



Trends in Demand for New Physicians, 2002-2008
A Summary of Demand Indicators for 35 Physician Specialties



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ACKNOWLEDGEMENTS

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BACKGROUND

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

Each spring, the Center 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 which assume responsibility for having graduating residents and fellows fill out the surveys in the weeks prior to program completion. The surveys are then returned to the Center for data entry and analysis.

The year 2008 marked the ninth year of the survey. Through the excellent collaboration of teaching hospitals throughout the state, ***an aggregated total of 26,692 of the 42,399 graduates have completed the survey (63% response rate)*** for the nine years the survey has been conducted (1998, 1999, 2000, 2001, 2002, 2003, 2005, 2007, and 2008). In addition to New York, several other states (including California, Georgia, Minnesota, New Jersey, and Texas) have conducted similar surveys. 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 five 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 2002 to 2008). 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 U.S. in the specialty from 1998 to 2007. Definitions of the five 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. Furthermore, starting incomes were adjusted for inflation to reflect 2008 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 a 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 AMA's 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.

GENERAL RESULTS AND KEY FINDINGS

Overall the job market for new physicians appeared to be good. 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 the Center has been conducting this survey.

*In 2008, demand for primary care physicians (generalists) was comparable to non-primary care physicians (specialists) and for some indicators more favorable.** Primary care physicians were as likely as specialists to have to change plans due to limited practice opportunities. But primary care physicians received more job offers than specialists and their average annual increase in starting income between 2002 and 2008 was also higher.

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:

- Strongest relative demand: dermatology, urology, gastroenterology, otolaryngology, neurology, adult psychiatry, and orthopedics.
- Weakest relative demand: plastic surgery, allergy and immunology, rheumatology, nephrology, thoracic surgery, pathology, and physical medicine and rehabilitation.

There is a high degree of correlation in the relative demand for different individual specialties between different states. Despite the differences that exist between New York and other states, including the number and specialty mix of the physician supply, the demographic characteristics

* Primary care (or generalists) specialties include family medicine, general internal medicine, general pediatrics, and internal medicine and pediatrics (combined).

of the populations, and the health care delivery systems, the relative demand for physicians in New York by specialty is very similar to other states.

IMPORTANT NOTES

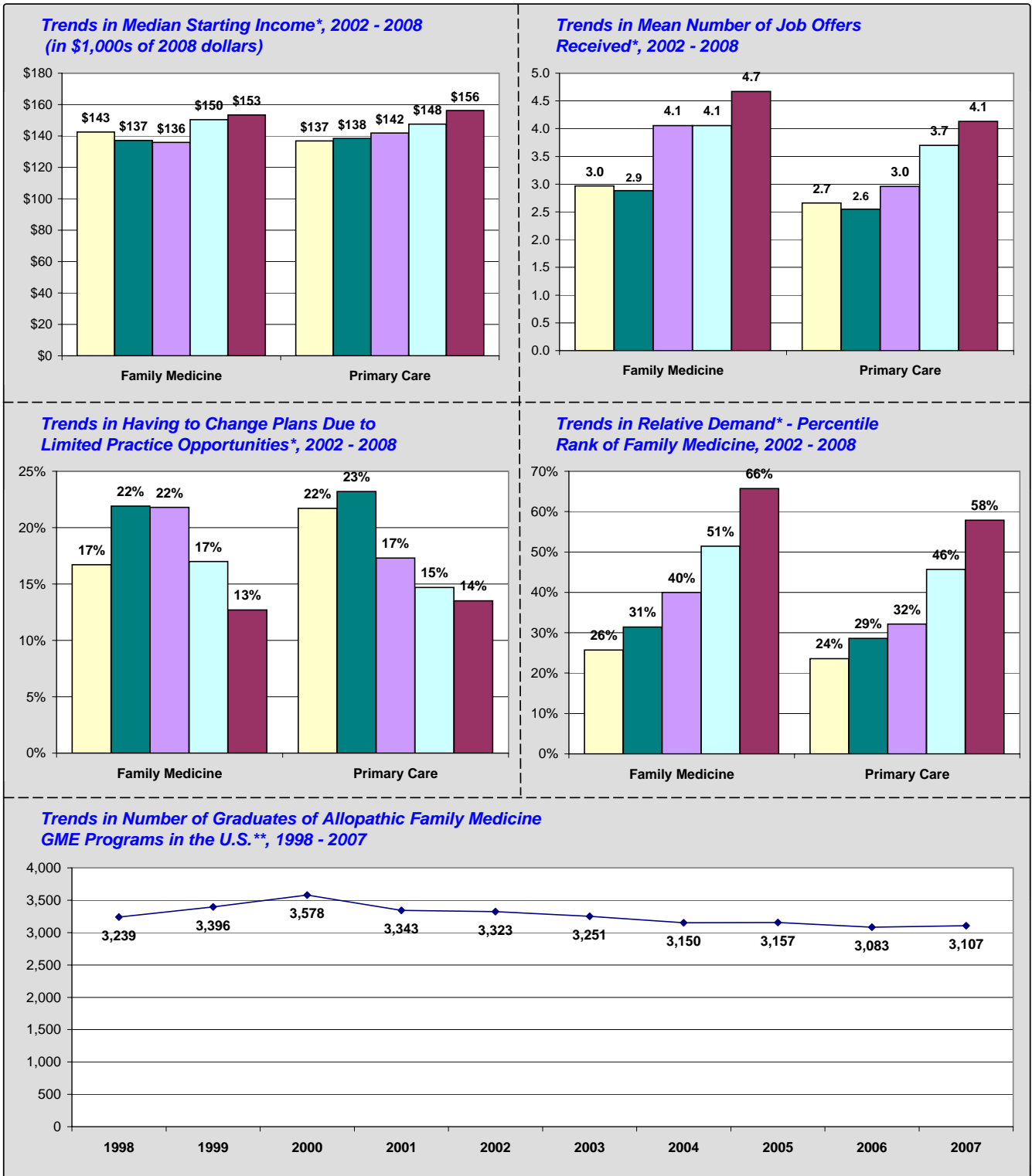
For each specialty the number of responses by year is listed at the bottom of the page in the report. Care should be taken when interpreting outcomes based on small samples. The measures of the five key areas presented in this report may fluctuate from year to year.

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Specialty: Family Medicine

Legend: 2002 2003 2005 2007 2008



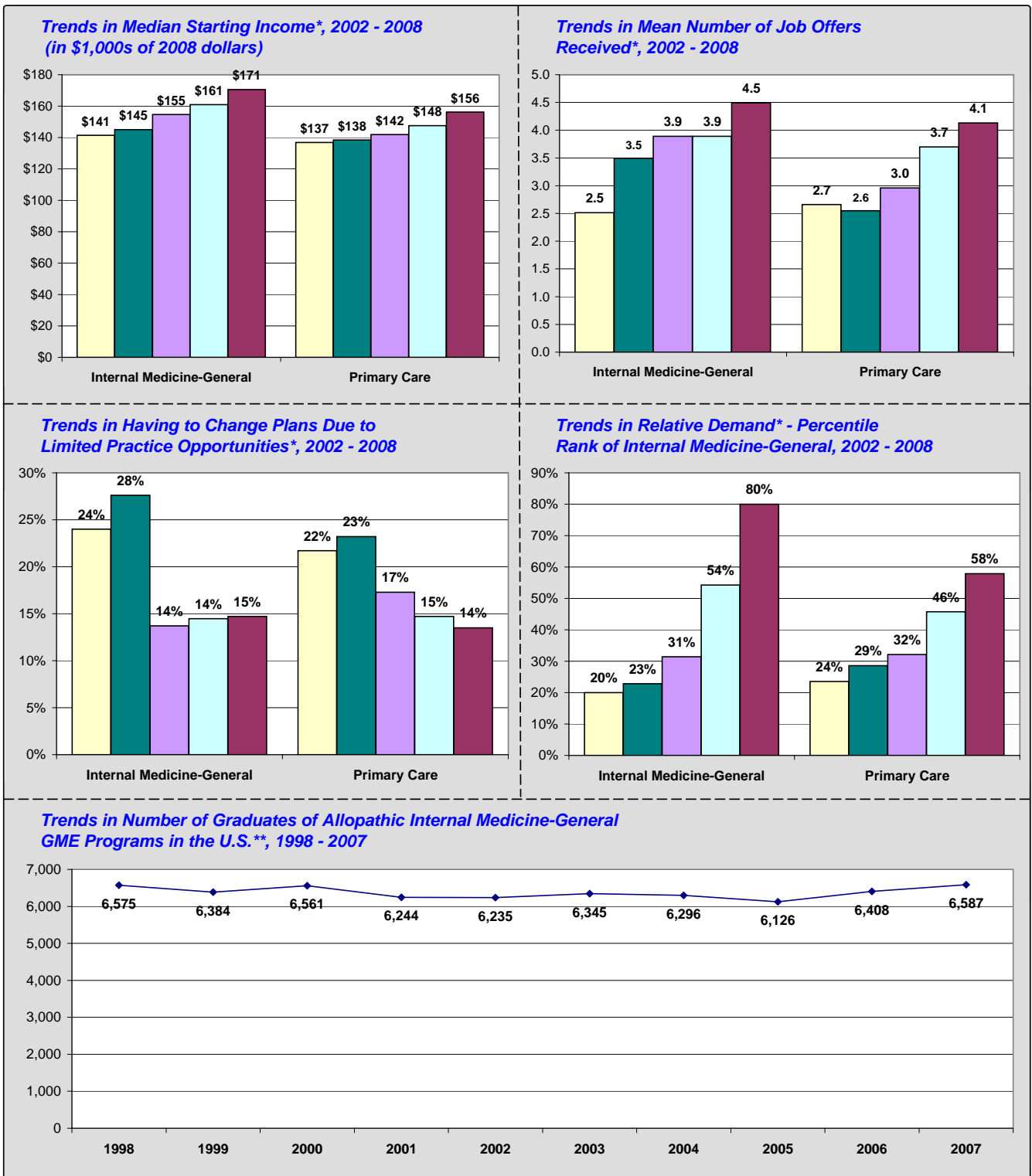
Number of responses: 2002: n = 125, 2003: n = 101, 2005: n = 92, 2007: n = 56, 2008: n = 84.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Internal Medicine-General

Legend: 2002 2003 2005 2007 2008



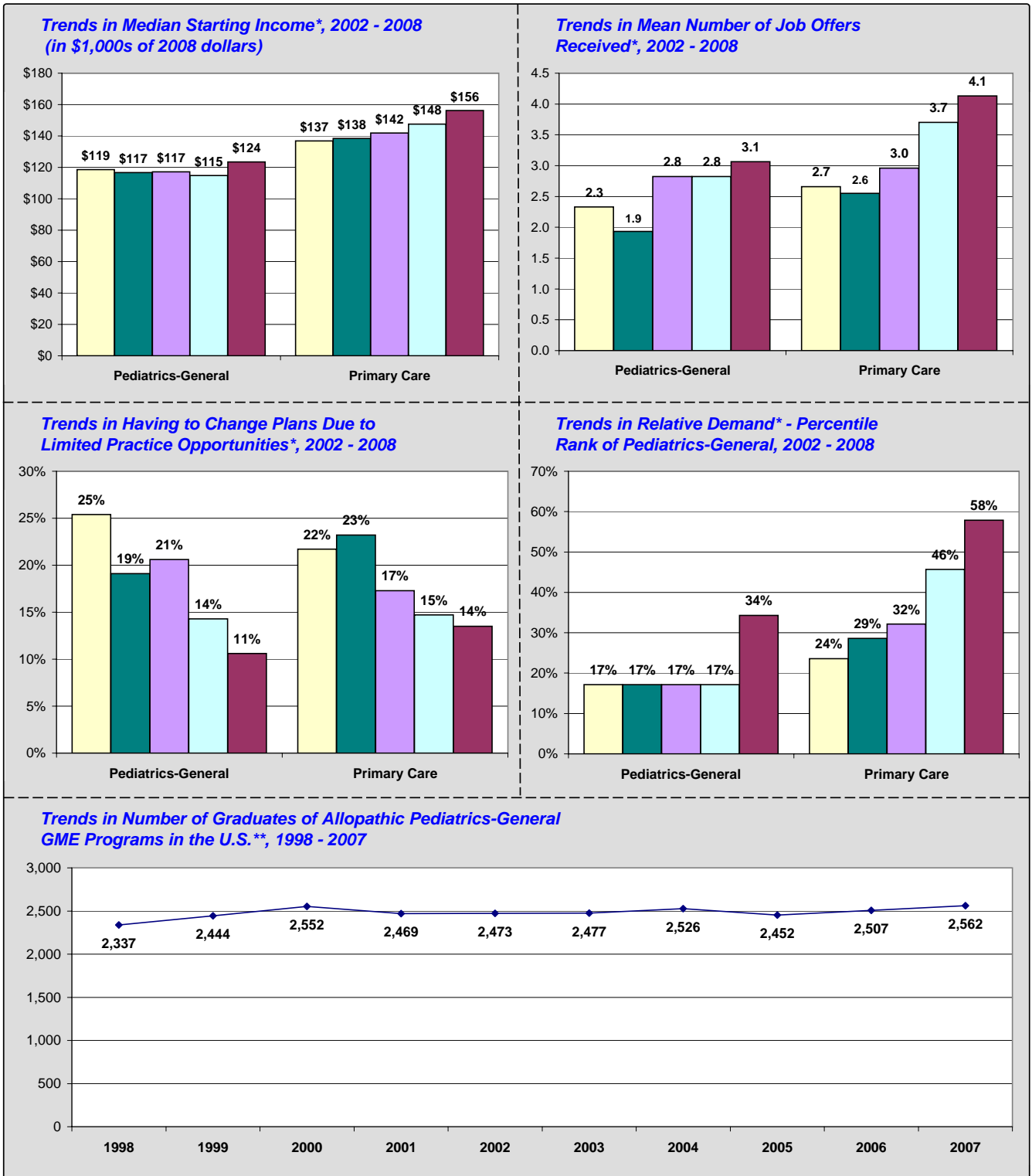
Number of responses: 2002: n = 287, 2003: n = 268, 2005: n = 177, 2007: n = 180, 2008: n = 202.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Pediatrics-General

