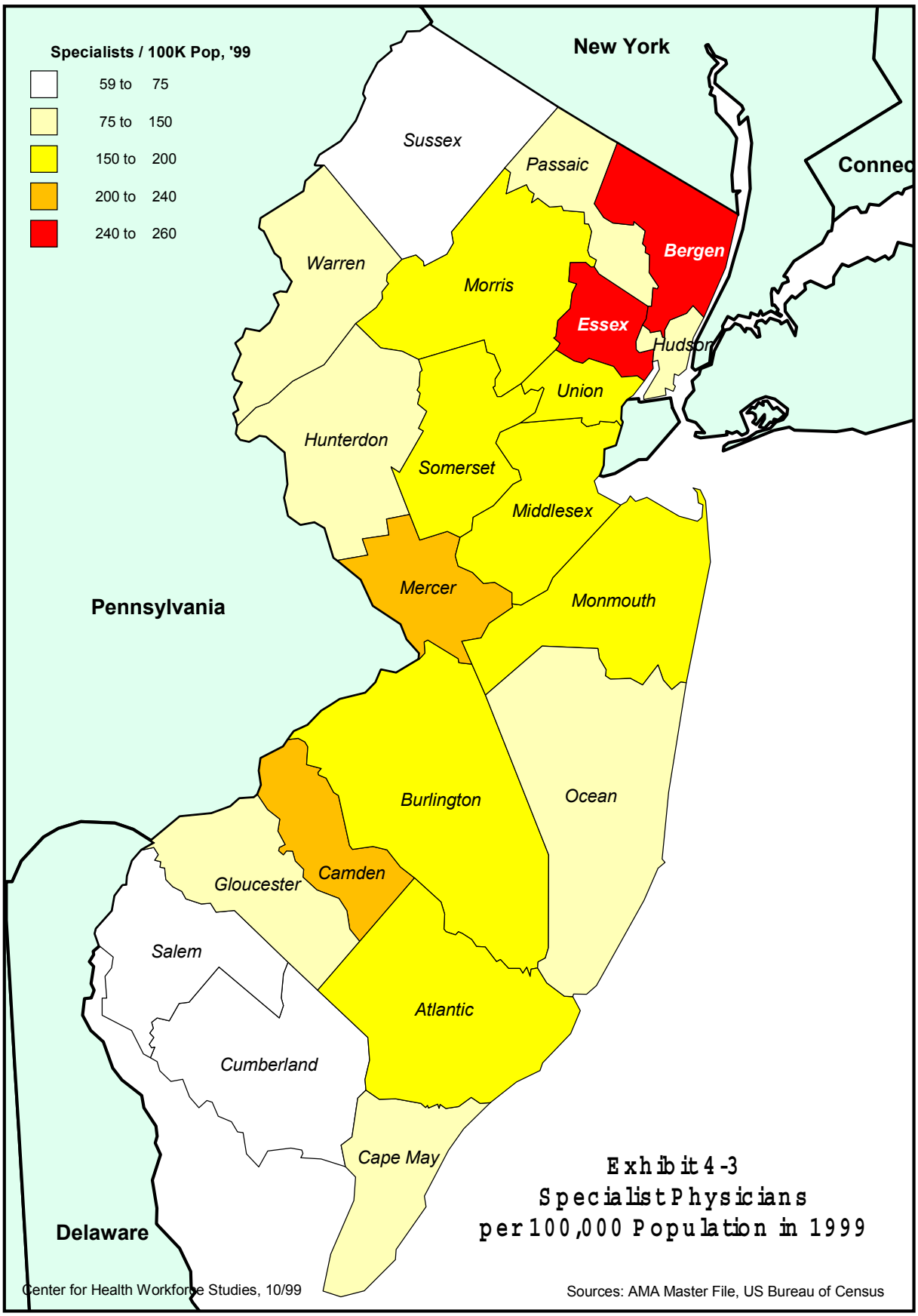
In addition to the assumptions listed in the previous section for the specialty profiles, the county projections have made no effort to account for any migration of either patients or physicians across county lines. Since reliable data on practice addresses of New Jersey physicians are not available, it is not possible to assess the extent to which this assumption may be violated.

Observations

When interpreting the figures in the county profiles, it is important to keep in mind that the small size of several of the counties makes reliable projections virtually impossible. For example, the fact that only two new pediatricians entered practice in Cape May County in the past five years makes it difficult to determine when new pediatricians will enter practice there in the future. Another situation observed in the data is a lack of physicians in young age categories in some


Pt Cr Phys / 100K Pop, '99
101 to 125
125 to 175
175 to 225
225 to 300
300 to 425
New York
Connec
Sussex
Passaic
Bergen
Warren
Morris
Essex
Hudson
Union
Hunterdon
Somerset
Middlesex
Mercer
Monmouth
Pennsylvania
Burlington
Ocean
Camden
Gloucester
Salem
Atlantic
Cumberland
Cape May
Delaware
Exhibit 4-1
Patient Care Physicians
per 100,000 Population in 1999
Center for Health Workforce Studies, 10/99
Sources: AMA Master File, US Bureau of Census


Pri Cr Phys / 100K Pop, '99
42 to 60
60 to 75
75 to 90
90 to 100
100 to 120
New York
Connec
Sussex
Passaic
Bergen
Warren
Morris
Essex
Hudson
Union
Hunterdon
Somerset
Middlesex
Mercer
Monmouth
Pennsylvania
Burlington
Ocean
Camden
Gloucester
Salem
Atlantic
Cumberland
Cape May
Delaware
Exhibit 4-2
Primary Care Physicians
per 100,000 Population in 1999
Center for Health Workforce Studies, 10/99
Sources: AMA Master File, US Bureau of Census


Specialists / 100K Pop, '99
59 to 75
75 to 150
150 to 200
200 to 240
240 to 260
New York
Connec
Sussex
Passaic
Bergen
Warren
Morris
Essex
Hudson
Union
Hunterdon
Somerset
Middlesex
Mercer
Monmouth
Pennsylvania
Burlington
Ocean
Camden
Gloucester
Salem
Atlantic
Cumberland
Cape May
Delaware
Exhibit 4-3
Specialist Physicians
per 100,000 Population in 1999
Center for Health Workforce Studies, 10/99
Sources: AMA Master File, US Bureau of Census

specialties in small counties. This means that either specialists enter the county for the first time at a relatively old age, or that no new specialists have entered the county for many years. It is not possible from available data to determine the extent to which of either of these explanations is true.

The notes that follow are a few suggested interpretations of the statistics presented in the different county profiles. The COGME primary care requirements band referred to in the notes is a range of physician supply of 60 per 100,000 population to 80 per 100,000 population deemed by the COGME to be an acceptable supply of primary care physicians.

Bergen County

- The supply of Primary Care physicians is 50% above the top of the requirement band developed by COGME, in 1999 and continuing through 2014.
- In addition, the supplies of Ob-Gyn and Psychiatrists are also much higher than the standards developed by GMENAC.

Camden County

- The supply of Primary Care physicians is 25% above the top of the requirement band developed by COGME in 1999, and 40% above the maximum in 2014.
- In addition, the supply of Ob-Gyns is also much higher than the standards developed by GMENAC.

Cape May

- The supply of Primary Care physicians is within the COGME requirement band, but the supply of Ob-Gyns and Psychiatrists are both relatively low.

Cumberland

- The supplies of Primary Care physicians, Ob-Gyns, and Psychiatrists are all relatively low.

Essex

- The supply of Primary Care physicians is 25% above the requirement band developed by COGME.

Hudson

- The supply of Primary Care physicians is adequate in 1999, but slips below the COGME requirement band starting in 2009.

Hunterdon

- The supply of Primary Care physicians is somewhat high in 1999, but will exceed the COGME requirement band by 70% by 2014.

Mercer

- The supply of Primary Care physicians is somewhat high in 1999, but will exceed the COGME requirement band by 25% by 2014.

Morris

- The supply of Primary Care physicians is 30% high in 1999, but will exceed the COGME requirement band by 50% by 2014.

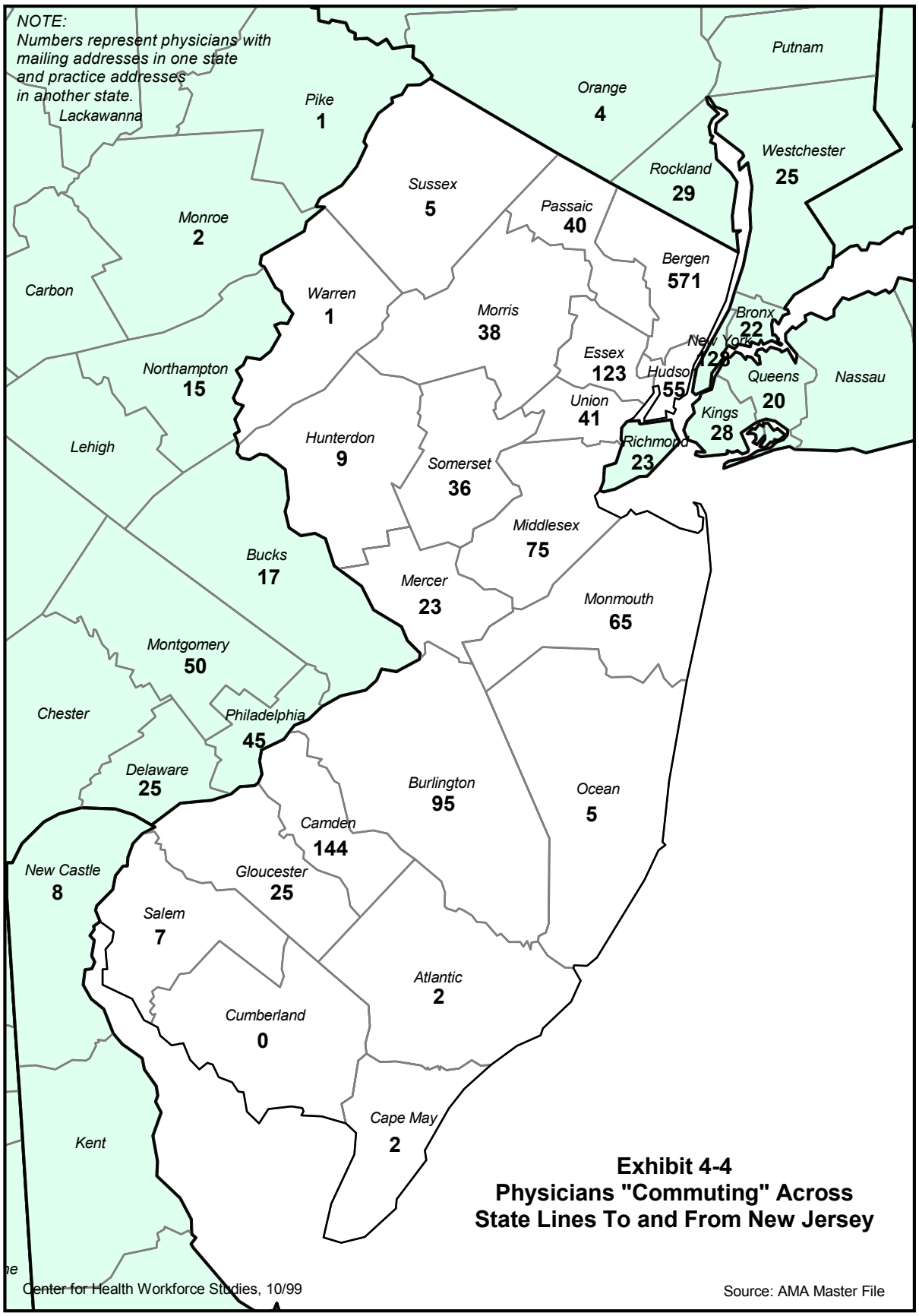
Somerset

- The supply of Primary Care physicians is 50% high in 1999, but will exceed the COGME requirement band by 70% by 2014.

The "constant additions" projections shown in the county profiles assume no changes in the numbers of new physicians entering practice in the future, which is a very strong assumption over the 15 year period covered by these projections. Presumably, if the projected numbers of physicians were to result in either unemployment for physicians (i.e., surpluses) or noticeable unavailability of health care for the public (i.e., shortages), steps would be taken by organizations and/or individuals to correct the imbalances, which will cause the projections developed in this study to be incorrect. Careful monitoring of the future supply of physicians with comparisons to the projections will be a useful exercise that will help policy makers to track changes in the physician workforce and to better understand the dynamics of the physician supply.

Commuters

The data presented in Exhibit 4-4 shows for mid-1999 the numbers of physicians with mailing addresses (presumably the addresses where they live) in one state and principal practice address

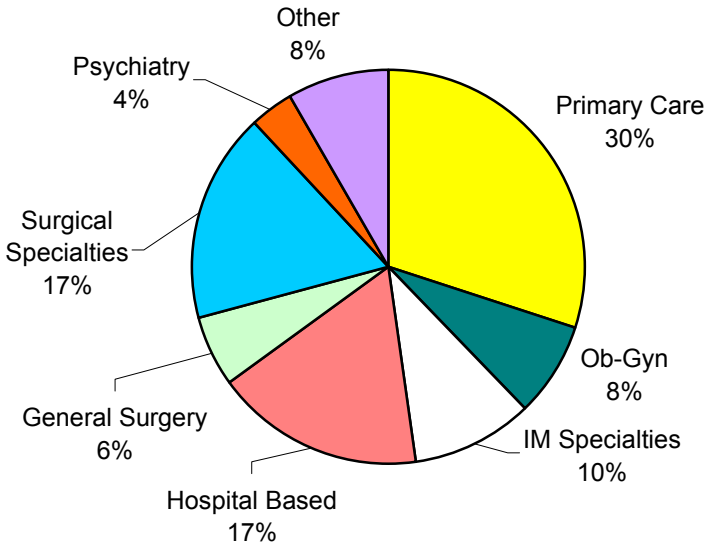

NOTE:
Numbers represent physicians with mailing addresses in one state and practice addresses in another state.
Lackawanna
Pike
1
Orange
4
Putnam
Rockland
29
Westchester
25
Sussex
5
Passaic
40
Bergen
571
Monroe
2
Carbon
Warren
1
Morris
38
Bronx
22
New York
128
Essex
123
Hudson
55
Queens
20
Nassau
Union
41
Kings
28
Richmond
23
Northampton
15
Lehigh
Hunterdon
9
Somerset
36
Middlesex
75
Bucks
17
Mercer
23
Monmouth
65
Montgomery
50
Chester
Philadelphia
45
Delaware
25
Burlington
95
Ocean
5
Camden
144
New Castle
8
Gloucester
25
Salem
7
Atlantic
2
Cumberland
0
Cape May
2
Kent
Exhibit 4-4
Physicians "Commuting" Across
State Lines To and From New Jersey
Center for Health Workforce Studies, 10/99
Source: AMA Master File

in another state. For example, there were five physicians with mailing addresses in Sussex County, New Jersey who had practice address in another state (probably either New York or Pennsylvania).

