



**Trends in Demand for New Physicians, 2010-2014**  
*A Summary of Demand Indicators for 35 Physician Specialties*

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School of Public Health  
University at Albany, State University of New York

# Trends in Demand for New Physicians, 2010-2014

## *A Summary of Demand Indicators for 35 Physician Specialties*

**August 2015**



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## PREFACE

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This data book presents profiles for 35 specialties. Each specialty profile summarizes trends in 5 key areas related to physician supply and demand: starting income, job offers, having to change plans due to limited practice opportunities, relative demand, and numbers of graduates. Data on starting income, job offers, having to change plans, and relative demand are based on responses to the Resident Exit Survey in New York (for the years 2010 to 2014).

This report was prepared by the Center for Health Workforce Studies (CHWS) staff, David Armstrong, Robert Martiniano, Gaetano Forte, and Jean Moore, with layout design by Leanne Keough. Funding for this report was provided by the New York State Department of Health.

Established in 1996, CHWS is a not-for-profit research organization, based at the School of Public Health, University at Albany, State University of New York (SUNY). The mission of CHWS is to provide timely, accurate data and conduct policy relevant research about the health workforce. The research conducted by CHWS supports and promotes health workforce planning and policymaking at local, regional, state, and national levels. Today, CHWS is a national leader in the field of health workforce studies, and the only one uniquely focused on the oral health workforce.

The views expressed in this report are those of CHWS and do not necessarily represent positions or policies of the School of Public Health, University at Albany, SUNY, or the New York State Department of Health.

*August 2015*

## ACKNOWLEDGMENT

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# TABLE OF CONTENTS

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BACKGROUND.....	2
KEY FINDINGS.....	4
SPECIALTIES.....	5
<i>Family Medicine</i> .....	6
<i>General Internal Medicine</i> .....	7
<i>General Pediatrics</i> .....	8
<i>Internal Medicine and Pediatrics (Combined)</i> .....	9
<i>Obstetrics/Gynecology</i> .....	10
<i>Cardiology</i> .....	11
<i>Critical Care Medicine</i> .....	12
<i>Endocrinology and Metabolism</i> .....	13
<i>Gastroenterology</i> .....	14
<i>Geriatrics</i> .....	15
<i>Hematology/Oncology</i> .....	16
<i>Infectious Disease</i> .....	17
<i>Nephrology</i> .....	18
<i>Pulmonary Disease</i> .....	19
<i>Rheumatology</i> .....	20
<i>General Surgery</i> .....	21
<i>Neurosurgery</i> .....	22
<i>Ophthalmology</i> .....	23
<i>Orthopedic Surgery</i> .....	24
<i>Otolaryngology</i> .....	25
<i>Plastic Surgery</i> .....	26
<i>Cardio-Thoracic Surgery</i> .....	27
<i>Urology</i> .....	28
<i>Anesthesiology</i> .....	29
<i>Pain Management</i> .....	30
<i>Pathology</i> .....	31
<i>Radiology</i> .....	32
<i>Adult Psychiatry</i> .....	33
<i>Child and Adolescent Psychiatry</i> .....	34
<i>Allergy and Immunology</i> .....	35
<i>Dermatology</i> .....	36
<i>Emergency Medicine</i> .....	37
<i>Neurology</i> .....	38
<i>Pediatric Subspecialties</i> .....	39
<i>Physical Medicine and Rehabilitation</i> .....	40
APPENDIX A.....	41
APPENDIX B.....	45
APPENDIX C.....	47

## BACKGROUND

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The Center for Health Workforce Studies (CHWS) conducts an annual survey of all physicians completing a residency or fellowship training program in the State of New York (the Resident Exit Survey). The survey instrument (see Appendix B) was developed by CHWS in collaboration with teaching hospitals in New York. The survey provides the medical education community with valuable information on both outcomes of training and demand for new physicians in different specialties.

Each spring, CHWS distributes the surveys to Graduate Medical Education (GME) directors and administrators at teaching hospitals in New York. In most cases, surveys are then forwarded to individual GME departments at each hospital. These departments assume the responsibility of ensuring graduating residents and fellows fill out the surveys in the weeks prior to program completion. The surveys are then returned to CHWS for data entry and analysis.

The year 2014 marked the fifteenth year of the survey. Through excellent collaboration of teaching hospitals throughout the state, ***an aggregated total of 45,034 of the 73,277 graduates have completed the survey (61% response rate)*** for the 12 years the survey has been conducted (1998, 1999, 2000, 2001, 2002, 2003, 2005, 2007, 2008, 2009, 2010, 2011, 2012, 2013, and 2014). During the last 5 years the survey has had the following annual response rates: 2010 (62%), 2011 (64%), 2012 (61%), 2013 (57%), and 2014 (56%). Many of the questions on the Resident Exit Survey are designed to assess demand for physicians in general and by specialty. In any given year, the Resident Exit Survey provides a snapshot of the physician marketplace at a specific point in time. By conducting the survey on a regular basis, trends may be observed which are useful in projecting future supply and demand.

This data book presents profiles for 35 specialties. Each specialty profile summarizes trends in 5 key areas related to physician supply and demand: starting income, job offers, having to change plans due to limited practice opportunities, relative demand, and numbers of graduates. Data on starting income, job offers, having to change plans, and relative demand are based on responses to the Resident Exit Survey in New York (for the years 2010 to 2014). Data on GME graduates are from the annual medical education issues of the Journal of the American Medical Association (JAMA), and summarize the numbers of residents (or fellows) completing allopathic GME training programs in the specialty in the U.S. from 2004 to 2013.

Definitions of the 5 areas are as follows:

- **Starting income:** The median starting income of survey respondents with confirmed plans to enter patient care/clinical practice in the U.S. following completion of their training program. Starting incomes included respondents' base salaries plus their expected incentive/bonus

income. Starting incomes in the years 2010–2013 were adjusted for inflation to reflect 2014 dollars and are reported in \$1,000s.

- **Job offers:** The mean number of job offers for employment/practice positions of survey respondents who had actively searched for a practice position, excluding international medical graduates (IMGs) on temporary visas. Respondents with temporary citizenship status were excluded from this analysis because they were much more likely to experience difficulty in finding practice positions due to visa restrictions.
- **Having to change plans due to limited practice opportunities:** The percentage of respondents who had actively searched for a job (excluding IMGs on temporary visas) and who had to change their plans due to limited practice opportunities.
- **Relative demand:** Using several questions pertaining to the job market experiences and perceptions of survey respondents who had actively searched for a practice position (excluding IMGs on temporary visas), a composite score was computed to assign an overall rank (or relative demand score) for each specialty in each year that the survey was conducted. The percentages presented are the percentile rank of the specialty amongst all specialties in a given year. A percentile rank of 100% identifies the specialty highest in demand, and the lowest percentile rank would correspond to the specialty with the lowest relative demand score. Appendix A provides a detailed explanation of the methodology used to assess relative demand.
- **Numbers of graduates of allopathic GME training programs in the U.S.:** The American Medical Association's (AMA) data on the number of residents completing training was compiled to observe how the number of new entrants to the physician marketplace has changed over time.

### **Important Note:**

For each specialty, the number of responses by year is listed at the bottom of the page in the report. Care should be taken when interpreting outcomes based on small samples because the measures may fluctuate greatly from year to year.

## KEY FINDINGS

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**Overall, the job market for new physicians continues to be strong.** An analysis of trends in variables pertaining to the physician job market revealed that opportunities for physicians entering practice in most specialties have improved or remained stable over the period of time that the Center has been conducting this survey.

**In 2014, demand for primary care physicians (generalists) was stronger than the demand for non-primary care physicians (specialists).<sup>a</sup>** Historically, resident exit survey data showed that demand for generalists has been lower compared to demand for specialists. However, since 2008 demand for generalist has surpassed demand for specialists. In 2014, primary care physicians received more job offers than specialists and were less likely to have to change plans due to limited practice opportunities.

**There are important differences in the job market experiences and assessments for different specialties.** Although the overall marketplace appears relatively good for new graduates, there exist important differences in demand for individual specialties. In New York, specialties experiencing the strongest and weakest relative demand were as follows:

- *Strongest relative demand:* adult psychiatry, dermatology, family medicine, general internal medicine, internal medicine and pediatrics (combined), urology, and emergency medicine.
- *Weakest relative demand:* pathology, radiology, cardio-thoracic surgery, plastic surgery, infectious disease, and pediatric subspecialties.

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<sup>a</sup>Primary care (or generalists) specialties include family medicine, general internal medicine, general pediatrics, and internal medicine and pediatrics (combined).





## Specialty: Family Medicine

Legend: ■ 2010 ■ 2011 ■ 2012 ■ 2013 ■ 2014



Number of responses: 2010: n = 83, 2011: n = 74, 2012: n = 76, 2013: n = 72, 2014: n = 70.

\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.

Specialty: General Internal Medicine

Legend: 2010 2011 2012 2013 2014



Number of responses: 2010: n = 215, 2011: n = 254, 2012: n = 222, 2013: n = 237, 2014: n = 292.

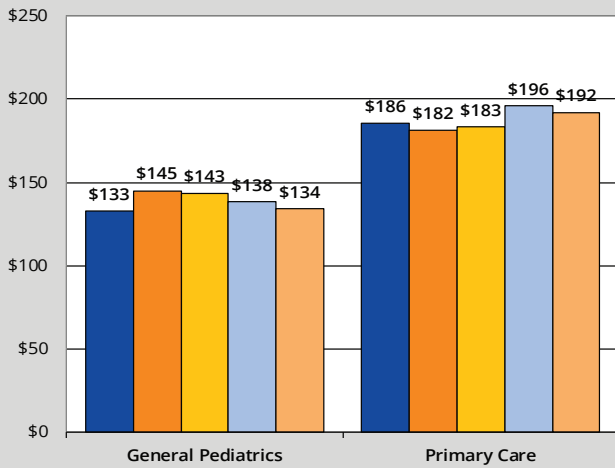
\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.

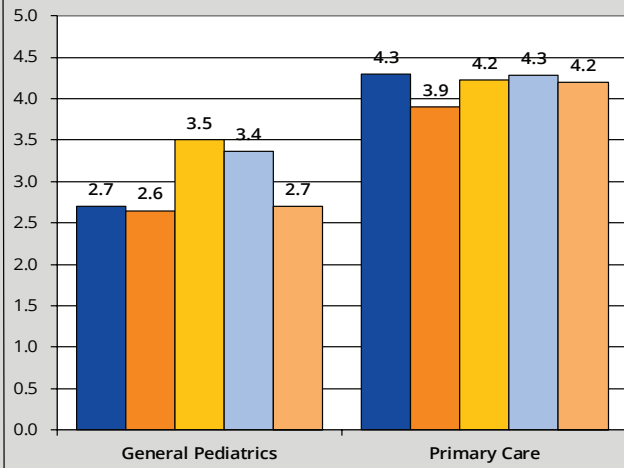
Specialty: General Pediatrics

Legend: 2010 2011 2012 2013 2014

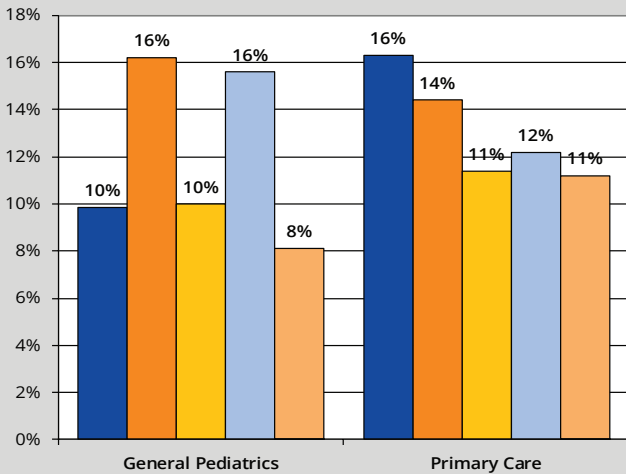
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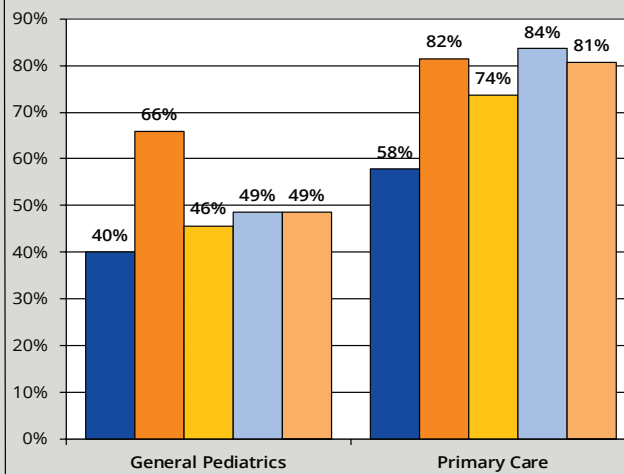
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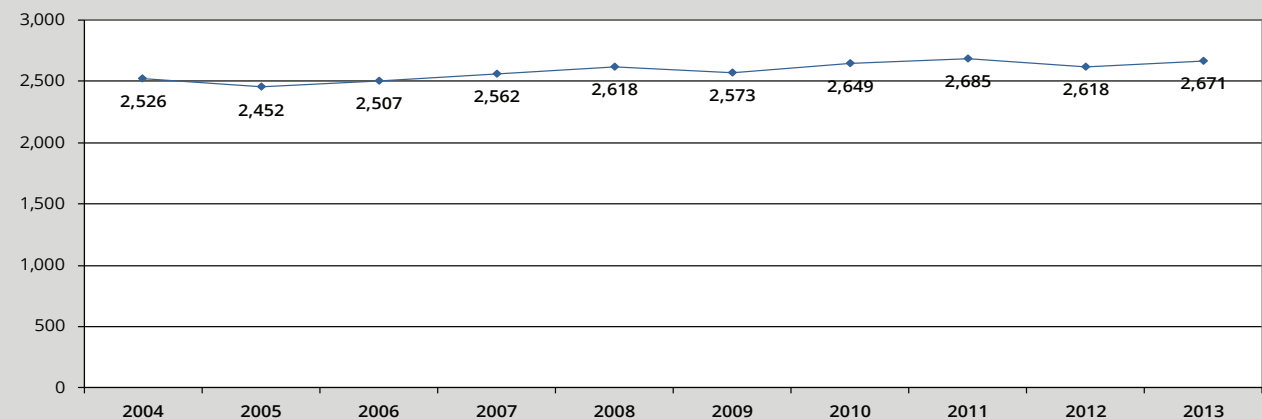
Trends in Having to Change Plans Due to Limited Practice Opportunities,\* 2010 - 2014



Trends in Relative Demand\* - Percentile Rank of General Pediatrics, 2010 - 2014



Trends in Number of Graduates of Allopathic General Pediatrics GME Programs in the U.S.,\*\* 2004 - 2013



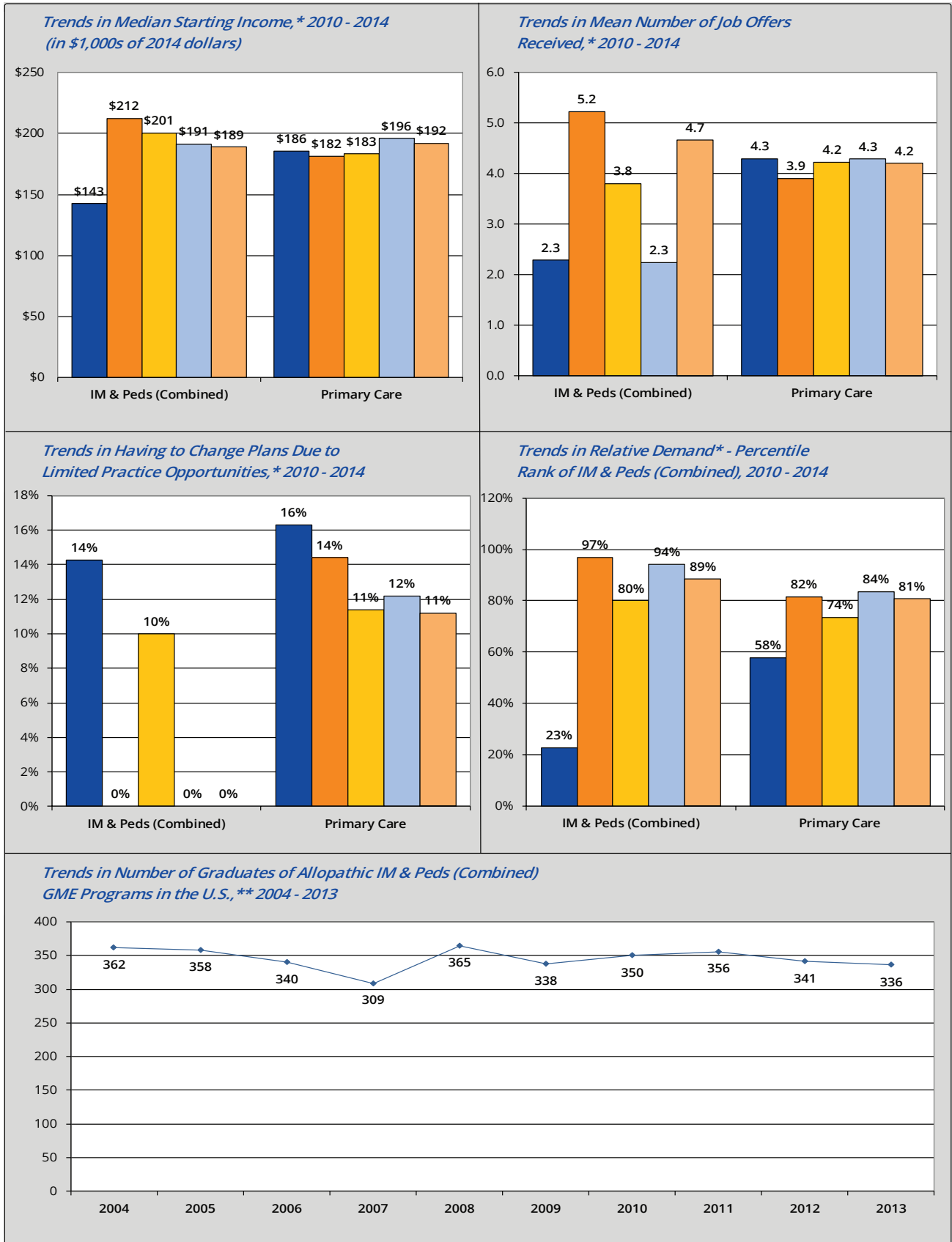
Number of responses: 2010: n = 86, 2011: n = 90, 2012: n = 79, 2013: n = 84, 2014: n = 95.

\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

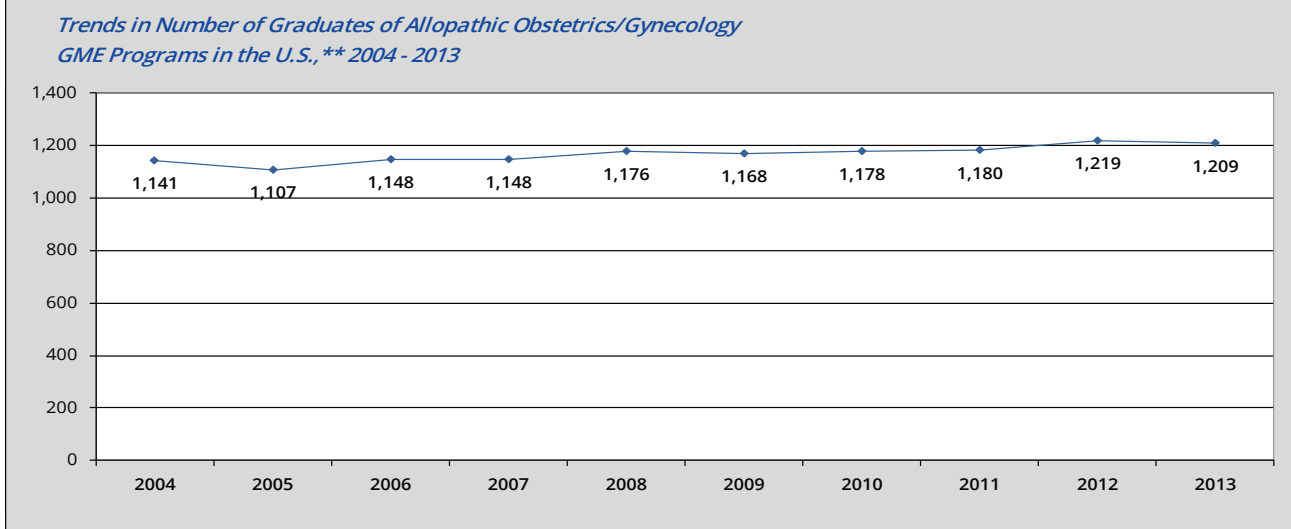
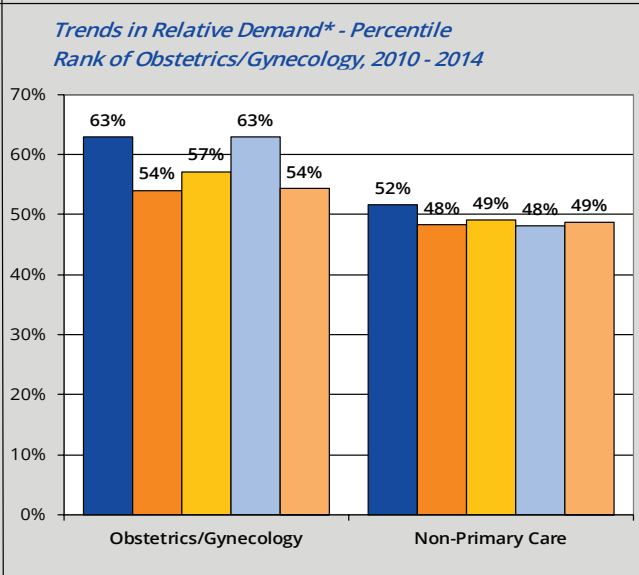
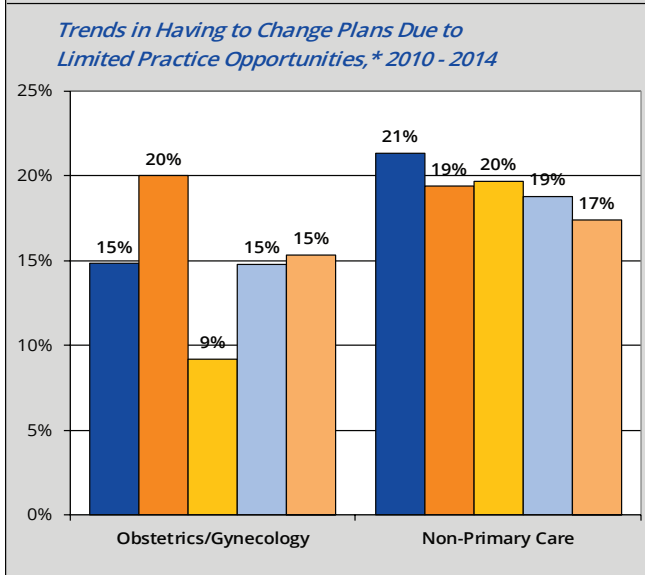
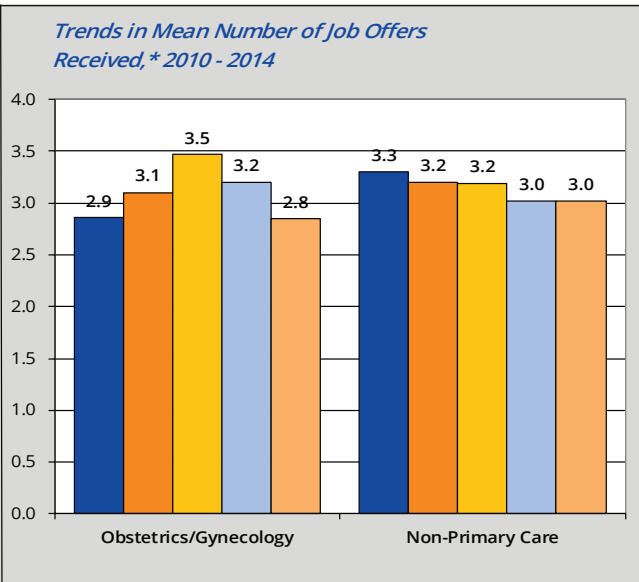
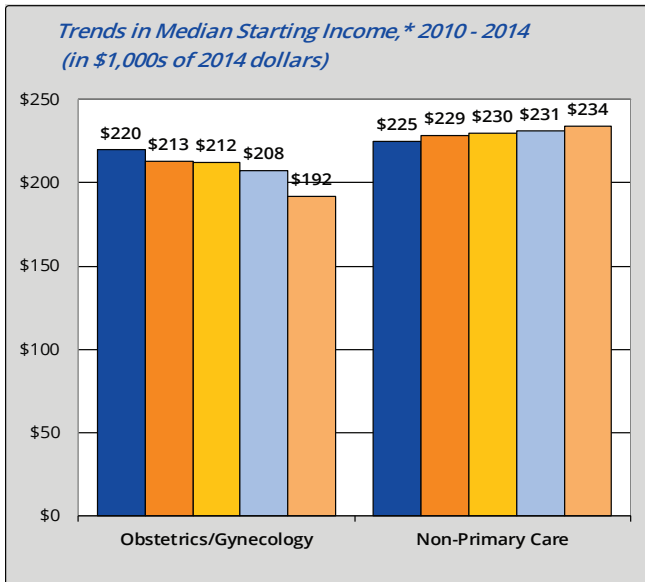
\*\*Source: JAMA Medical Education Issues, 2004 - 2013.