Legend: 2002 2003 2005 2007 2008



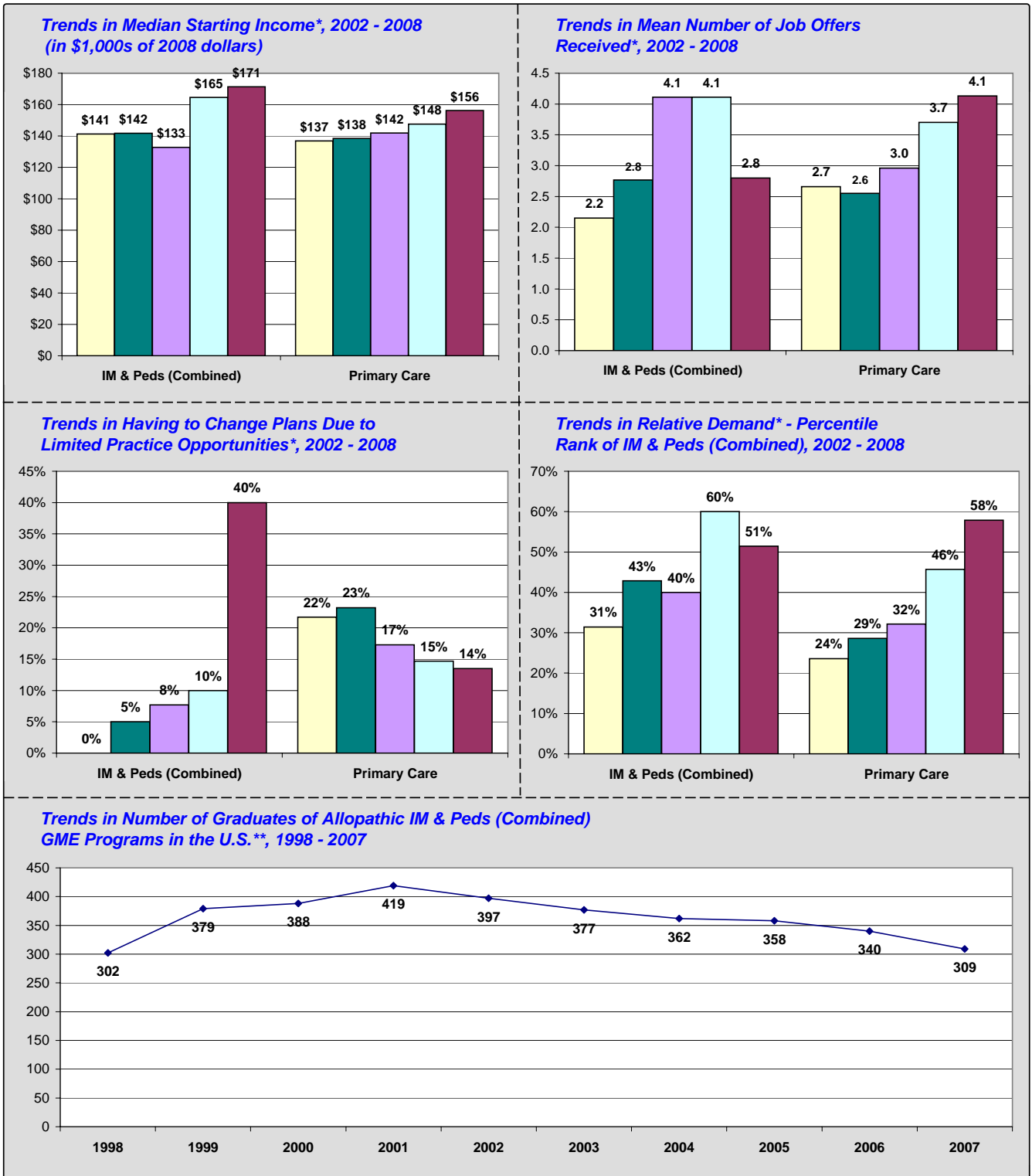
Number of responses: 2002: n = 173, 2003: n = 138, 2005: n = 78, 2007: n = 78, 2008: n = 114.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: IM & Peds (Combined)

Legend: 2002 2003 2005 2007 2008



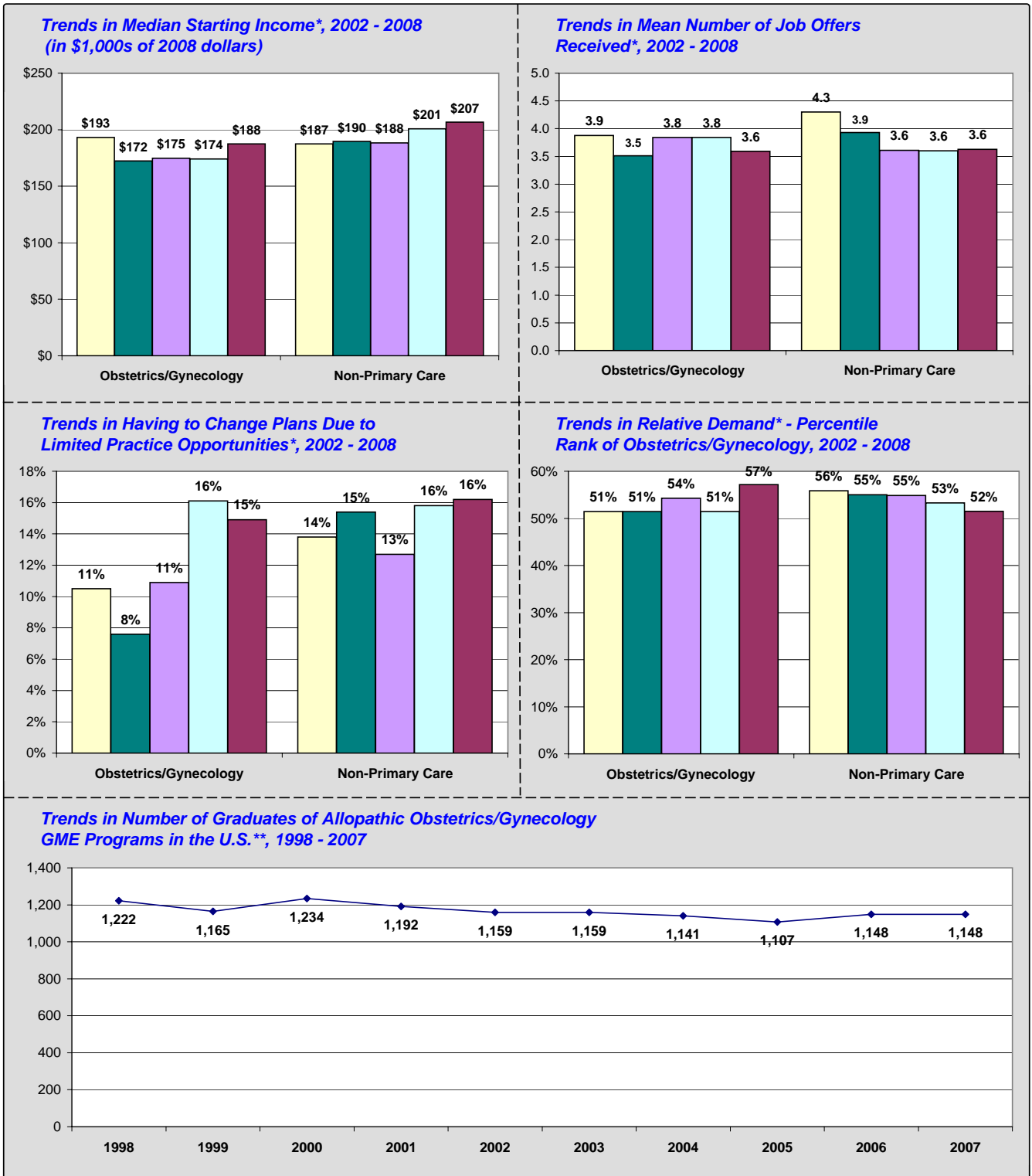
Number of responses: 2002: n = 20, 2003: n = 22, 2005: n = 16, 2007: n = 12, 2008: n = 7.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Obstetrics/Gynecology

Legend: 2002 2003 2005 2007 2008



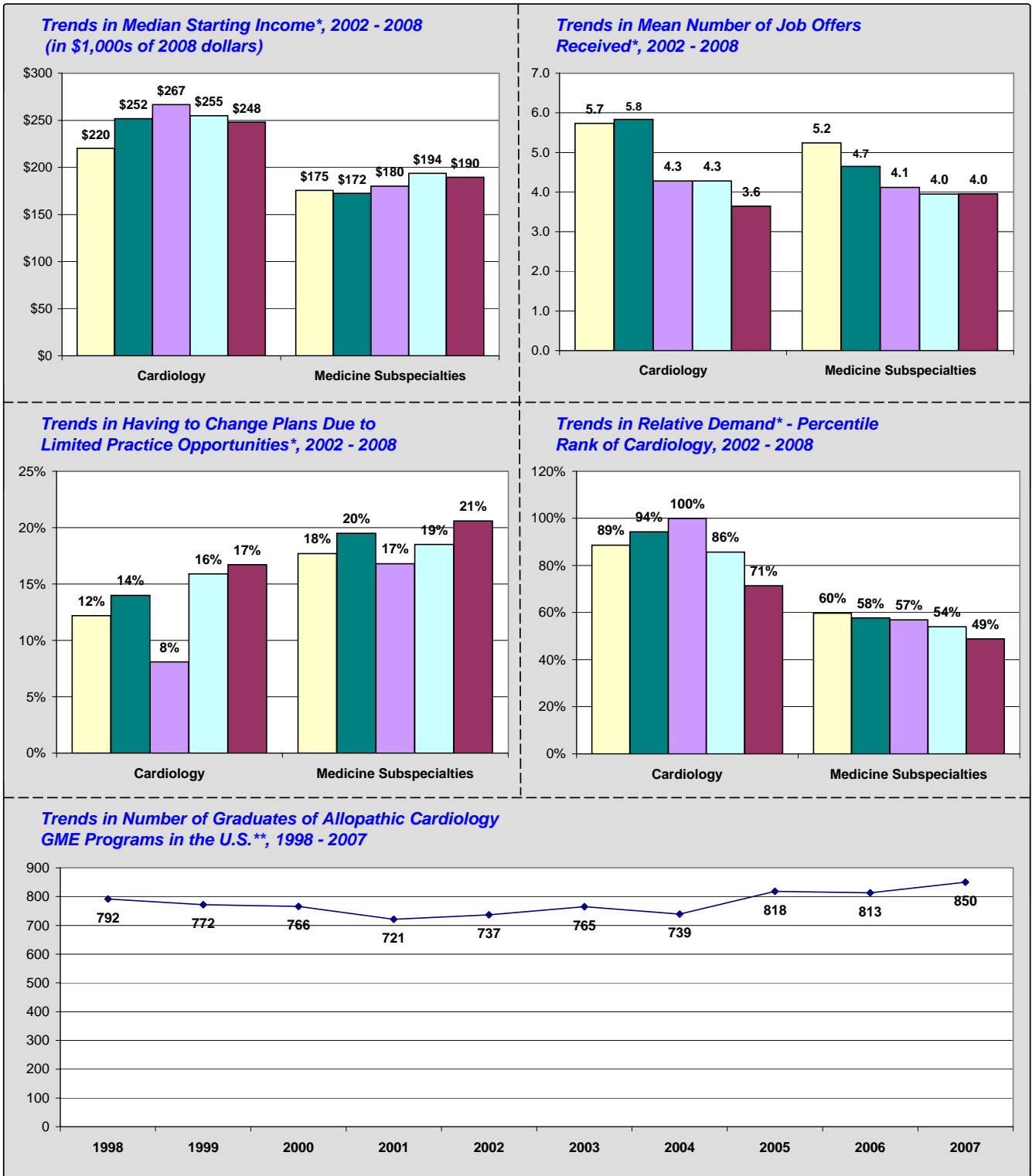
Number of responses: 2002: n = 101, 2003: n = 89, 2005: n = 63, 2007: n = 62, 2008: n = 76.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Cardiology

Legend: 2002 2003 2005 2007 2008



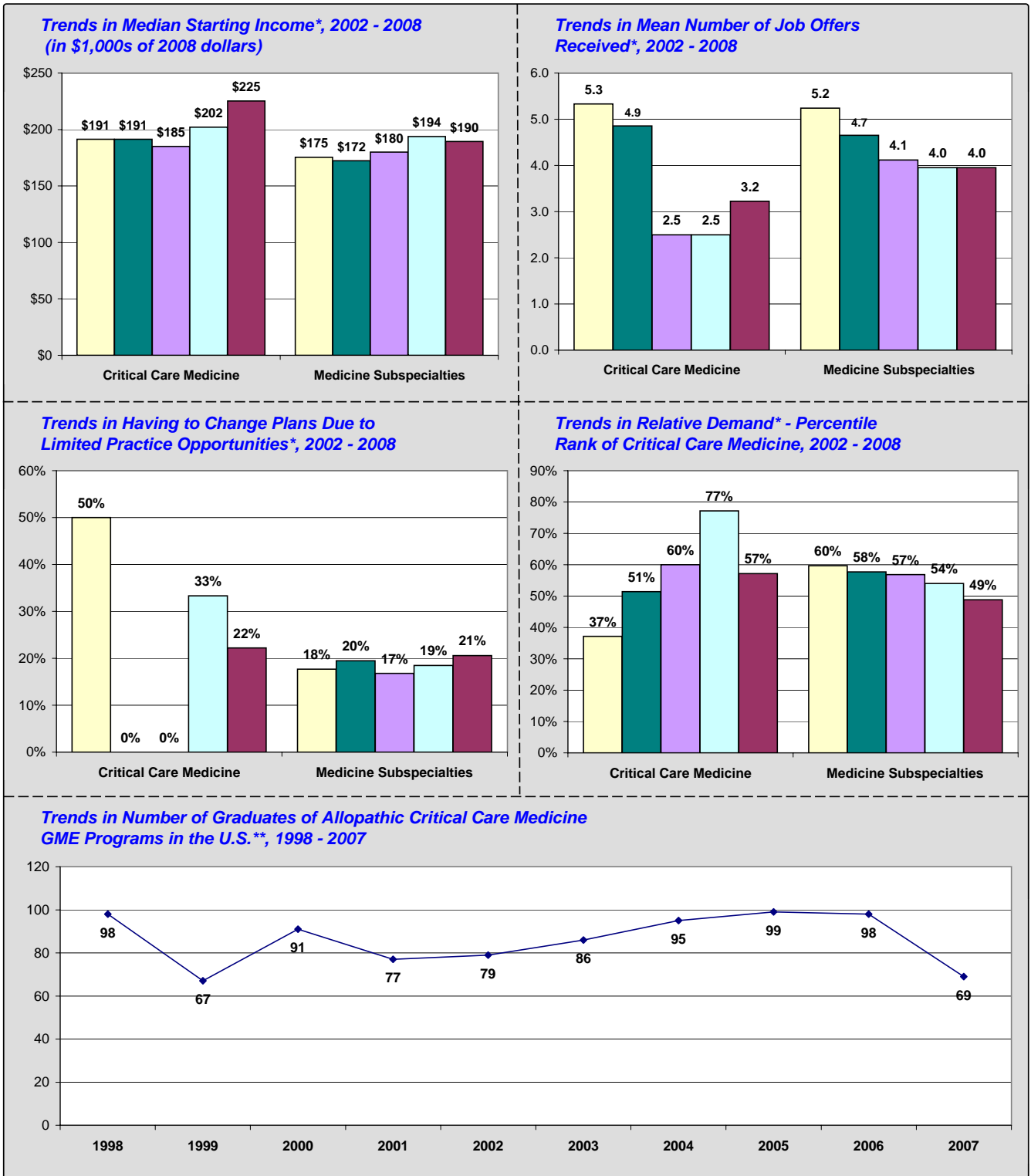
Number of responses: 2002: n = 56, 2003: n = 53, 2005: n = 42, 2007: n = 48, 2008: n = 47.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Critical Care Medicine