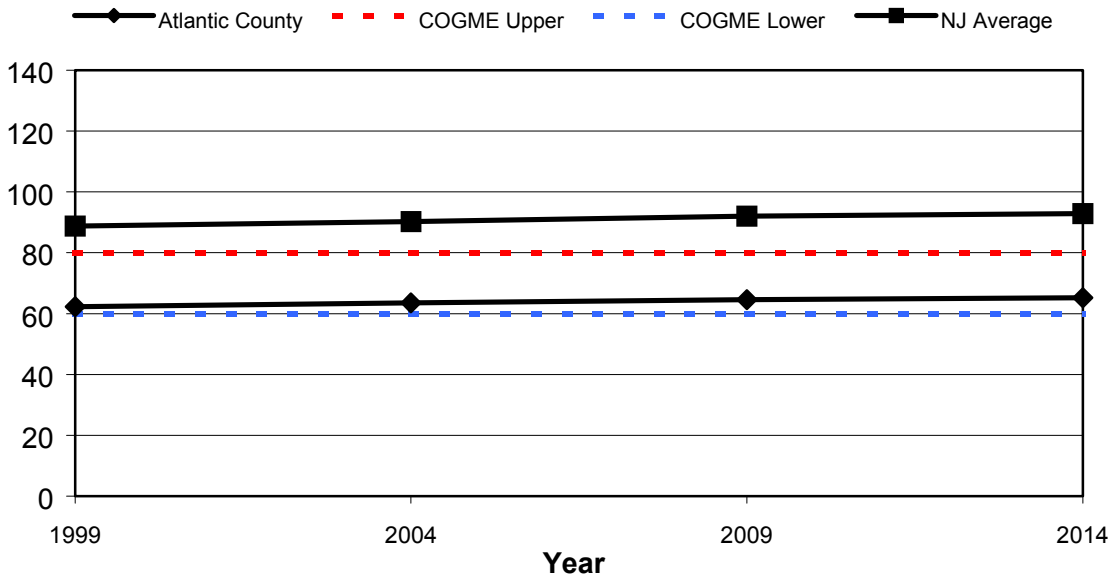
The total number of physicians living in New Jersey "commuting to another state was 1,362, while the total number of physicians living in New York or Pennsylvania who commute to New Jersey is 442. This means that New Jersey experiences a net "commuter loss" of 920 physicians. On a base of 21,915 this represents a loss of about 4% of the New Jersey physician base. This analysis could be extended to include specialties and other physician characteristics, but because the numbers are relatively small and there are some uncertainties about practice addresses in the AMA Masterfile, this has not been done.

	NJ	Atlantic County	
Population, 1999 (% of NJ)	8,134,588	235,903	2.9%
Physicians, 1999 (% of NJ)			
All Specialties	21,915	491	2.2%
Primary Care	7,219	147	2.0%
Physicians / 100K Pop, 1999			
All specialties	269.4	208.1	
Primary Care	88.7	62.3	
% Change in Phys / 100K Pop, '99 - '14			
Primary Care	4.7%	4.7%	

Specialty Mix of Physicians in Atlantic County, 1999

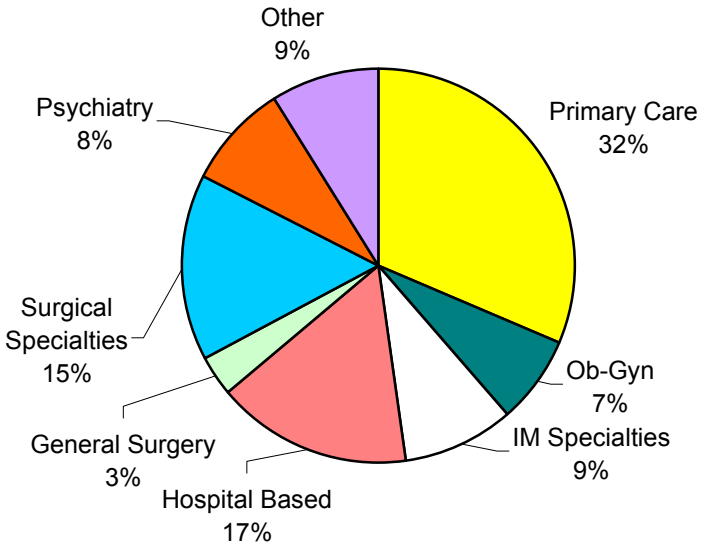


Primary Care Physicians per 100K Pop

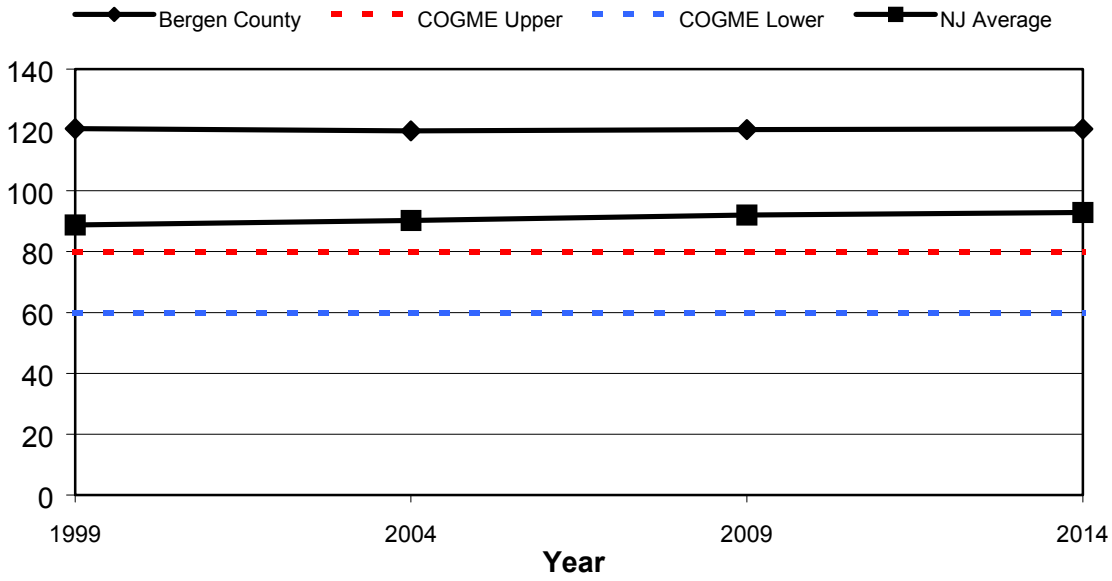


	NJ	Bergen County	
Population, 1999 (% of NJ)	8,134,588	850,798	10.5%
Physicians, 1999 (% of NJ)			
All Specialties	21,915	3,256	14.9%
Primary Care	7,219	1,025	14.2%
Physicians / 100K Pop, 1999			
All specialties	269.4	382.7	
Primary Care	88.7	120.5	
% Change in Phys / 100K Pop, '99 - '14			
Primary Care	4.7%	-0.1%	

Specialty Mix of Physicians in Bergen County, 1999

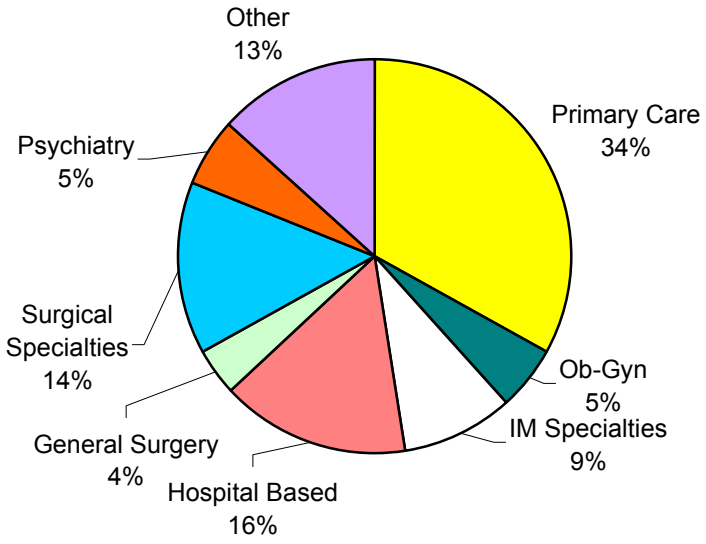


Primary Care Physicians per 100K Pop

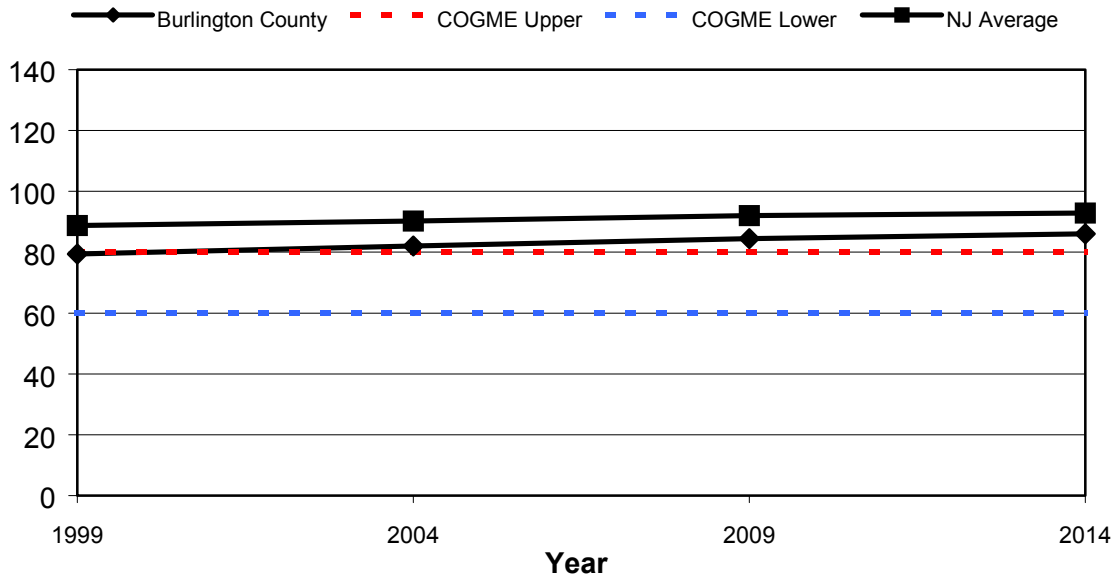


	NJ	Burlington County	
Population, 1999 (% of NJ)	8,134,588	416,538	5.1%
Physicians, 1999 (% of NJ)			
All Specialties	21,915	1,005	4.6%
Primary Care	7,219	331	4.6%
Physicians / 100K Pop, 1999			
All specialties	269.4	241.3	
Primary Care	88.7	79.5	
% Change in Phys / 100K Pop, '99 - '14			
Primary Care	4.7%	8.3%	

Specialty Mix of Physicians in Burlington County, 1999

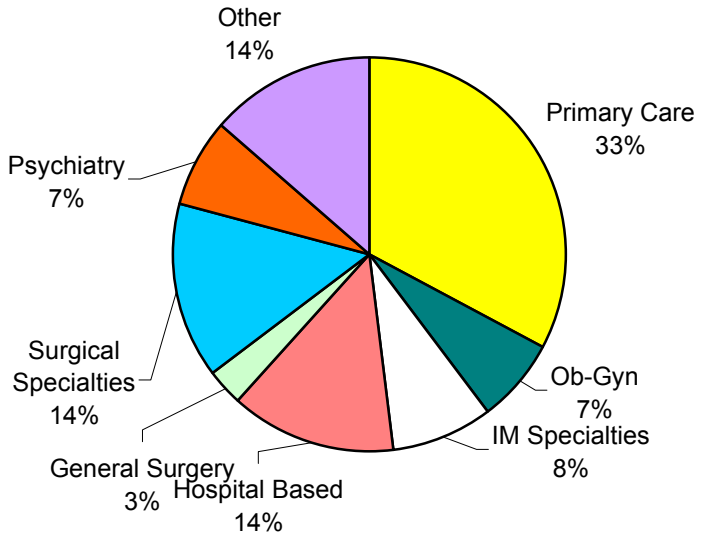


Primary Care Physicians per 100K Pop

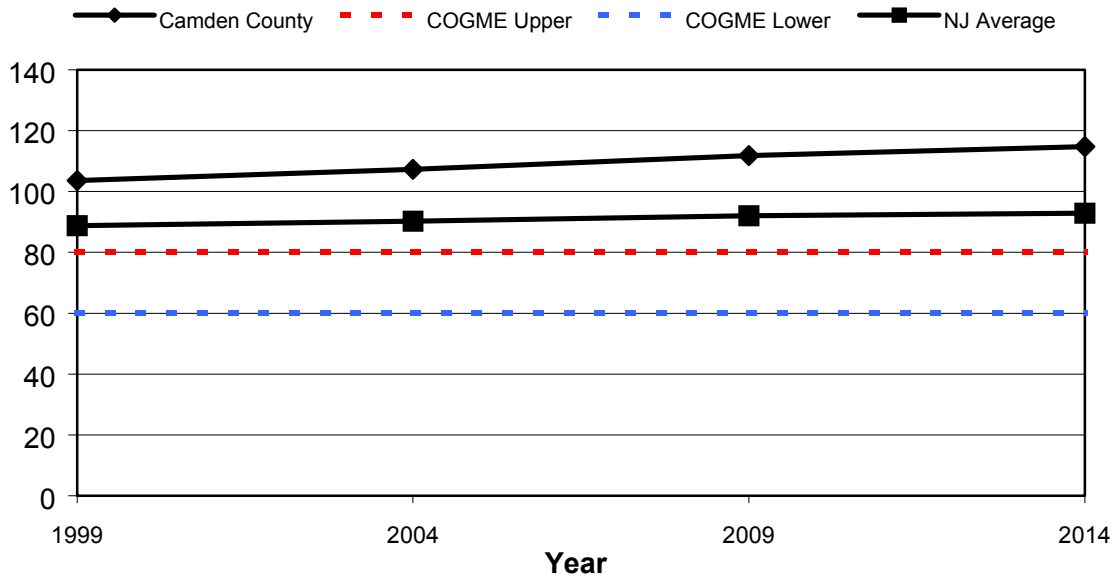


	NJ	Camden County	
Population, 1999 (% of NJ)	8,134,588	500,655	6.2%
Physicians, 1999 (% of NJ)			
All Specialties	21,915	1,582	7.2%
Primary Care	7,219	519	7.2%
Physicians / 100K Pop, 1999			
All specialties	269.4	316.0	
Primary Care	88.7	103.7	
% Change in Phys / 100K Pop, '99 - '14			
Primary Care	4.7%	10.8%	