Specialty: IM & Peds (Combined)

Legend: 2010 2011 2012 2013 2014



Number of responses: 2010: n = 9, 2011: n = 10, 2012: n = 10, 2013: n = 5, 2014: n = 3.  
 \*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.  
 \*\*Source: JAMA Medical Education Issues, 2004 - 2013.



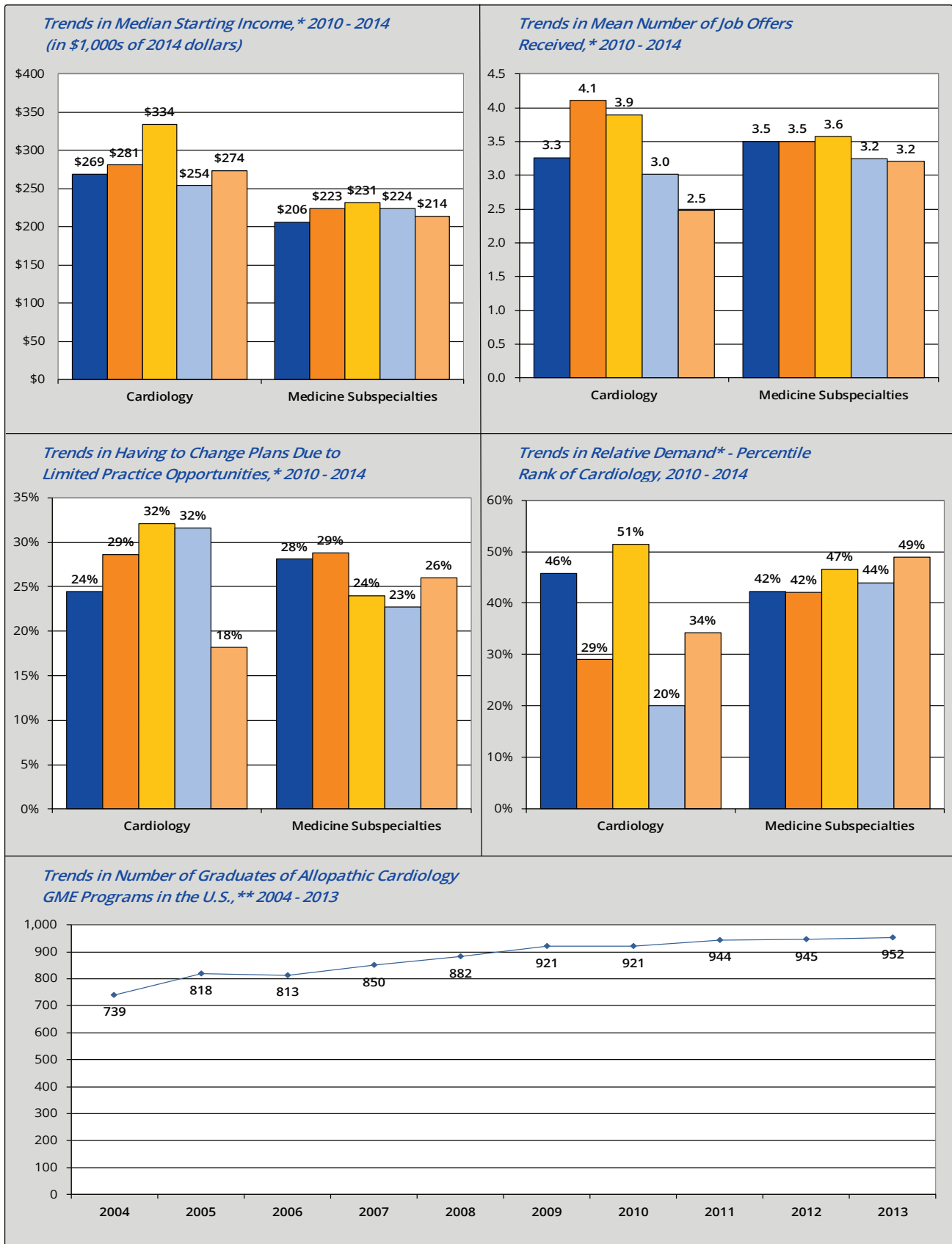
Number of responses: 2010: n = 94, 2011: n = 77, 2012: n = 82, 2013: n = 67, 2014: n = 79.

\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.

Specialty: Cardiology

Legend: ■ 2010 ■ 2011 ■ 2012 ■ 2013 ■ 2014



Number of responses: 2010: n = 48, 2011: n = 58, 2012: n = 61, 2013: n = 61, 2014: n = 44.

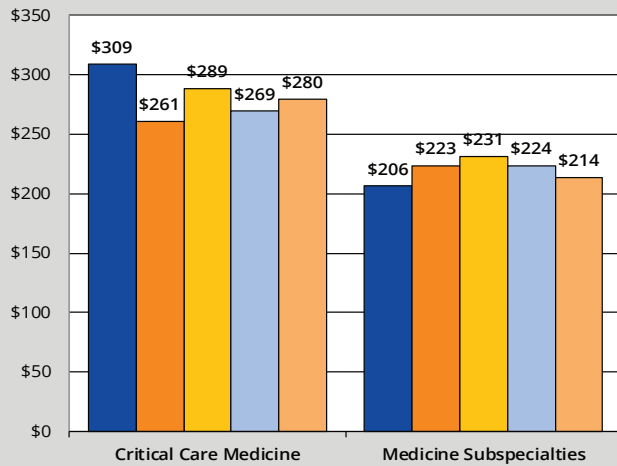
\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.

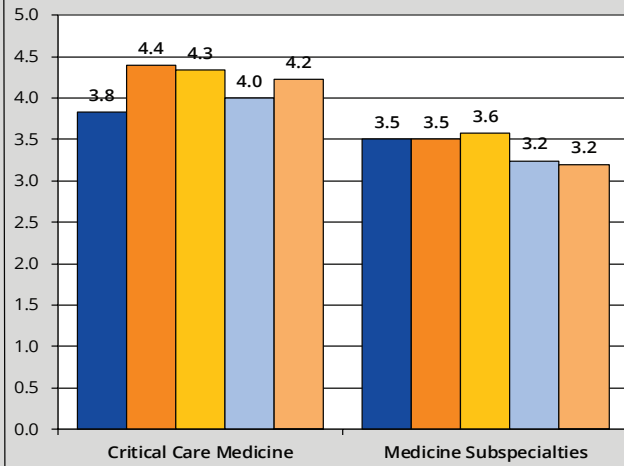
## Specialty: Critical Care Medicine

Legend: 2010 2011 2012 2013 2014

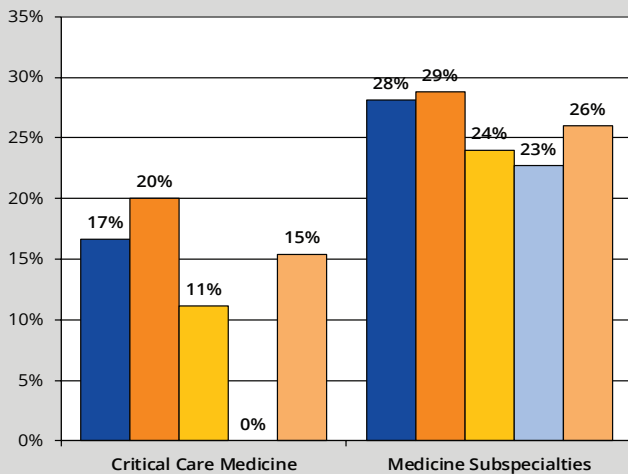
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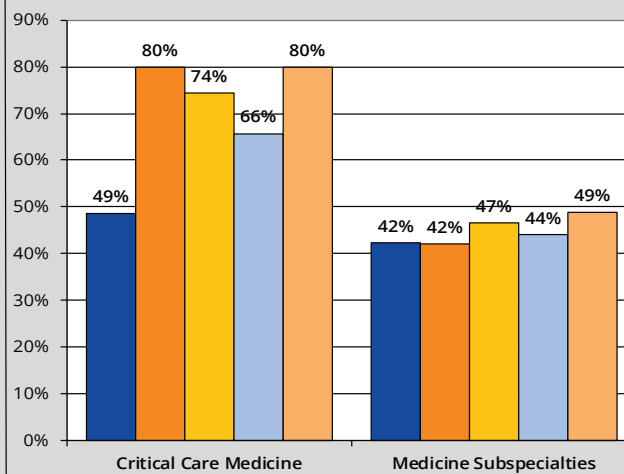
*Trends in Mean Number of Job Offers Received,\* 2010 - 2014*



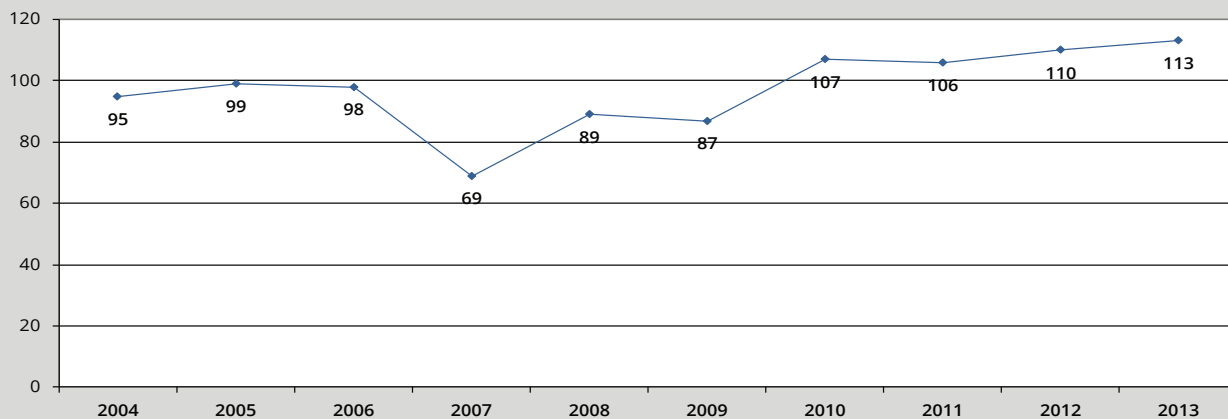
*Trends in Having to Change Plans Due to Limited Practice Opportunities,\* 2010 - 2014*



*Trends in Relative Demand\* - Percentile Rank of Critical Care Medicine, 2010 - 2014*



*Trends in Number of Graduates of Allopathic Critical Care Medicine GME Programs in the U.S.,\*\* 2004 - 2013*



Number of responses: 2010: n = 7, 2011: n = 11, 2012: n = 9, 2013: n = 12, 2014: n = 13.

\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.



Specialty: Endocrinology & Metabolism

Legend: 2010 2011 2012 2013 2014



Number of responses: 2010: n = 23, 2011: n = 18, 2012: n = 23, 2013: n = 17, 2014: n = 15.

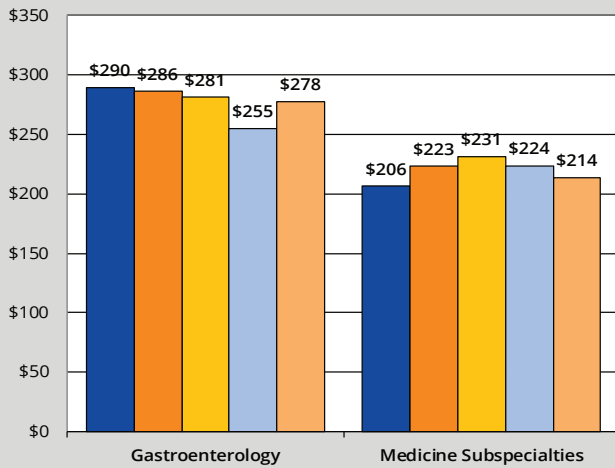
\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.

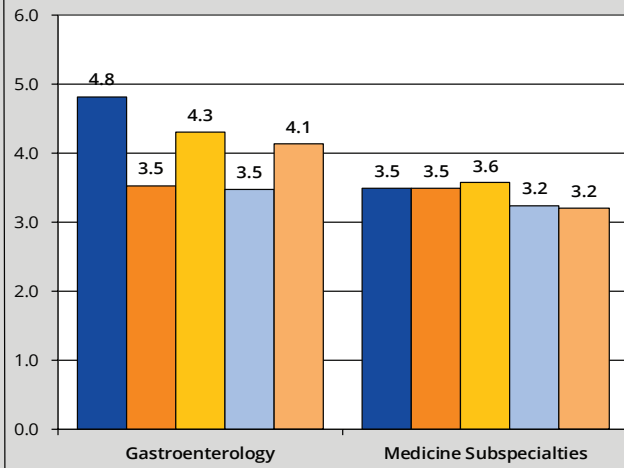
## Specialty: Gastroenterology

Legend: ■ 2010 ■ 2011 ■ 2012 ■ 2013 ■ 2014

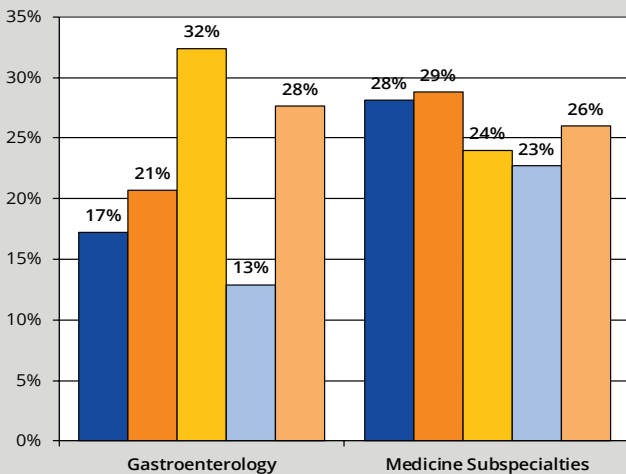
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(in \$1,000s of 2014 dollars)*



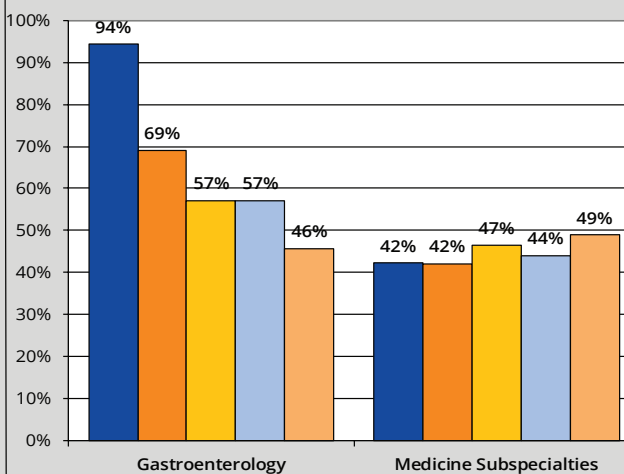
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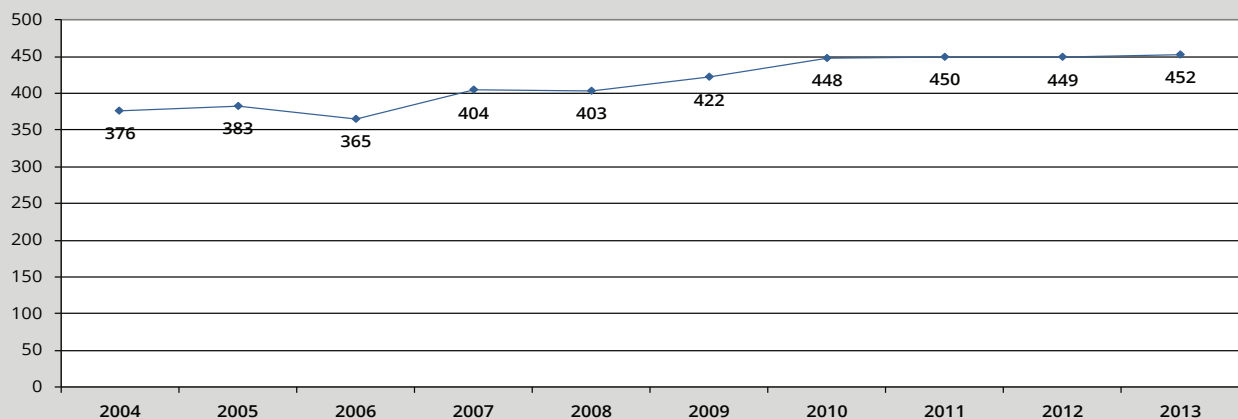
*Trends in Having to Change Plans Due to Limited Practice Opportunities,\* 2010 - 2014*



*Trends in Relative Demand\* - Percentile Rank of Gastroenterology, 2010 - 2014*



*Trends in Number of Graduates of Allopathic Gastroenterology GME Programs in the U.S.,\*\* 2004 - 2013*



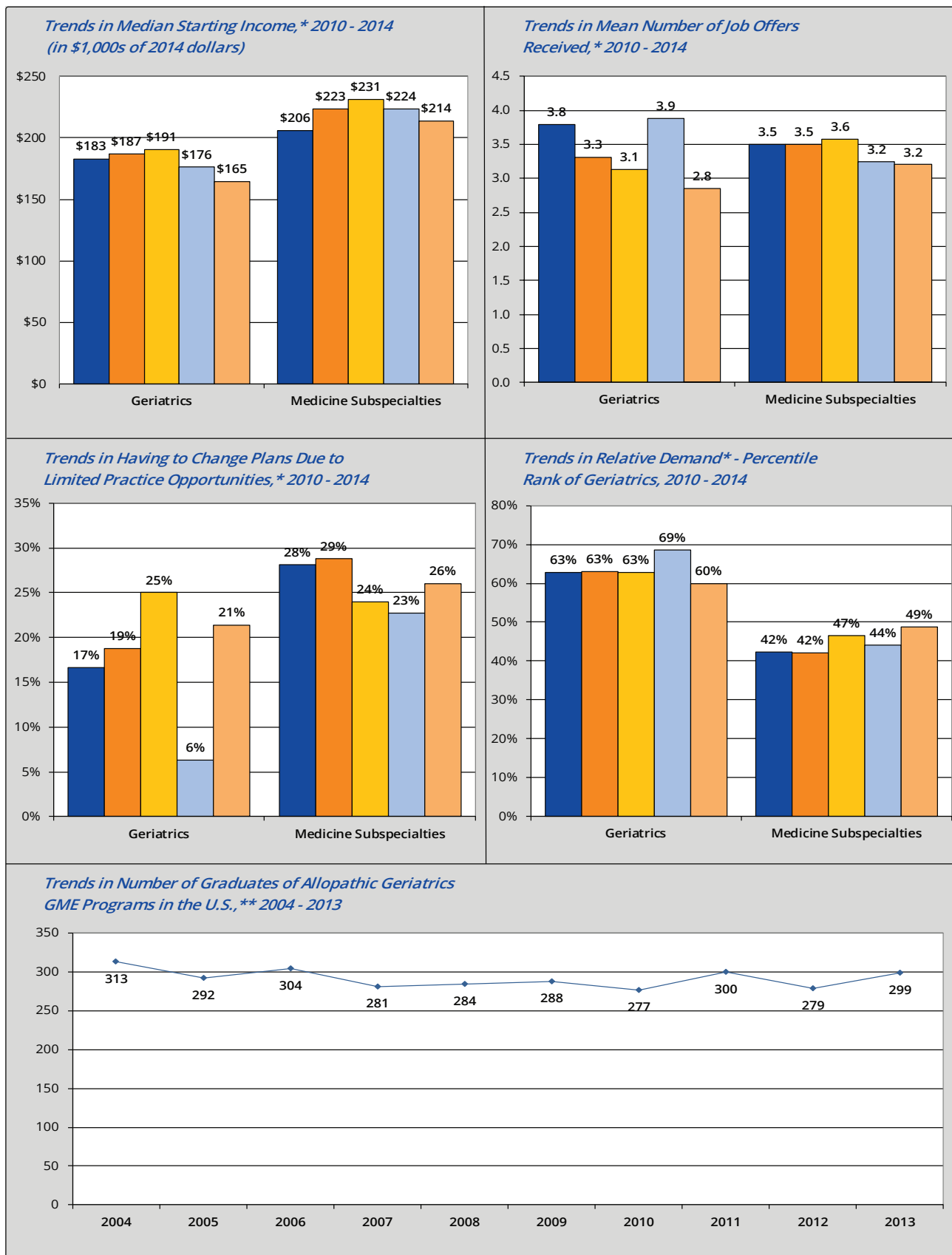
Number of responses: 2010: n = 30, 2011: n = 31, 2012: n = 36, 2013: n = 33, 2014: n = 30.