Legend: 2002 2003 2005 2007 2008



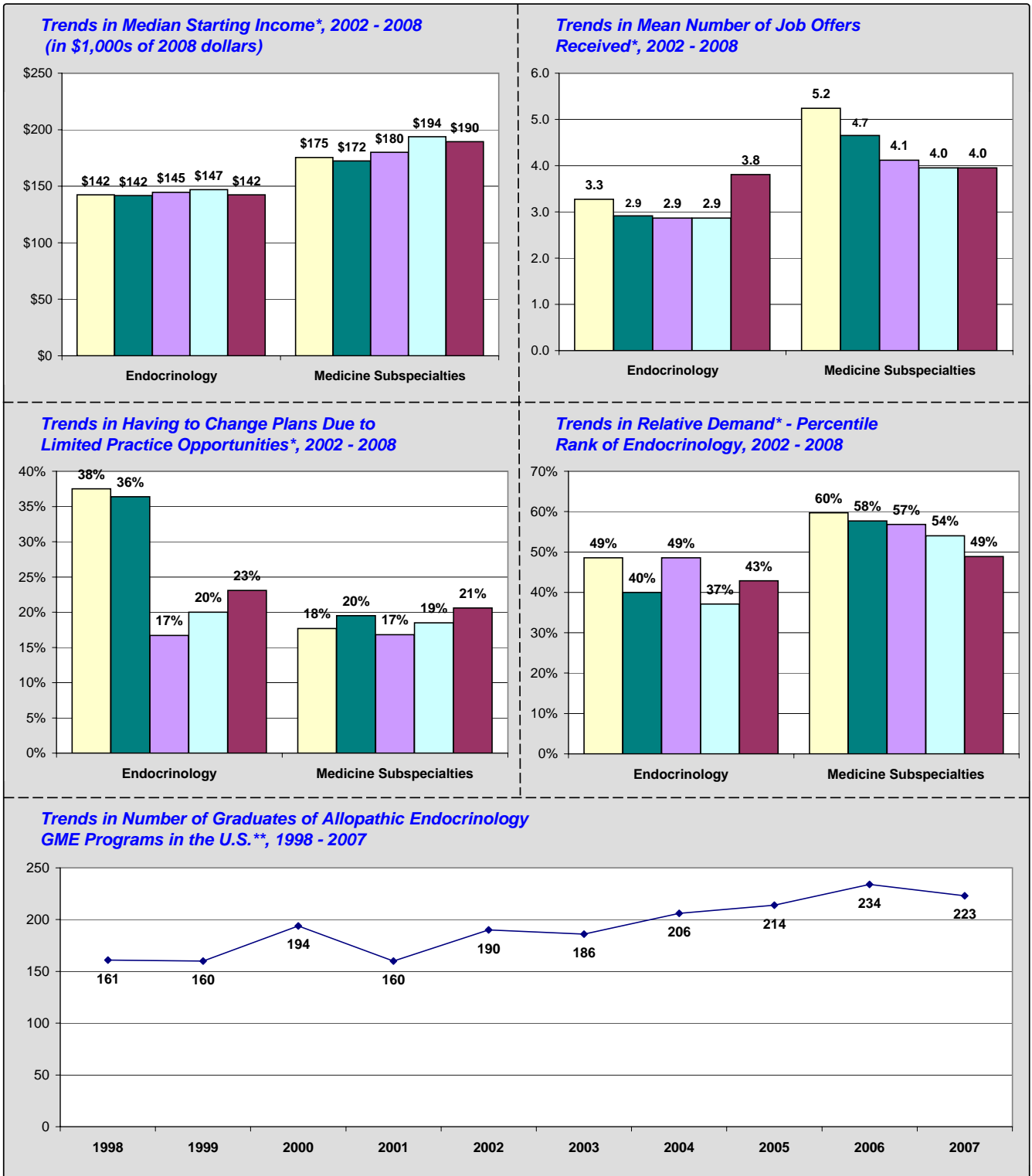
Number of responses: 2002: n = 3, 2003: n = 4, 2005: n = 7, 2007: n = 7, 2008: n = 10.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Endocrinology

Legend: 2002 2003 2005 2007 2008



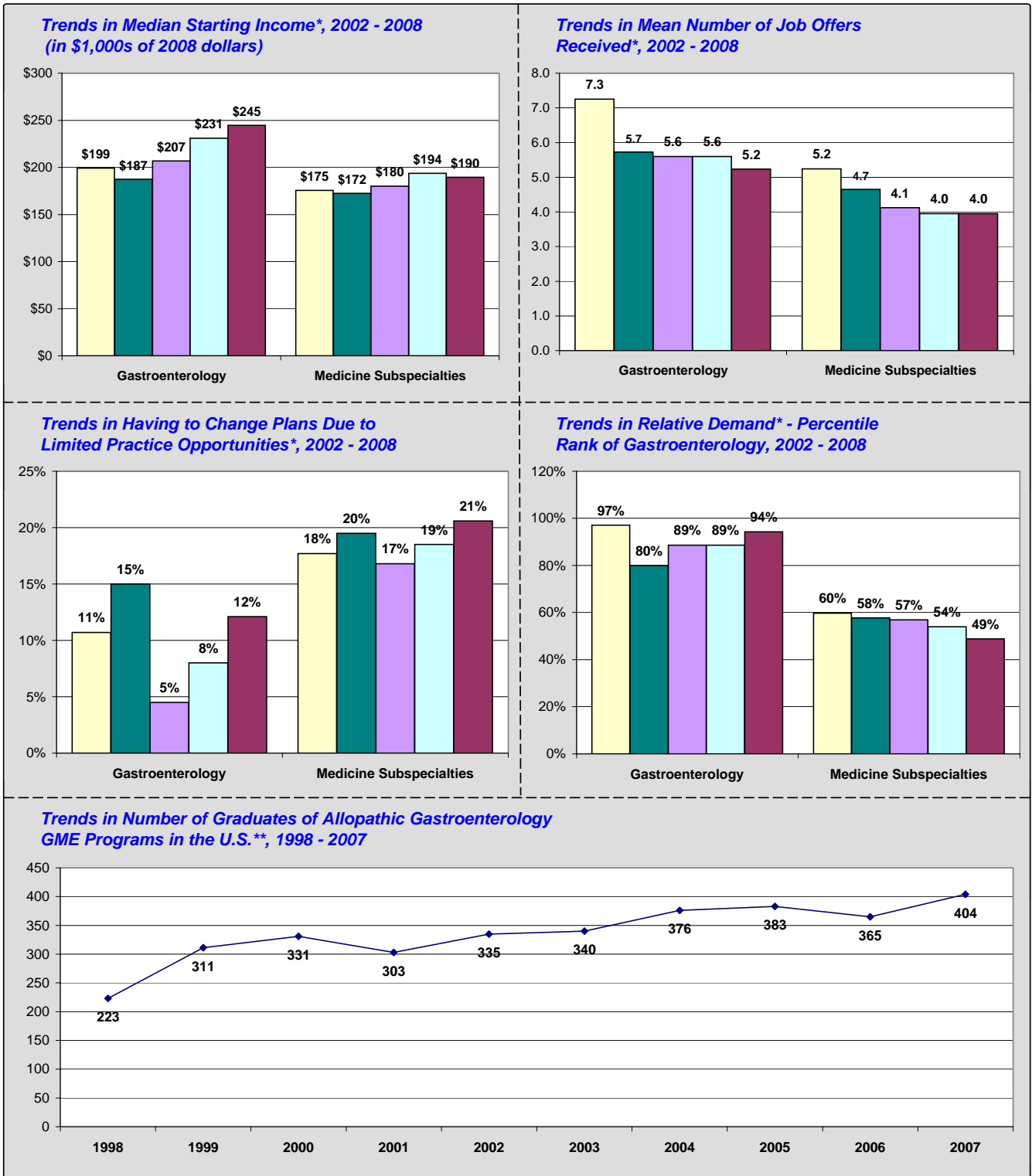
Number of responses: 2002: n = 8, 2003: n = 13, 2005: n = 13, 2007: n = 15, 2008: n = 27.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Gastroenterology

Legend: 2002 2003 2005 2007 2008



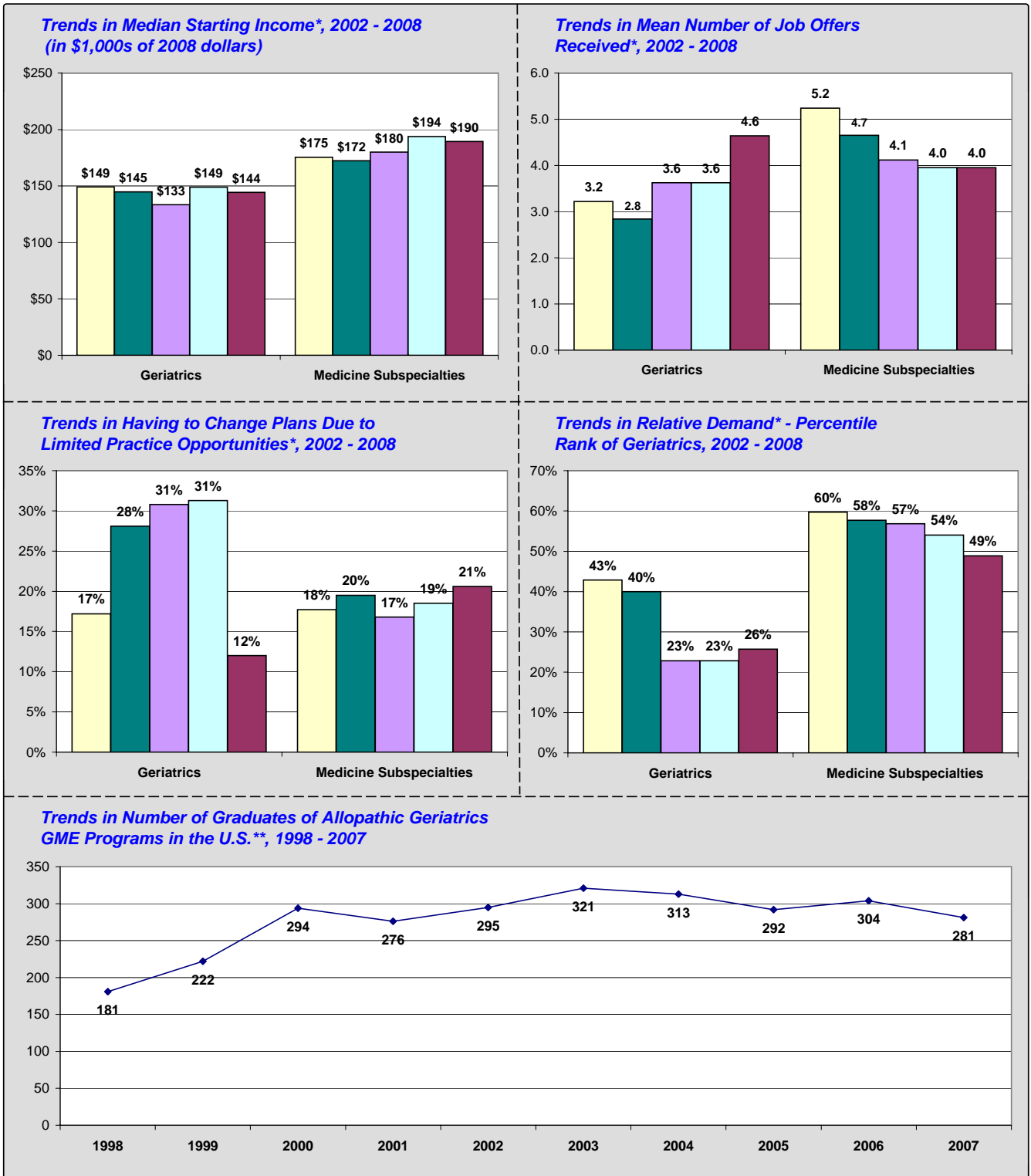
Number of responses: 2002: n = 29, 2003: n = 21, 2005: n = 23, 2007: n = 25, 2008: n = 35.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Geriatrics

Legend: 2002 2003 2005 2007 2008



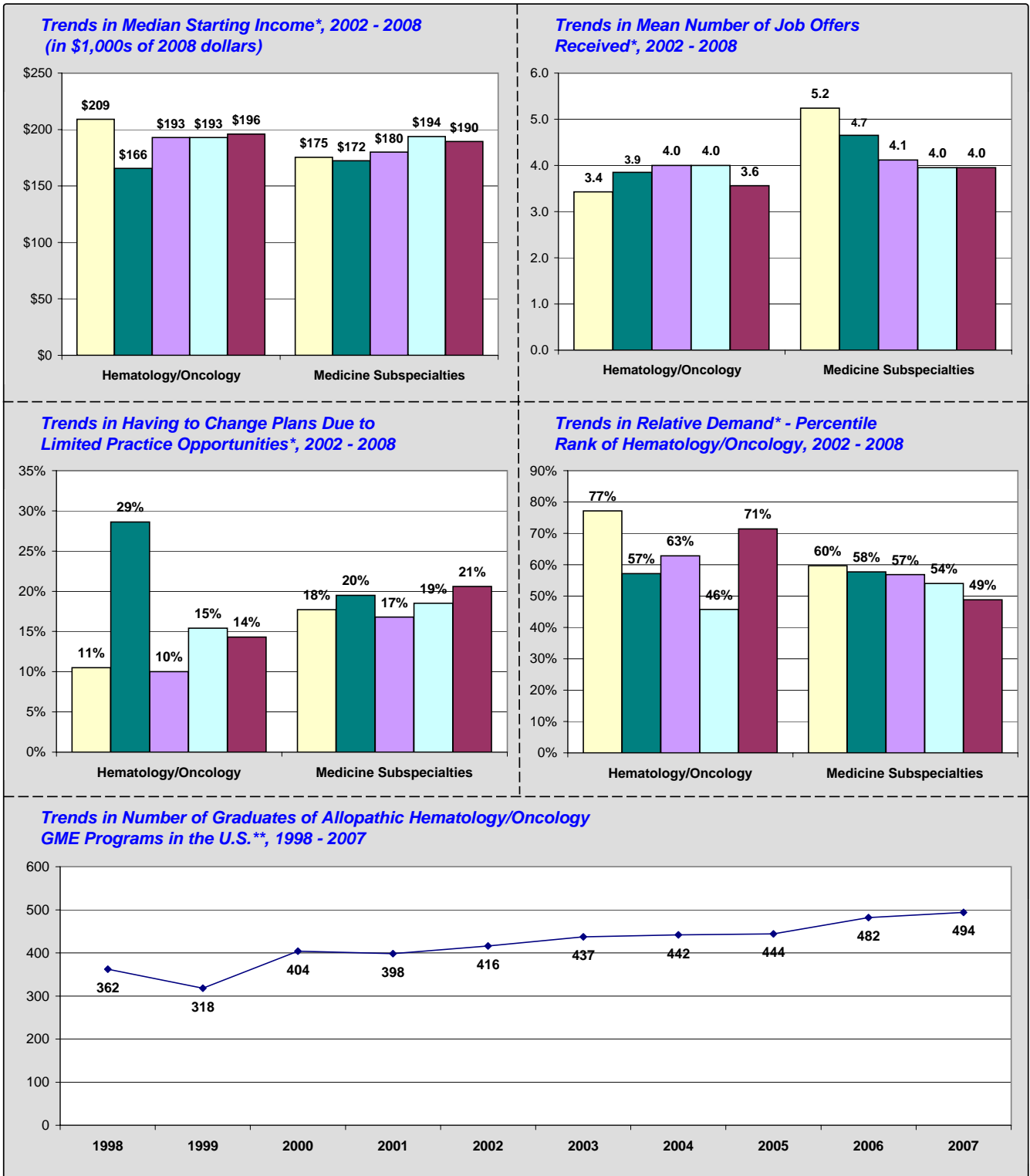
Number of responses: 2002: n = 33, 2003: n = 34, 2005: n = 26, 2007: n = 16, 2008: n = 27.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Hematology/Oncology