Specialty Mix of Physicians in Camden County, 1999

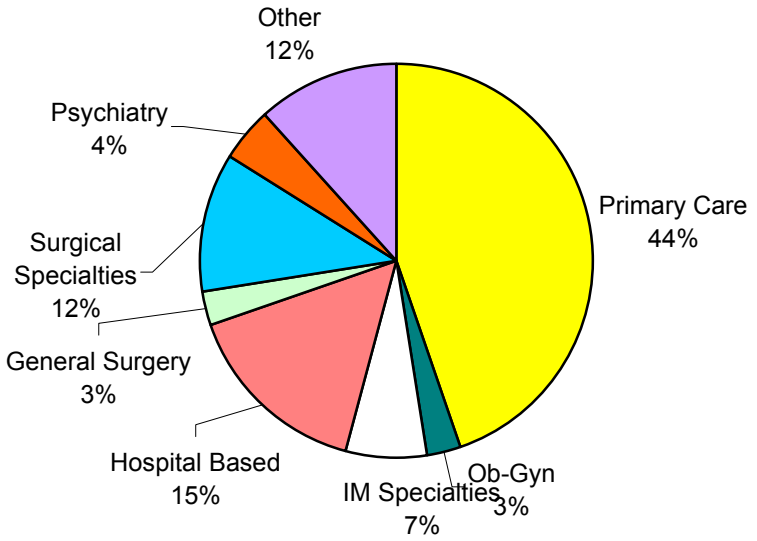


Primary Care Physicians per 100K Pop

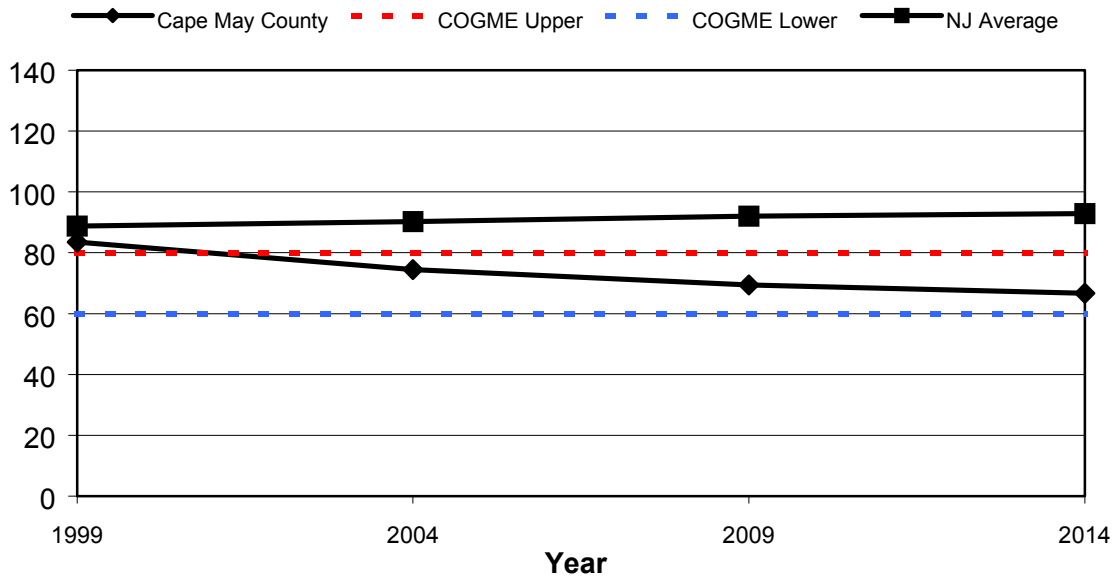


	NJ	Cape May County	
Population, 1999 (% of NJ)	8,134,588	97,186	1.2%
Physicians, 1999 (% of NJ)			
All Specialties	21,915	181	0.8%
Primary Care	7,219	81	1.1%
Physicians / 100K Pop, 1999			
All specialties	269.4	186.2	
Primary Care	88.7	83.3	
% Change in Phys / 100K Pop, '99 - '14			
Primary Care	4.7%	-20.1%	

Specialty Mix of Physicians in Cape May County, 1999

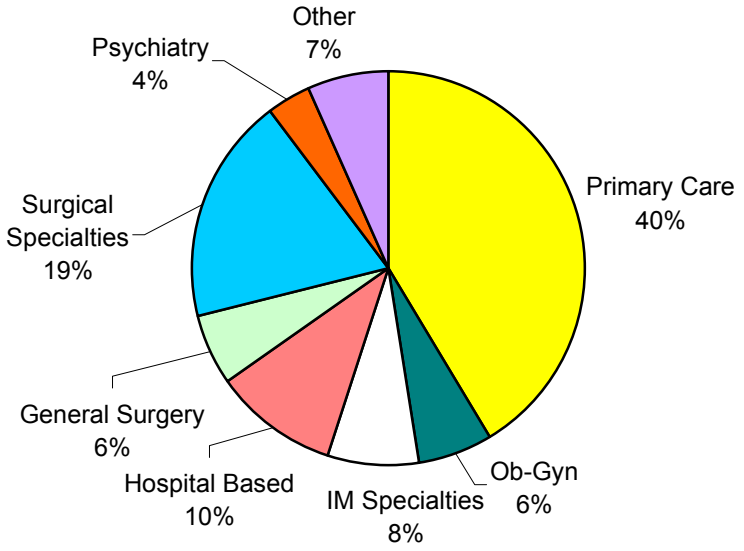


Primary Care Physicians per 100K Pop

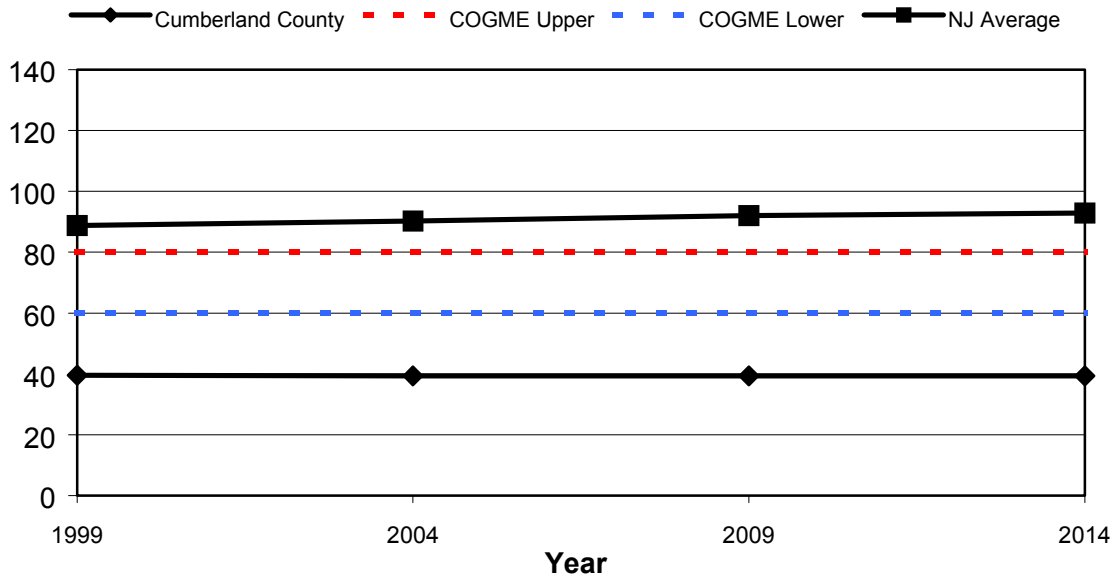


	NJ	Cumberland County	
Population, 1999 (% of NJ)	8,134,588	234,749	2.9%
Physicians, 1999 (% of NJ)			
All Specialties	21,915	225	1.0%
Primary Care	7,219	93	1.3%
Physicians / 100K Pop, 1999			
All specialties	269.4	95.8	
Primary Care	88.7	39.6	
% Change in Phys / 100K Pop, '99 - '14			
Primary Care	4.7%	-0.6%	

Specialty Mix of Physicians in Cumberland County, 1999

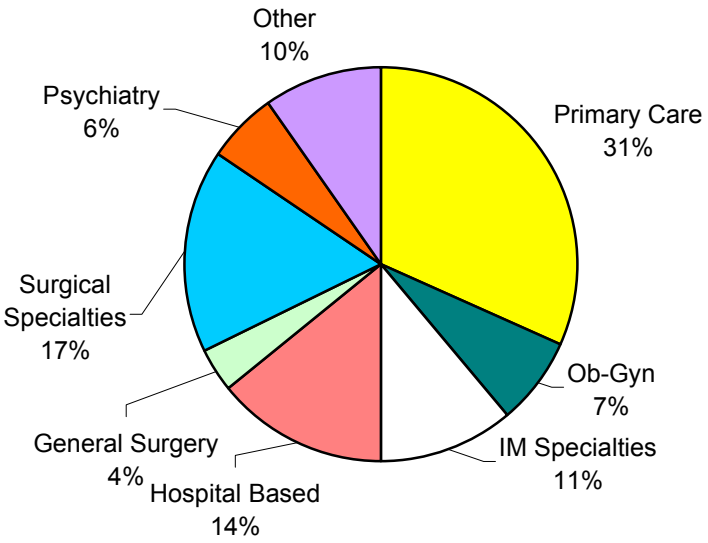


Primary Care Physicians per 100K Pop

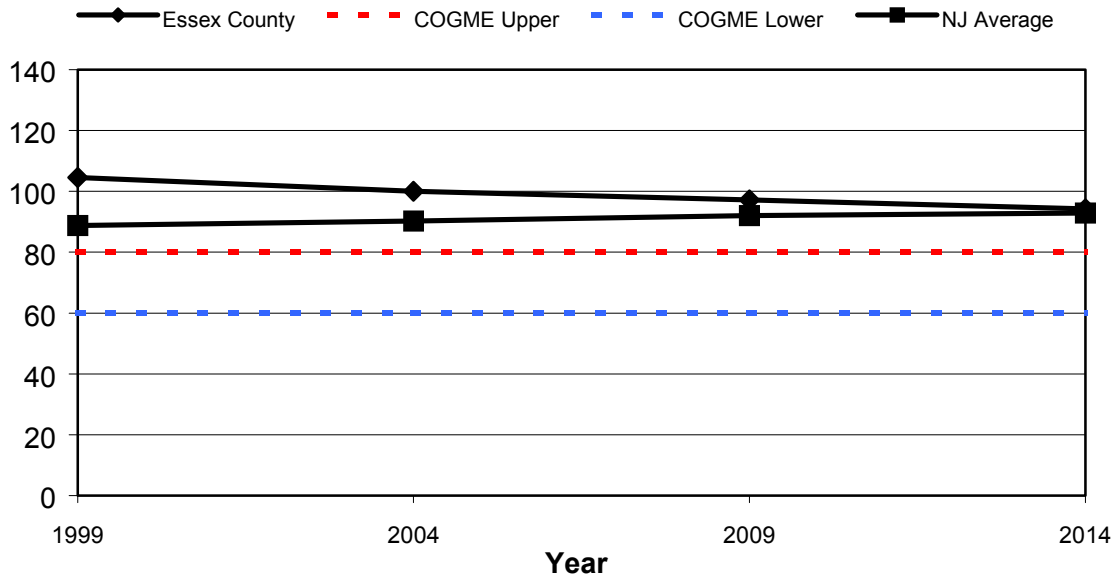


	NJ	Essex County	
Population, 1999 (% of NJ)	8,134,588	743,517	9.1%
Physicians, 1999 (% of NJ)			
All Specialties	21,915	2,454	11.2%
Primary Care	7,219	778	10.8%
Physicians / 100K Pop, 1999			
All specialties	269.4	330.1	
Primary Care	88.7	104.6	
% Change in Phys / 100K Pop, '99 - '14			
Primary Care	4.7%	-9.9%	

Specialty Mix of Physicians in Essex County, 1999

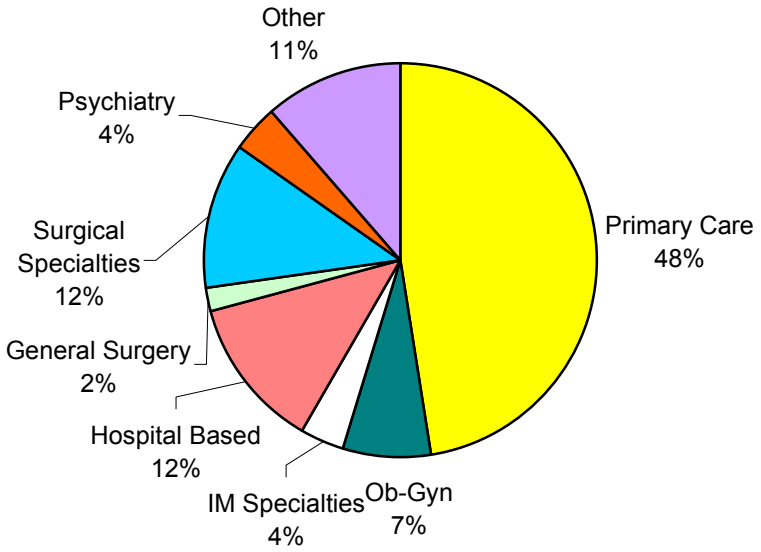


Primary Care Physicians per 100K Pop

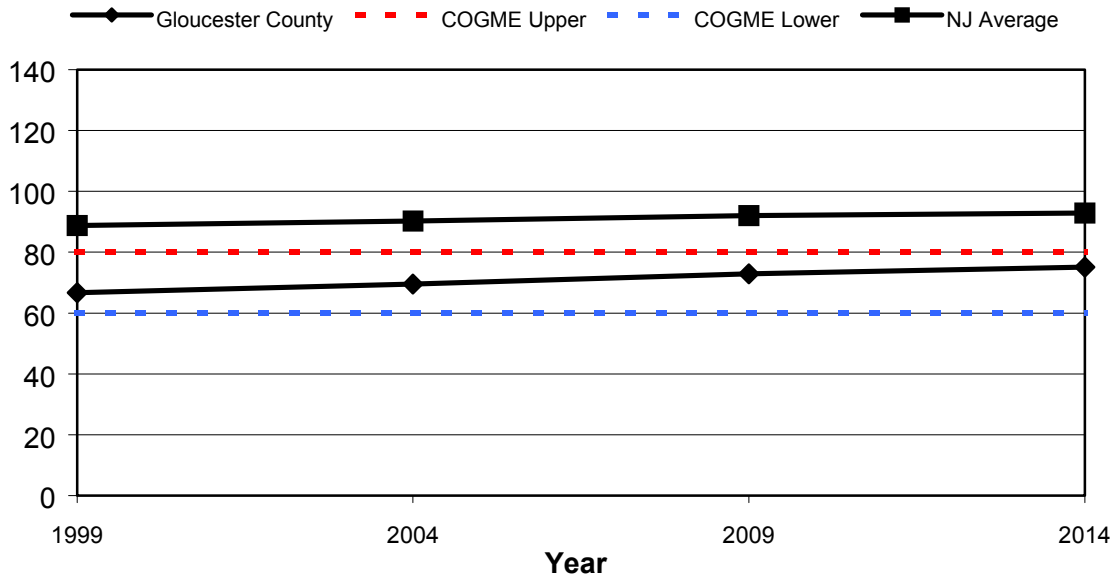


	NJ	Gloucester County	
Population, 1999 (% of NJ)	8,134,588	245,665	3.0%
Physicians, 1999 (% of NJ)			
All Specialties	21,915	346	1.6%
Primary Care	7,219	164	2.3%
Physicians / 100K Pop, 1999			
All specialties	269.4	140.8	
Primary Care	88.7	66.8	
% Change in Phys / 100K Pop, '99 - '14			
Primary Care	4.7%	12.7%	