\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.

Specialty: Geriatrics

Legend: 2010 2011 2012 2013 2014



Number of responses: 2010: n = 19, 2011: n = 19, 2012: n = 9, 2013: n = 17, 2014: n = 15.

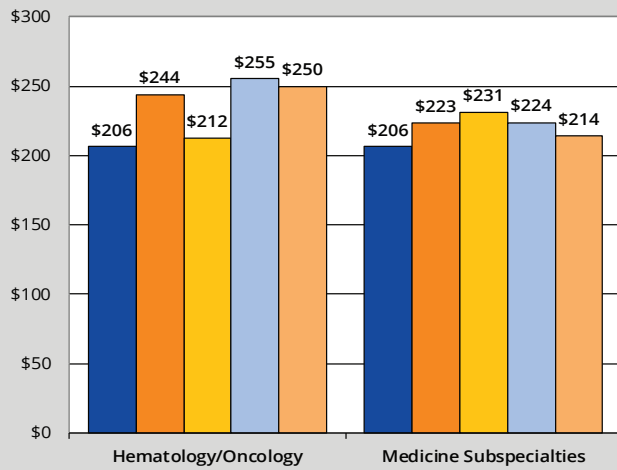
\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.

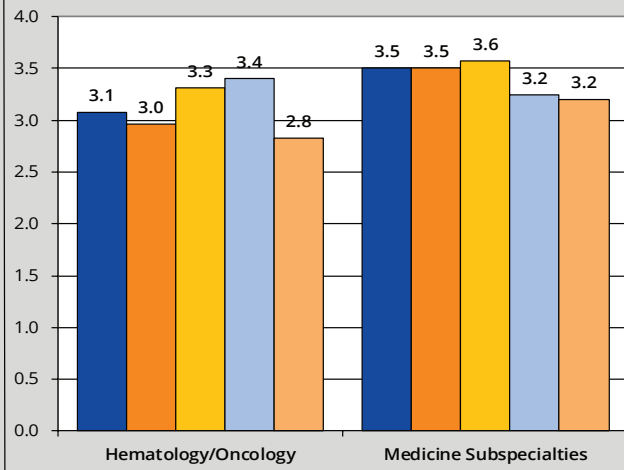
## Specialty: Hematology/Oncology

Legend: ■ 2010 ■ 2011 ■ 2012 ■ 2013 ■ 2014

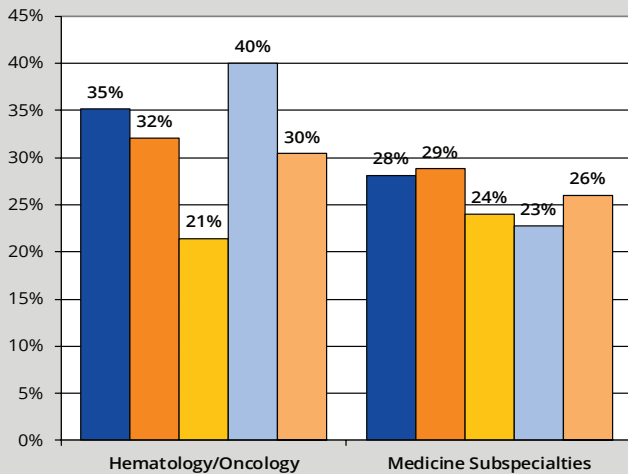
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(in \$1,000s of 2014 dollars)*



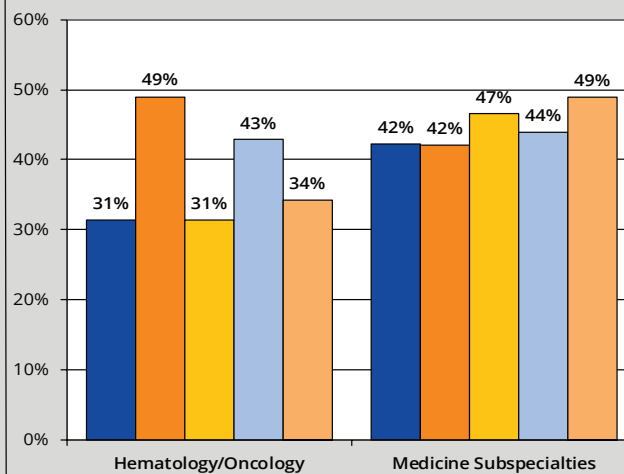
*Trends in Mean Number of Job Offers Received,\* 2010 - 2014*



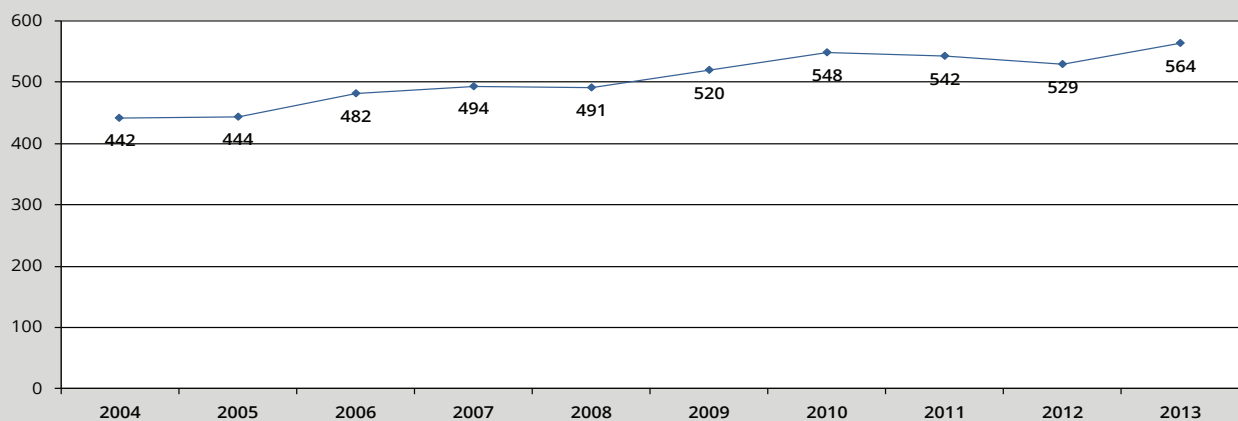
*Trends in Having to Change Plans Due to Limited Practice Opportunities,\* 2010 - 2014*



*Trends in Relative Demand\* - Percentile Rank of Hematology/Oncology, 2010 - 2014*



*Trends in Number of Graduates of Allopathic Hematology/Oncology GME Programs in the U.S., \*\* 2004 - 2013*



Number of responses: 2010: n = 38, 2011: n = 30, 2012: n = 34, 2013: n = 26, 2014: n = 24.

\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.

Specialty: Infectious Disease

Legend: 2010 2011 2012 2013 2014



Number of responses: 2010: n = 15, 2011: n = 21, 2012: n = 17, 2013: n = 17, 2014: n = 10.

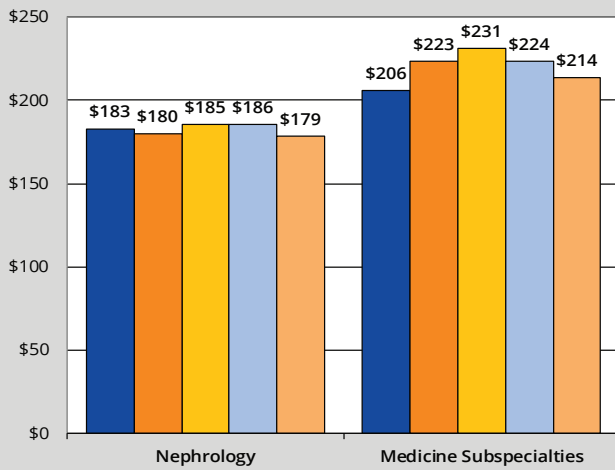
\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.

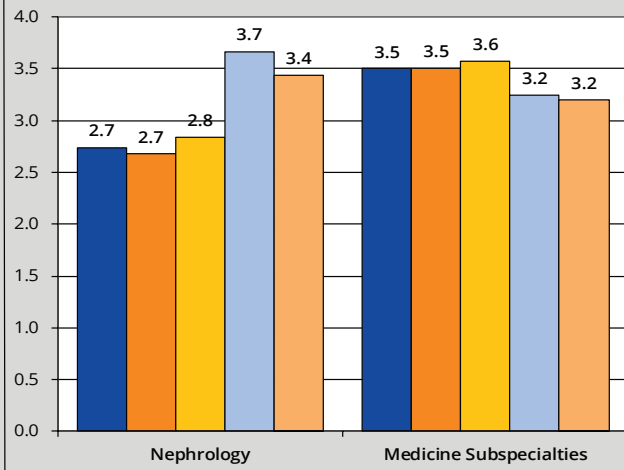
## Specialty: Nephrology

Legend: ■ 2010 ■ 2011 ■ 2012 ■ 2013 ■ 2014

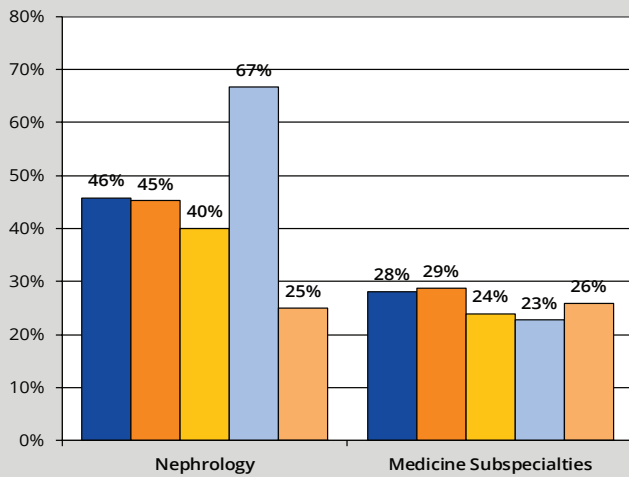
*Trends in Median Starting Income,\* 2010 - 2014  
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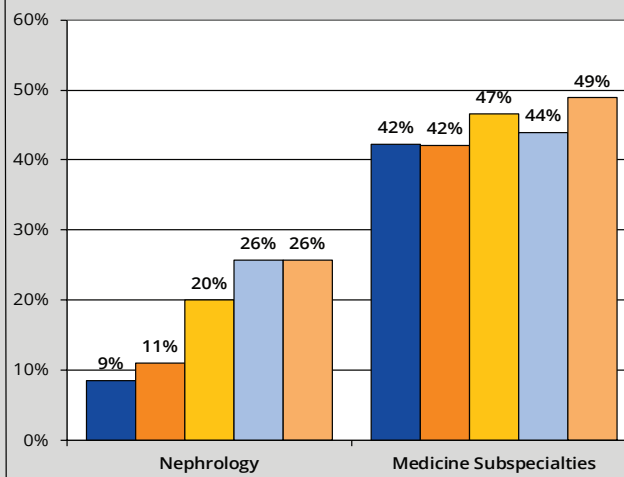
*Trends in Mean Number of Job Offers Received,\* 2010 - 2014*



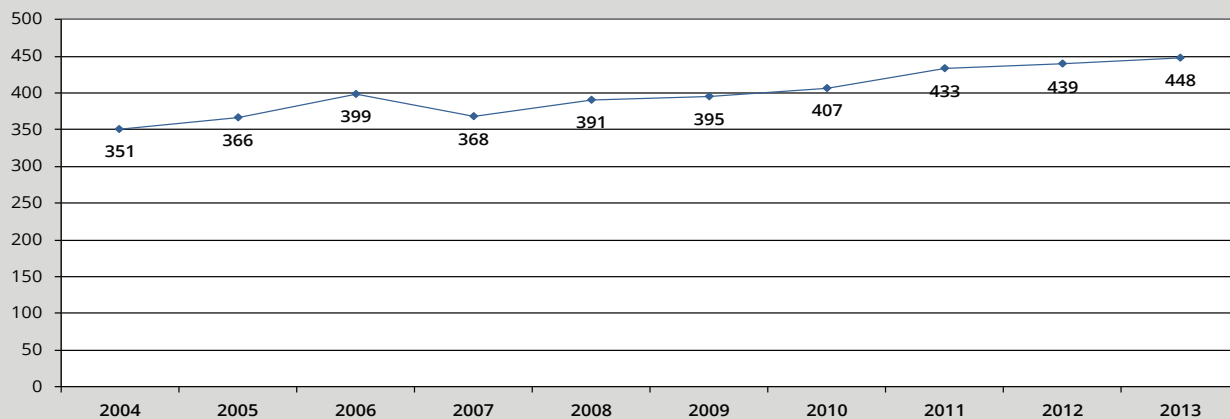
*Trends in Having to Change Plans Due to Limited Practice Opportunities,\* 2010 - 2014*



*Trends in Relative Demand\* - Percentile Rank of Nephrology, 2010 - 2014*



*Trends in Number of Graduates of Allopathic Nephrology GME Programs in the U.S., \*\* 2004 - 2013*



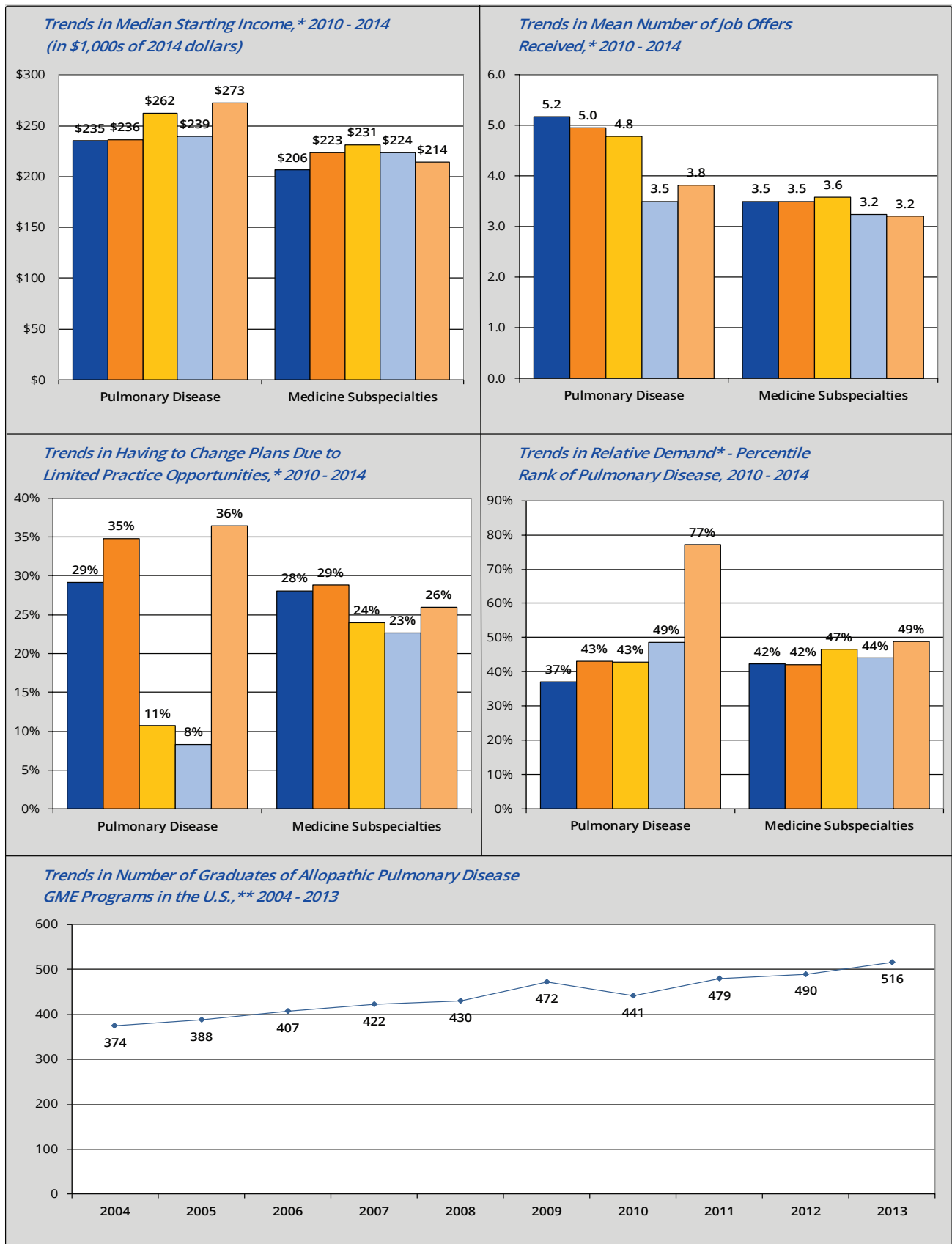
Number of responses: 2010: n = 25, 2011: n = 32, 2012: n = 27, 2013: n = 10, 2014: n = 16.

\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.

Specialty: Pulmonary Disease

Legend: 2010 2011 2012 2013 2014



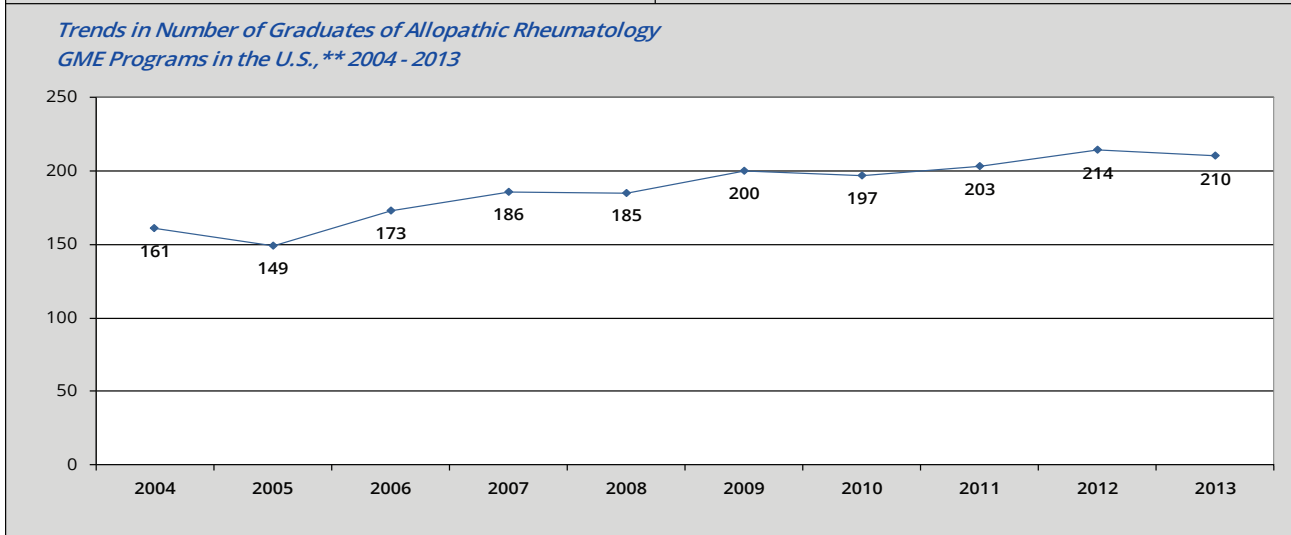
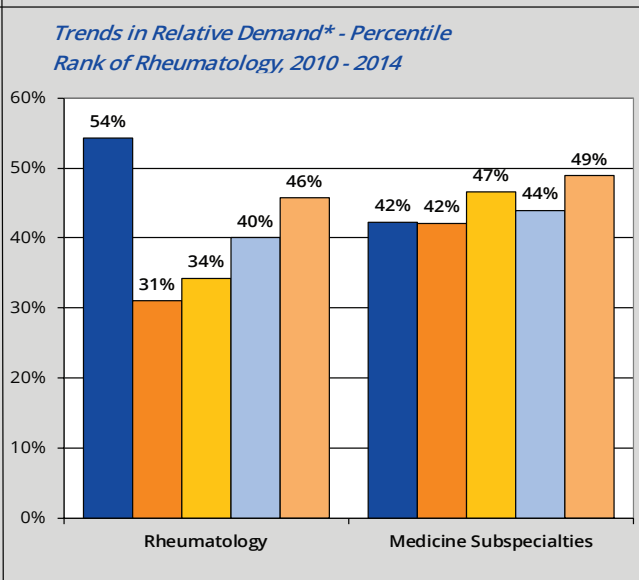
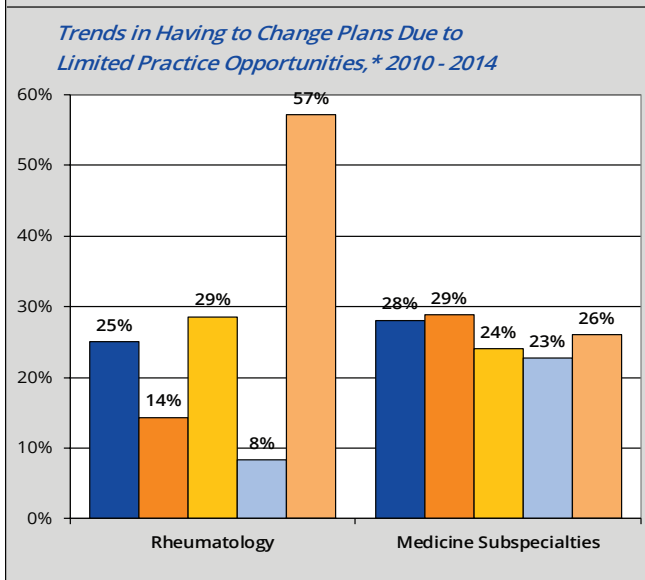
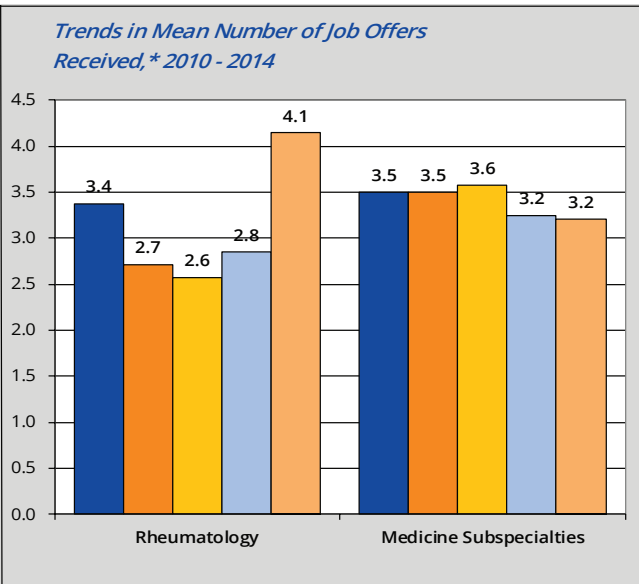
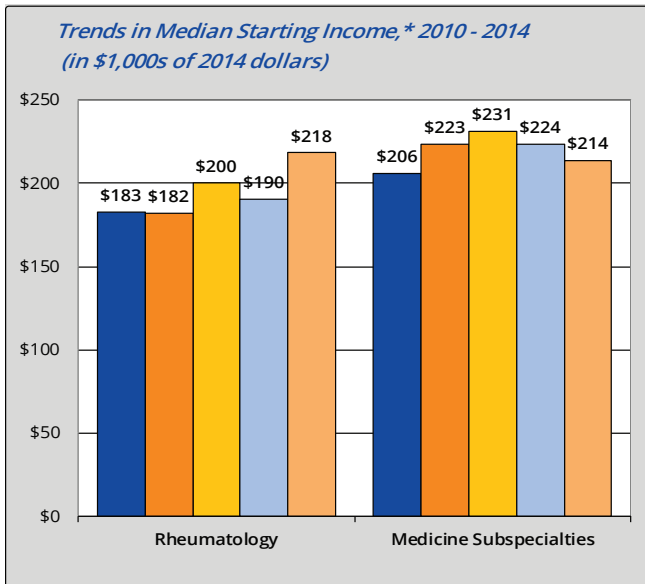
Number of responses: 2010: n = 25, 2011: n = 25, 2012: n = 30, 2013: n = 25, 2014: n = 23.