Legend: 2002 2003 2005 2007 2008



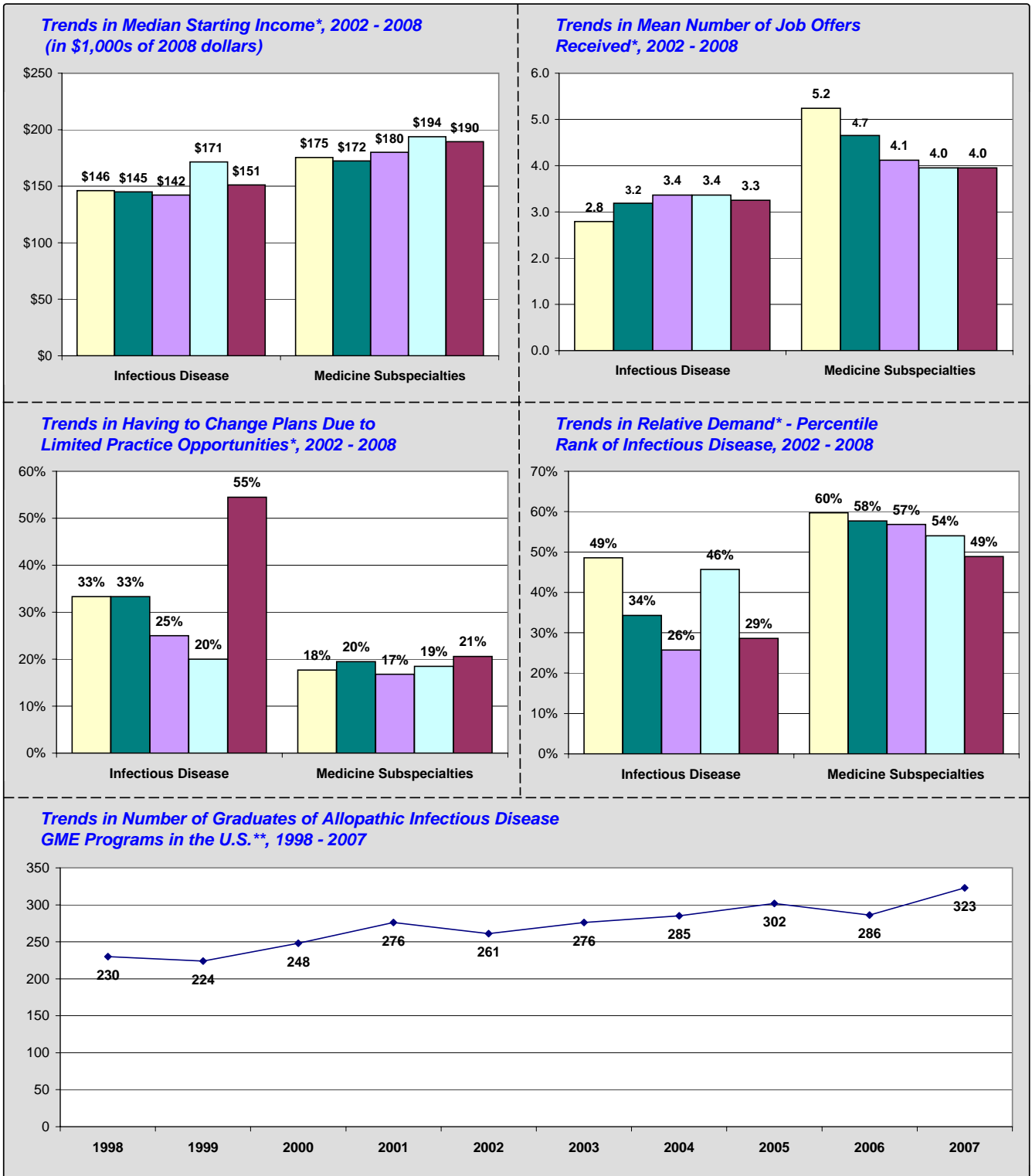
Number of responses: 2002: n = 20, 2003: n = 21, 2005: n = 20, 2007: n = 27, 2008: n = 37.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Infectious Disease

Legend: 2002 2003 2005 2007 2008



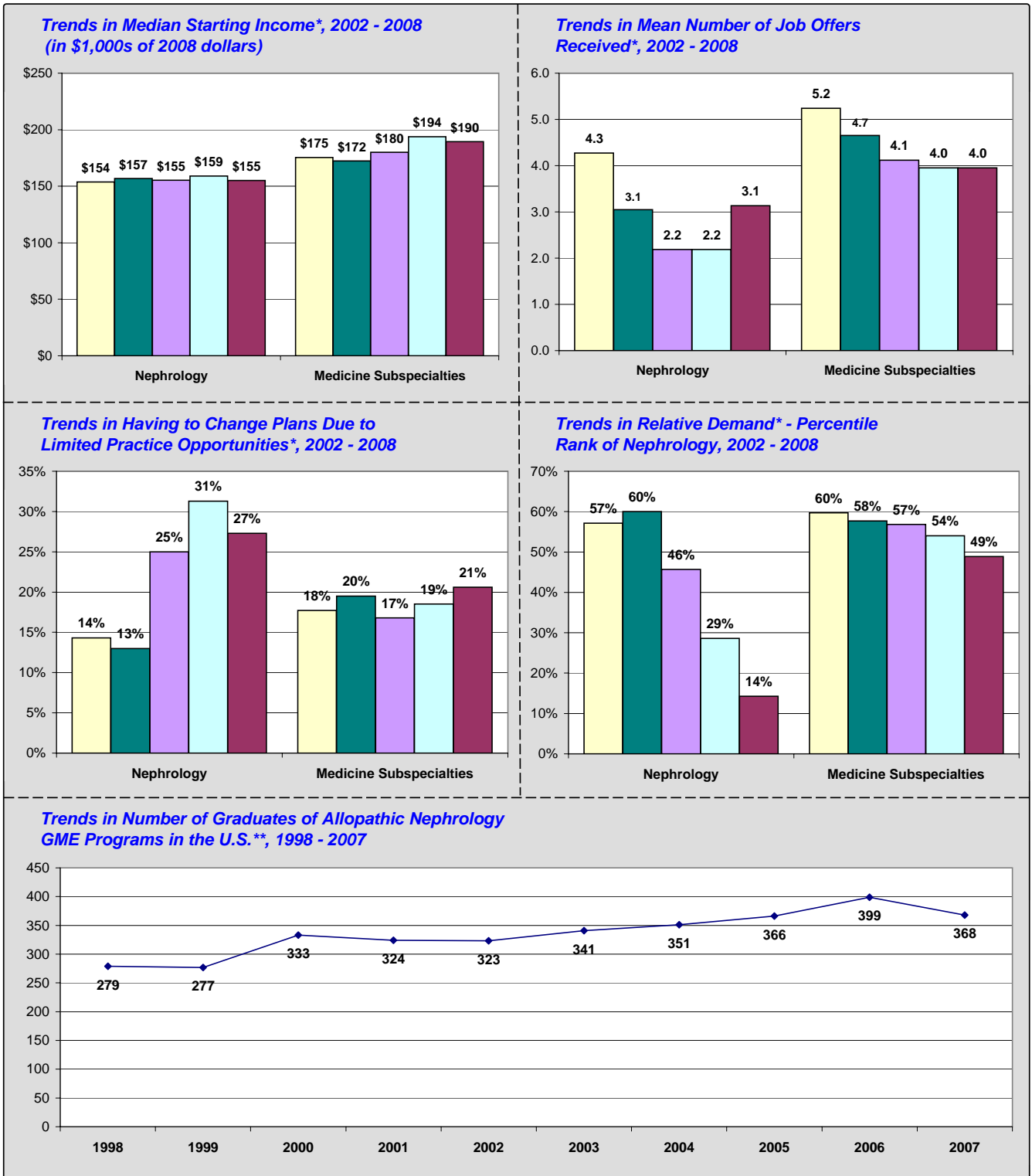
Number of responses: 2002: n = 16, 2003: n = 19, 2005: n = 17, 2007: n = 13, 2008: n = 14.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Nephrology

Legend: 2002 2003 2005 2007 2008



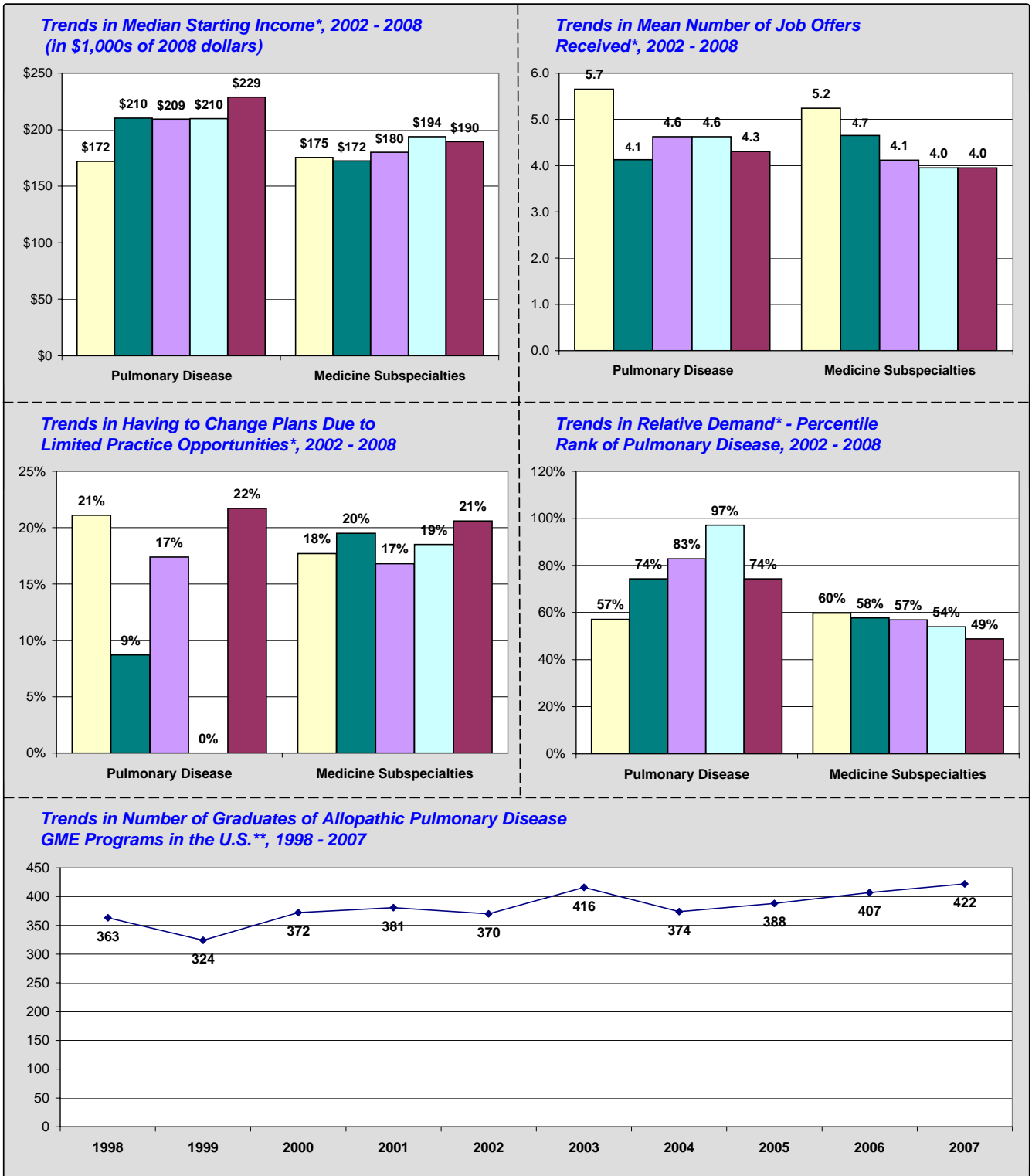
Number of responses: 2002: n = 24, 2003: n = 25, 2005: n = 20, 2007: n = 17, 2008: n = 22.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Pulmonary Disease

Legend: 2002 2003 2005 2007 2008



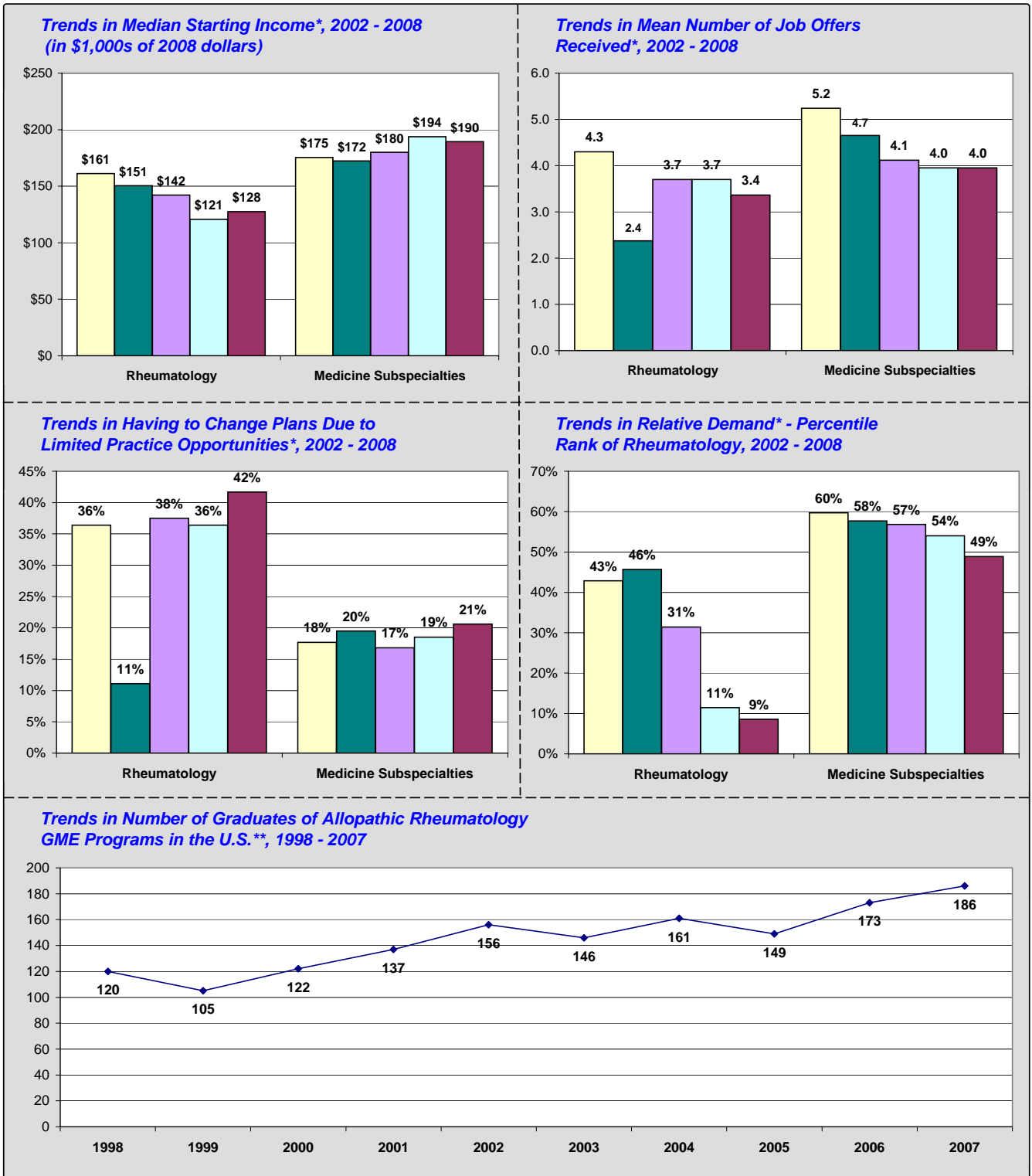
Number of responses: 2002: n = 22, 2003: n = 24, 2005: n = 23, 2007: n = 17, 2008: n = 25.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Rheumatology