Specialty Mix of Physicians in Gloucester County, 1999

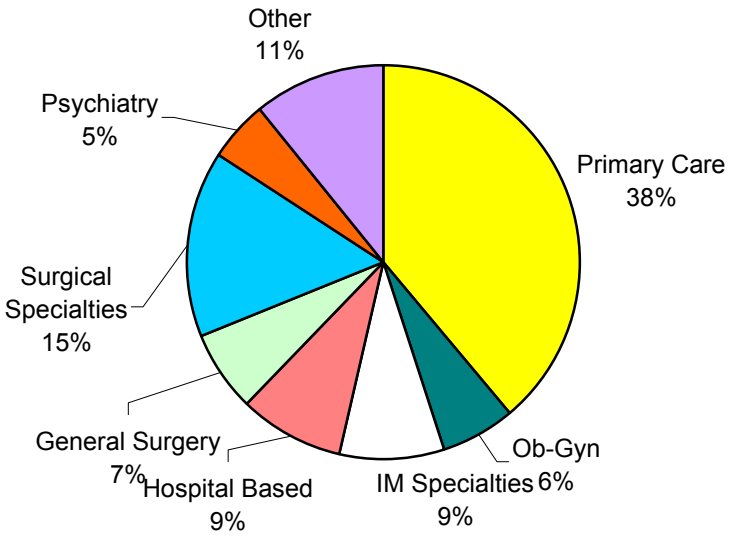


Primary Care Physicians per 100K Pop

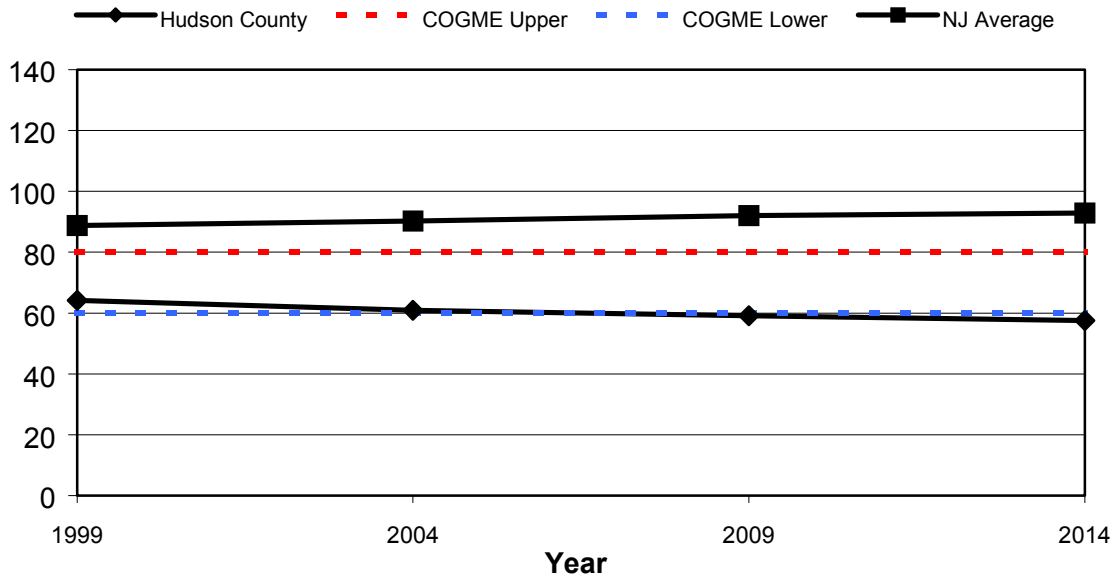


	NJ	Hudson County	
Population, 1999 (% of NJ)	8,134,588	552,142	6.8%
Physicians, 1999 (% of NJ)			
All Specialties	21,915	912	4.2%
Primary Care	7,219	354	4.9%
Physicians / 100K Pop, 1999			
All specialties	269.4	165.2	
Primary Care	88.7	64.1	
% Change in Phys / 100K Pop, '99 - '14			
Primary Care	4.7%	-10.4%	

Specialty Mix of Physicians in Hudson County, 1999

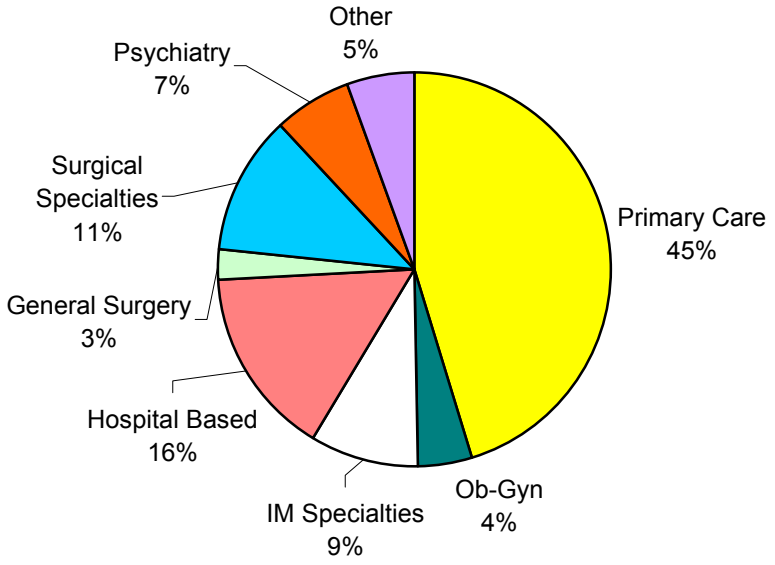


Primary Care Physicians per 100K Pop

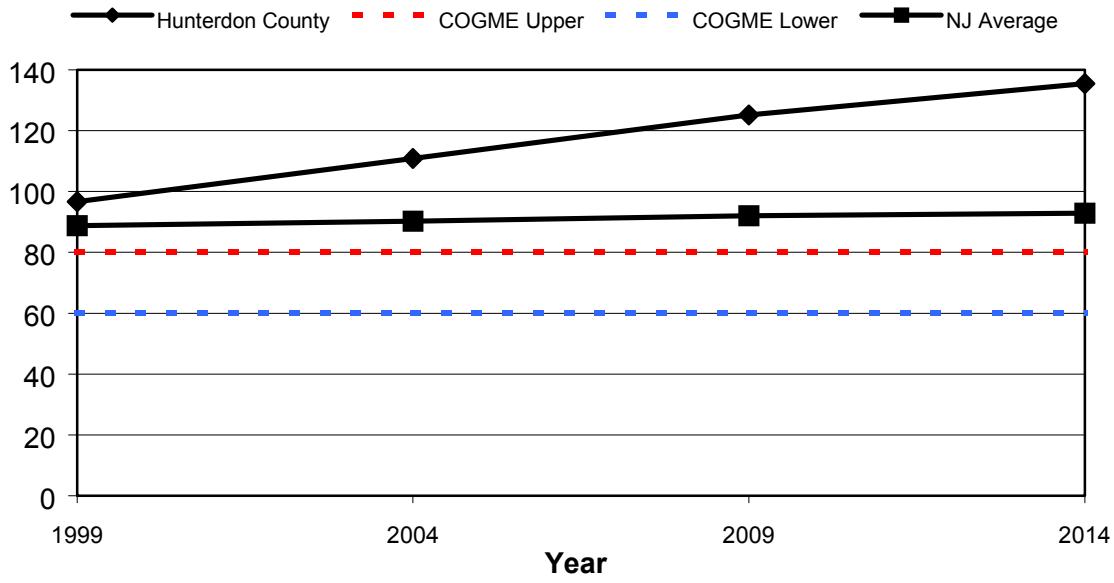


	NJ	Hunterdon County	
Population, 1999 (% of NJ)	8,134,588	121,326	1.5%
Physicians, 1999 (% of NJ)			
All Specialties	21,915	258	1.2%
Primary Care	7,219	117	1.6%
Physicians / 100K Pop, 1999			
All specialties	269.4	212.7	
Primary Care	88.7	96.4	
% Change in Phys / 100K Pop, '99 - '14			
Primary Care	4.7%	40.1%	

Specialty Mix of Physicians in Hunterdon County, 1999

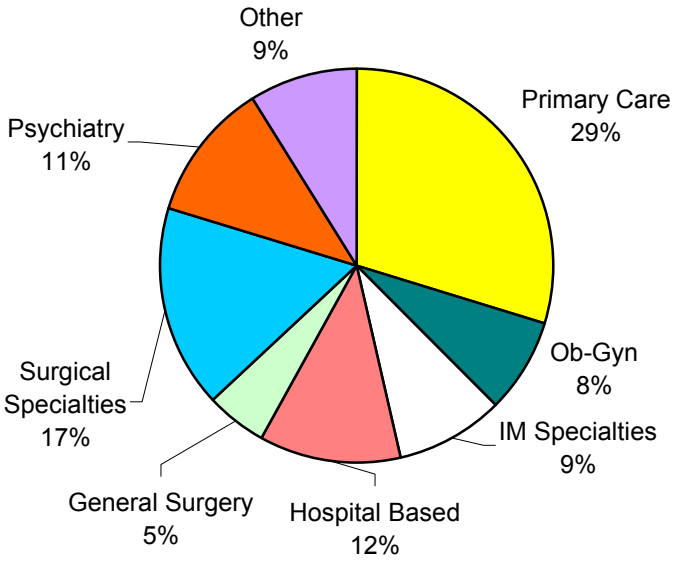


Primary Care Physicians per 100K Pop

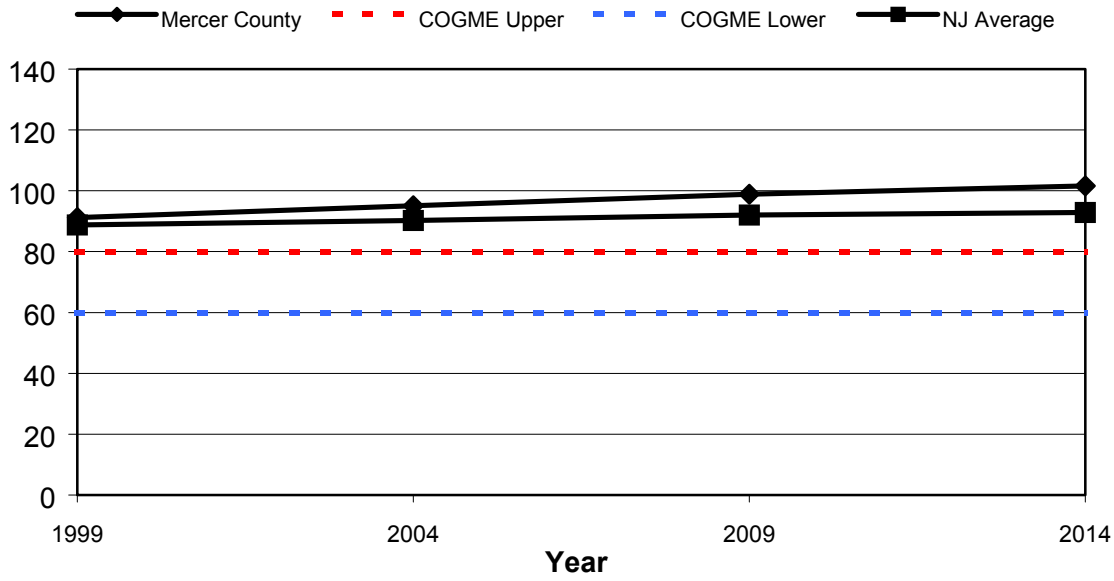


	NJ	Mercer County	
Population, 1999 (% of NJ)	8,134,588	328,643	4.0%
Physicians, 1999 (% of NJ)			
All Specialties	21,915	1,009	4.6%
Primary Care	7,219	300	4.2%
Physicians / 100K Pop, 1999			
All specialties	269.4	307.0	
Primary Care	88.7	91.3	
% Change in Phys / 100K Pop, '99 - '14			
Primary Care	4.7%	11.4%	

Specialty Mix of Physicians in Mercer County, 1999

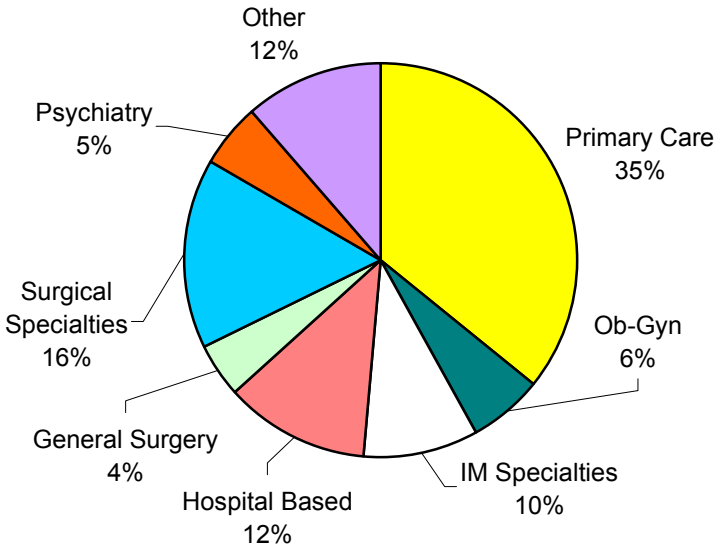


Primary Care Physicians per 100K Pop

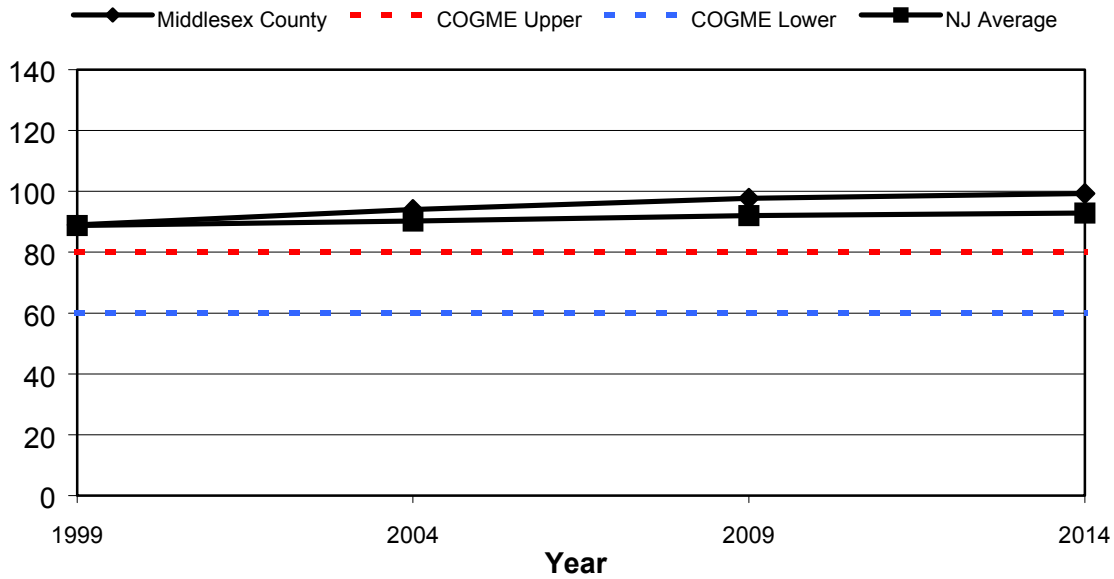


	NJ	Middlesex County	
Population, 1999 (% of NJ)	8,134,588	709,727	8.7%
Physicians, 1999 (% of NJ)			
All Specialties	21,915	1,762	8.0%
Primary Care	7,219	632	8.8%
Physicians / 100K Pop, 1999			
All specialties	269.4	248.3	
Primary Care	88.7	89.0	
% Change in Phys / 100K Pop, '99 - '14			
Primary Care	4.7%	11.5%	