\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.

Specialty: Rheumatology

Legend: ■ 2010 ■ 2011 ■ 2012 ■ 2013 ■ 2014

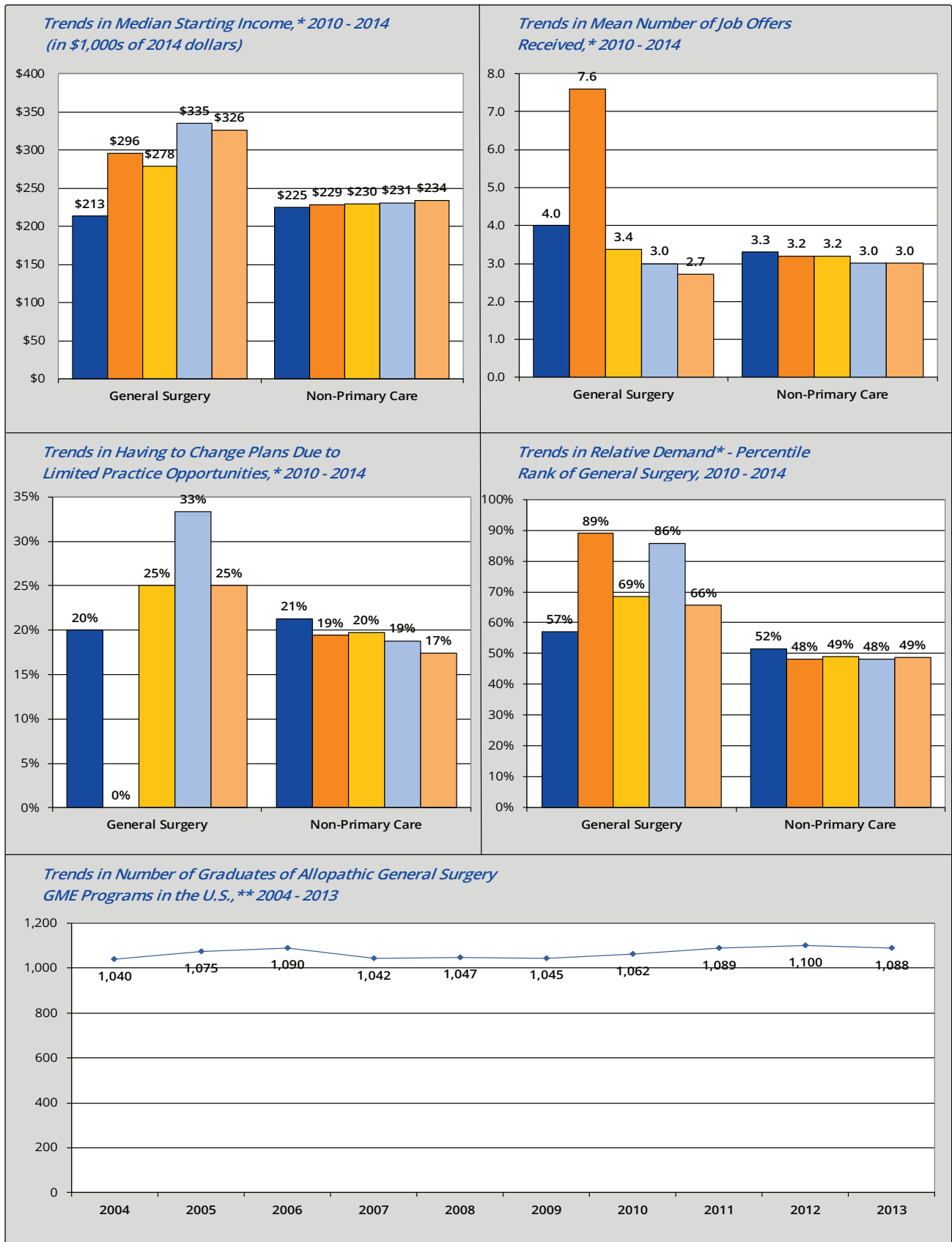


Number of responses: 2010: n = 8, 2011: n = 7, 2012: n = 8, 2013: n = 13, 2014: n = 7.  
 \*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.  
 \*\*Source: JAMA Medical Education Issues , 2004 - 2013.



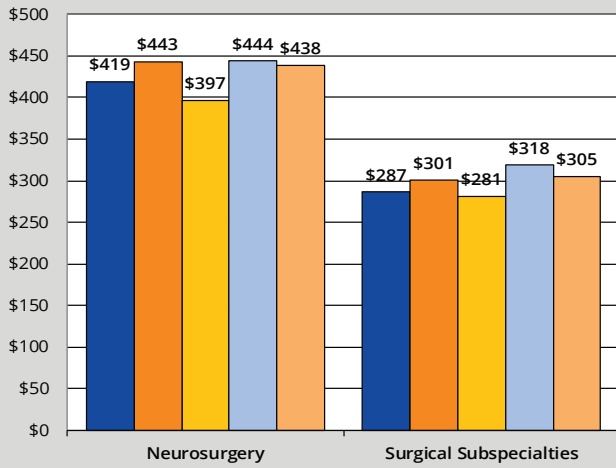
Specialty: General Surgery

Legend: 2010 2011 2012 2013 2014

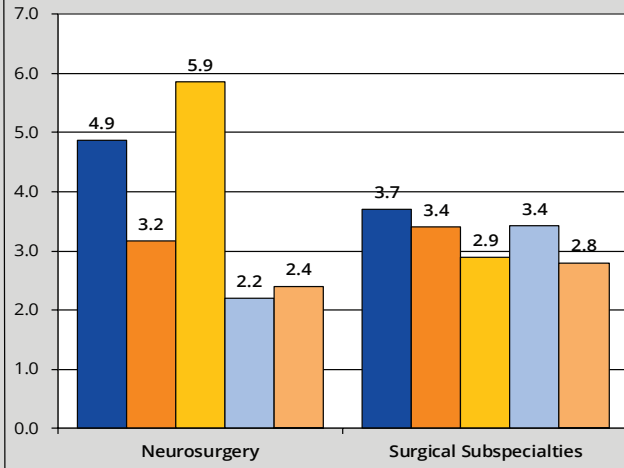


Number of responses: 2010: n = 12, 2011: n = 8, 2012: n = 9, 2013: n = 9, 2014: n = 18.  
 \*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.  
 \*\*Source: JAMA Medical Education Issues, 2004 - 2013.

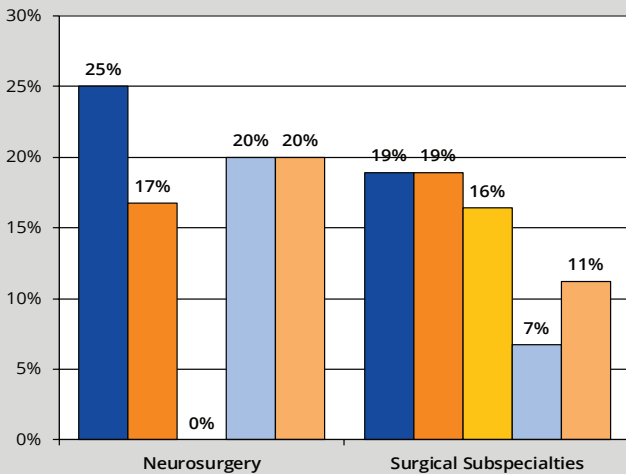
*Trends in Median Starting Income,\* 2010 - 2014  
(in \$1,000s of 2014 dollars)*



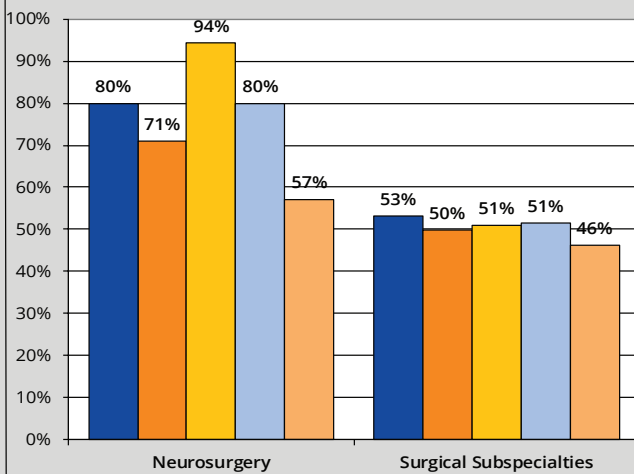
*Trends in Mean Number of Job Offers Received,\* 2010 - 2014*



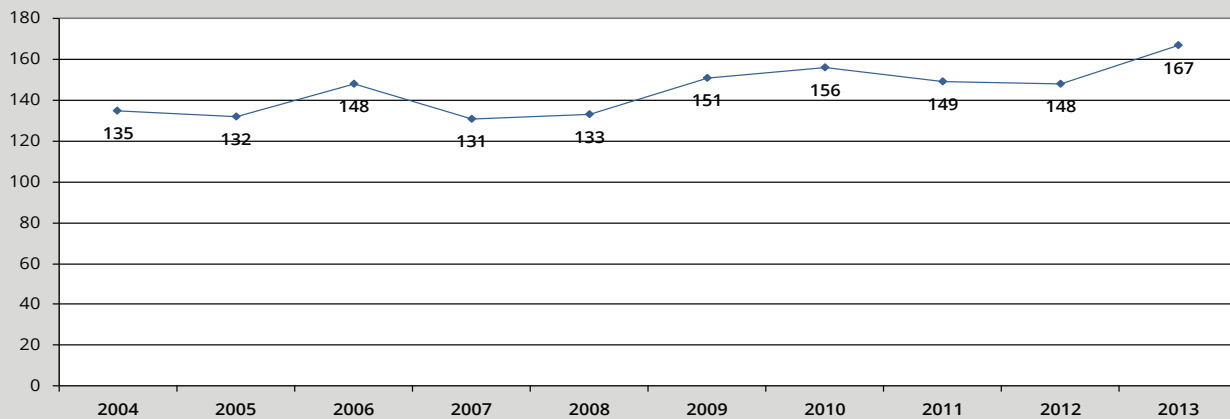
*Trends in Having to Change Plans Due to Limited Practice Opportunities,\* 2010 - 2014*



*Trends in Relative Demand\* - Percentile Rank of Neurosurgery, 2010 - 2014*



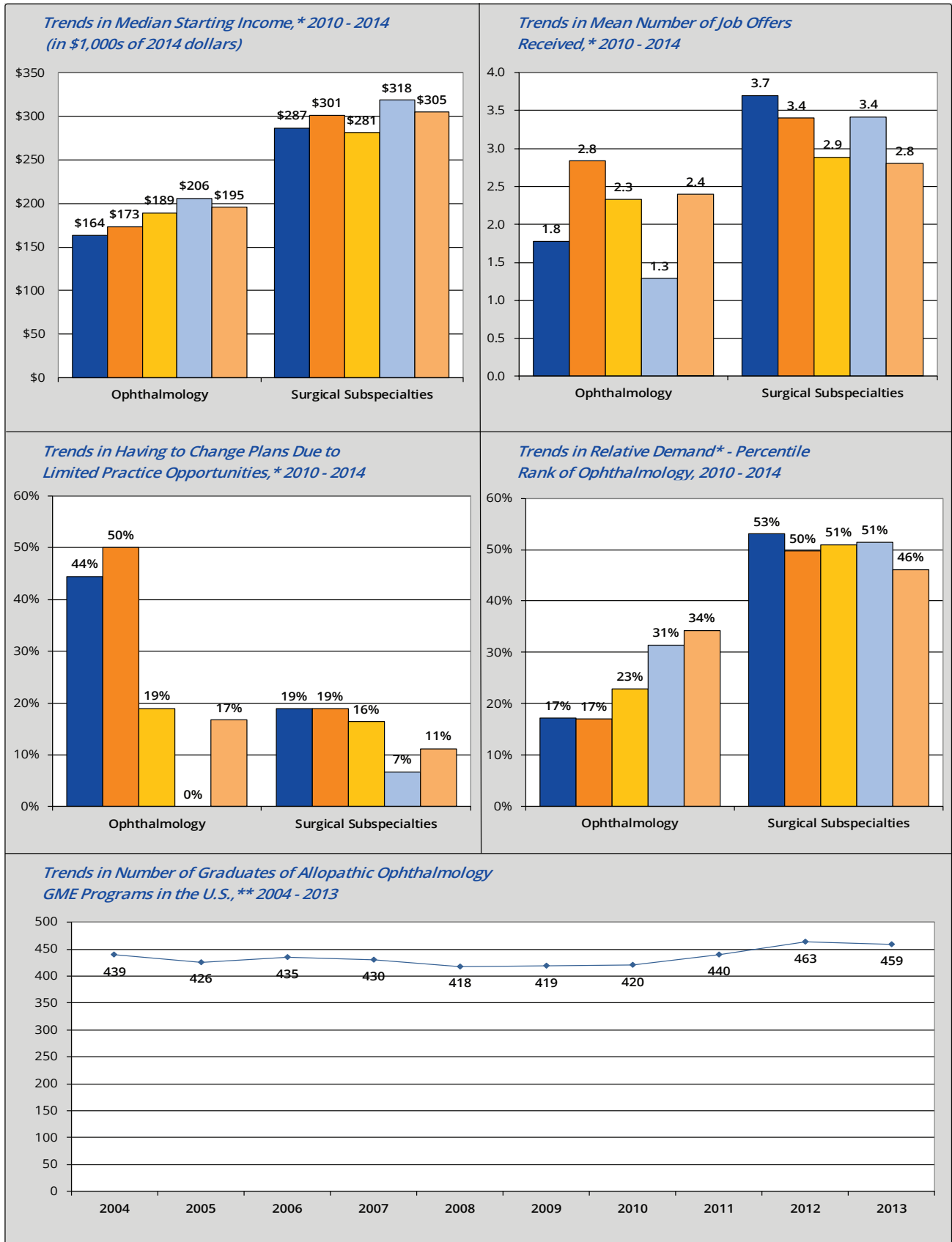
*Trends in Number of Graduates of Allopathic Neurosurgery GME Programs in the U.S.,\*\* 2004 - 2013*



Number of responses: 2010: n = 8, 2011: n = 6, 2012: n = 7, 2013: n = 6, 2014: n = 5.  
 \*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.  
 \*\*Source: JAMA Medical Education Issues, 2004 - 2013.

Specialty: Ophthalmology

Legend: 2010 2011 2012 2013 2014



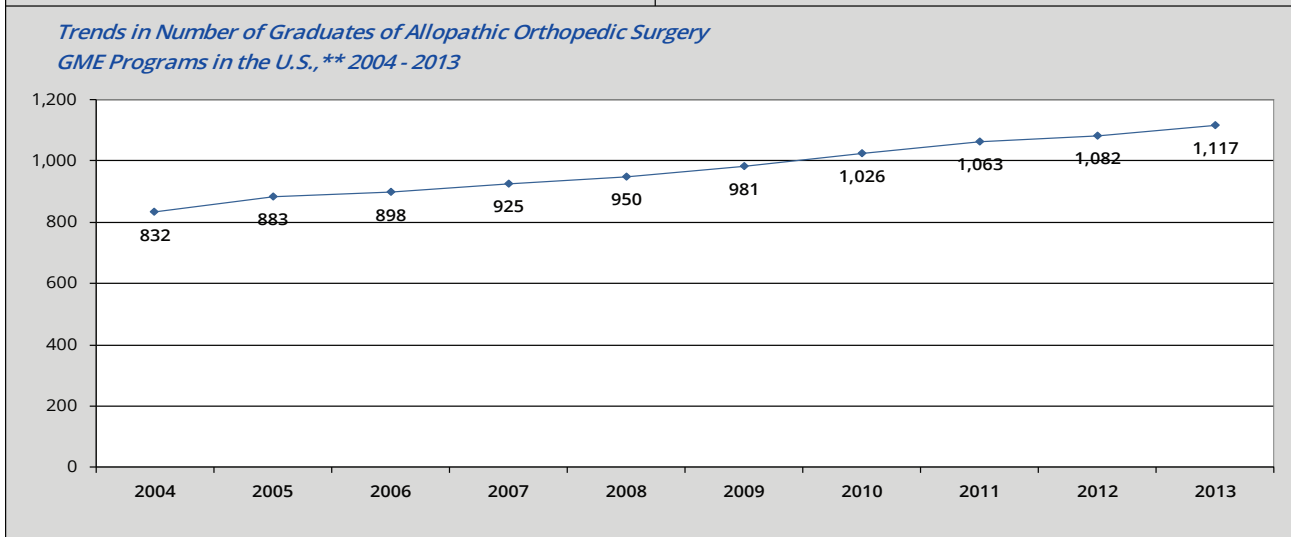
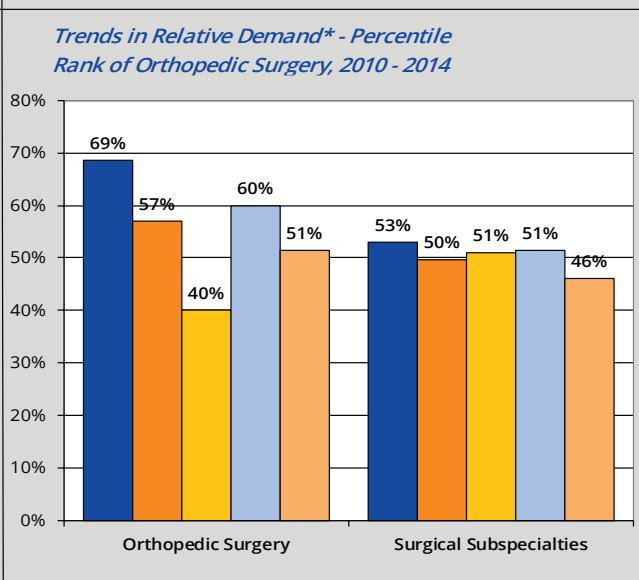
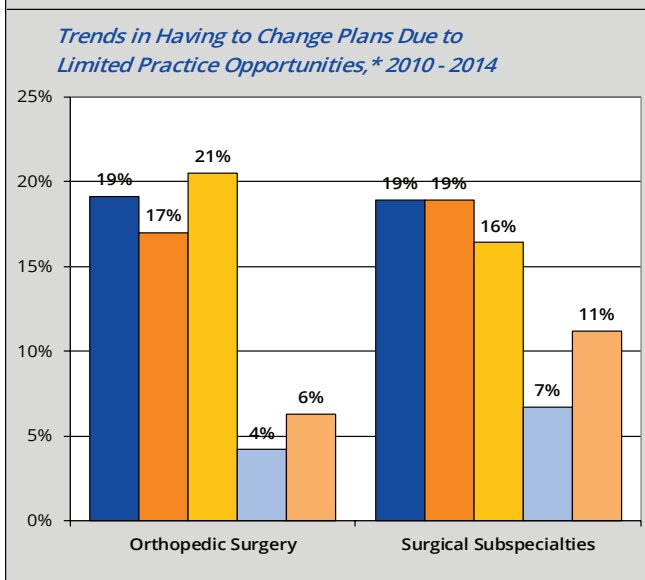
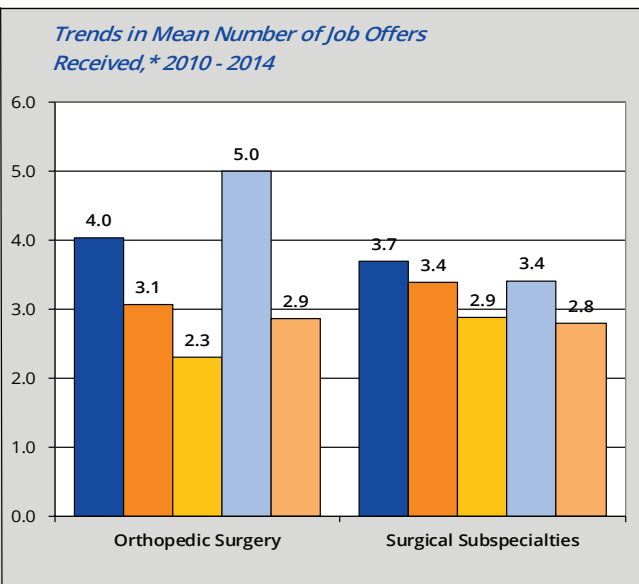
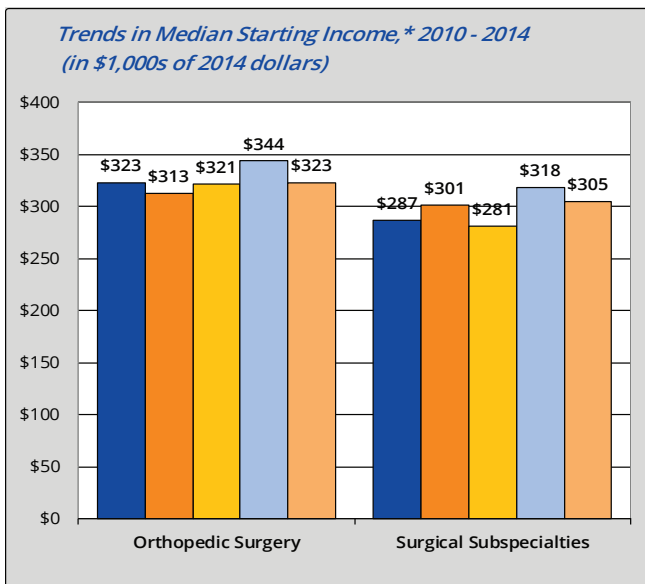
Number of responses: 2010: n = 9, 2011: n = 12, 2012: n = 23, 2013: n = 9, 2014: n = 14.