Legend: 2002 2003 2005 2007 2008



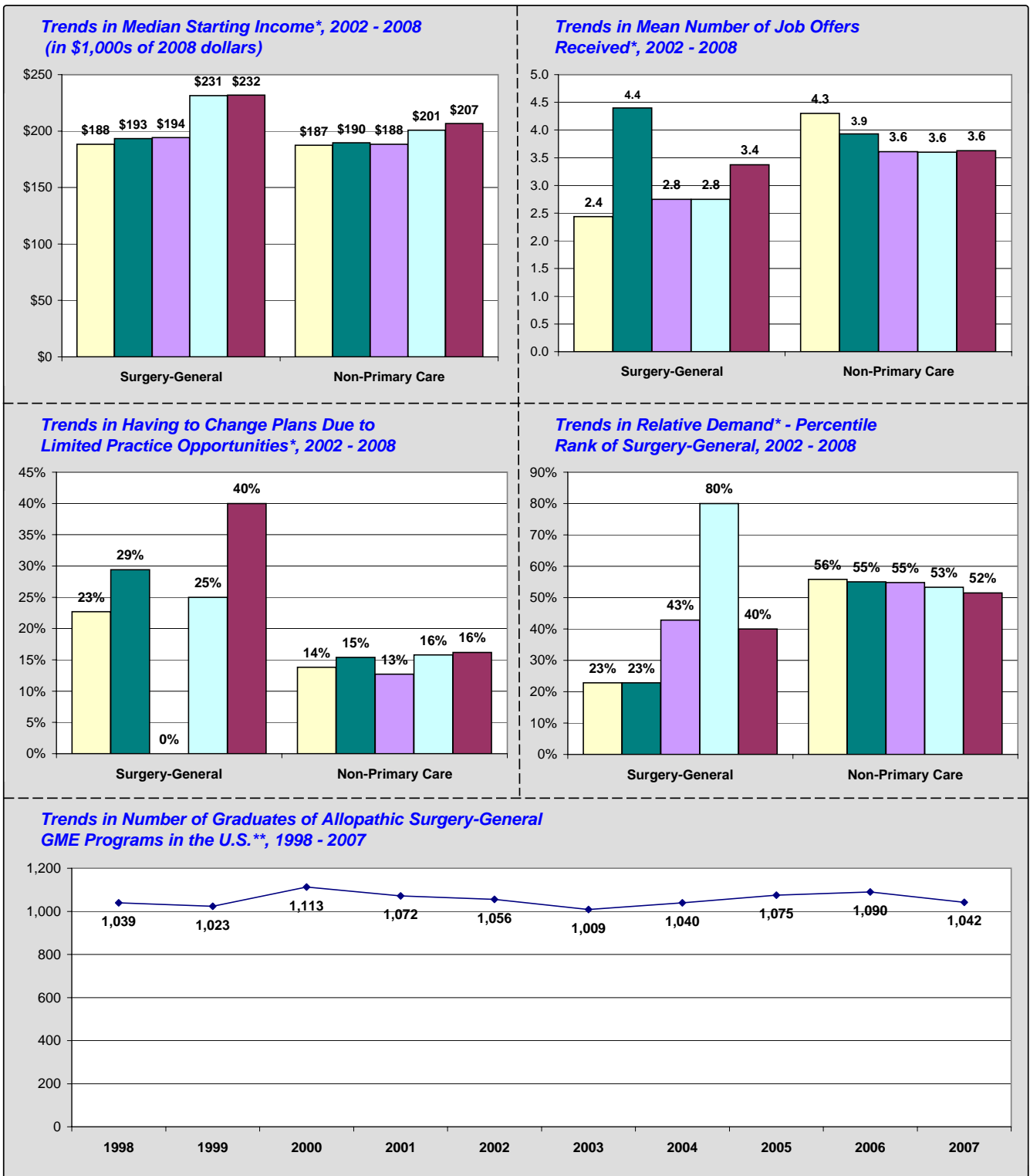
Number of responses: 2002: n = 11, 2003: n = 10, 2005: n = 8, 2007: n = 11, 2008: n = 13.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Surgery-General

Legend: 2002 2003 2005 2007 2008



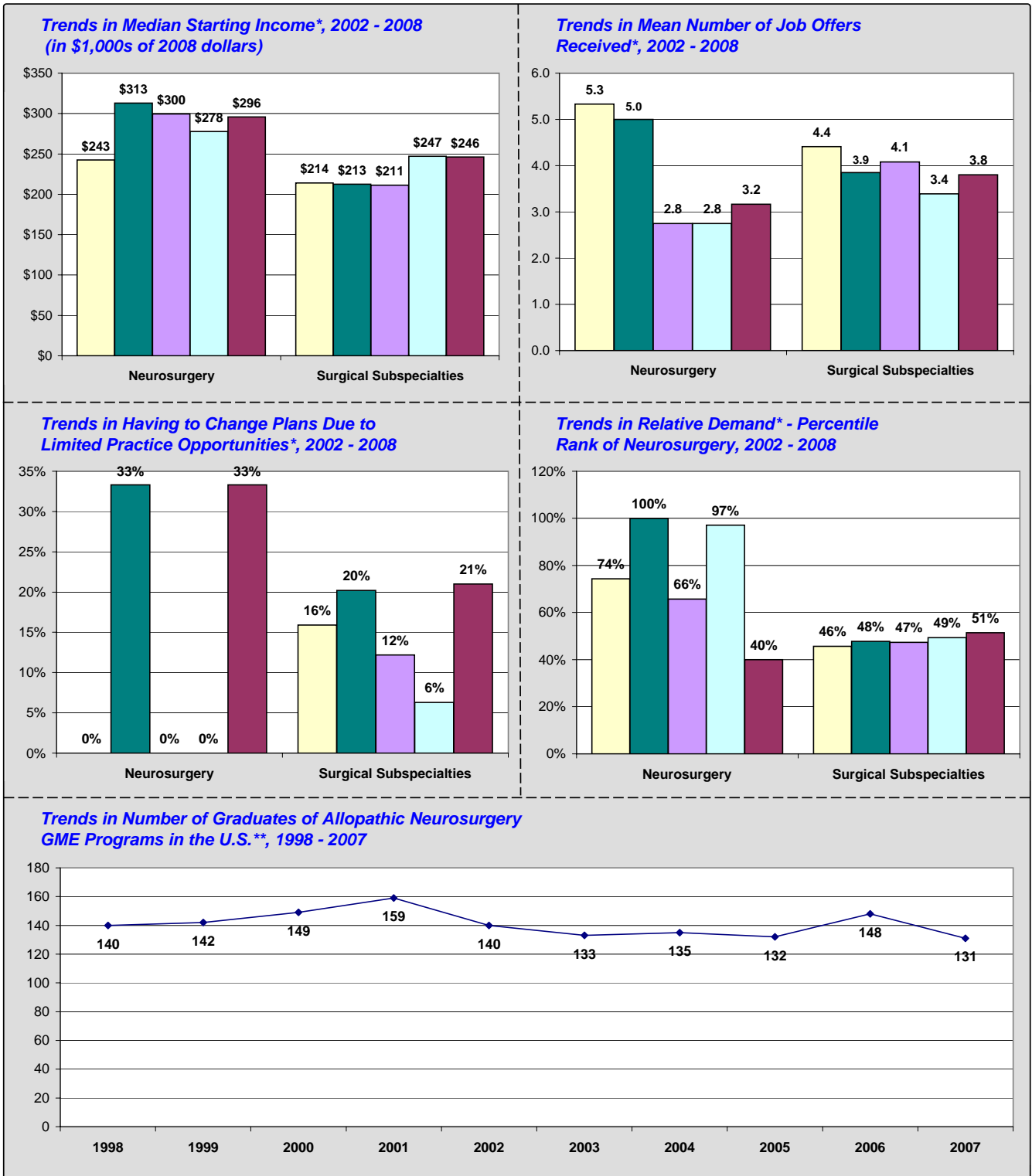
Number of responses: 2002: n = 31, 2003: n = 22, 2005: n = 17, 2007: n = 6, 2008: n = 11.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Neurosurgery

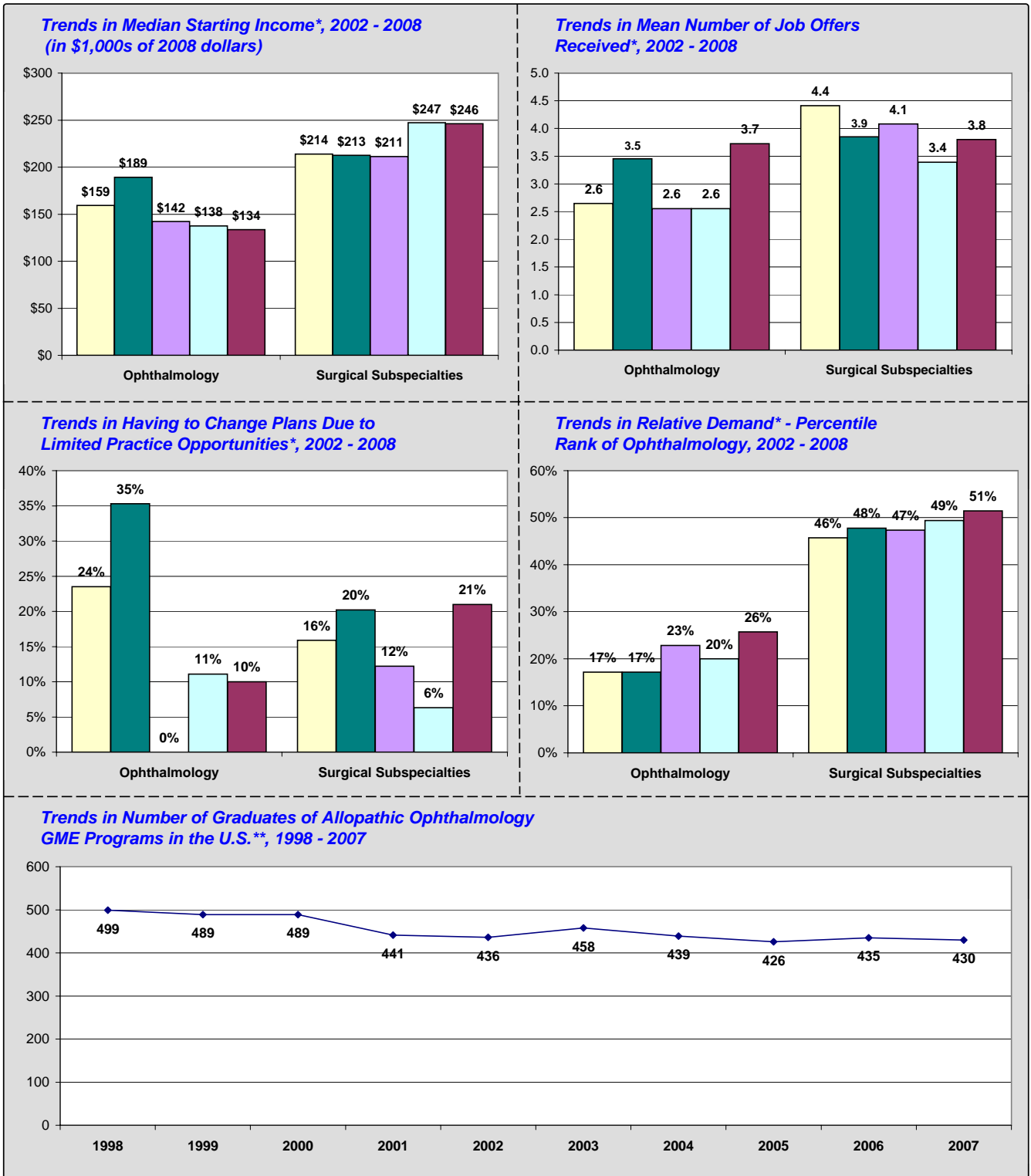
Legend: 2002 2003 2005 2007 2008



Number of responses: 2002: n = 6, 2003: n = 3, 2005: n = 4, 2007: n = 4, 2008: n = 6.
 *Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.
 **Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Ophthalmology

Legend: 2002 2003 2005 2007 2008



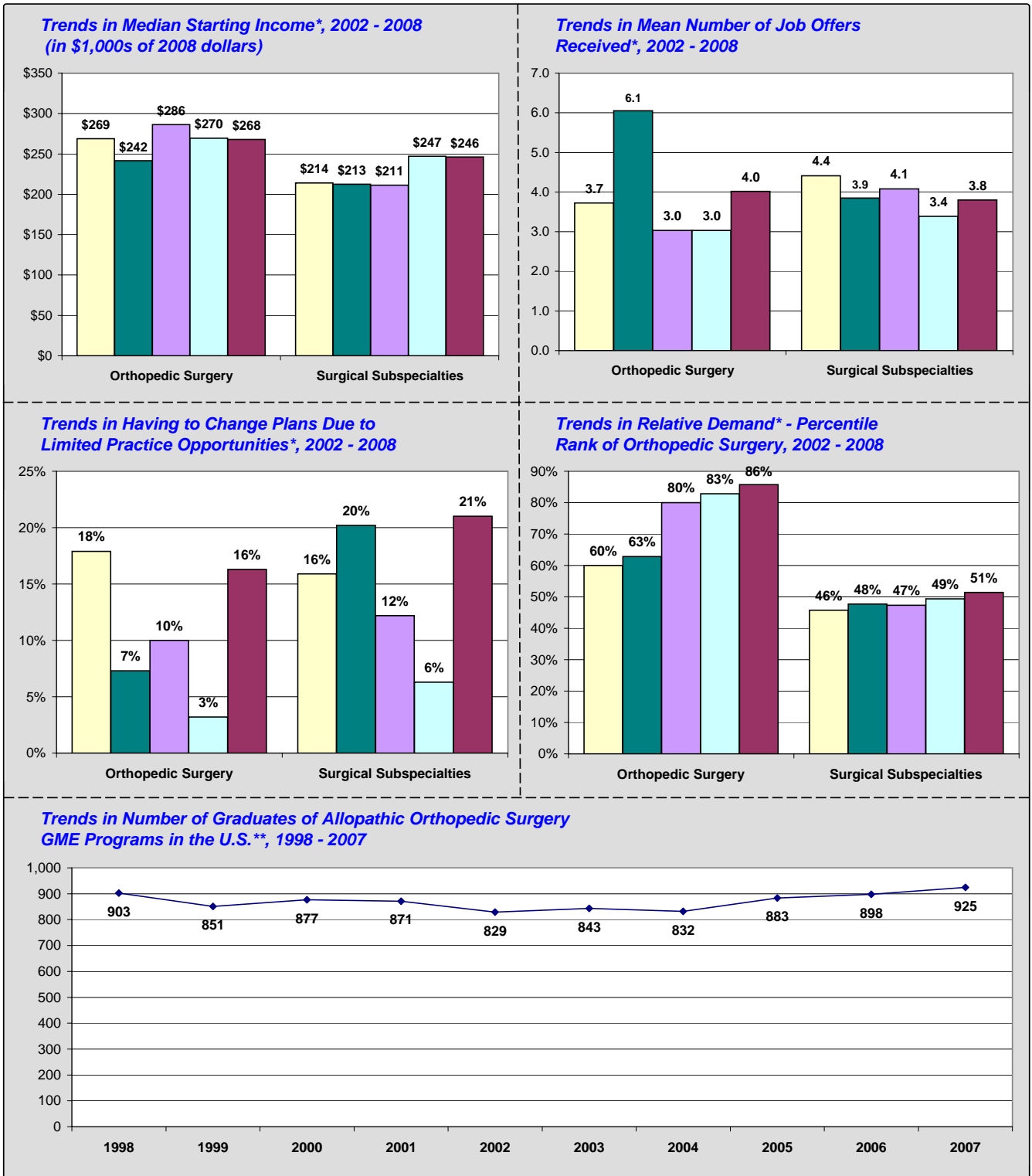
Number of responses: 2002: n = 22, 2003: n = 20, 2005: n = 12, 2007: n = 10, 2008: n = 11.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Orthopedic Surgery