Specialty Mix of Physicians in Middlesex County, 1999

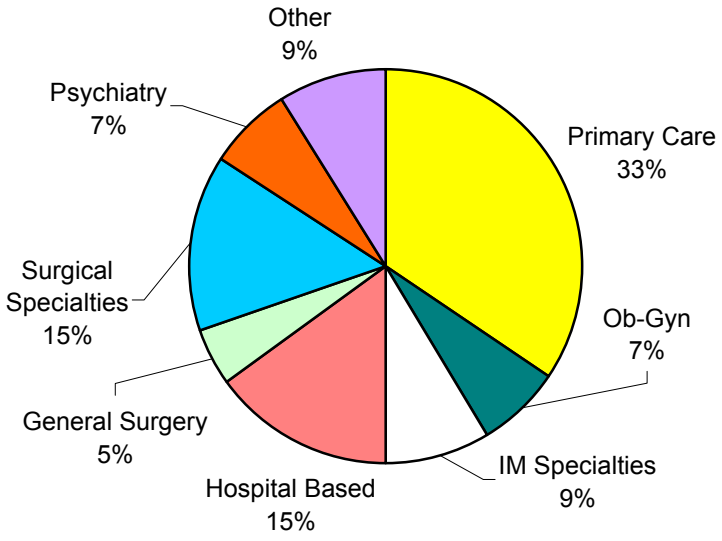


Primary Care Physicians per 100K Pop

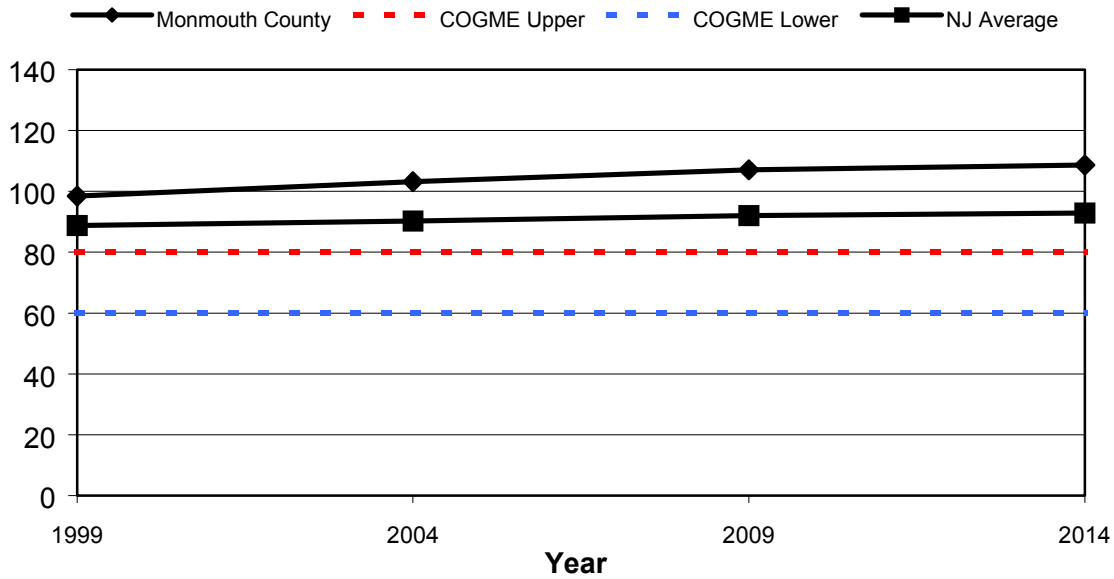


	NJ	Monmouth County	
Population, 1999 (% of NJ)	8,134,588	598,000	7.4%
Physicians, 1999 (% of NJ)			
All Specialties	21,915	1,713	7.8%
Primary Care	7,219	589	8.2%
Physicians / 100K Pop, 1999			
All specialties	269.4	286.5	
Primary Care	88.7	98.5	
% Change in Phys / 100K Pop, '99 - '14			
Primary Care	4.7%	10.3%	

Specialty Mix of Physicians in Monmouth County, 1999

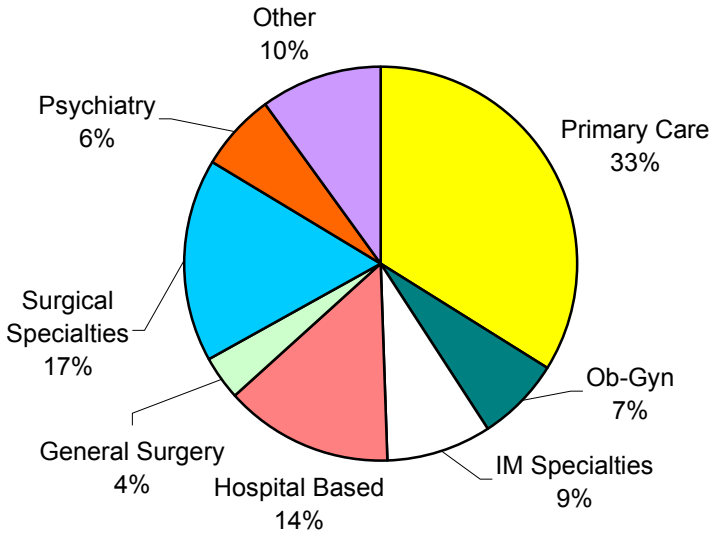


Primary Care Physicians per 100K Pop

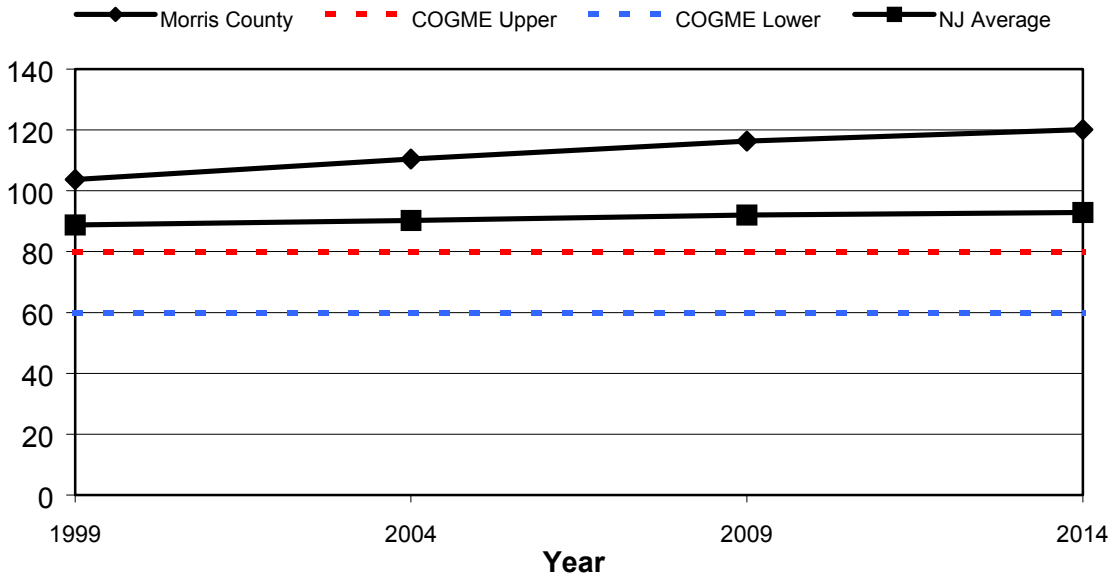


	NJ	Morris County	
Population, 1999 (% of NJ)	8,134,588	455,755	5.6%
Physicians, 1999 (% of NJ)			
All Specialties	21,915	1,397	6.4%
Primary Care	7,219	473	6.6%
Physicians / 100K Pop, 1999			
All specialties	269.4	306.5	
Primary Care	88.7	103.8	
% Change in Phys / 100K Pop, '99 - '14			
Primary Care	4.7%	15.8%	

Specialty Mix of Physicians in Morris County, 1999

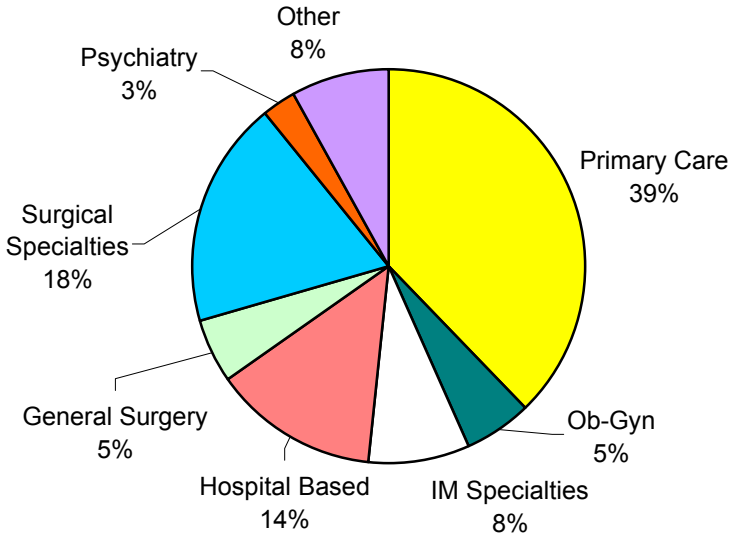


Primary Care Physicians per 100K Pop

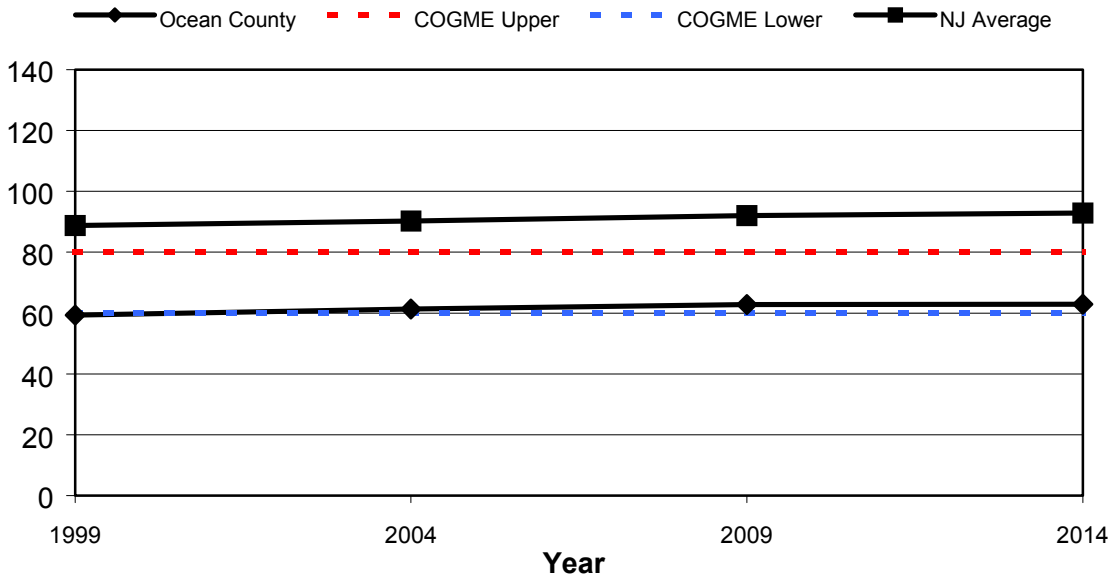


	NJ	Ocean County	
Population, 1999 (% of NJ)	8,134,588	482,387	5.9%
Physicians, 1999 (% of NJ)			
All Specialties	21,915	757	3.5%
Primary Care	7,219	286	4.0%
Physicians / 100K Pop, 1999			
All specialties	269.4	156.9	
Primary Care	88.7	59.3	
% Change in Phys / 100K Pop, '99 - '14			
Primary Care	4.7%	6.0%	

Specialty Mix of Physicians in Ocean County, 1999

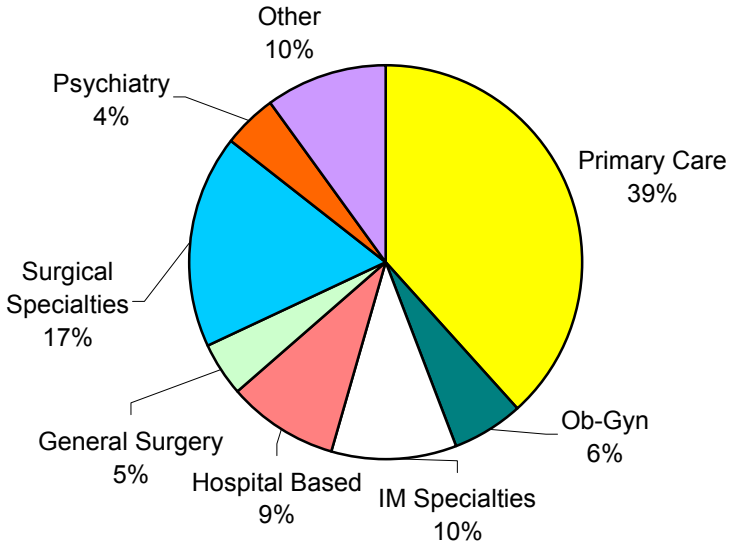


Primary Care Physicians per 100K Pop

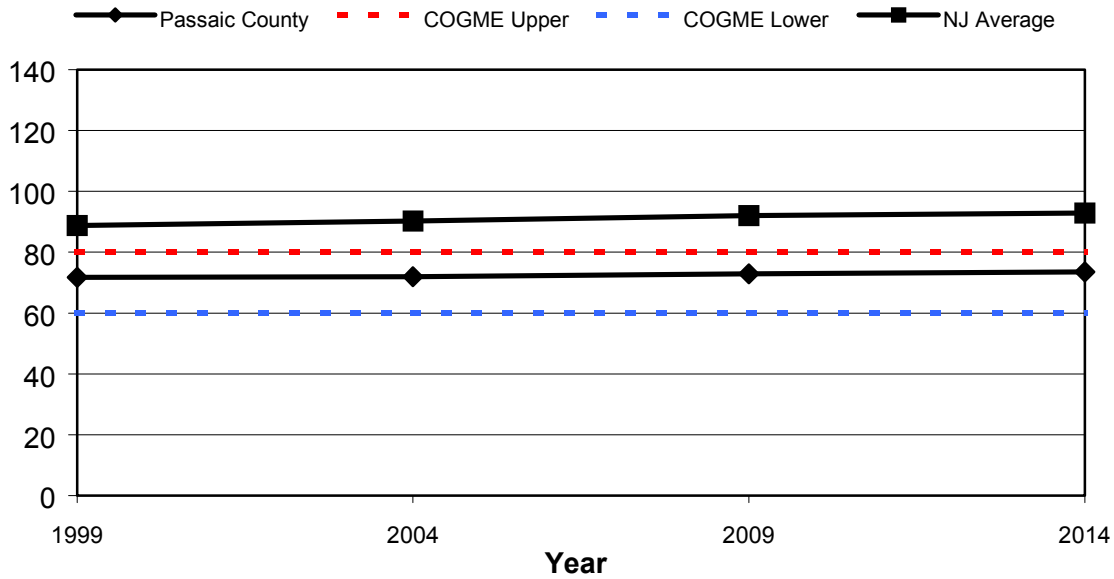


	NJ	Passaic County	
Population, 1999 (% of NJ)	8,134,588	481,363	5.9%
Physicians, 1999 (% of NJ)			
All Specialties	21,915	901	4.1%
Primary Care	7,219	345	4.8%
Physicians / 100K Pop, 1999			
All specialties	269.4	187.2	
Primary Care	88.7	71.7	
% Change in Phys / 100K Pop, '99 - '14			
Primary Care	4.7%	2.5%	