\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.

Specialty: Orthopedic Surgery

Legend: 2010 2011 2012 2013 2014



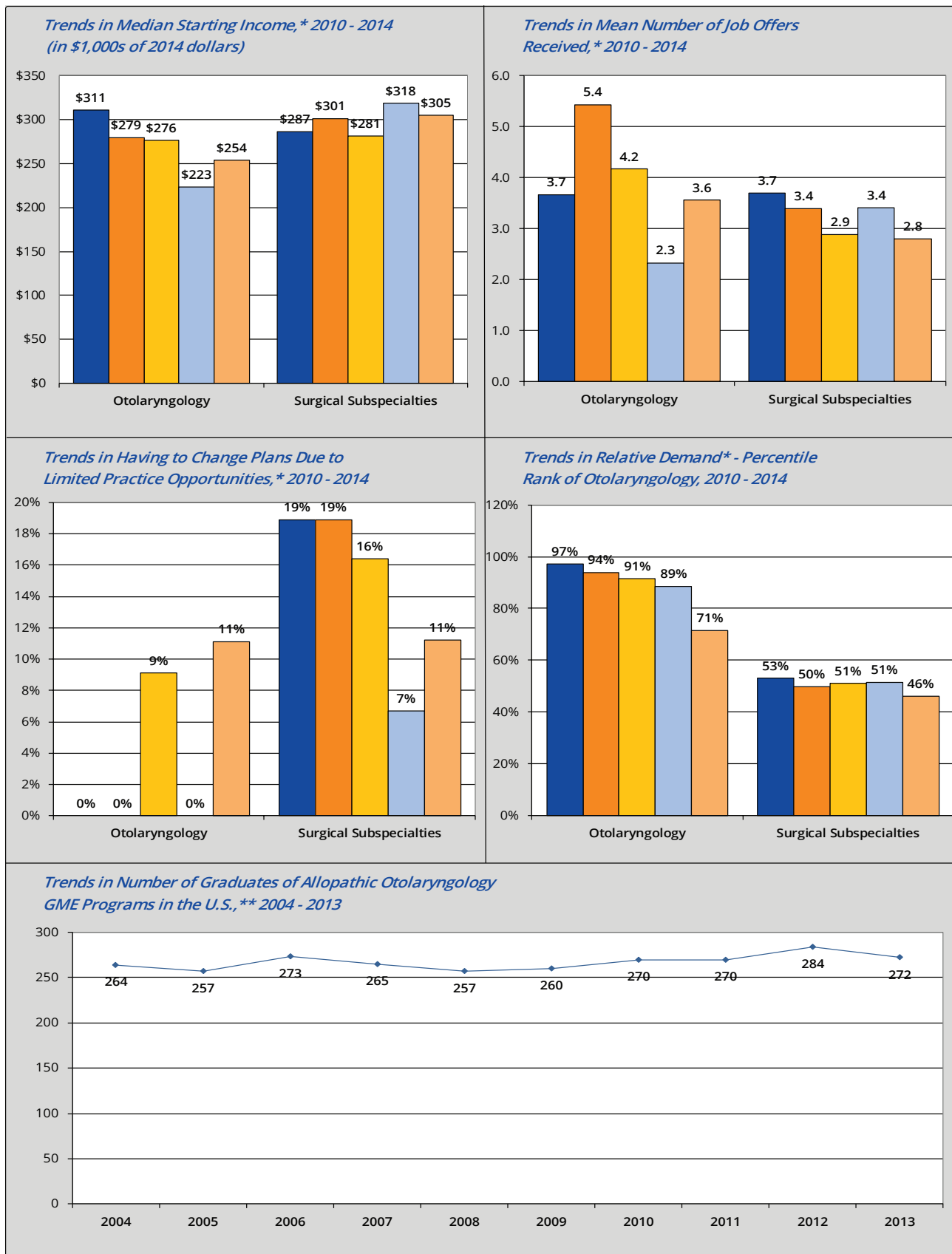
Number of responses: 2010: n = 47, 2011: n = 51, 2012: n = 42, 2013: n = 24, 2014: n = 35.

\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.

Specialty: Otolaryngology

Legend: ■ 2010 ■ 2011 ■ 2012 ■ 2013 ■ 2014



Number of responses: 2010: n = 6, 2011: n = 7, 2012: n = 13, 2013: n = 9, 2014: n = 10.

\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.

Specialty: Plastic Surgery

Legend: 2010 2011 2012 2013 2014



Number of responses: 2010: n = 4, 2011: n = 7, 2012: n = 3, 2013: n = 1, 2014: n = 1.  
 \*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.  
 \*\*Source: JAMA Medical Education Issues, 2004 - 2013.

Specialty: Cardio-Thoracic Surgery

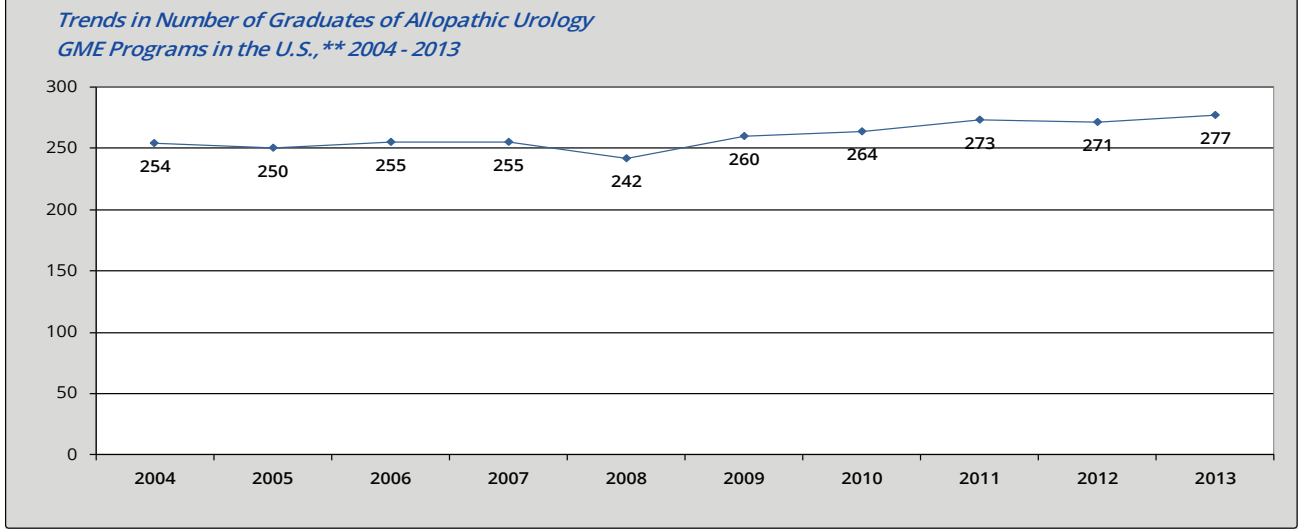
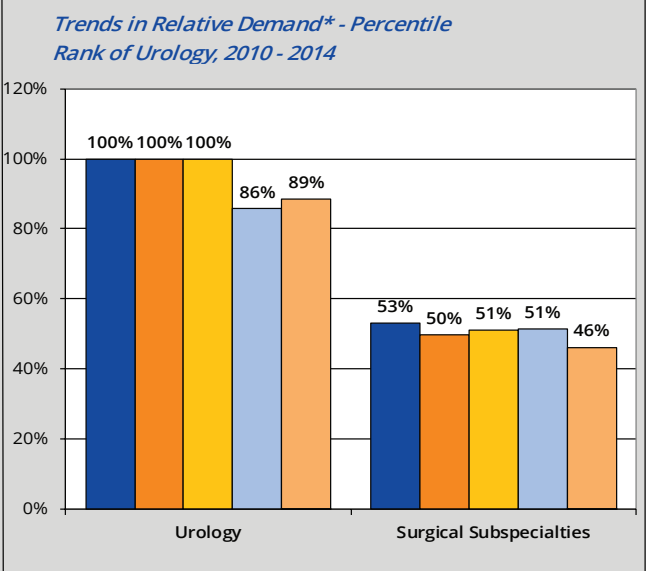
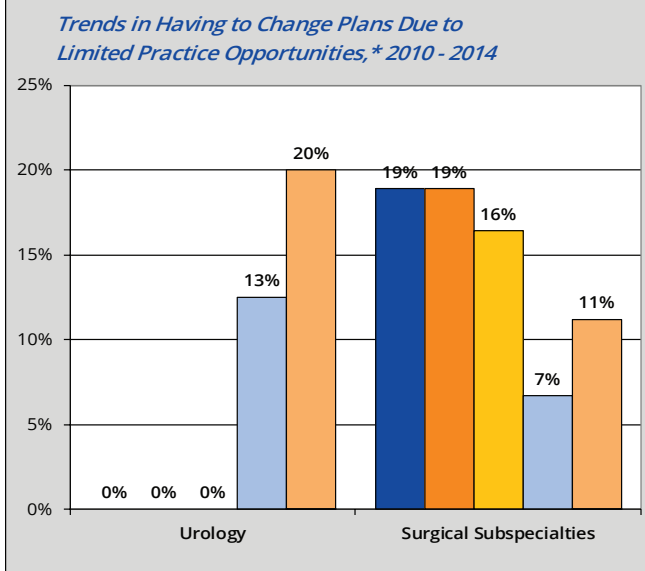
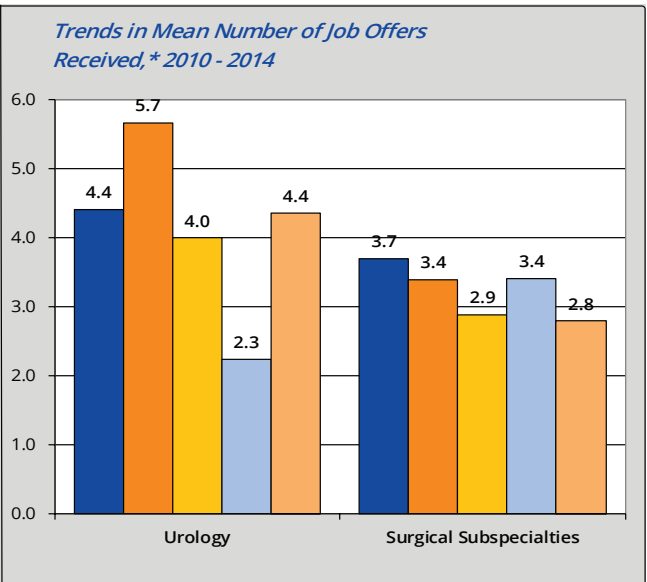
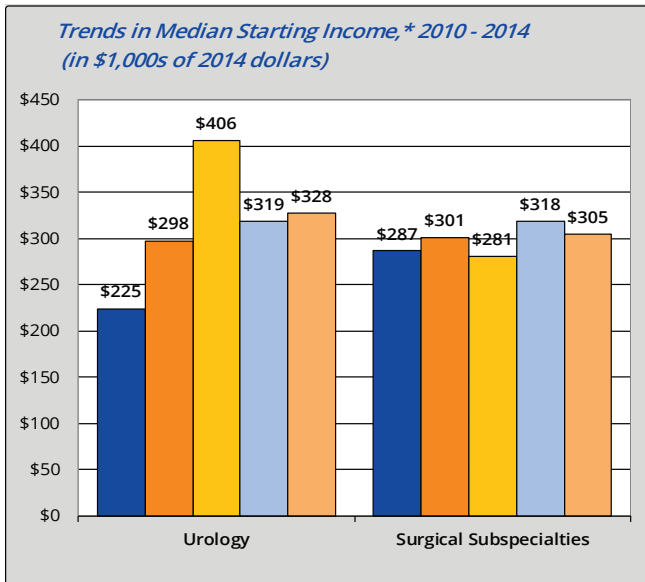
Legend: ■ 2010 ■ 2011 ■ 2012 ■ 2013 ■ 2014



Number of responses: 2010: n = 3, 2011: n = 3, 2012: n = 6, 2013: n = 5, 2014: n = 3.  
 \*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.  
 \*\*Source: JAMA Medical Education Issues, 2004 - 2013.

Specialty: Urology

Legend: 2010 2011 2012 2013 2014

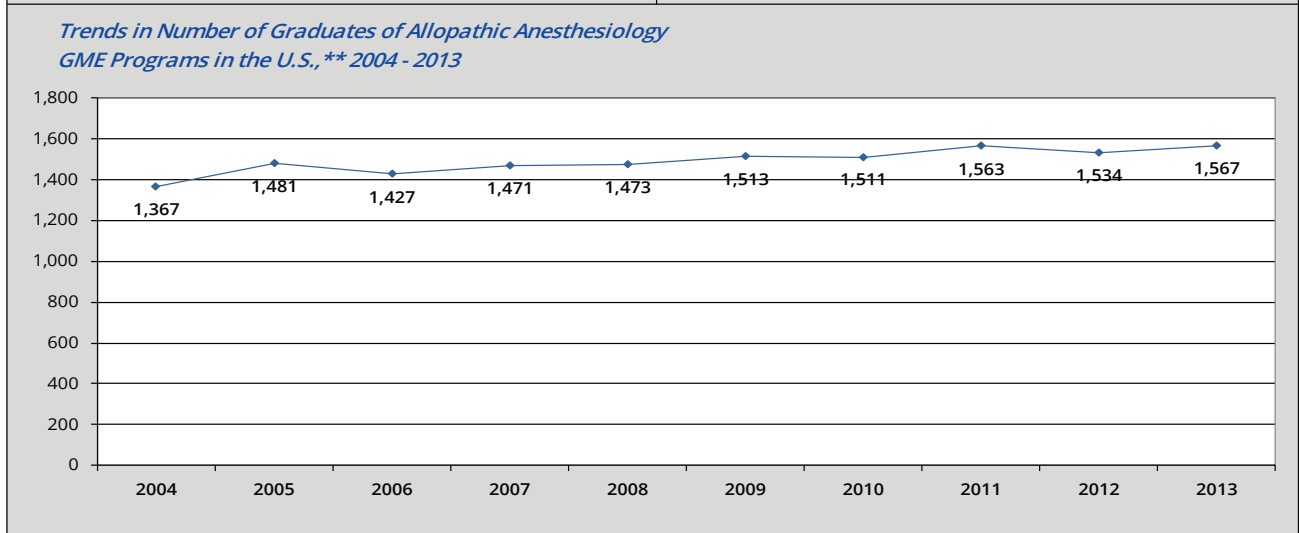
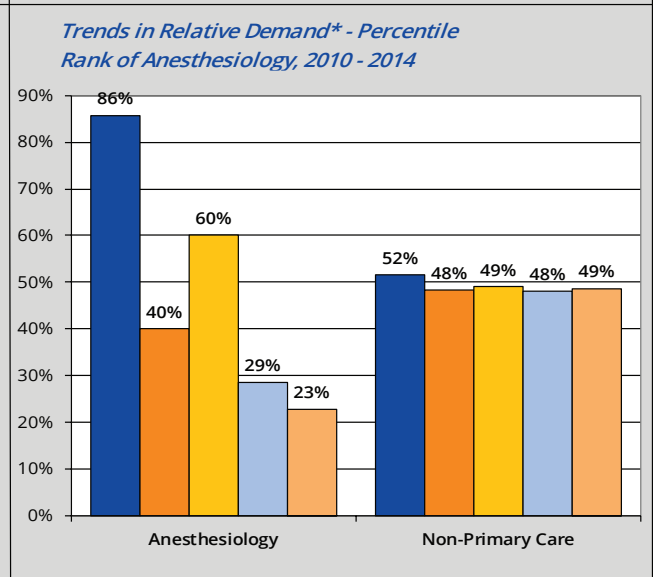
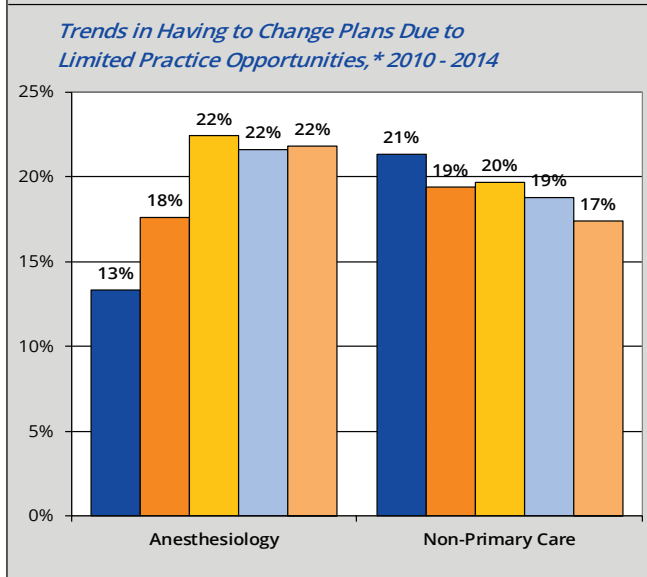
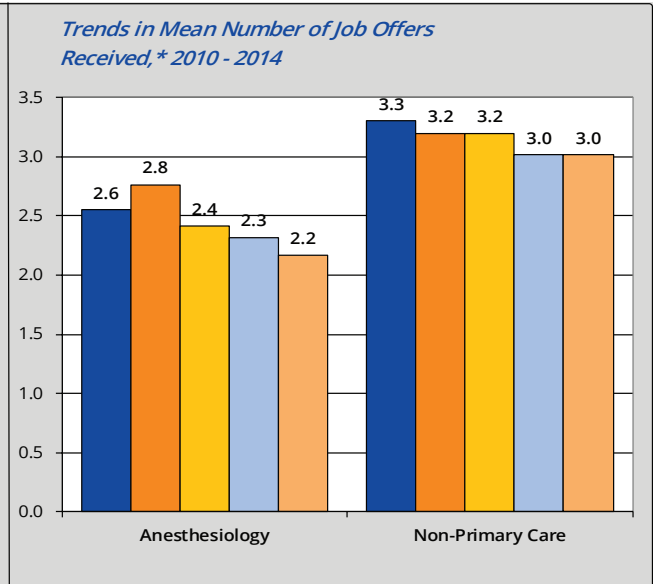
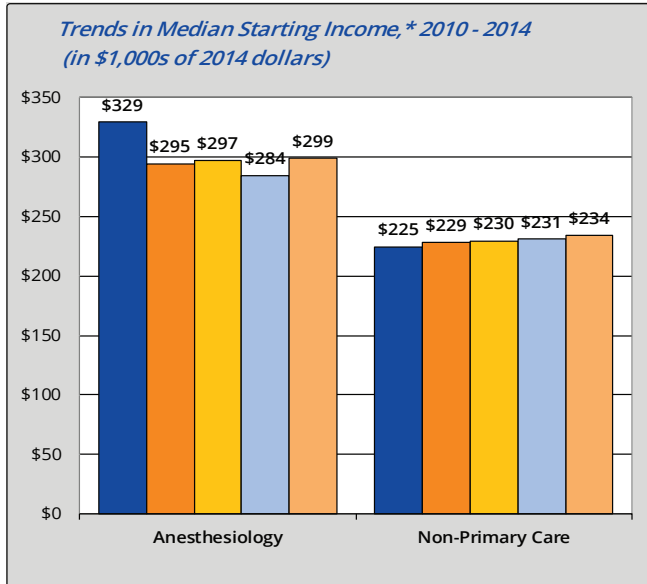


Number of responses: 2010: n = 12, 2011: n = 11, 2012: n = 13, 2013: n = 8, 2014: n = 11.  
 \*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.  
 \*\*Source: JAMA Medical Education Issues, 2004 - 2013.