Legend: 2002 2003 2005 2007 2008



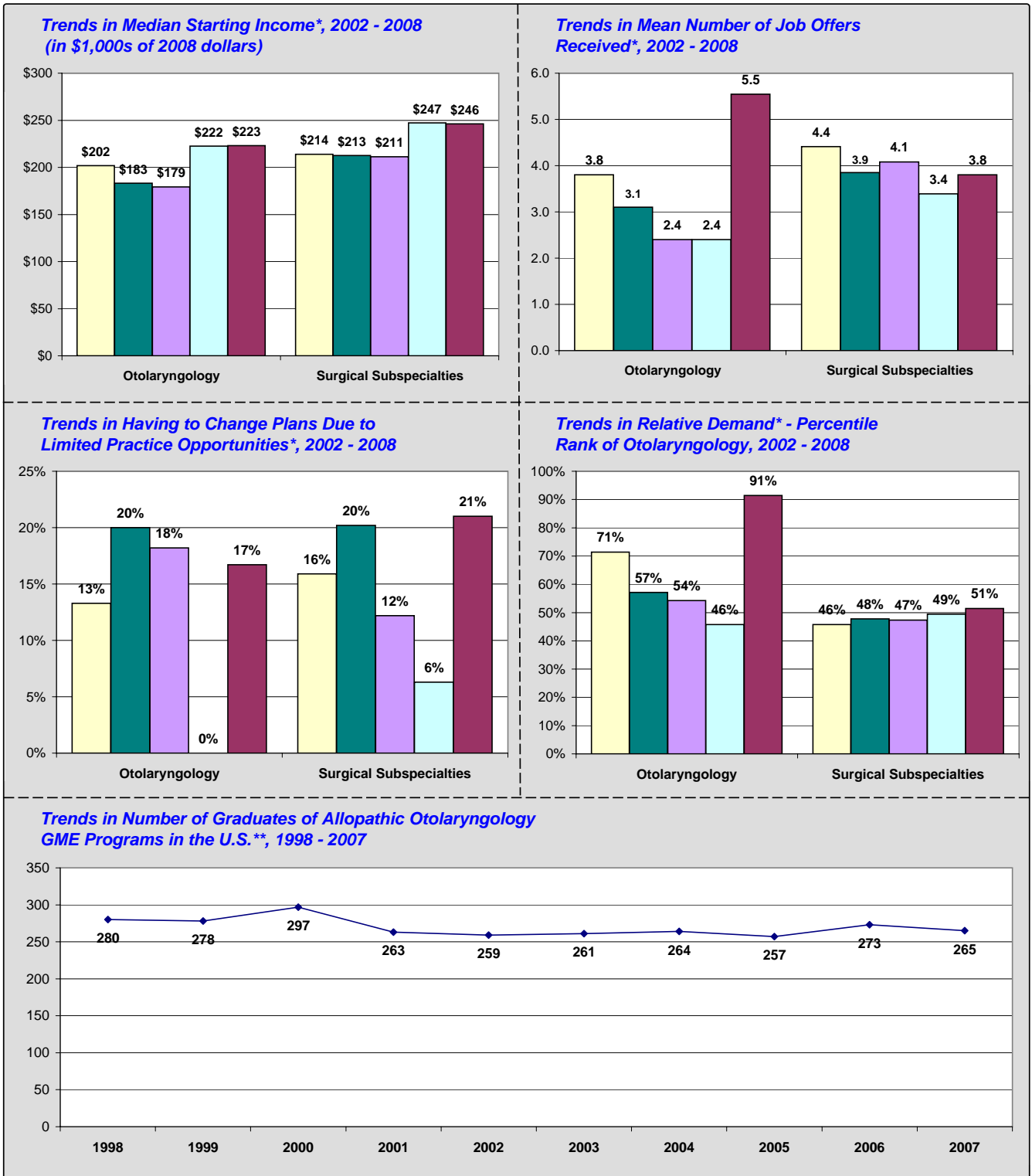
Number of responses: 2002: n = 42, 2003: n = 45, 2005: n = 21, 2007: n = 33, 2008: n = 52.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Otolaryngology

Legend: 2002 2003 2005 2007 2008



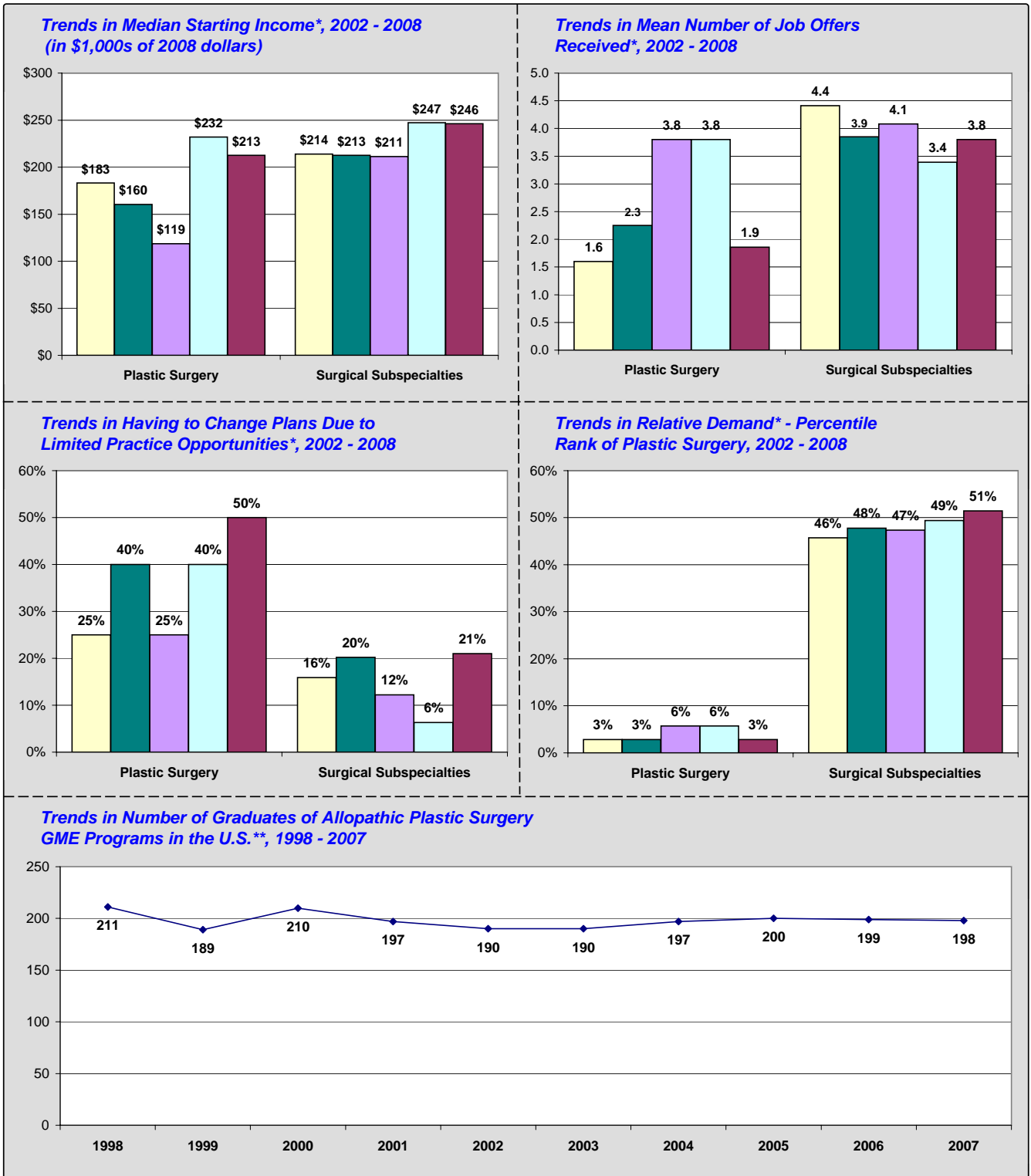
Number of responses: 2002: n = 17, 2003: n = 15, 2005: n = 11, 2007: n = 5, 2008: n = 12.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Plastic Surgery

Legend: 2002 2003 2005 2007 2008



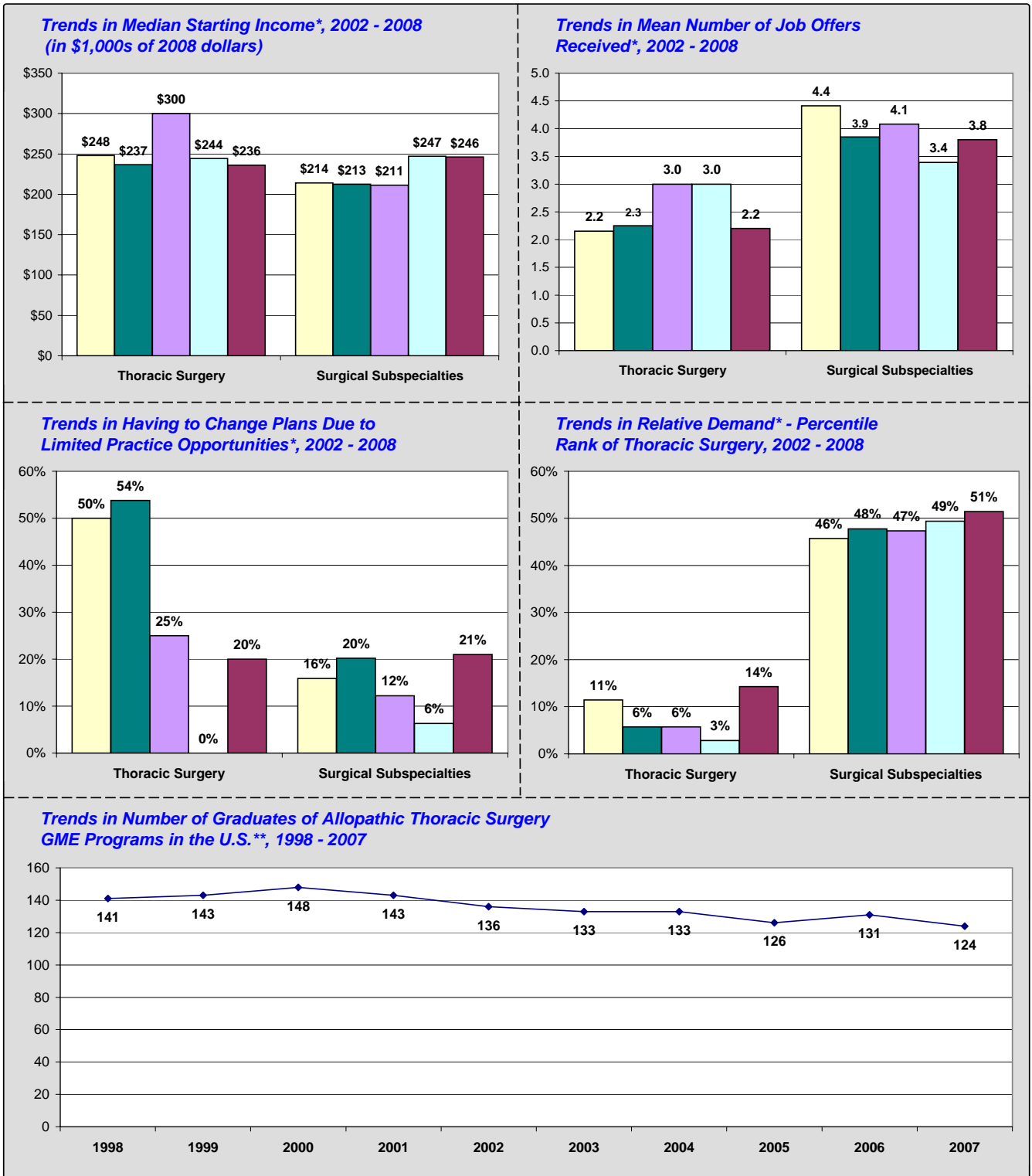
Number of responses: 2002: n = 10, 2003: n = 8, 2005: n = 8, 2007: n = 5, 2008: n = 8.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Thoracic Surgery