Specialty Mix of Physicians in Passaic County, 1999

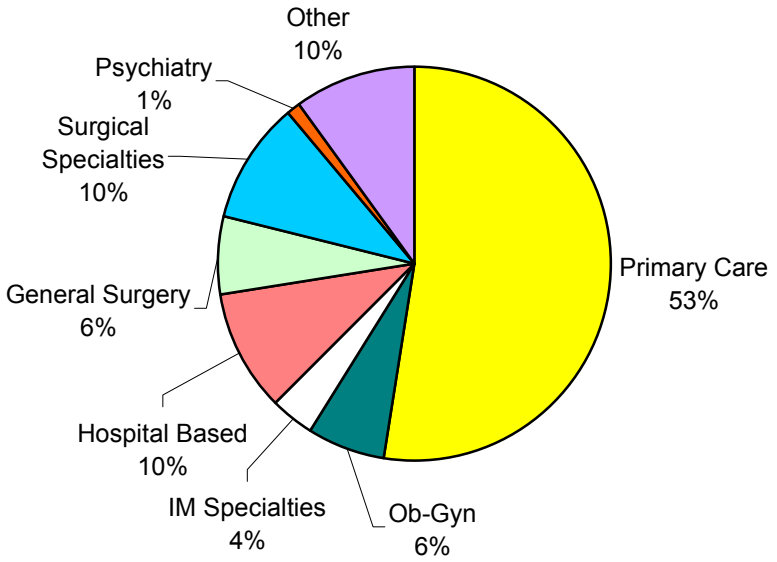


Primary Care Physicians per 100K Pop

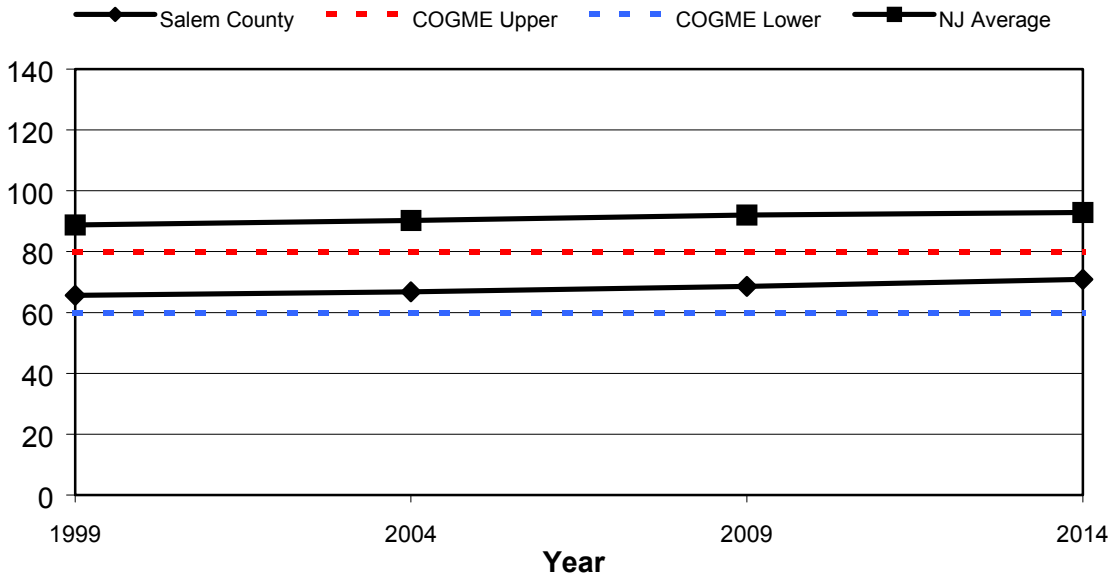


	NJ	Salem County	
Population, 1999 (% of NJ)	8,134,588	64,327	0.8%
Physicians, 1999 (% of NJ)			
All Specialties	21,915	80	0.4%
Primary Care	7,219	42	0.6%
Physicians / 100K Pop, 1999			
All specialties	269.4	124.4	
Primary Care	88.7	65.3	
% Change in Phys / 100K Pop, '99 - '14			
Primary Care	4.7%	8.1%	

Specialty Mix of Physicians in Salem County, 1999

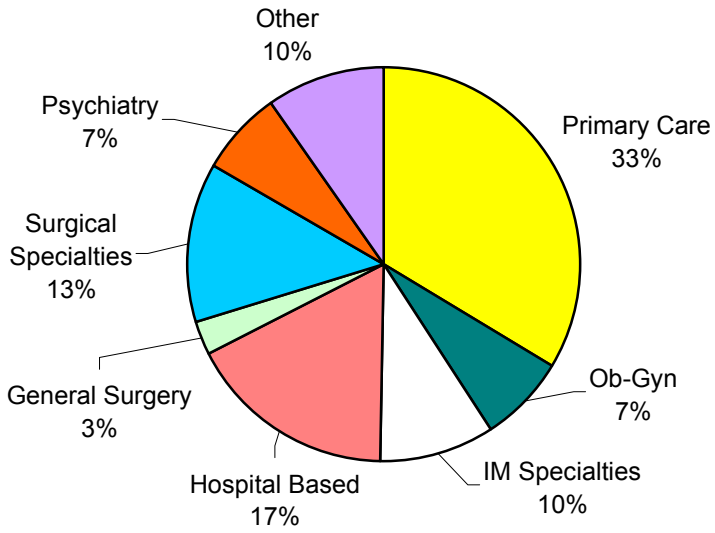


Primary Care Physicians per 100K Pop

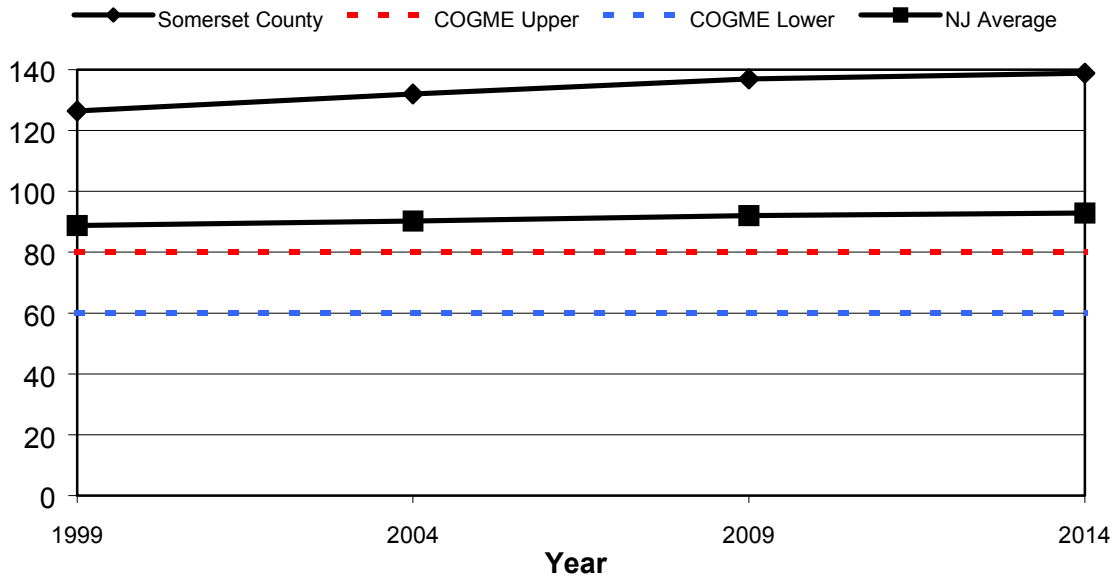


	NJ	Somerset County	
Population, 1999 (% of NJ)	8,134,588	280,353	3.4%
Physicians, 1999 (% of NJ)			
All Specialties	21,915	1,049	4.8%
Primary Care	7,219	354	4.9%
Physicians / 100K Pop, 1999			
All specialties	269.4	374.2	
Primary Care	88.7	126.3	
% Change in Phys / 100K Pop, '99 - '14			
Primary Care	4.7%	9.8%	

Specialty Mix of Physicians in Somerset County, 1999

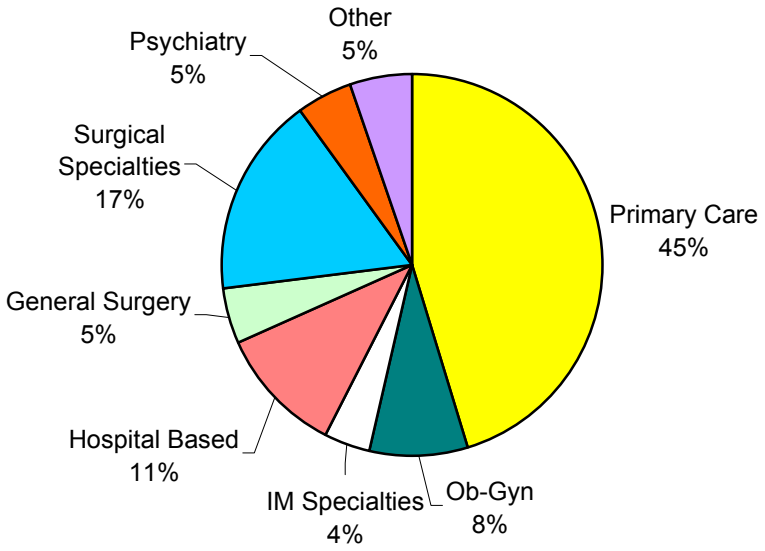


Primary Care Physicians per 100K Pop

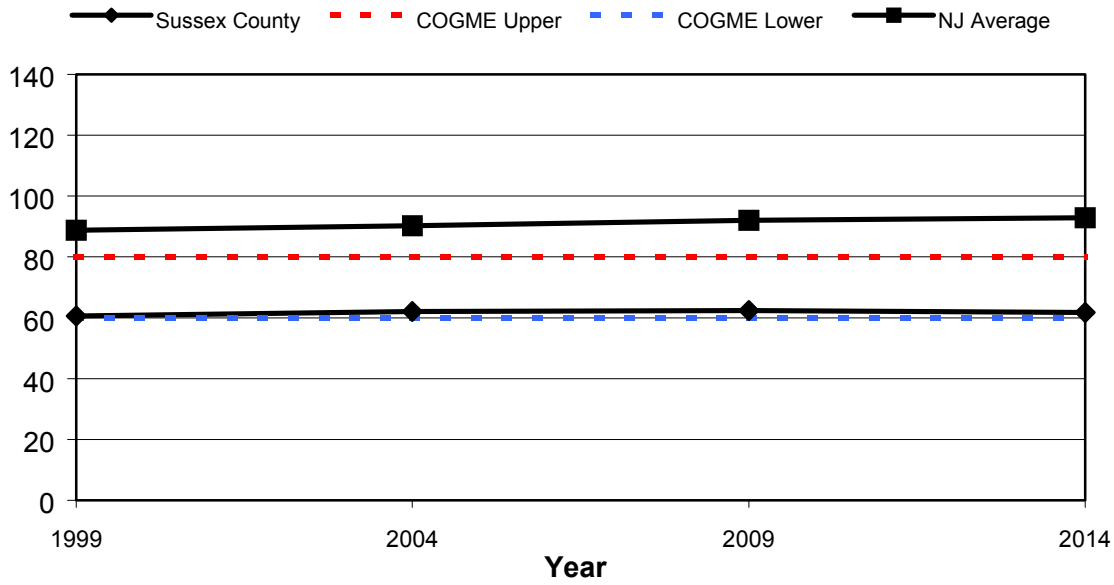


	NJ	Sussex County	
Population, 1999 (% of NJ)	8,134,588	141,742	1.7%
Physicians, 1999 (% of NJ)			
All Specialties	21,915	190	0.9%
Primary Care	7,219	86	1.2%
Physicians / 100K Pop, 1999			
All specialties	269.4	134.0	
Primary Care	88.7	60.7	
% Change in Phys / 100K Pop, '99 - '14			
Primary Care	4.7%	2.0%	

Specialty Mix of Physicians in Sussex County, 1999

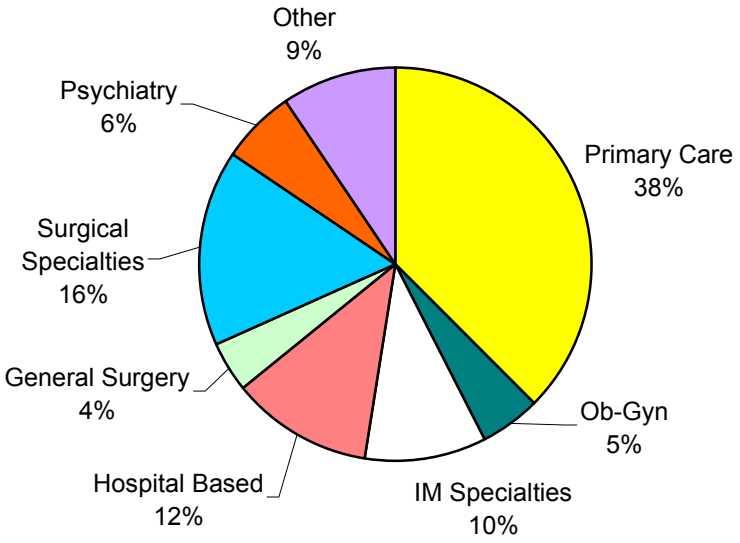


Primary Care Physicians per 100K Pop

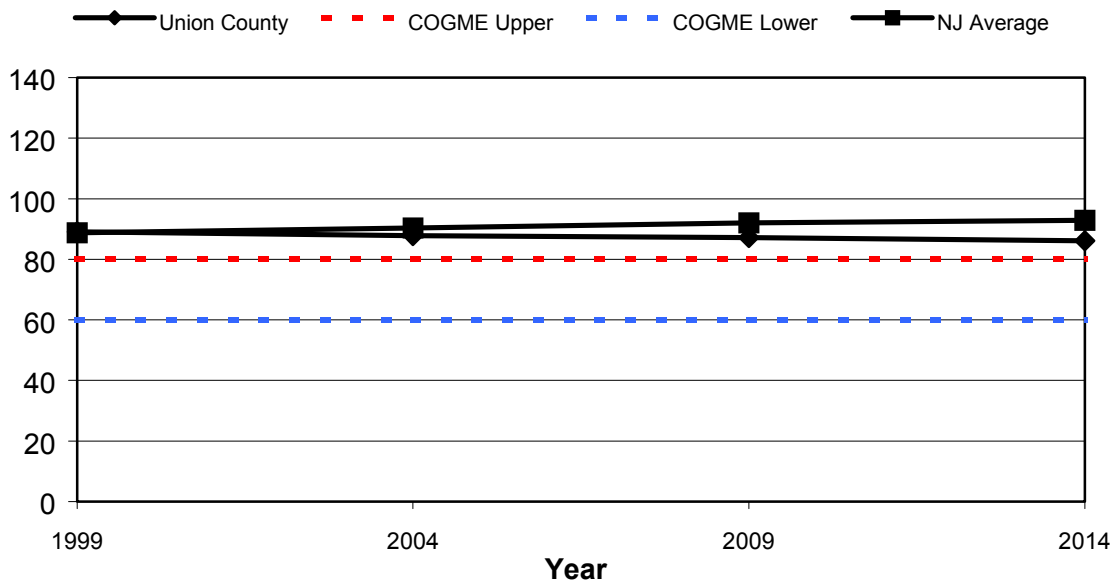


	NJ	Union County	
Population, 1999 (% of NJ)	8,134,588	496,100	6.1%
Physicians, 1999 (% of NJ)			
All Specialties	21,915	1,182	5.4%
Primary Care	7,219	442	6.1%
Physicians / 100K Pop, 1999			
All specialties	269.4	238.3	
Primary Care	88.7	89.1	
% Change in Phys / 100K Pop, '99 - '14			
Primary Care	4.7%	-3.3%	