Specialty: Anesthesiology

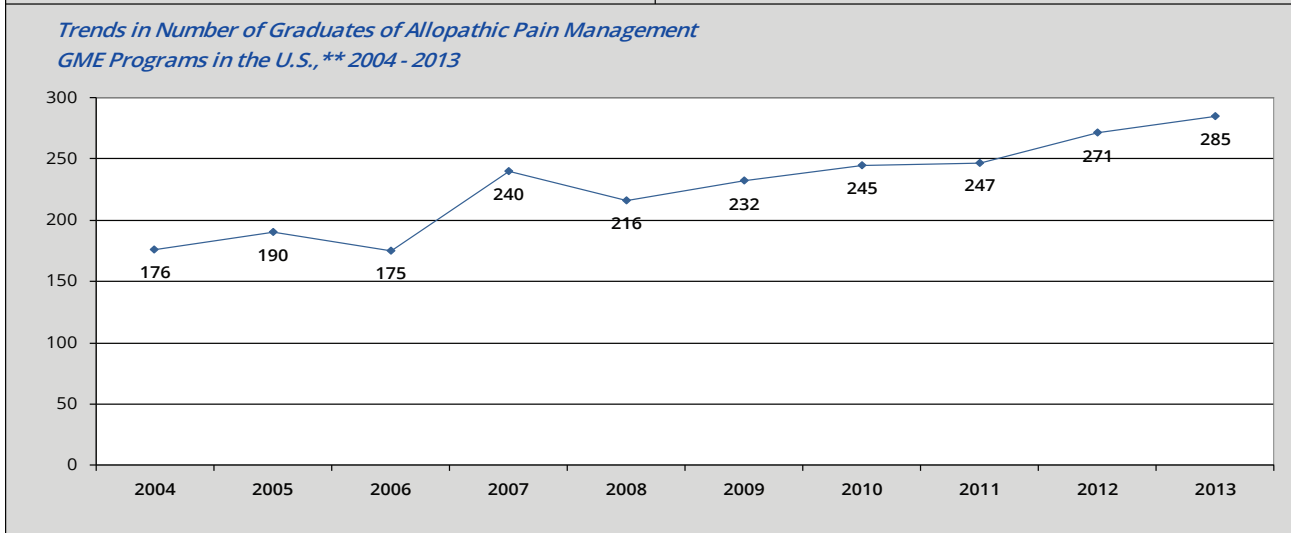
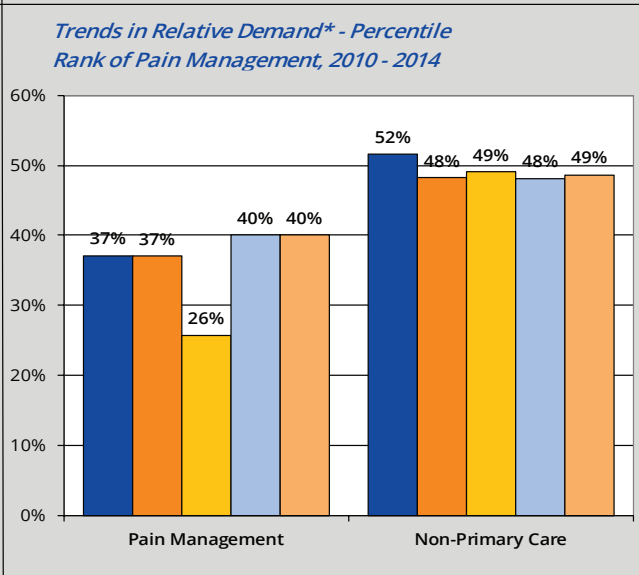
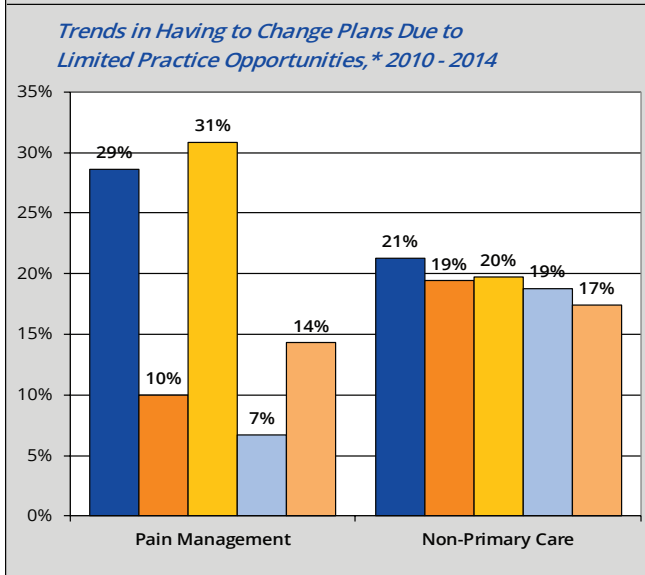
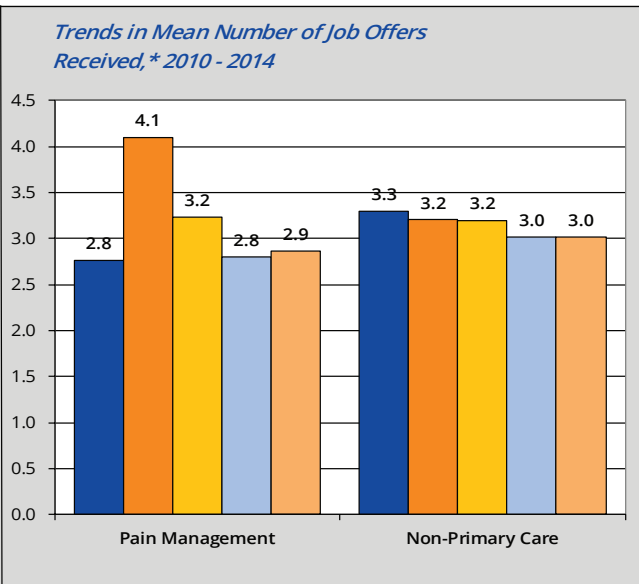
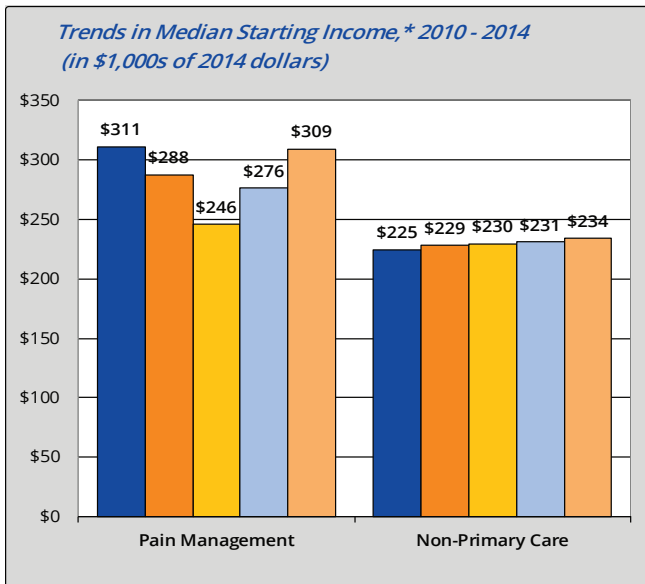
Legend: ■ 2010 ■ 2011 ■ 2012 ■ 2013 ■ 2014



Number of responses: 2010: n = 67, 2011: n = 70, 2012: n = 60, 2013: n = 41, 2014: n = 56.

\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.



Number of responses: 2010: n = 21, 2011: n = 10, 2012: n = 13, 2013: n = 15, 2014: n = 22.

\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.

Specialty: Pathology

Legend: 2010 2011 2012 2013 2014

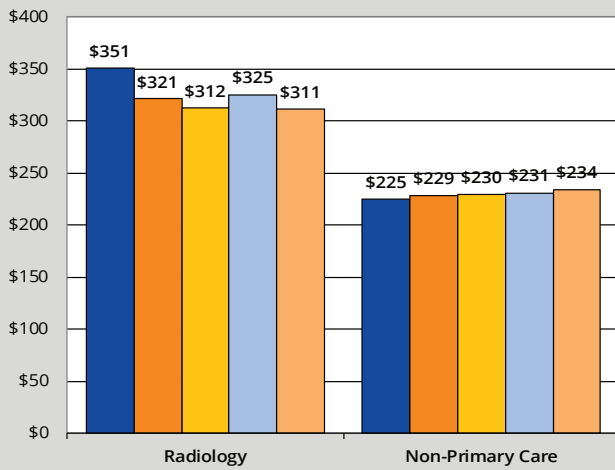


Number of responses: 2010: n = 47, 2011: n = 33, 2012: n = 32, 2013: n = 35, 2014: n = 33.

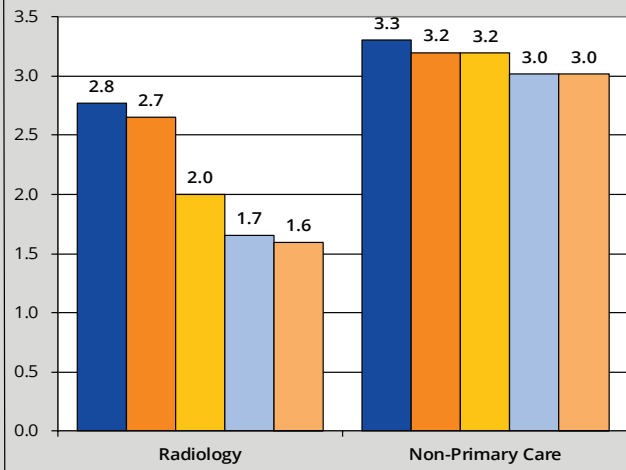
\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.

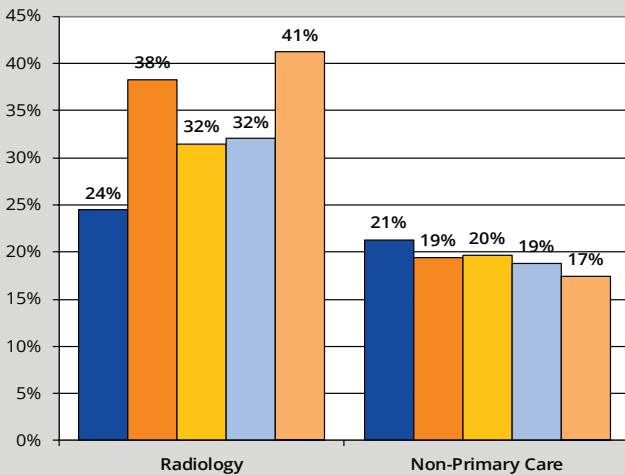
*Trends in Median Starting Income,\* 2010 - 2014  
(in \$1,000s of 2014 dollars)*



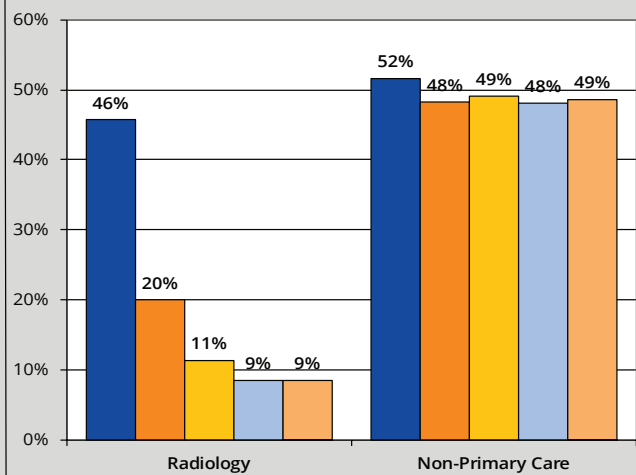
*Trends in Mean Number of Job Offers Received,\* 2010 - 2014*



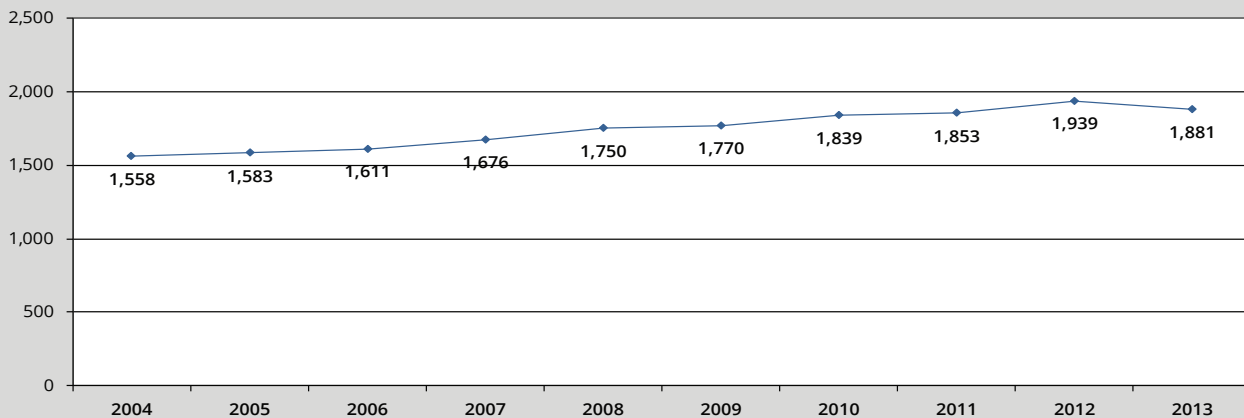
*Trends in Having to Change Plans Due to Limited Practice Opportunities,\* 2010 - 2014*



*Trends in Relative Demand\* - Percentile Rank of Radiology, 2010 - 2014*



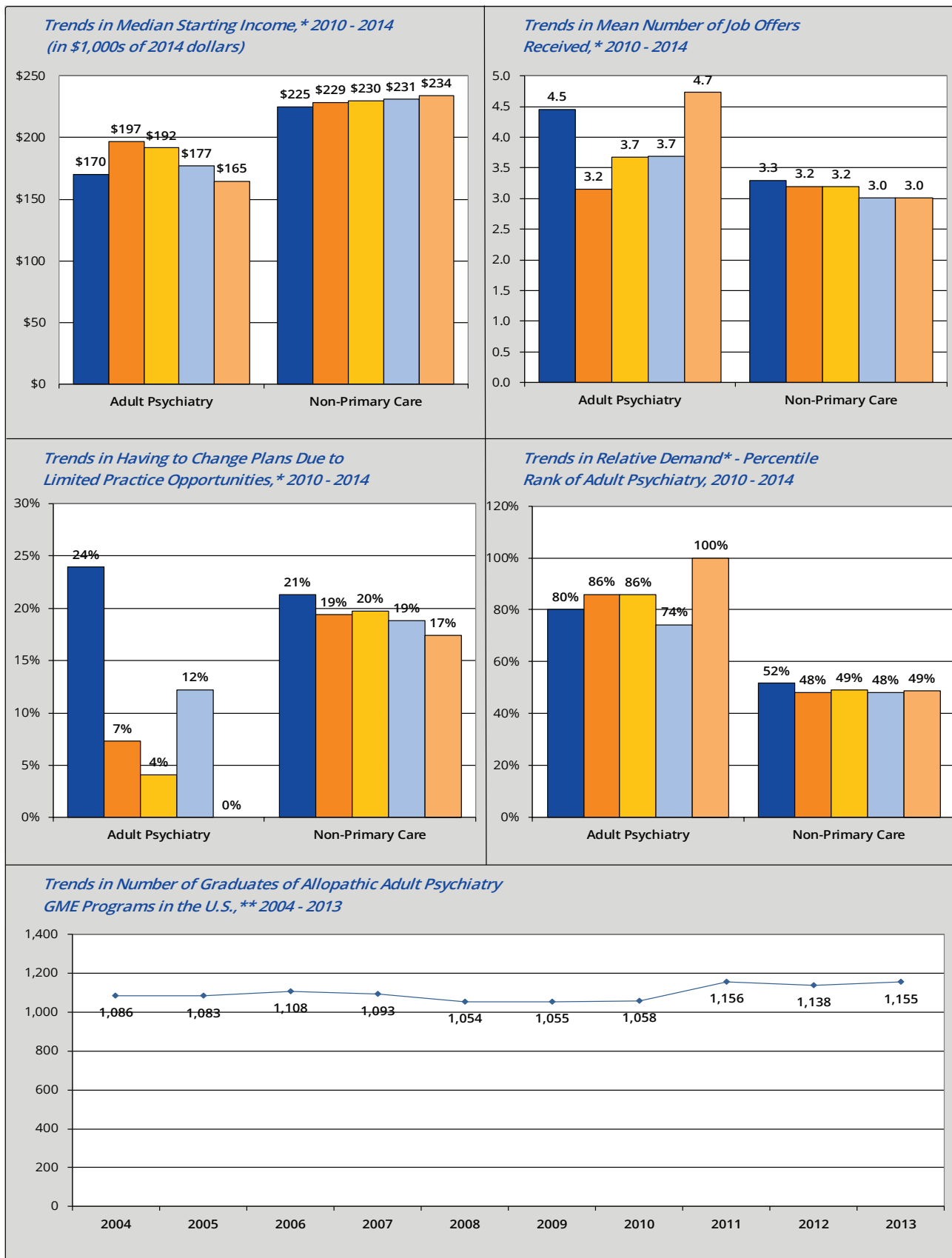
*Trends in Number of Graduates of Allopathic Radiology GME Programs in the U.S.,\*\* 2004 - 2013*



Number of responses: 2010: n = 49, 2011: n = 53, 2012: n = 57, 2013: n = 54, 2014: n = 39.

\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

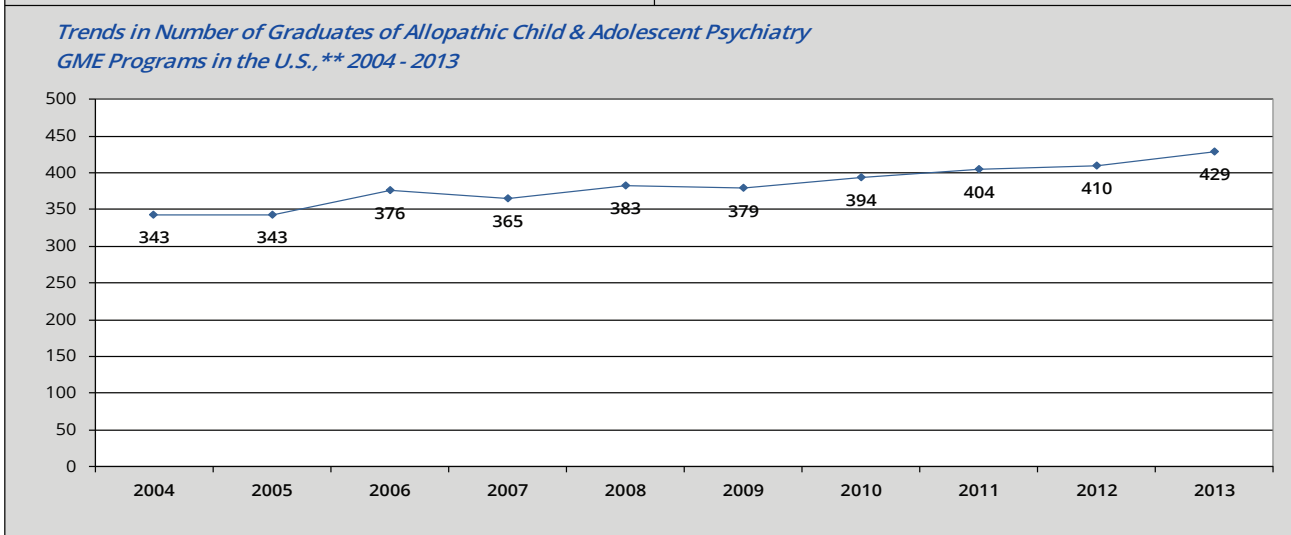
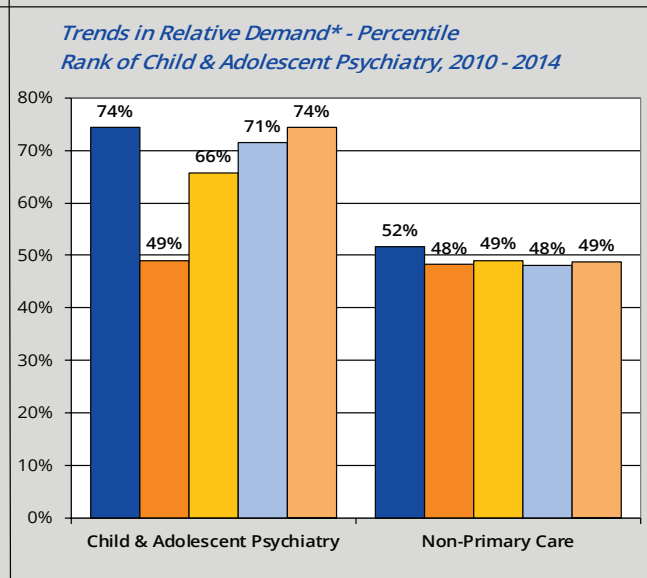
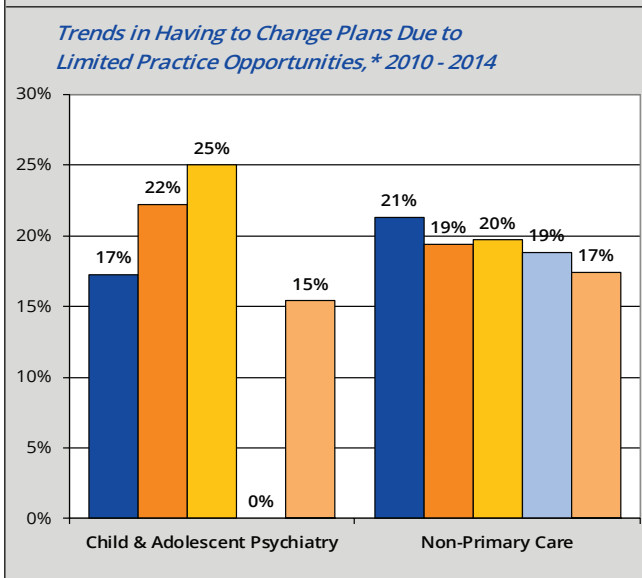
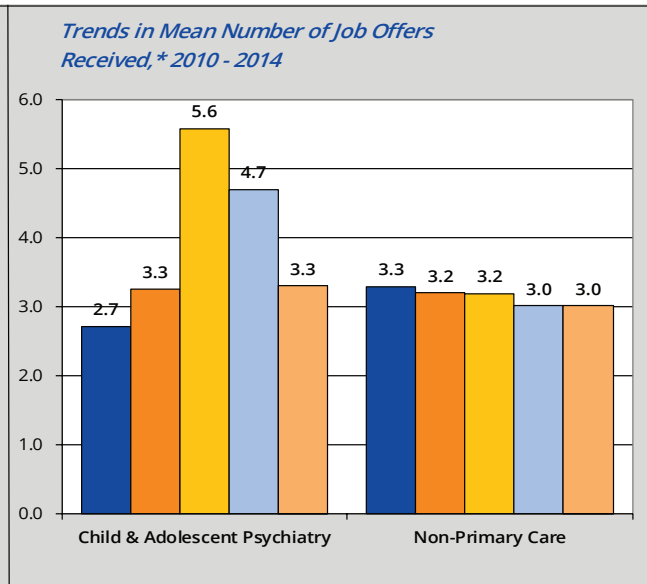
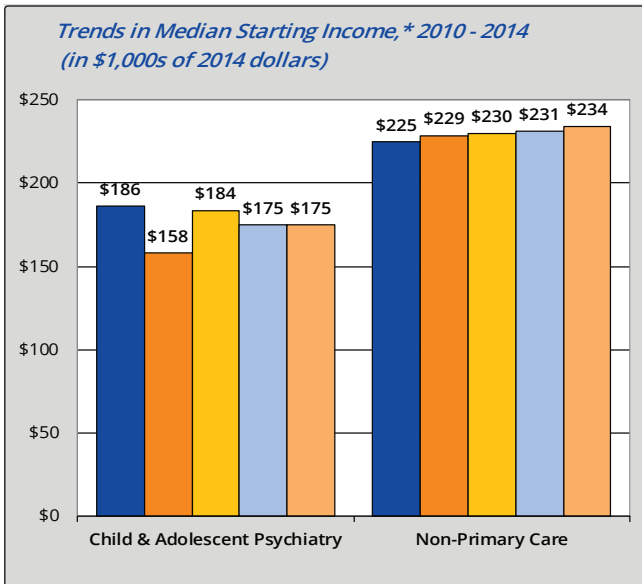
\*\*Source: JAMA Medical Education Issues, 2004 - 2013.



Number of responses: 2010: n = 48, 2011: n = 48, 2012: n = 56, 2013: n = 44, 2014: n = 40.

\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.