Legend: 2002 2003 2005 2007 2008



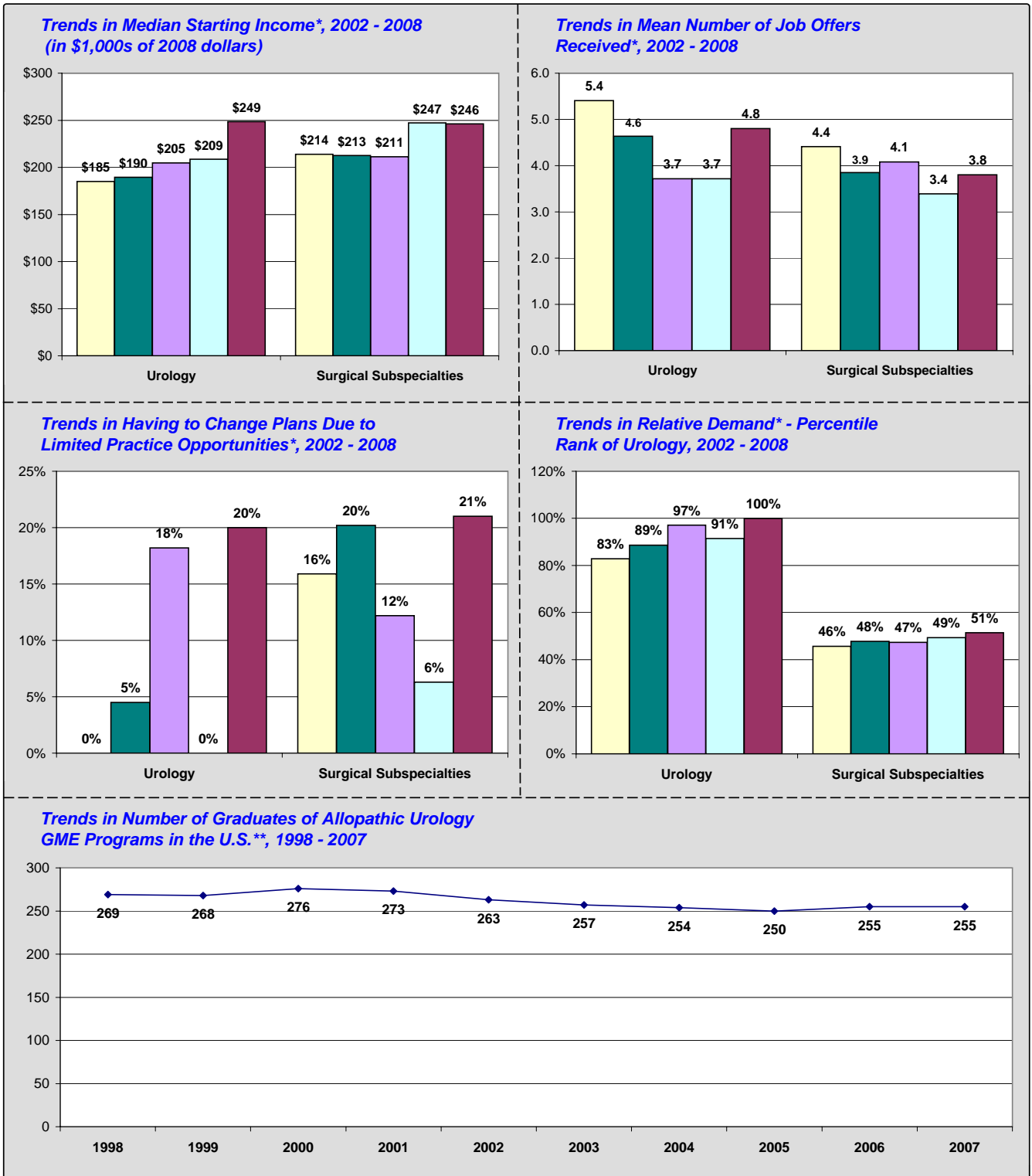
Number of responses: 2002: n = 8, 2003: n = 14, 2005: n = 4, 2007: n = 3, 2008: n = 5.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Urology

Legend: 2002 2003 2005 2007 2008



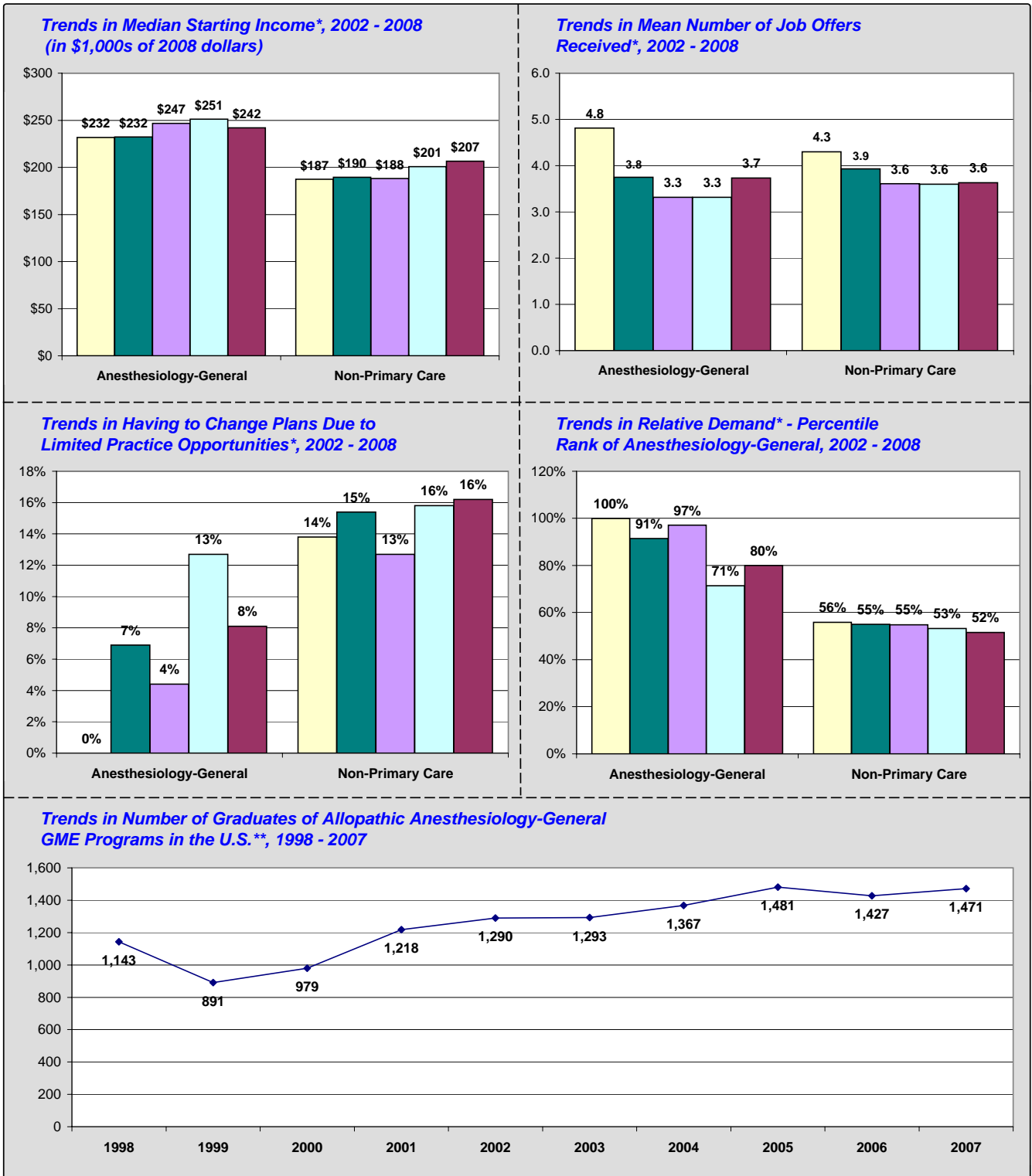
Number of responses: 2002: n = 19, 2003: n = 23, 2005: n = 11, 2007: n = 9, 2008: n = 15.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Anesthesiology-General

Legend: 2002 2003 2005 2007 2008



Number of responses: 2002: n = 54, 2003: n = 62, 2005: n = 49, 2007: n = 59, 2008: n = 67.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Pain Management

Legend: 2002 2003 2005 2007 2008



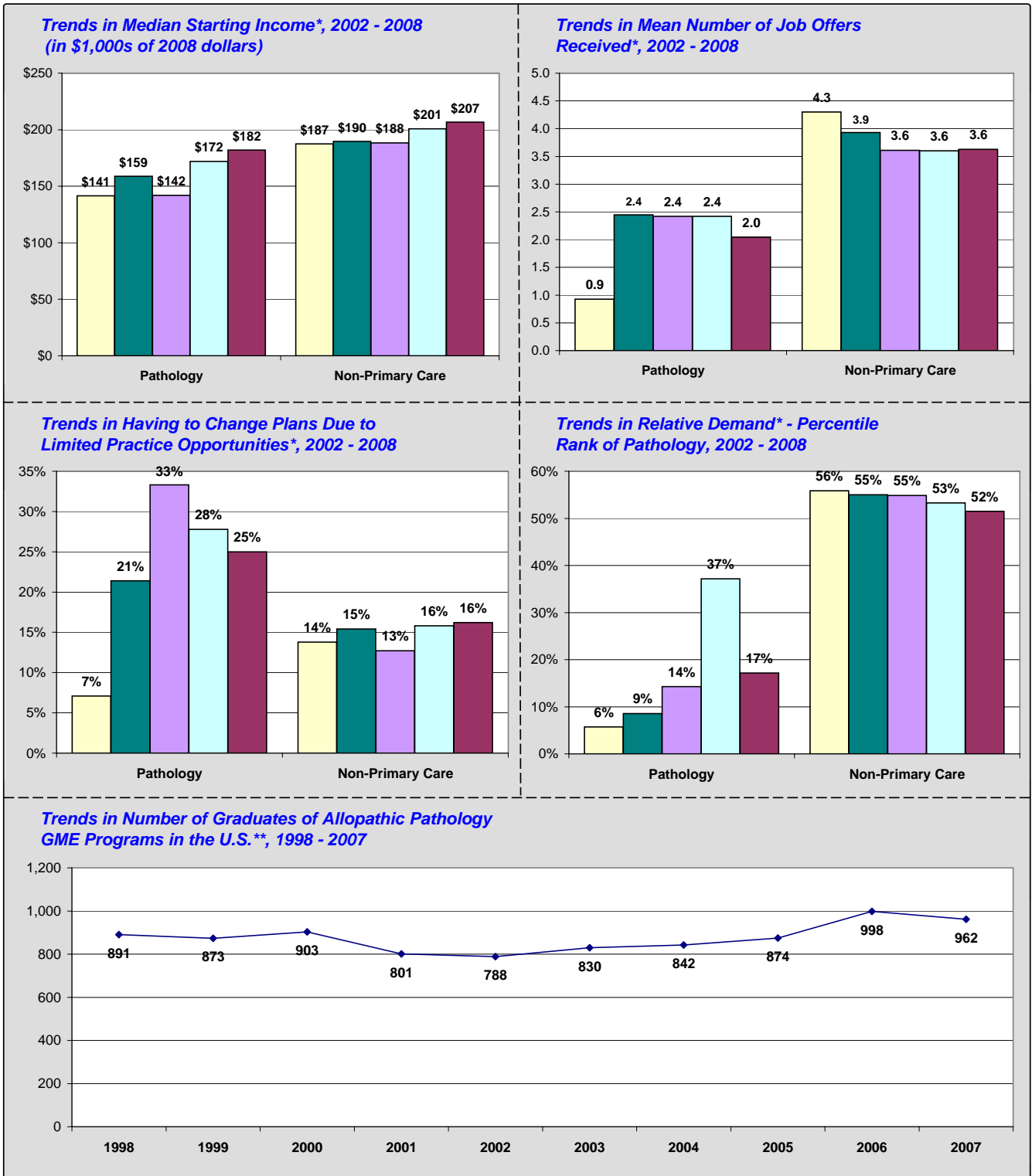
Number of responses: 2002: n = 13, 2003: n = 10, 2005: n = 7, 2007: n = 12, 2008: n = 17.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Pathology

Legend: 2002 2003 2005 2007 2008



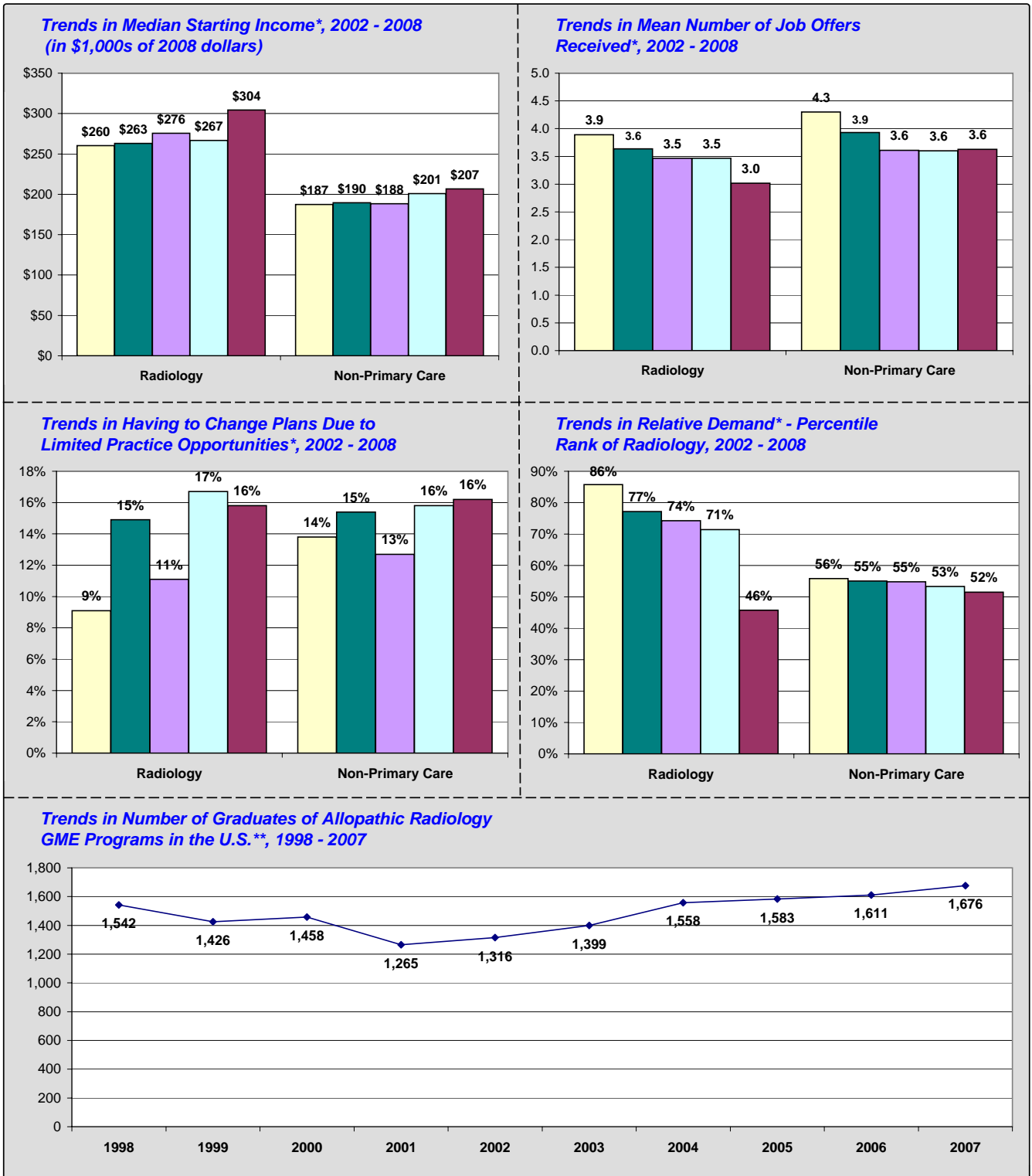
Number of responses: 2002: n = 19, 2003: n = 17, 2005: n = 12, 2007: n = 21, 2008: n = 23.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Radiology