Specialty Mix of Physicians in Union County, 1999

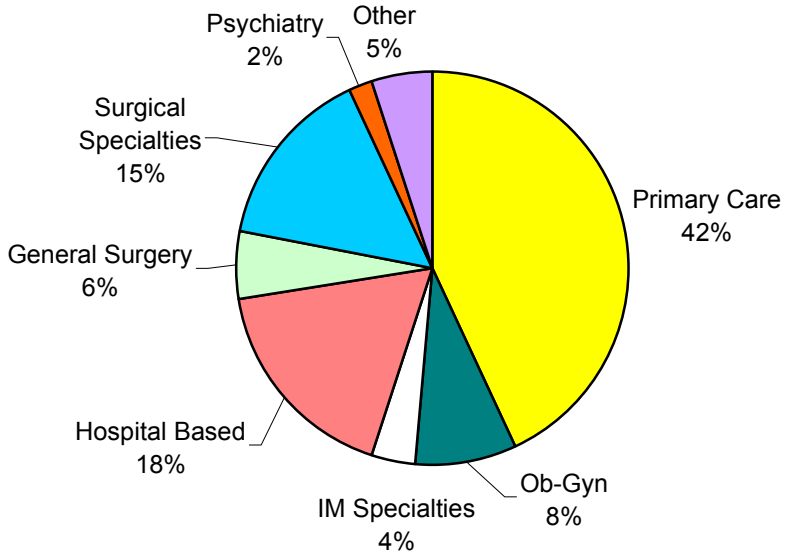


Primary Care Physicians per 100K Pop

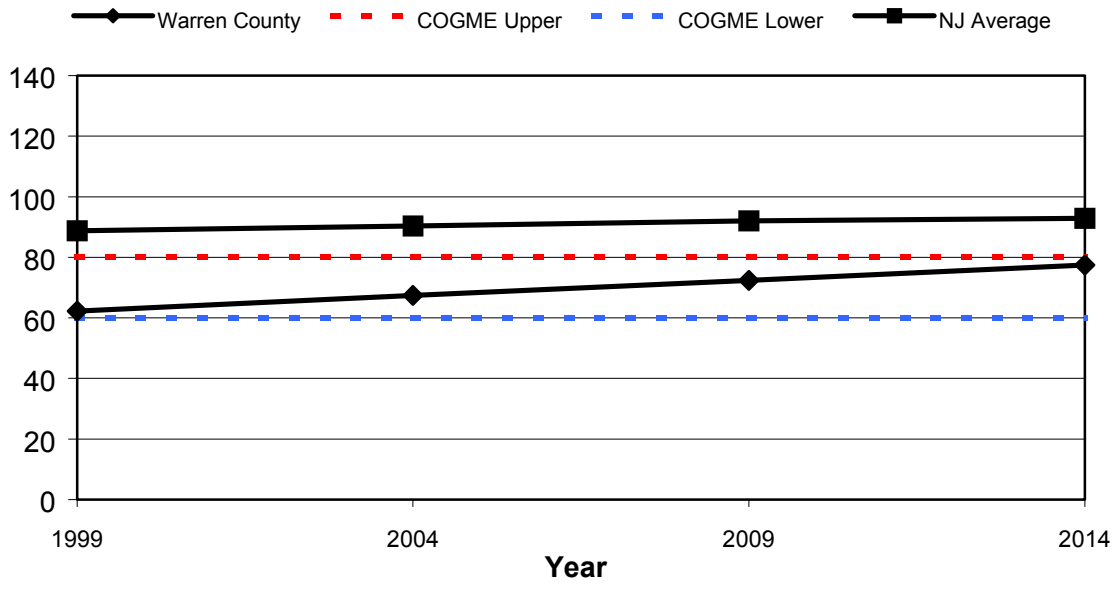


	NJ	Warren County	
Population, 1999 (% of NJ)	8,134,588	97,712	1.2%
Physicians, 1999 (% of NJ)			
All Specialties	21,915	142	0.6%
Primary Care	7,219	61	0.8%
Physicians / 100K Pop, 1999			
All specialties	269.4	145.3	
Primary Care	88.7	62.4	
% Change in Phys / 100K Pop, '99 - '14			
Primary Care	4.7%	24.4%	

Specialty Mix of Physicians in Warren County, 1999



Primary Care Physicians per 100K Pop



APPENDIX A

1999 RESIDENT EXIT SURVEY RESPONSE TABULATIONS

Detailed tabulations of the resident exit survey responses are provided below. In interpreting these data it is important that readers note that the numbers of residents and respondents for some specialties are very small. Estimates based on these figures are subject to error and should be used cautiously.

BACKGROUND CHARACTERISTICS OF RESPONDENTS

Specialty	Number of Resp (N)	% Female	% Under-rep Minorities	% IMG	% J1, J2 Visa Holders
Primary Care	**360**	**42%**	**12%**	**64%**	**17%**
Family Practice	88	49%	15%	22%	2%
Internal Medicine-General	215	35%	9%	81%	23%
Pediatrics-General	53	56%	19%	66%	17%
IM & Peds (Combined)	4	50%	0%	50%	25%
Obstetrics/Gynecology	**24**	**50%**	**17%**	**13%**	**0%**
Internal Medicine Specialties	**39**	**15%**	**11%**	**69%**	**14%**
Cardiology	17	6%	6%	47%	19%
Endocrinology & Metabolism	1	100%	0%	100%	0%
Gastroenterology	6	0%	33%	67%	17%
Geriatrics	3	33%	0%	100%	33%
Hematology/Oncology	1	0%	0%	100%	0%
Infectious Disease	3	33%	33%	100%	0%
Nephrology	4	25%	0%	75%	0%
Pulmonary Disease	3	33%	0%	100%	0%
Rheumatology	1	0%	0%	100%	0%
Surgery-General	**16**	**19%**	**0%**	**13%**	**0%**
Surgical Subspecialties	**29**	**10%**	**10%**	**14%**	**0%**
Ophthalmology	1	0%	0%	100%	0%
Orthopedics	11	0%	9%	9%	0%
Otolaryngology	1	0%	0%	0%	0%
Plastic Surgery	4	0%	25%	25%	0%
Thoracic Surgery	4	0%	0%	25%	0%
Urology	3	33%	33%	0%	0%
All Other Surgical Subspecs	5	40%	0%	0%	0%
Facility Based	**43**	**31%**	**5%**	**55%**	**14%**
Anesthesiology	14	21%	7%	69%	0%
Pathology	12	55%	0%	92%	42%
Radiology (Diagnostic)	17	24%	6%	18%	6%
Psychiatry	**24**	**42%**	**9%**	**79%**	**17%**
Other	**39**	**38%**	**13%**	**26%**	**11%**
Allergy & Immunology	2	100%	50%	50%	0%
Emergency Medicine	10	10%	10%	0%	0%
Neurology	9	22%	11%	78%	33%
Pediatric Subspecialties	4	50%	0%	50%	25%
Physical Medicine & Rehab	12	58%	17%	0%	0%
Preventive Medicine	2	50%	0%	0%	0%
Total (All Specialties)	**574**	**37%**	**11%**	**56%**	**14%**

PRIMARY ACTIVITY AFTER TRAINING COMPLETION

Specialty	Patient Care/ Clinical Practice	Subspecializing/ Cont. Training	Chief Resident	Teaching/ Research	Other
Primary Care	**58%**	**30%**	**6%**	**2%**	**4%**
Family Practice	89%	6%	0%	2%	3%
Internal Medicine-General	45%	40%	8%	2%	4%
Pediatrics-General	58%	28%	6%	0%	8%
IM & Peds (Combined)	100%	0%	0%	0%	0%
Obstetrics/Gynecology	**88%**	**8%**	**4%**	**0%**	**0%**
Internal Medicine Specialties	**74%**	**13%**	**0%**	**8%**	**5%**
Cardiology	65%	18%	0%	18%	0%
Endocrinology & Metabolism	100%	0%	0%	0%	0%
Gastroenterology	83%	0%	0%	0%	17%
Geriatrics	67%	0%	0%	0%	33%
Hematology/Oncology	100%	0%	0%	0%	0%
Infectious Disease	100%	0%	0%	0%	0%
Nephrology	100%	0%	0%	0%	0%
Pulmonary Disease	67%	33%	0%	0%	0%
Rheumatology	0%	100%	0%	0%	0%
Surgery-General	**31%**	**63%**	**0%**	**6%**	**0%**
Surgical Subspecialties	**59%**	**41%**	**0%**	**0%**	**0%**
Ophthalmology	100%	0%	0%	0%	0%
Orthopedics	9%	91%	0%	0%	0%
Otolaryngology	100%	0%	0%	0%	0%
Plastic Surgery	75%	25%	0%	0%	0%
Thoracic Surgery	100%	0%	0%	0%	0%
Urology	67%	33%	0%	0%	0%
All Other Surgical Subspecs	100%	0%	0%	0%	0%
Facility Based	**50%**	**38%**	**4%**	**4%**	**4%**
Anesthesiology	79%	21%	0%	0%	0%
Pathology	17%	58%	8%	8%	8%
Radiology (Diagnostic)	41%	59%	0%	0%	0%
Psychiatry	**58%**	**42%**	**0%**	**0%**	**0%**
Other	**64%**	**28%**	**0%**	**3%**	**5%**
Allergy & Immunology	100%	0%	0%	0%	0%
Emergency Medicine	90%	10%	0%	0%	0%
Neurology	33%	67%	0%	0%	0%
Pediatric Subspecialties	75%	0%	0%	0%	25%
Physical Medicine & Rehab	58%	33%	0%	0%	8%
Preventive Medicine	50%	0%	0%	50%	0%
Total (All Specialties)	**60%**	**30%**	**4%**	**2%**	**4%**

PRACTICE LOCATION

Specialty	Number with Confirmed Practice Plans	WITHIN NEW JERSEY		Other State	Outside U.S.
		Same Region	Other Area		
Primary Care	**140**	**43%**	**9%**	**47%**	**1%**
Family Practice	58	53%	5%	41%	0%
Internal Medicine-General	56	34%	13%	52%	2%
Pediatrics-General	23	35%	13%	52%	0%
IM & Peds (Combined)	3	67%	0%	33%	0%
Obstetrics/Gynecology	**20**	**50%**	**0%**	**50%**	**0%**
Internal Medicine Specialties	**20**	**55%**	**20%**	**20%**	**5%**
Cardiology	9	44%	22%	33%	0%
Endocrinology & Metabolism	1	0%	100%	0%	0%
Gastroenterology	4	50%	0%	25%	25%
Geriatrics	1	0%	100%	0%	0%
Hematology/Oncology	1	100%	0%	0%	0%
Infectious Disease	1	100%	0%	0%	0%
Nephrology	2	100%	0%	0%	0%
Surgery-General	**3**	**33%**	**0%**	**67%**	**0%**
Surgical Subspecialties	**15**	**0%**	**13%**	**87%**	**0%**
Ophthalmology	1	0%	0%	100%	0%
Orthopedics	1	0%	0%	100%	0%
Otolaryngology	1	0%	0%	100%	0%
Plastic Surgery	3	0%	33%	67%	0%
Thoracic Surgery	3	0%	0%	100%	0%
Urology	2	0%	50%	50%	0%
Facility Based	**16**	**25%**	**31%**	**44%**	**0%**
Anesthesiology	9	33%	33%	33%	0%
Pathology	2	0%	50%	50%	0%
Radiology (Diagnostic)	5	20%	20%	60%	0%
Psychiatry	**11**	**27%**	**9%**	**45%**	**18%**
Other	**20**	**35%**	**25%**	**40%**	**0%**
Allergy & Immunology	1	0%	0%	100%	0%
Emergency Medicine	9	33%	44%	22%	0%
Neurology	2	50%	0%	50%	0%
Pediatric Subspecialties	2	50%	0%	50%	0%
Physical Medicine & Rehab	6	33%	17%	50%	0%
Total (All Specialties)	**245**	**39%**	**12%**	**47%**	**2%**

PRINCIPAL PRACTICE SETTING

Specialty	Solo Practice	Partnership (2 Person)	GROUP PRACTICE As Owner/ Partner	GROUP PRACTICE As Employee	HOSPITAL Inpatient	HOSPITAL Amb. Care	HOSPITAL Emer. Room	Other
Primary Care	**7%**	**20%**	**10%**	**50%**	**1%**	**6%**	**4%**	**2%**
Family Practice	7%	15%	7%	62%	0%	4%	5%	0%
Internal Medicine-General	10%	29%	12%	39%	2%	6%	0%	2%
Pediatrics-General	0%	9%	13%	48%	0%	13%	9%	9%
IM & Peds (Combined)	0%	50%	0%	50%	0%	0%	0%	0%
Obstetrics/Gynecology	**0%**	**33%**	**6%**	**56%**	**6%**	**0%**	**0%**	**0%**
Internal Medicine Specialties	**6%**	**6%**	**13%**	**75%**	**0%**	**0%**	**0%**	**0%**
Cardiology	0%	11%	11%	78%	0%	0%	0%	0%
Endocrinology & Metabolism	100%	0%	0%	0%	0%	0%	0%	0%
Gastroenterology	0%	0%	33%	67%	0%	0%	0%	0%
Geriatrics	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hematology/Oncology	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Infectious Disease	0%	0%	0%	100%	0%	0%	0%	0%
Nephrology	0%	0%	0%	100%	0%	0%	0%	0%
Surgery-General	**0%**	**33%**	**0%**	**67%**	**0%**	**0%**	**0%**	**0%**
Surgical Subspecialties	**31%**	**23%**	**8%**	**31%**	**8%**	**0%**	**0%**	**0%**
Ophthalmology	0%	100%	0%	0%	0%	0%	0%	0%
Orthopedics	100%	0%	0%	0%	0%	0%	0%	0%
Otolaryngology	100%	0%	0%	0%	0%	0%	0%	0%
Plastic Surgery	50%	50%	0%	0%	0%	0%	0%	0%
Thoracic Surgery	33%	0%	0%	67%	0%	0%	0%	0%
Urology	0%	0%	0%	100%	0%	0%	0%	0%
Facility Based	**0%**	**0%**	**13%**	**60%**	**13%**	**7%**	**0%**	**7%**
Anesthesiology	0%	0%	13%	88%	0%	0%	0%	0%
Pathology	0%	0%	0%	50%	0%	0%	0%	50%
Radiology (Diagnostic)	0%	0%	20%	20%	40%	20%	0%	0%
Psychiatry	**25%**	**13%**	**0%**	**13%**	**13%**	**25%**	**0%**	**13%**
Other	**0%**	**5%**	**5%**	**47%**	**16%**	**5%**	**21%**	**0%**
Allergy & Immunology	0%	100%	0%	0%	0%	0%	0%	0%
Emergency Medicine	0%	0%	0%	50%	0%	0%	50%	0%
Neurology	0%	0%	0%	50%	50%	0%	0%	0%
Pediatric Subspecialties	0%	0%	50%	0%	50%	0%	0%	0%
Physical Medicine & Rehab	0%	0%	0%	67%	17%	17%	0%	0%
Total (All Specialties)	**7%**	**17%**	**9%**	**51%**	**4%**	**5%**	**4%**	**2%**