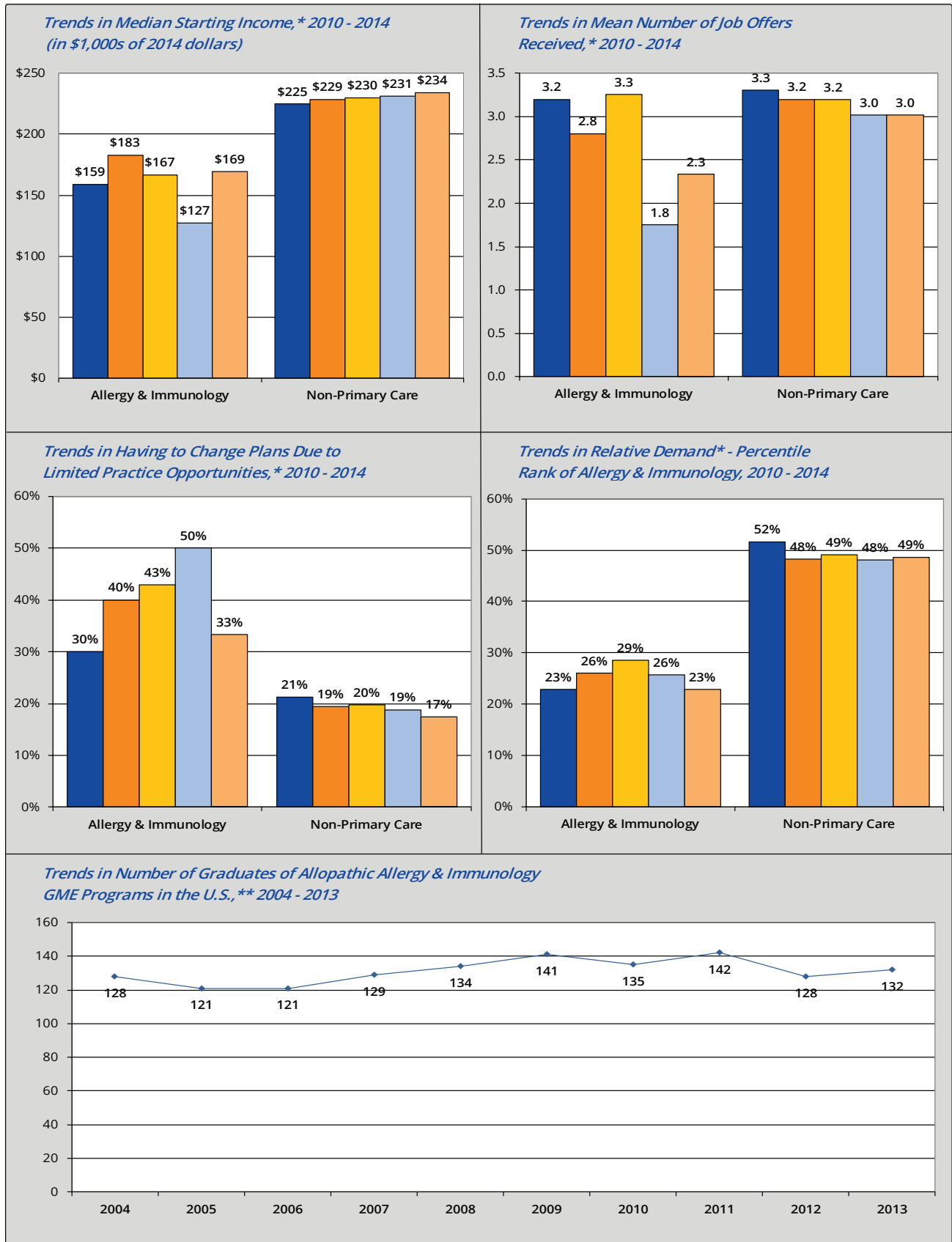
Number of responses: 2010: n = 31, 2011: n = 27, 2012: n = 15, 2013: n = 11, 2014: n = 29.

\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

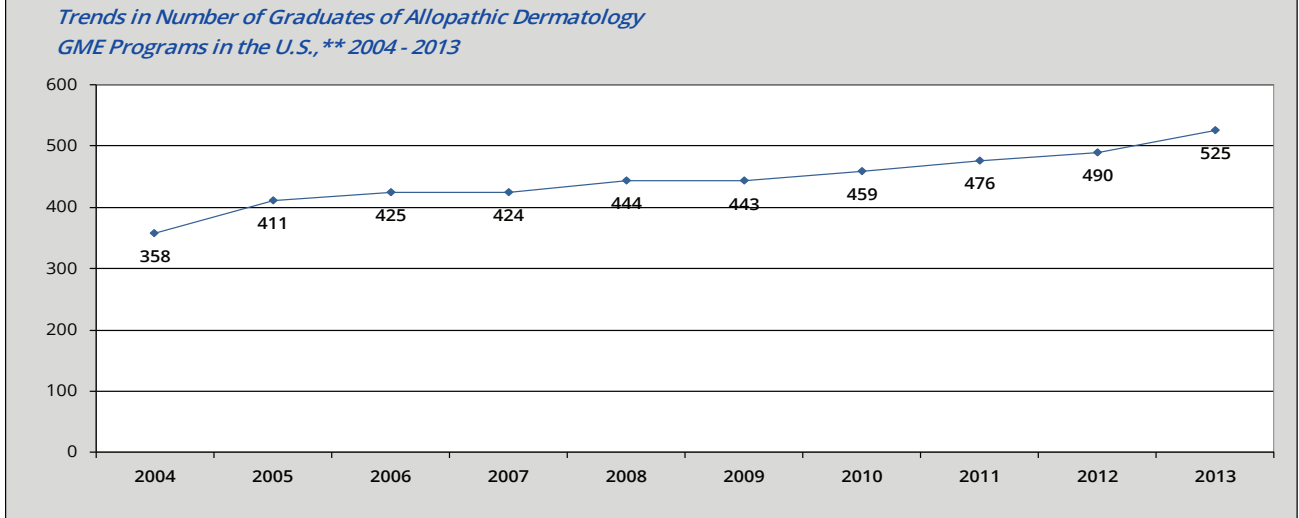
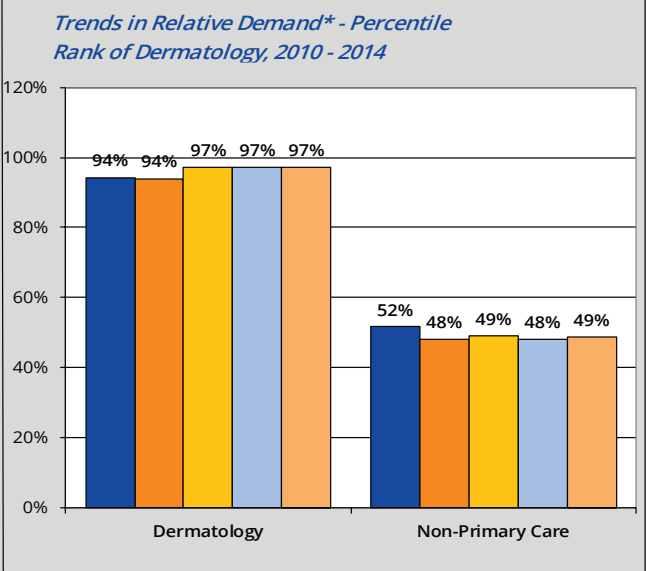
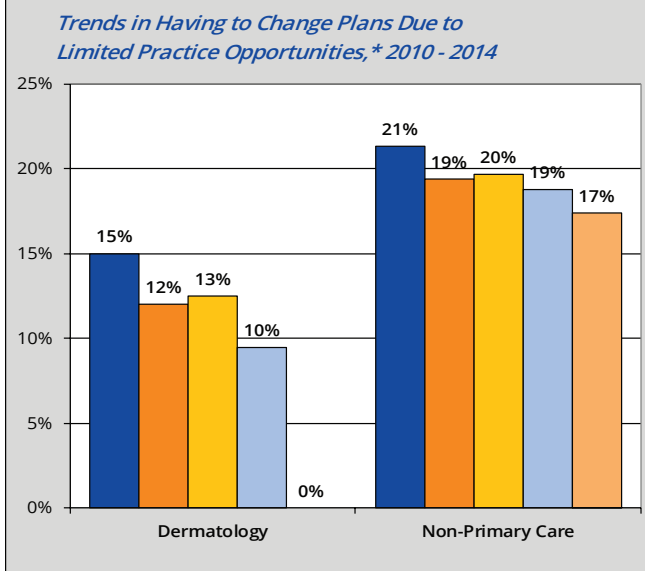
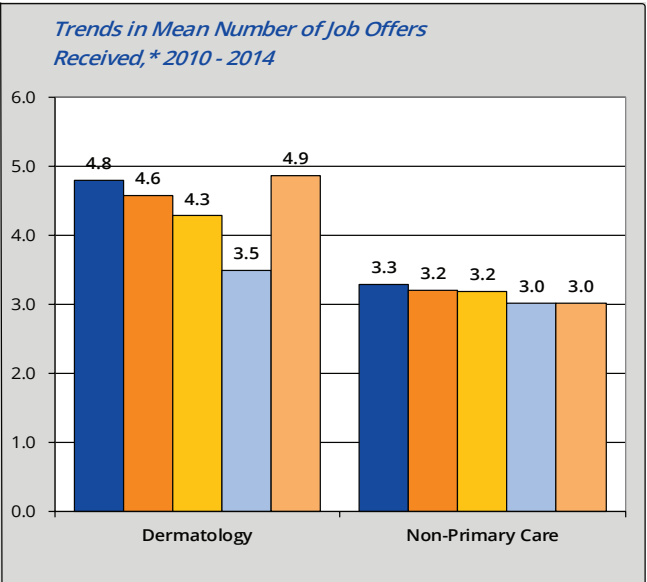
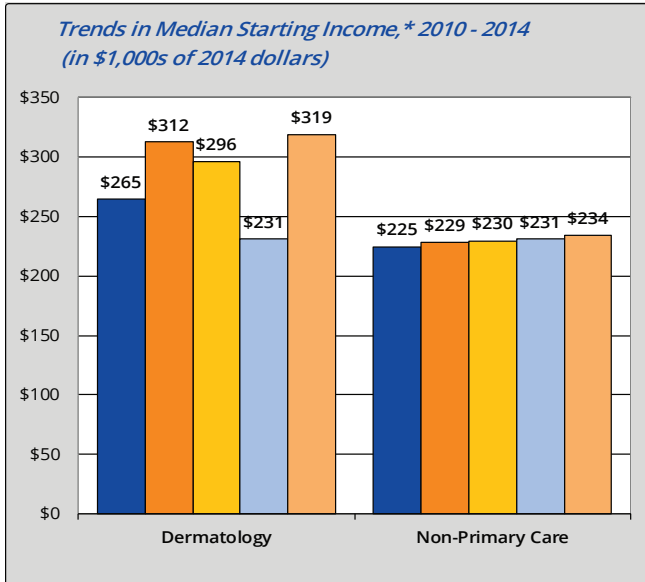
\*\*Source: JAMA Medical Education Issues, 2004 - 2013.

Specialty: Allergy & Immunology

Legend: ■ 2010 ■ 2011 ■ 2012 ■ 2013 ■ 2014



Number of responses: 2010: n = 10, 2011: n = 5, 2012: n = 9, 2013: n = 4, 2014: n = 6.  
 \*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.  
 \*\*Source: JAMA Medical Education Issues, 2004 - 2013.



Number of responses: 2010: n = 22, 2011: n = 25, 2012: n = 17, 2013: n = 21, 2014: n = 19.

\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.



Specialty: Emergency Medicine

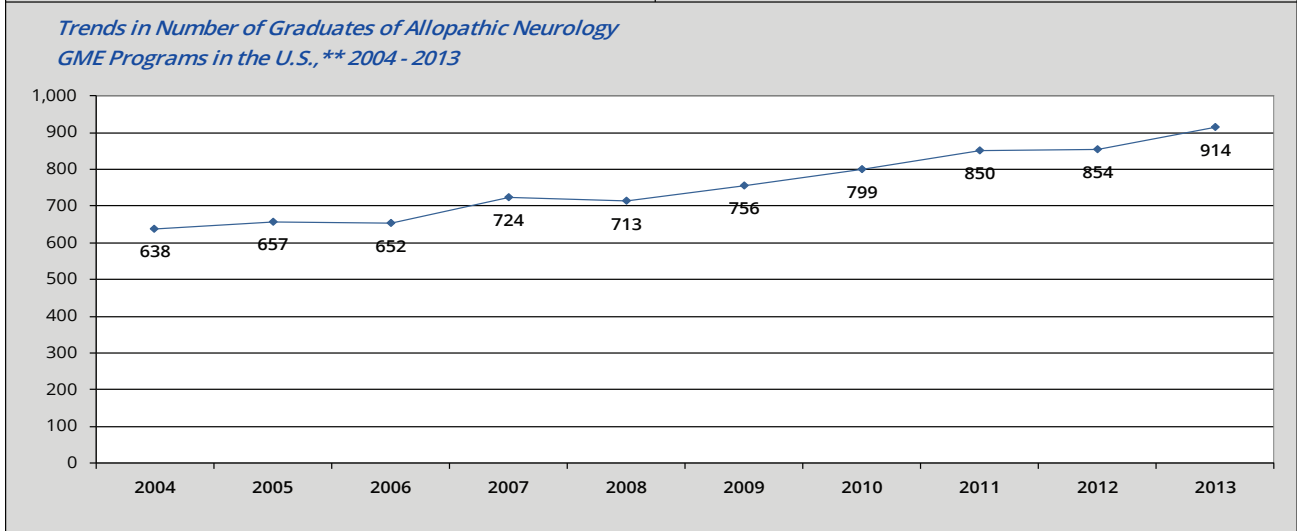
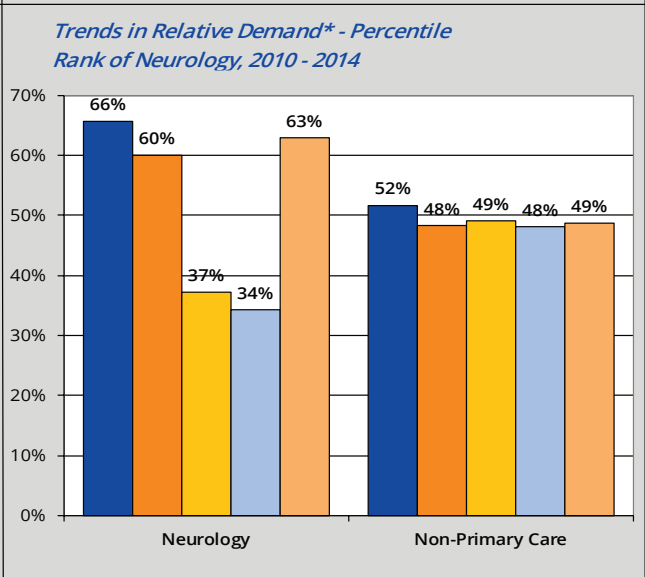
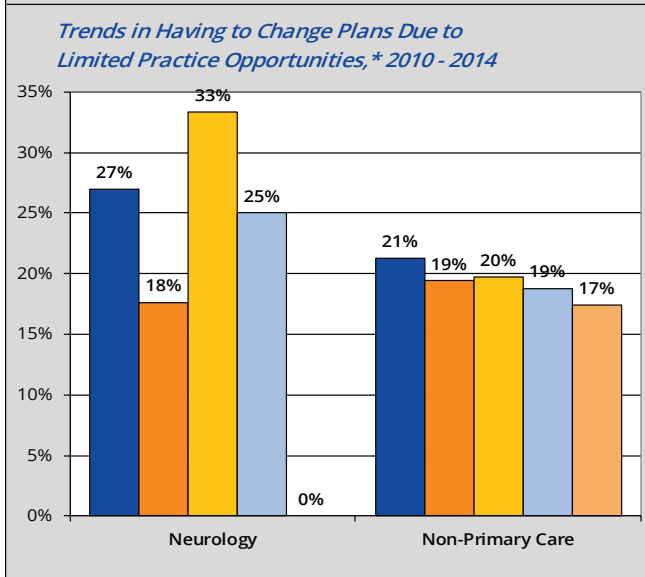
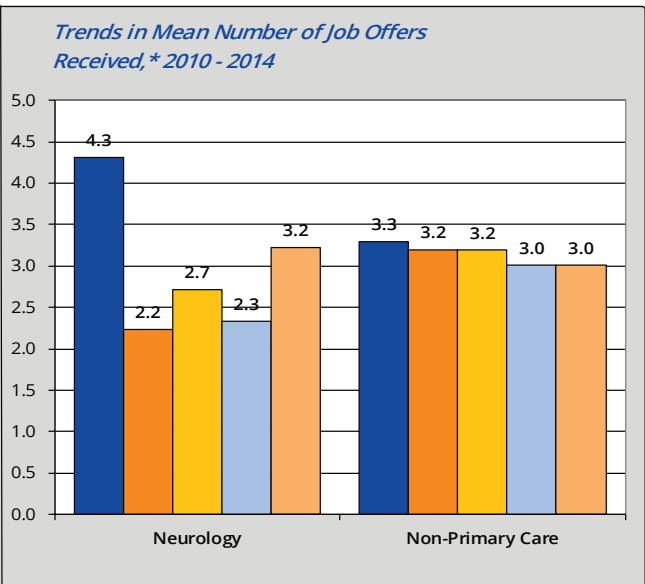
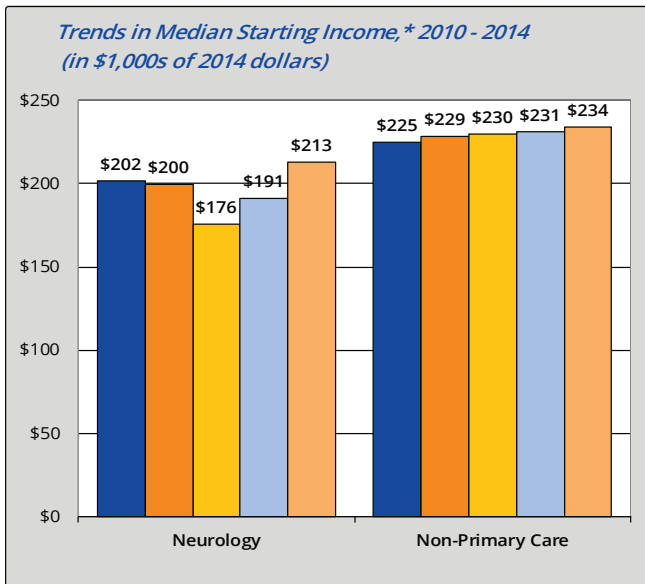
Legend: 2010 2011 2012 2013 2014



Number of responses: 2010: n = 90, 2011: n = 109, 2012: n = 119, 2013: n = 99, 2014: n = 88.

\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.



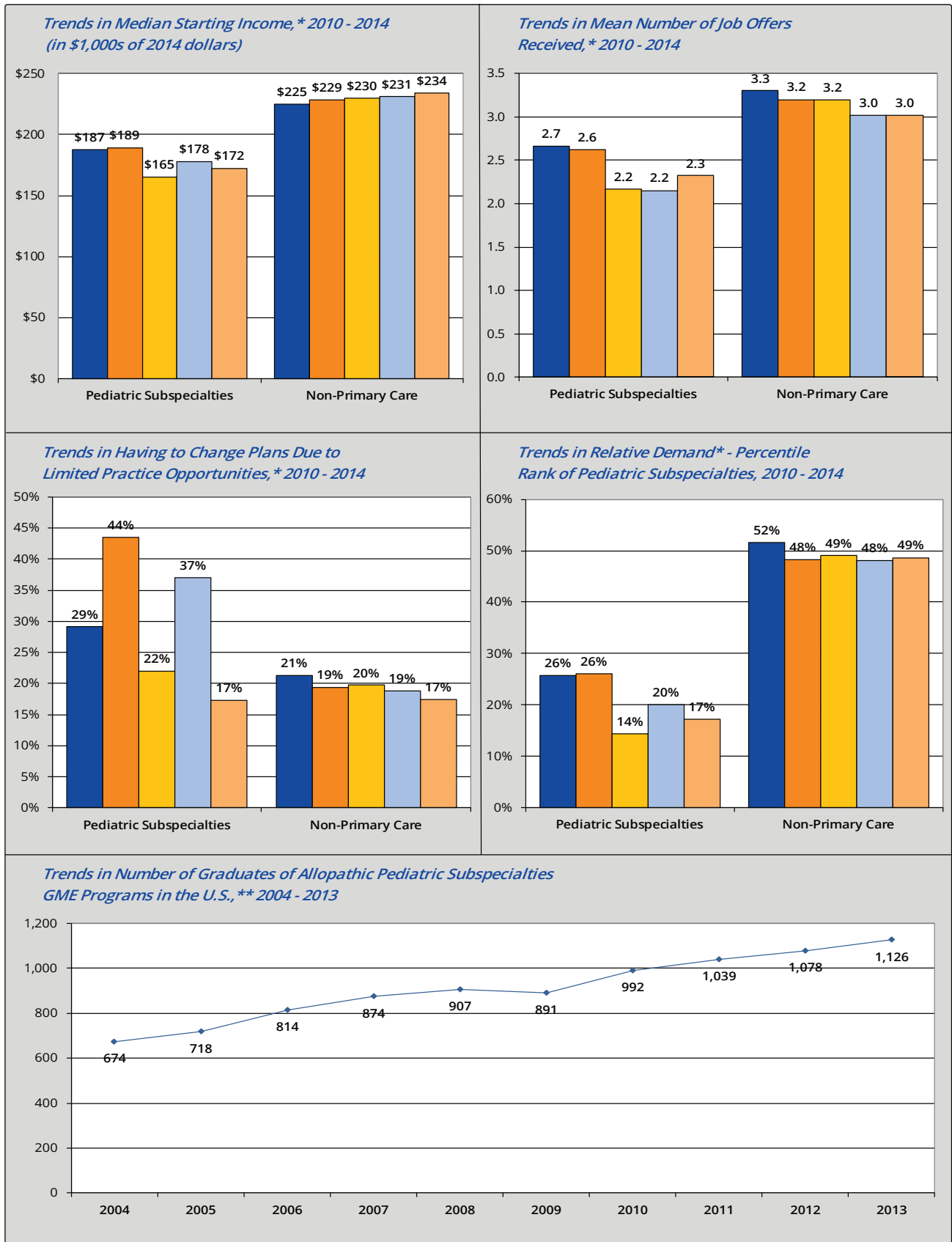
Number of responses: 2010: n = 27, 2011: n = 23, 2012: n = 17, 2013: n = 11, 2014: n = 14.

\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.

Specialty: Pediatric Subspecialties

Legend: 2010 2011 2012 2013 2014



Number of responses: 2010: n = 58, 2011: n = 49, 2012: n = 46, 2013: n = 50, 2014: n = 54.

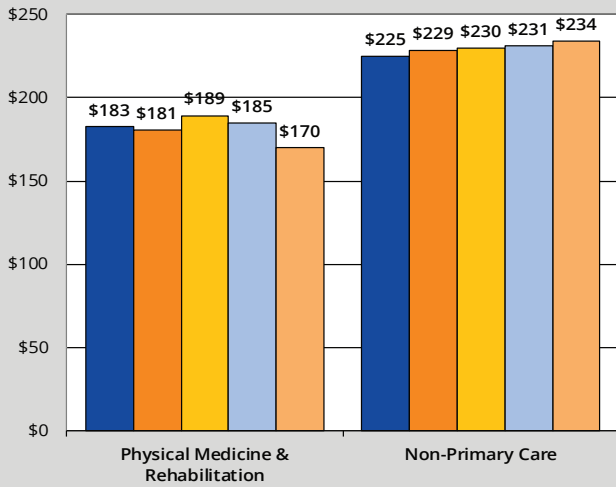
\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.