DEMOGRAPHICS OF PRACTICE LOCATION

Specialty	Inner City	Other Area in Major City	Suburban	Small City	Rural	% Practicing in a Federal HPSA
Primary Care	**13%**	**10%**	**43%**	**19%**	**16%**	**19%**
Family Practice	9%	4%	39%	30%	18%	11%
Internal Medicine-General	13%	15%	47%	9%	15%	29%
Pediatrics-General	23%	14%	41%	14%	9%	13%
IM & Peds (Combined)	0%	0%	67%	0%	33%	33%
Obstetrics/Gynecology	**16%**	**21%**	**47%**	**11%**	**5%**	**11%**
Internal Medicine Specialties	**17%**	**22%**	**39%**	**22%**	**0%**	**0%**
Cardiology	11%	11%	44%	33%	0%	0%
Endocrinology & Metabolism	0%	0%	100%	0%	0%	0%
Gastroenterology	33%	33%	33%	0%	0%	0%
Geriatrics	0%	0%	0%	100%	0%	0%
Hematology/Oncology	0%	100%	0%	0%	0%	0%
Infectious Disease	100%	0%	0%	0%	0%	0%
Nephrology	0%	50%	50%	0%	0%	0%
Surgery-General	**0%**	**0%**	**100%**	**0%**	**0%**	**0%**
Surgical Subspecialties	**7%**	**20%**	**47%**	**13%**	**13%**	**0%**
Ophthalmology	0%	0%	100%	0%	0%	0%
Orthopedics	0%	0%	0%	0%	100%	0%
Otolaryngology	0%	0%	0%	100%	0%	0%
Plastic Surgery	0%	33%	67%	0%	0%	0%
Thoracic Surgery	0%	33%	67%	0%	0%	0%
Urology	0%	0%	50%	50%	0%	0%
Facility Based	**13%**	**27%**	**33%**	**20%**	**7%**	**0%**
Anesthesiology	13%	25%	50%	13%	0%	0%
Pathology	0%	50%	0%	50%	0%	0%
Radiology (Diagnostic)	20%	20%	20%	20%	20%	0%
Psychiatry	**13%**	**0%**	**38%**	**13%**	**38%**	**11%**
Other	**15%**	**5%**	**70%**	**10%**	**0%**	**0%**
Allergy & Immunology	0%	0%	100%	0%	0%	0%
Emergency Medicine	11%	11%	78%	0%	0%	0%
Neurology	50%	0%	0%	50%	0%	0%
Pediatric Subspecialties	50%	0%	50%	0%	0%	0%
Physical Medicine & Rehab	0%	0%	83%	17%	0%	0%
Total (All Specialties)	**13%**	**13%**	**46%**	**17%**	**12%**	**12%**

STARTING INCOME

Specialty	N	MEAN	MEDIAN
Primary Care	**129**	**$112,593**	**$114,350**
Family Practice	54	$118,042	$118,566
Internal Medicine-General	50	$110,800	$111,629
Pediatrics-General	22	$102,040	$97,822
IM & Peds (Combined)	3	$121,778	$114,599
Obstetrics/Gynecology	**18**	**$147,721**	**$149,279**
Internal Medicine Specialties	**14**	**$143,973**	**$139,422**
Cardiology	7	$161,848	$142,733
Endocrinology & Metabolism	0	N/A	N/A
Gastroenterology	3	$143,570	$138,355
Geriatrics	1	$151,792	$151,792
Hematology/Oncology	1	$106,786	$106,786
Infectious Disease	1	$108,287	$108,287
Nephrology	1	$85,107	$85,107
Surgery-General	**2**	**$128,496**	**$128,496**
Surgical Subspecialties	**14**	**$176,143**	**$180,932**
Ophthalmology	1	$98,612	$98,612
Orthopedics	1	$207,780	$207,780
Otolaryngology	1	$217,681	$217,681
Plastic Surgery	2	$199,142	$199,142
Thoracic Surgery	3	$215,552	$190,165
Urology	2	$141,563	$141,563
Facility Based	**12**	**$151,014**	**$148,770**
Anesthesiology	8	ERROR	ERROR
Pathology	1	$62,953	$62,953
Radiology (Diagnostic)	3	$182,156	$150,555
Psychiatry	**9**	**$123,337**	**$121,660**
Other	**18**	**$156,409**	**$160,152**
Allergy & Immunology	1	$126,924	$126,924
Emergency Medicine	9	$191,239	$188,683
Neurology	2	$93,784	$93,784
Pediatric Subspecialties	2	$146,792	$146,792
Physical Medicine & Rehab	4	$121,533	$113,454
Total (All Specialties)	**216**	**$128,054**	**$119,625**

TOTAL PATIENT CARE HOURS PER WEEK

Specialty	Under 10	10 to 19	20 to 29	30 to 39	40 to 49	50 or More	Average # of Hours
Primary Care	**1%**	**2%**	**14%**	**22%**	**44%**	**17%**	**40.7**
Family Practice	2%	2%	12%	28%	42%	14%	39.9
Internal Medicine-General	0%	2%	12%	15%	44%	27%	43.3
Pediatrics-General	0%	4%	26%	26%	39%	4%	36.3
IM & Peds (Combined)	0%	0%	0%	0%	100%	0%	45.0
Obstetrics/Gynecology	**0%**	**0%**	**17%**	**17%**	**28%**	**39%**	**43.9**
Internal Medicine Specialties	**0%**	**6%**	**6%**	**6%**	**44%**	**39%**	**45.6**
Cardiology	0%	11%	0%	0%	44%	44%	46.1
Endocrinology & Metabolism	0%	0%	0%	100%	0%	0%	35.0
Gastroenterology	0%	0%	0%	0%	33%	67%	51.7
Geriatrics	0%	0%	0%	0%	100%	0%	45.0
Hematology/Oncology	0%	0%	100%	0%	0%	0%	25.0
Infectious Disease	0%	0%	0%	0%	100%	0%	45.0
Nephrology	0%	0%	0%	0%	50%	50%	50.0
Surgery-General	**0%**	**0%**	**0%**	**0%**	**0%**	**100%**	**55.0**
Surgical Subspecialties	**0%**	**8%**	**0%**	**0%**	**25%**	**67%**	**49.2**
Ophthalmology	0%	0%	0%	0%	100%	0%	45.0
Orthopedics	0%	0%	0%	0%	0%	100%	55.0
Otolaryngology	0%	0%	0%	0%	0%	100%	55.0
Plastic Surgery	0%	0%	0%	0%	0%	100%	55.0
Thoracic Surgery	0%	33%	0%	0%	33%	33%	38.3
Urology	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Facility Based	**0%**	**7%**	**7%**	**20%**	**40%**	**27%**	**42.3**
Anesthesiology	0%	0%	13%	13%	38%	38%	45.0
Pathology	0%	50%	0%	0%	50%	0%	30.0
Radiology (Diagnostic)	0%	0%	0%	40%	40%	20%	43.0
Psychiatry	**0%**	**0%**	**0%**	**22%**	**56%**	**22%**	**45.0**
Other	**0%**	**0%**	**0%**	**30%**	**45%**	**25%**	**44.5**
Allergy & Immunology	0%	0%	0%	100%	0%	0%	35.0
Emergency Medicine	0%	0%	0%	56%	44%	0%	39.4
Neurology	0%	0%	0%	0%	50%	50%	50.0
Pediatric Subspecialties	0%	0%	0%	0%	50%	50%	50.0
Physical Medicine & Rehab	0%	0%	0%	0%	50%	50%	50.0
Total (All Specialties)	**0%**	**3%**	**10%**	**20%**	**41%**	**26%**	**42.6**

Specialty	% of Respondents Reporting Difficulty Finding a Satisfactory Practice Position*	% of Respondents Having to Change Plans Due to Limited Practice Opportunities*
Primary Care	**52%**	**31%**
Family Practice	45%	28%
Internal Medicine-General	58%	30%
Pediatrics-General	53%	41%
IM & Peds (Combined)	50%	50%
Obstetrics/Gynecology	**42%**	**15%**
Internal Medicine Specialties	**50%**	**24%**
Cardiology	27%	27%
Endocrinology & Metabolism	100%	0%
Gastroenterology	40%	0%
Geriatrics	50%	0%
Hematology/Oncology	N/A	0%
Infectious Disease	100%	67%
Nephrology	100%	67%
Pulmonary Disease	50%	0%
Rheumatology	0%	0%
Surgery-General	**33%**	**33%**
Surgical Subspecialties	**22%**	**0%**
Ophthalmology	100%	0%
Orthopedics	0%	0%
Otolaryngology	0%	0%
Facility Based	**33%**	**8%**
Anesthesiology	27%	9%
Pathology	100%	25%
Radiology (Diagnostic)	14%	0%
Psychiatry	**50%**	**38%**
Other	**25%**	**15%**
Allergy & Immunology	0%	0%
Emergency Medicine	0%	0%
Neurology	0%	0%
Pediatric Subspecialties	67%	67%
Physical Medicine & Rehab	33%	22%
Preventive Medicine	100%	0%
Total (All Specialties)	**46%**	**26%**

PERCEPTIONS OF THE REGIONAL JOB MARKET						
Specialty	Many Jobs	Some Jobs	Few Jobs	Very Few Jobs	No Jobs	Composite Score
Primary Care	**9%**	**36%**	**31%**	**20%**	**4%**	**0.27**
Family Practice	19%	36%	27%	17%	1%	0.55
Internal Medicine-General	4%	37%	35%	19%	6%	0.14
Pediatrics-General	9%	35%	26%	28%	2%	0.21
IM & Peds (Combined)	67%	0%	0%	33%	0%	1.00
Obstetrics/Gynecology	**4%**	**52%**	**26%**	**17%**	**0%**	**0.43**
Internal Medicine Specialties	**9%**	**51%**	**14%**	**17%**	**9%**	**0.34**
Cardiology	13%	67%	7%	13%	0%	0.80
Endocrinology & Metabolism	0%	100%	0%	0%	0%	1.00
Gastroenterology	0%	67%	17%	17%	0%	0.50
Geriatrics	0%	0%	50%	0%	50%	-1.00
Hematology/Oncology	0%	100%	0%	0%	0%	1.00
Infectious Disease	0%	33%	0%	33%	33%	-0.67
Nephrology	0%	0%	50%	25%	25%	-0.75
Pulmonary Disease	0%	50%	0%	50%	0%	0.00
Rheumatology	100%	0%	0%	0%	0%	2.00
Surgery-General	**0%**	**67%**	**33%**	**0%**	**0%**	**0.67**
Surgical Subspecialties	**33%**	**25%**	**25%**	**17%**	**0%**	**0.75**
Ophthalmology	0%	0%	0%	100%	0%	-1.00
Orthopedics	40%	30%	20%	10%	0%	1.00
Otolaryngology	0%	0%	100%	0%	0%	0.00
Facility Based	**11%**	**37%**	**18%**	**29%**	**5%**	**0.18**
Anesthesiology	31%	46%	23%	0%	0%	1.08
Pathology	0%	8%	8%	67%	17%	-0.92
Radiology (Diagnostic)	0%	54%	23%	23%	0%	0.31
Psychiatry	**21%**	**67%**	**8%**	**0%**	**4%**	**1.00**
Other	**21%**	**55%**	**9%**	**12%**	**3%**	**0.79**
Allergy & Immunology	0%	50%	50%	0%	0%	0.50
Emergency Medicine	50%	40%	10%	0%	0%	1.40
Neurology	17%	83%	0%	0%	0%	1.17
Pediatric Subspecialties	25%	25%	0%	50%	0%	0.25
Physical Medicine & Rehab	0%	67%	11%	11%	11%	0.33
Preventive Medicine	0%	50%	0%	50%	0%	0.00
Total (All Specialties)	**11%**	**41%**	**26%**	**18%**	**4%**	**0.37**

PERCEPTIONS OF THE NATIONAL JOB MARKET						
Specialty	Many Jobs	Some Jobs	Few Jobs	Very Few Jobs	No Jobs	Composite Score
Primary Care	**44%**	**43%**	**9%**	**3%**	**1%**	**1.25**
Family Practice	71%	27%	3%	0%	0%	1.68
Internal Medicine-General	34%	50%	10%	5%	1%	1.10
Pediatrics-General	31%	48%	17%	5%	0%	1.05
IM & Peds (Combined)	67%	0%	33%	0%	0%	1.33
Obstetrics/Gynecology	**46%**	**50%**	**4%**	**0%**	**0%**	**1.42**
Internal Medicine Specialties	**56%**	**36%**	**8%**	**0%**	**0%**	**1.47**
Cardiology	59%	41%	0%	0%	0%	1.59
Endocrinology & Metabolism	0%	0%	100%	0%	0%	0.00
Gastroenterology	50%	33%	17%	0%	0%	1.33
Geriatrics	50%	50%	0%	0%	0%	1.50
Hematology/Oncology	100%	0%	0%	0%	0%	2.00
Infectious Disease	0%	100%	0%	0%	0%	1.00
Nephrology	75%	25%	0%	0%	0%	1.75
Pulmonary Disease	50%	0%	50%	0%	0%	1.00
Rheumatology	100%	0%	0%	0%	0%	2.00
Surgery-General	**57%**	**29%**	**14%**	**0%**	**0%**	**1.43**
Surgical Subspecialties	**46%**	**54%**	**0%**	**0%**	**0%**	**1.46**
Ophthalmology	0%	100%	0%	0%	0%	1.00
Orthopedics	55%	45%	0%	0%	0%	1.55
Otolaryngology	0%	100%	0%	0%	0%	1.00
Facility Based	**35%**	**46%**	**8%**	**11%**	**0%**	**1.05**
Anesthesiology	58%	42%	0%	0%	0%	1.58
Pathology	0%	42%	25%	33%	0%	0.08
Radiology (Diagnostic)	46%	54%	0%	0%	0%	1.46
Psychiatry	**78%**	**17%**	**4%**	**0%**	**0%**	**1.74**
Other	**63%**	**31%**	**3%**	**3%**	**0%**	**1.54**
Allergy & Immunology	50%	0%	0%	50%	0%	0.50
Emergency Medicine	90%	10%	0%	0%	0%	1.90
Neurology	71%	29%	0%	0%	0%	1.71
Pediatric Subspecialties	50%	25%	25%	0%	0%	1.25
Physical Medicine & Rehab	40%	60%	0%	0%	0%	1.40
Preventive Medicine	50%	50%	0%	0%	0%	1.50
Total (All Specialties)	**47%**	**41%**	**8%**	**3%**	**0%**	**1.32**

APPENDIX B

FORECASTING METHODS

The computer models used to develop the projections of future physician supplies are input-output flow models in which a baseline supply of physicians in 5-year age groups (for a particular specialty and geographic region), are aged into the future, with new additions to the supply at the younger age groups and attrition from the older age groups based on deaths, departures, and retirements. A schematic diagram of the model is provide in Exhibit B-1. Two different projections are presented in this report, each involving a number of assumptions:

"Current Entrants" Projections

These projections are estimates of the future supply assuming that the number of new physicians entering a specialty in different age groups will reflect the age distributions of residents completing training in the respective specialties. This results in lower estimates of the future supply for several specialties (e.g., General Surgery) which have been experiencing reductions in new entrants in recent years.

"What If" Projections

These projections are estimates of the future supply based on changes in the number of new physicians entering that reflect specific policy initiatives or programmatic changes that might take place in the future. In this study the only "what ifs" that will be examined are related to possible reductions in the flow of IMGs into practice in NJ. Runs have been made for 50% reductions of IMGs to reveal the extent to which the state and counties may be adversely affected by changes in Federal or state policies toward IMGs.

DATA SOURCES

A number of sources have been used in the projection models. The baseline supply of specialists by age are from the AMA Masterfile. The numbers of graduates of the different NJ residency programs entering practice in NJ and their age distributions are from the AMA Masterfile. The numbers of graduates of out-of-state residency programs entering practice in NJ and their age distributions are also from the AMA Masterfile. The former NJ GME data will be cross-checked against the files of AGMEC. The death, departure, retirement rates have been estimated to

maintain a similar age distribution for the respective projection models, with some reference to national studies of retirement rates by the AMA and others.

ASSUMPTIONS

The projection models are based on a number of broad assumptions. Some of these could be addressed in refinements of the basic flow model to incorporate new factors. The key assumptions include:

- The practice addresses of physicians reported in the AMA Master File are accurate.
- There is no competition or substitution among the various medical specialties.
- Non-physician providers do not contribute to the supply of practitioners and services.
- There are no medical or technology breakthroughs that will affect the supply of or demand for specialists.
- There will be no major restructuring of the healthcare system that will affect the supply of or demand for physicians.
- There is no difference in productivity or hours worked for different subsets of specialists (e.g., women versus men or younger versus older).