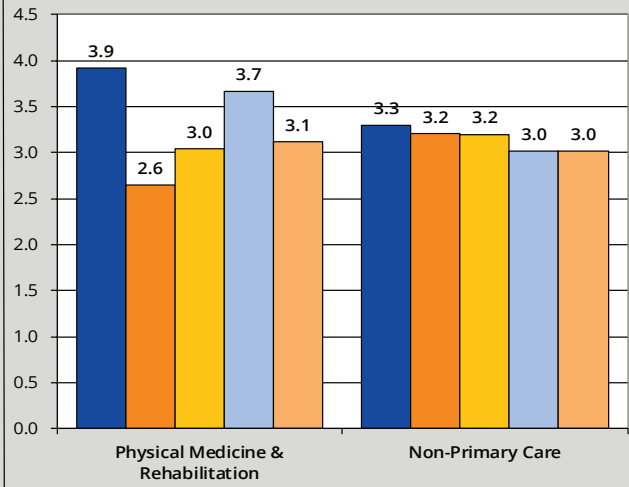
Specialty: Physical Medicine & Rehabilitation

Legend: 2010 2011 2012 2013 2014

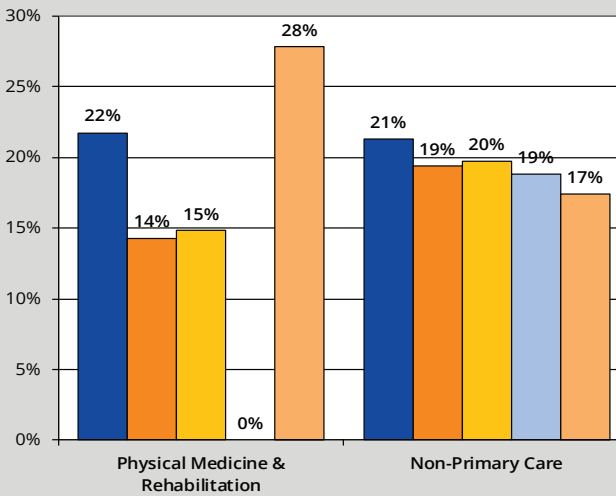
Trends in Median Starting Income,\* 2010 - 2014  
(in \$1,000s of 2014 dollars)



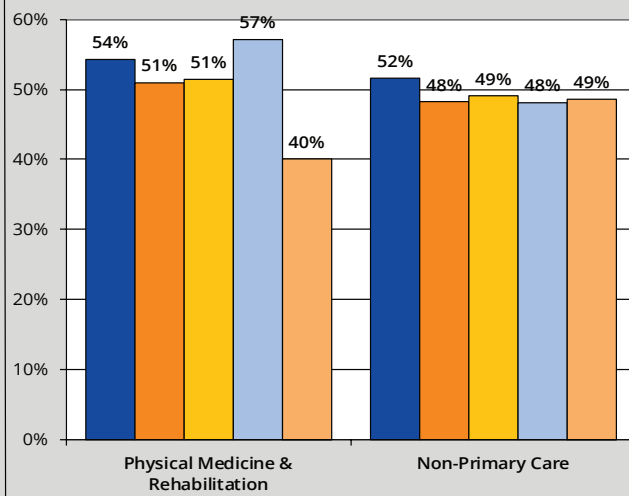
Trends in Mean Number of Job Offers Received,\* 2010 - 2014



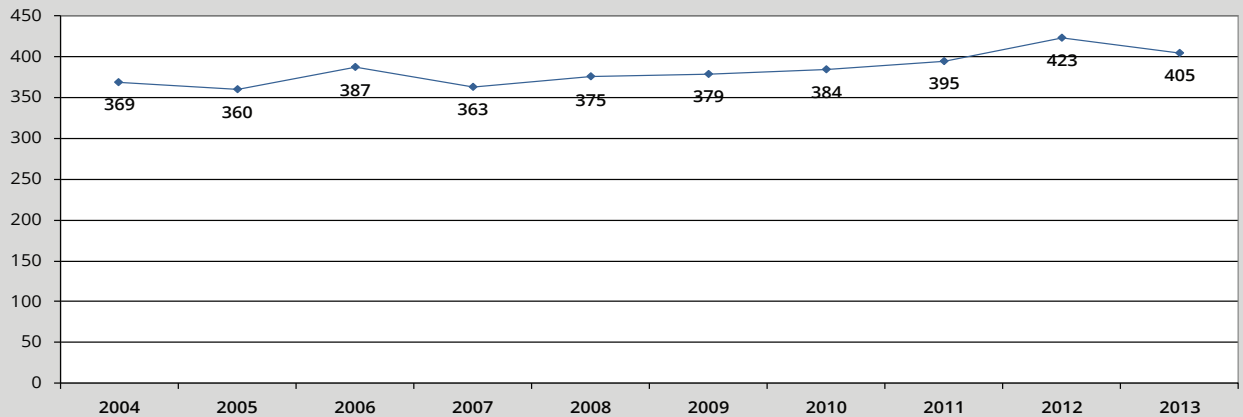
Trends in Having to Change Plans Due to Limited Practice Opportunities,\* 2010 - 2014



Trends in Relative Demand\* - Percentile Rank of Physical Medicine & Rehabilitation, 2010 - 2014



Trends in Number of Graduates of Allopathic Physical Medicine & Rehabilitation GME Programs in the U.S.,\*\* 2004 - 2013



Number of responses: 2010: n = 26, 2011: n = 16, 2012: n = 28, 2013: n = 16, 2014: n = 19.

\*Source: CHWS, Survey of Residents Completing Training in New York, 2009 - 2013.

\*\*Source: JAMA Medical Education Issues, 2004 - 2013.

# Appendix A

## METHODOLOGY USED TO MEASURE RELATIVE DEMAND

The Resident Exit Survey cannot be used to determine *absolute* demand for new physicians in different specialties (ie, it cannot be used to determine the number of physicians necessary to serve a given population). However, by analyzing several questions pertaining to job market experiences and perceptions of new physicians and comparing responses over time, in different geographical locations, and between specialties, it is possible to assess whether respondents from certain specialties or in certain locations are finding more or fewer practice opportunities (ie, it measures *relative* demand).

The implication is that while a specialty, such as pathology, may be in low demand relative to other specialties in an absolute sense, there may still be good opportunities for pathologists, but not as good or as many as another specialist that is seeing higher demand (such as child and adolescent psychiatry). In addition, it is not possible to measure the magnitude of the difference in demand between different specialties. So, if the percentile rank of general internal medicine in New York in 2014 was 91% (ie, general internal medicine had a relative rank equal to or better than 91% of the 35 specialties that were ranked), and the percentile rank of pain management was 40%, this *does not* imply that demand for general internal medicine was more than twice as strong as for neurology. The scale is only ordinal.

To measure demand for a given year, a composite score was computed by taking the median of the ranks (ie, where each specialty stood relative to all 35 specialties) scored by each specialty on each of the demand indicators for data from the previous 4 years of the survey. Data from more recent years of the survey received a greater weight than data from earlier years. For example, when calculating the demand score for 2014, data from 2014 were weighted .40, data from 2013 were weighted .30, data from 2012 were weighted .20, and data from 2011 were weighted .10. The following variables were used as indicators of demand:

- Percentage of respondents having difficulty finding a satisfactory practice position
- Percentage of respondents having to change plans due to limited practice opportunities
- Mean number of job offers received by respondents
- Respondents' mean Likert score summarizing their assessment of the regional job market
- Respondents' mean Likert score summarizing their assessment of the national job market
- Trend (ie, average annual change) in median starting income

None of these indicators used alone will provide a perfect picture of demand. However, considered together, they provide a good picture of relative demand by specialty. There was a high degree of correlation between the “percentage of respondents with difficulty finding a satisfactory practice position” variable and the “percentage of respondents having to change plans due to limited practice opportunities” variable (ie, a respondent reporting “difficulty...” was much more likely to also report “having to change plans...”). There was also a high degree of correlation between respondents’ assessments of the “regional job market” and the “national job market.” For this reason, the “job offers” variable and the “trends in starting income” variable were each double weighted in computing a composite demand score.

Table 1 summarizes the rank of each specialty (ranked among 35 specialties) on each demand indicator. The variables are:

- **Difficulty:** Rank of each specialty based on the percentage of respondents reporting difficulty finding a satisfactory practice position → eg, the specialty with the lowest percentage of respondents reporting difficulty (emergency medicine) ranked #1 and the specialty with the highest percentage of respondents reporting difficulty (pathology) ranked #35.
- **Change Plans:** Rank of each specialty based on the percentage of respondents that had to change plans due to practice opportunities → eg, the specialty with the lowest percentage of respondents having to change plans (adult psychiatry) ranked #1 and the specialty with the highest percentage of respondents reporting difficulty (pathology) ranked #35.
- **Job Offers:** Rank of each specialty in terms of the mean number of job offers received by respondents (this variable was double weighted in computing the overall demand score) → eg, the specialty with the most job offers (general internal medicine) ranked #1 and the specialty with the fewest job offers (plastic surgery) ranked #35.
- **Regional Market:** Rank of each specialty in terms of the mean Likert score summarizing respondents’ assessments of the regional job market for their specialty → eg, the specialty with the most positive assessment of the regional job market (emergency medicine) ranked #1 and the specialty with the least positive assessment of the regional job market (pathology) ranked #35.
- **National Market:** Rank of each specialty in terms of the mean Likert score summarizing respondents’ assessments of the national job market for their specialty → eg, the specialty with the most positive assessment of the national job market (adult psychology) ranked #1 and the specialty with the least positive assessment of the national job market (pathology) ranked #35.

- **Income Trend:** Rank of each specialty in terms the average annual change (or trend) in median starting income levels of respondents from each specialty → eg, the specialty with the strongest trend in median starting income (general surgery) ranked #1 and the specialty with the weakest trend in median starting income (cardio-thoracic) ranked #35.

**Table 1. Summary of Ranks and Demand Indicators**

Specialty	Change Difficulty	Job Plans	Offers <sup>a</sup>	Regional Market	National Market	Income Trends <sup>a</sup>	Median Rank	Overall Rank	Percentile Rank <sup>b</sup>
Family Medicine	5	17	3	5	6	12	5.5	3.0	94%
General Internal Med	7	9	1	6	4	18	6.5	4.0	91%
General Pediatrics	9	10	22	11	18	19	18.5	19.0	49%
IM & Peds (Comb)	13	3	7	13	19	4	7.0	5.0	89%
Ob/Gyn	11	12	20	7	13	33	16.5	17.0	54%
Cardiology	26	27	17	28	29	14	21.5	24.0	34%
Critical Care Med	8	8	4	15	11	29	9.5	8.0	80%
Endocrinology & Met	16	16	25	12	10	6	14.0	11.0	71%
Gastroenterology	22	23	8	16	15	24	19.0	20.0	46%
Geriatrics	18	15	13	9	16	31	15.5	15.0	60%
Hematology/Onc	28	30	19	24	25	7	21.5	24.0	34%
Infectious Disease	29	26	31	32	31	27	30.0	31.0	14%
Nephrology	31	32	16	31	30	22	26.0	27.0	26%
Pulmonary Disease	25	24	5	18	7	10	10.0	9.0	77%
Rheumatology	27	29	15	25	23	8	19.0	20.0	46%
General Surgery	2	25	21	23	8	1	14.5	13.0	66%
Neurosurgery	14	2	24	27	14	16	16.0	16.0	57%
Ophthalmology	17	21	30	22	23	9	21.5	24.0	34%
Orthopedic	10	11	14	21	22	20	17.0	18.0	51%
Otolaryngology	19	6	11	8	17	34	14.0	11.0	71%
Plastic Surgery	32	34	35	30	32	3	32.0	32.0	11%
Cardio-Thoracic Surg	30	20	32	34	34	35	33.0	33.0	9%
Urology	4	5	9	14	9	2	7.0	5.0	89%
Anesthesiology	15	22	28	17	26	30	27.0	28.0	23%
Pain Management	24	18	23	19	21	17	20.0	22.0	40%
Pathology	35	35	34	35	35	23	34.5	35.0	3%
Radiology	34	31	33	33	33	32	33.0	33.0	9%
Adult Psychiatry	3	1	6	2	1	21	4.5	1.0	100%
Child & Adol Psych	12	13	12	4	3	25	12.0	10.0	74%
Allergy & Immun	33	33	27	26	28	11	27.0	28.0	23%
Dermatology	6	7	2	3	5	5	5.0	2.0	97%
Emergency Medicine	1	4	10	1	2	13	7.0	5.0	89%
Neurology	21	14	26	10	12	15	15.0	14.0	63%
Pediatric Subspecs	23	28	29	29	27	28	28.0	30.0	17%
Phys Med & Rehab	20	19	18	20	20	26	20.0	22.0	40%

<sup>a</sup> The job offers variable and the income trend variable were each double weighted in computing the median rank.

<sup>b</sup> The percentile rank is the percentage of all 35 specialties with a median demand rank equal to or lower than each specialty.



# Appendix B

## SPECIALTY COMPARISON GROUPS

Specialty	Comparison Group <sup>a</sup>
Family Medicine	Primary Care
General Internal Medicine	Primary Care
General Pediatrics	Primary Care
IM & Peds (Combined)	Primary Care
Obstetrics/Gynecology	Non-Primary Care
Cardiology	Medicine Subspecialties
Critical Care Medicine	Medicine Subspecialties
Endocrinology & Metabolism	Medicine Subspecialties
Gastroenterology	Medicine Subspecialties
Geriatrics	Medicine Subspecialties
Hematology/Oncology	Medicine Subspecialties
Infectious Disease	Medicine Subspecialties
Nephrology	Medicine Subspecialties
Pulmonary Disease	Medicine Subspecialties
Rheumatology	Medicine Subspecialties
General Surgery	Non-Primary Care
Neurosurgery	Surgical Subspecialties
Ophthalmology	Surgical Subspecialties
Orthopedic Surgery	Surgical Subspecialties
Otolaryngology	Surgical Subspecialties
Plastic Surgery	Surgical Subspecialties
Cardio-Thoracic Surgery	Surgical Subspecialties
Urology	Surgical Subspecialties
Anesthesiology	Non-Primary Care
Pain Management	Non-Primary Care
Pathology	Non-Primary Care
Radiology	Non-Primary Care
Adult Psychiatry	Non-Primary Care
Child & Adolescent Psychiatry	Non-Primary Care
Allergy & Immunology	Non-Primary Care
Dermatology	Non-Primary Care
Emergency Medicine	Non-Primary Care
Neurology	Non-Primary Care
Pediatric Subspecialties	Non-Primary Care
Physical Medicine & Rehabilitation	Non-Primary Care

<sup>a</sup> In each specialty profile, statistics for the specialty are presented next to the average of all specialties in the group to which the specialty belongs (ie, the comparison group). As an example, the starting median of family practice is compared to the median starting income of all primary care. Likewise, the relative demand (or percentile rank) of cardiology is compared against the average percentile rank of all medicine subspecialties.

# Appendix C

# NY RESIDENT EXIT SURVEY INSTRUMENT

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**12. Specialty you are COMPLETING in 2014**

(select only one)

- Allergy and Immunology
- Anesthesiology (General)
- Anesthesiology–Pain Management
- Other Anesthesiology Subspecialty–specify: \_\_\_\_\_
- Dermatology
- Emergency Medicine
- Family Medicine
- Internal Medicine (General)
- Cardiology
- Critical Care Medicine
- Endocrinology and Metabolism
- Gastroenterology
- Geriatrics
- Hematology/Oncology
- Infectious Disease
- Nephrology
- Pulmonary Disease/CCM
- Rheumatology
- Other Internal Medicine Subspecialty–specify: \_\_\_\_\_
- Internal Medicine and Pediatrics (Combined)
- Neurology
- Nuclear Medicine
- Obstetrics and Gynecology (General)
- Obstetrics and Gynecology (Subspecialty)–specify: \_\_\_\_\_
- Pathology (General)
- Pathology (Subspecialty)–specify: \_\_\_\_\_
- Pediatrics (General)
- Pediatrics (Subspecialty)–specify: \_\_\_\_\_
- Physical Medicine and Rehabilitation
- Preventive Medicine/Public Health/Occupational Medicine
- Psychiatry
- Child and Adolescent Psychiatry
- Other Psychiatry Subspecialty–specify: \_\_\_\_\_
- Radiology (Diagnostic)
- Radiology (Therapeutic)
- Surgery (General)
- Cardio-Thoracic Surgery
- Neurological Surgery
- Ophthalmology
- Orthopedic Surgery
- Otolaryngology
- Plastic Surgery
- Urology
- Other Surgical Subspecialty–specify: \_\_\_\_\_
- Other–specify: \_\_\_\_\_

**13. What do you expect to be doing after completion of your current training program?**

**Primary Activity** (mark only one)

- Patient care/clinical practice (in non-training position)
- Additional subspecialty training or fellowship (specify specialty): \_\_\_\_\_
- Chief resident
- Teaching/research (in non-training position)
- Temporarily out of medicine
- Other (specify): \_\_\_\_\_
- Undecided/don't know yet

**C. FUTURE PLANS**

**14. If you are going on for additional training/fellowship, please answer the following:**

**A. Why are you subspecializing/continuing training?** (mark all that apply)

- To further your medical education
- Unable to find a job you are happy with
- Unable to find any job
- To stay in the U.S. (i.e., due to visa status)
- Other (specify): \_\_\_\_\_
- Always intended to subspecialize
- Question does not apply

**B. If you are leaving NY to continue your training, do you plan to return to NY to practice when your training is complete?**

- Yes
- Don't know yet
- No
- Question does not apply

**15. In your upcoming position, how many hours per week do you expect to spend in each of the following activities?**

	None	1-9	10-19	20-29	30-39	40-49	50-59	60+
Direct patient care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teaching	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Administration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Volunteering/Community service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**16. Where is the location of your primary activity after completing your current training position?**

- Same city/county as current training
- Same region within NY, but different city/county
- Other area within NY
- Other state
- Outside the U.S.
- Don't know yet

**17. Do you have an obligation or visa requirement to work in a federally designated Health Professional Shortage Area?**

- Yes
- No



22. How many years do you expect to be at your principal practice?  
 1    2    3    4    5 or more

23. Which best describes the demographics of the area in which you will be practicing?  
 Inner city  
 Other area within major city  
 Suburban  
 Small city (population less than 50,000)  
 Rural

24. A. Please identify all of the incentives you received for accepting this practice position (*mark all that apply*). Also, please indicate the most influential incentive in your decision to accept this practice position (*mark only one*).

	Incentives Received	Most Influential Incentive
H-1 visa sponsorship	<input type="radio"/>	<input type="radio"/>
J-1 visa waiver	<input type="radio"/>	<input type="radio"/>
Sign-on bonus	<input type="radio"/>	<input type="radio"/>
Income guarantees	<input type="radio"/>	<input type="radio"/>
On-call payments	<input type="radio"/>	<input type="radio"/>
Relocation allowances	<input type="radio"/>	<input type="radio"/>
Spouse/Partner job transition assistance	<input type="radio"/>	<input type="radio"/>
Support for maintenance of certification and continuing medical education	<input type="radio"/>	<input type="radio"/>
Career development opportunities	<input type="radio"/>	<input type="radio"/>
Educational loan repayment	<input type="radio"/>	<input type="radio"/>
Other, specify: _____	<input type="radio"/>	<input type="radio"/>
None	<input type="radio"/>	<input type="radio"/>

B. If you received any incentives, how important were they in your decision to accept this practice position?  
 Not at all important    Important  
 Of little importance    Very important

25. Expected gross income during first year of practice:

A. Base Salary/Income	B. Anticipated Additional Incentive Income
<input type="radio"/> Less than \$75,000	<input type="radio"/> None
<input type="radio"/> \$75,000–\$99,999	<input type="radio"/> Less than \$5,000
<input type="radio"/> \$100,000–\$124,999	<input type="radio"/> \$5,000–\$9,999
<input type="radio"/> \$125,000–\$149,999	<input type="radio"/> \$10,000–\$14,999
<input type="radio"/> \$150,000–\$174,999	<input type="radio"/> \$15,000–\$19,999
<input type="radio"/> \$175,000–\$199,999	<input type="radio"/> \$20,000–\$24,999
<input type="radio"/> \$200,000–\$224,999	<input type="radio"/> \$25,000–\$29,999
<input type="radio"/> \$225,000–\$249,999	<input type="radio"/> \$30,000–\$34,999
<input type="radio"/> \$250,000–\$274,999	<input type="radio"/> \$35,000–\$39,999
<input type="radio"/> \$275,000–\$299,999	<input type="radio"/> \$40,000–\$44,999
<input type="radio"/> \$300,000–\$324,999	<input type="radio"/> \$45,000–\$49,999
<input type="radio"/> \$325,000–\$349,999	<input type="radio"/> \$50,000–\$54,999
<input type="radio"/> \$350,000–\$374,999	<input type="radio"/> \$55,000–\$59,999
<input type="radio"/> \$375,000 and over	<input type="radio"/> \$60,000 and over

26. What is your level of satisfaction with your salary/compensation?  
 Very dissatisfied    Somewhat satisfied  
 Somewhat dissatisfied    Very satisfied

### E. EXPERIENCE IN JOB MARKET

(If you are going into patient care or have considered going into patient care, please complete the following.)

27. A. Did you have difficulty finding a practice position you were satisfied with?  
 Yes    No    Haven't looked yet  
 (Skip to Question #30)

B. If Yes, what would you say was the main reason? (*mark only one*)  
 Overall lack of jobs/practice opportunities  
 Lack of jobs/practice opportunities that meet visa status requirements  
 Lack of jobs/practice opportunities in desired locations  
 Lack of jobs/practice opportunities in desired practice setting (e.g., hospital, group practice, etc.)  
 Inadequate salary/compensation offered  
 Lack of employment opportunities for spouse/partner  
 Other (specify): \_\_\_\_\_

28. Did you have to change your plans because of limited practice opportunities?  
 Yes    No    Haven't looked yet  
 (Skip to Question #30)

29. How many offers for practice positions did you receive (*excluding fellowships, chief residency, and other training positions*)?  
 None    1    2    3  
 4    5    6–10    Over 10

30. What is your overall assessment of practice opportunities in your specialty, and within 50 miles of the site where you trained?  
 No jobs    Some jobs  
 Very few jobs    Many jobs  
 Few jobs    Unknown

31. What is your overall assessment of practice opportunities in your specialty nationally?  
 No jobs    Some jobs  
 Very few jobs    Many jobs  
 Few jobs    Unknown

THANK YOU FOR COMPLETING THIS IMPORTANT SURVEY.







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