Legend: 2002 2003 2005 2007 2008



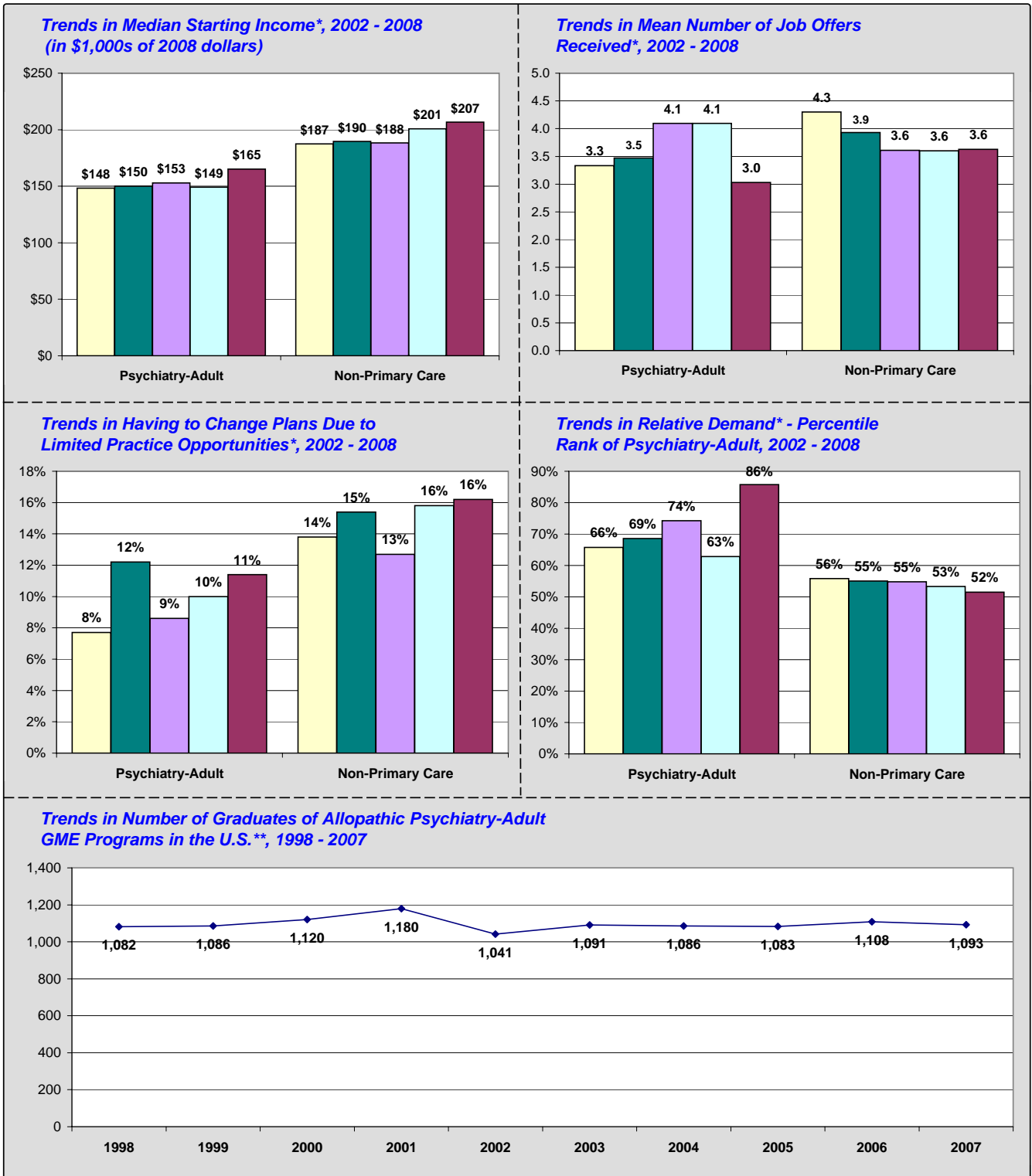
Number of responses: 2002: n = 64, 2003: n = 53, 2005: n = 44, 2007: n = 47, 2008: n = 62.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Psychiatry-Adult

Legend: 2002 2003 2005 2007 2008



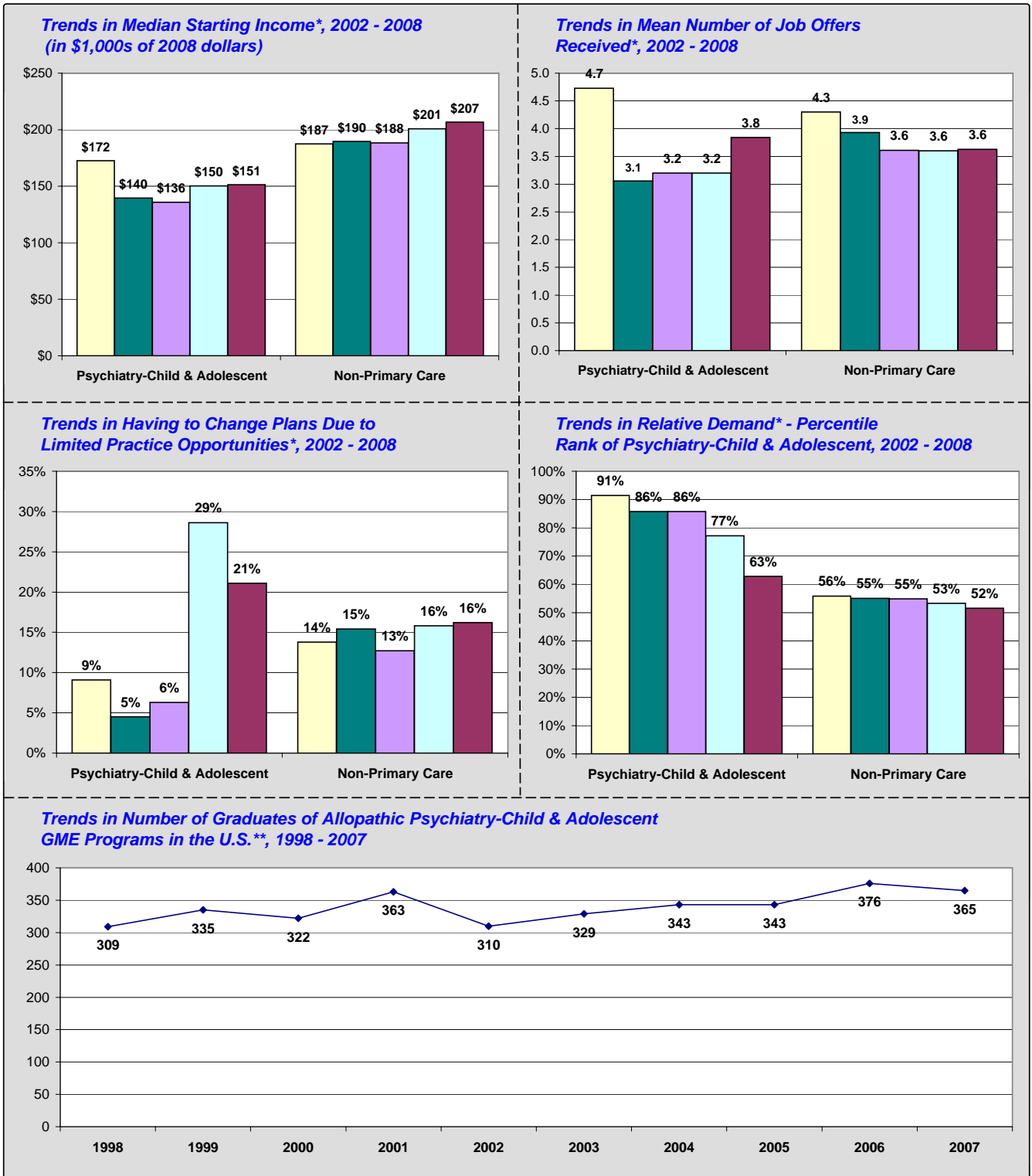
Number of responses: 2002: n = 60, 2003: n = 58, 2005: n = 39, 2007: n = 46, 2008: n = 38.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Psychiatry-Child & Adolescent

Legend: 2002 2003 2005 2007 2008



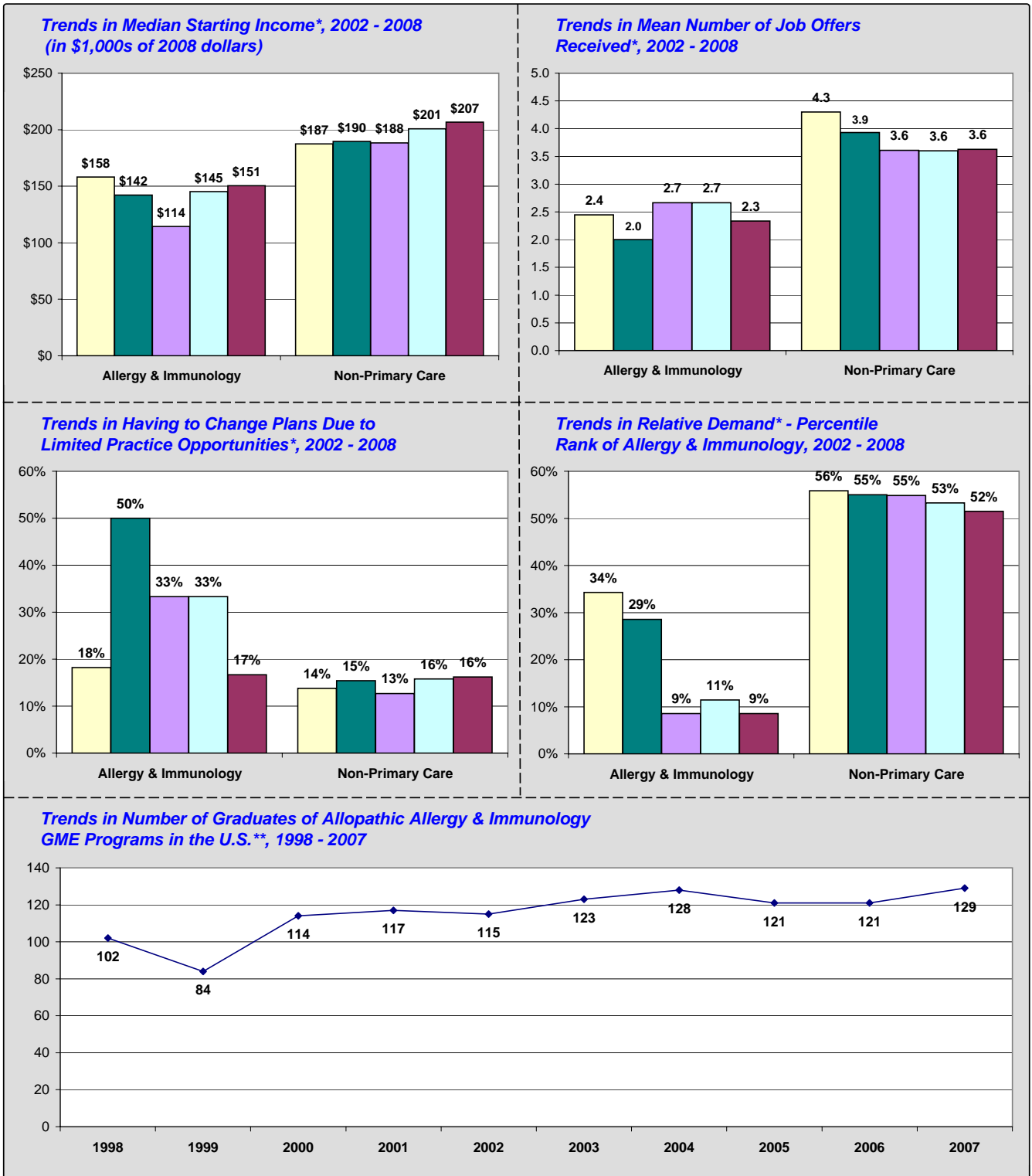
Number of responses: 2002: n = 22, 2003: n = 23, 2005: n = 17, 2007: n = 15, 2008: n = 22.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Allergy & Immunology

Legend: 2002 2003 2005 2007 2008



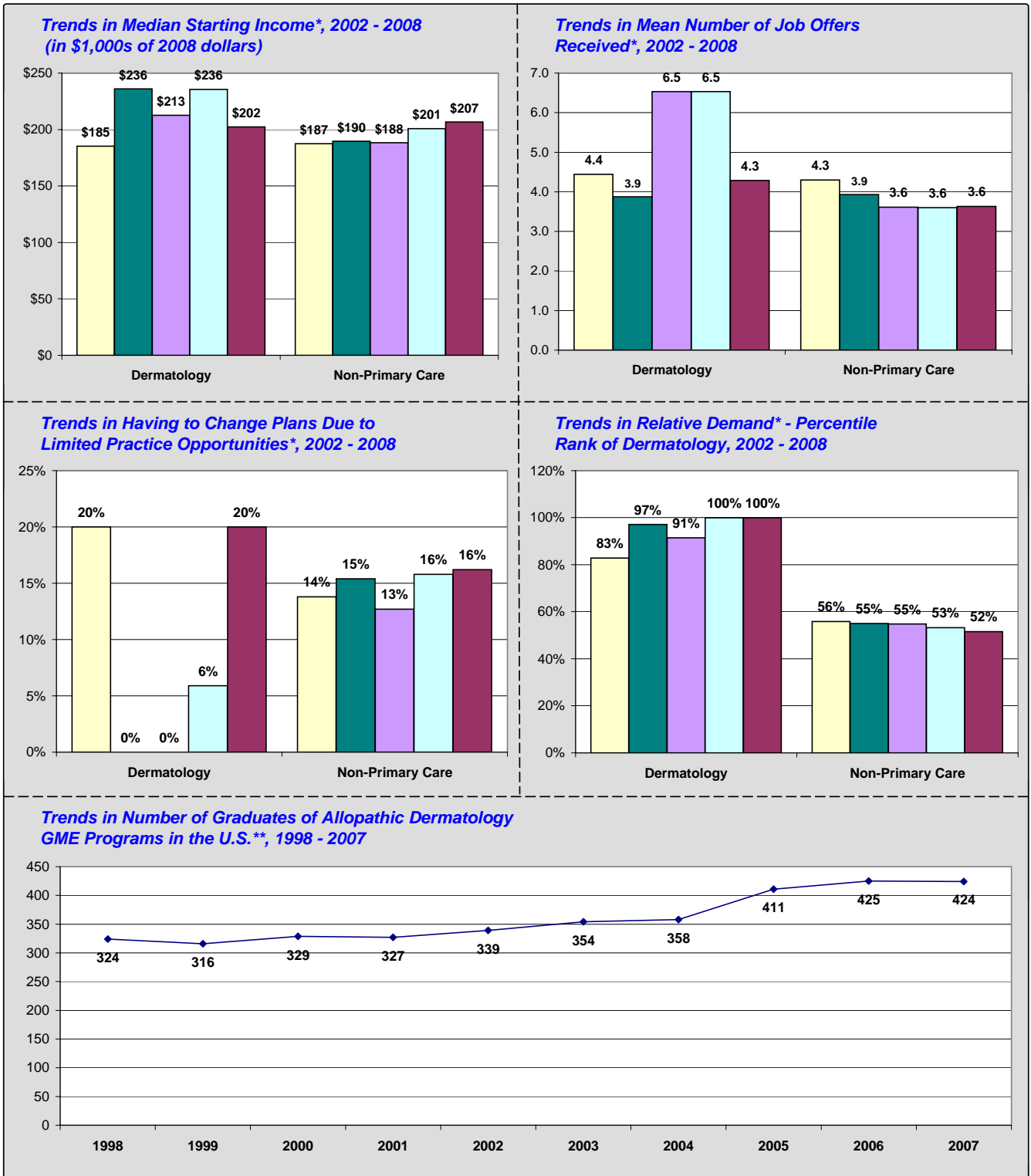
Number of responses: 2002: n = 11, 2003: n = 10, 2005: n = 6, 2007: n = 6, 2008: n = 6.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Dermatology

Legend: 2002 2003 2005 2007 2008



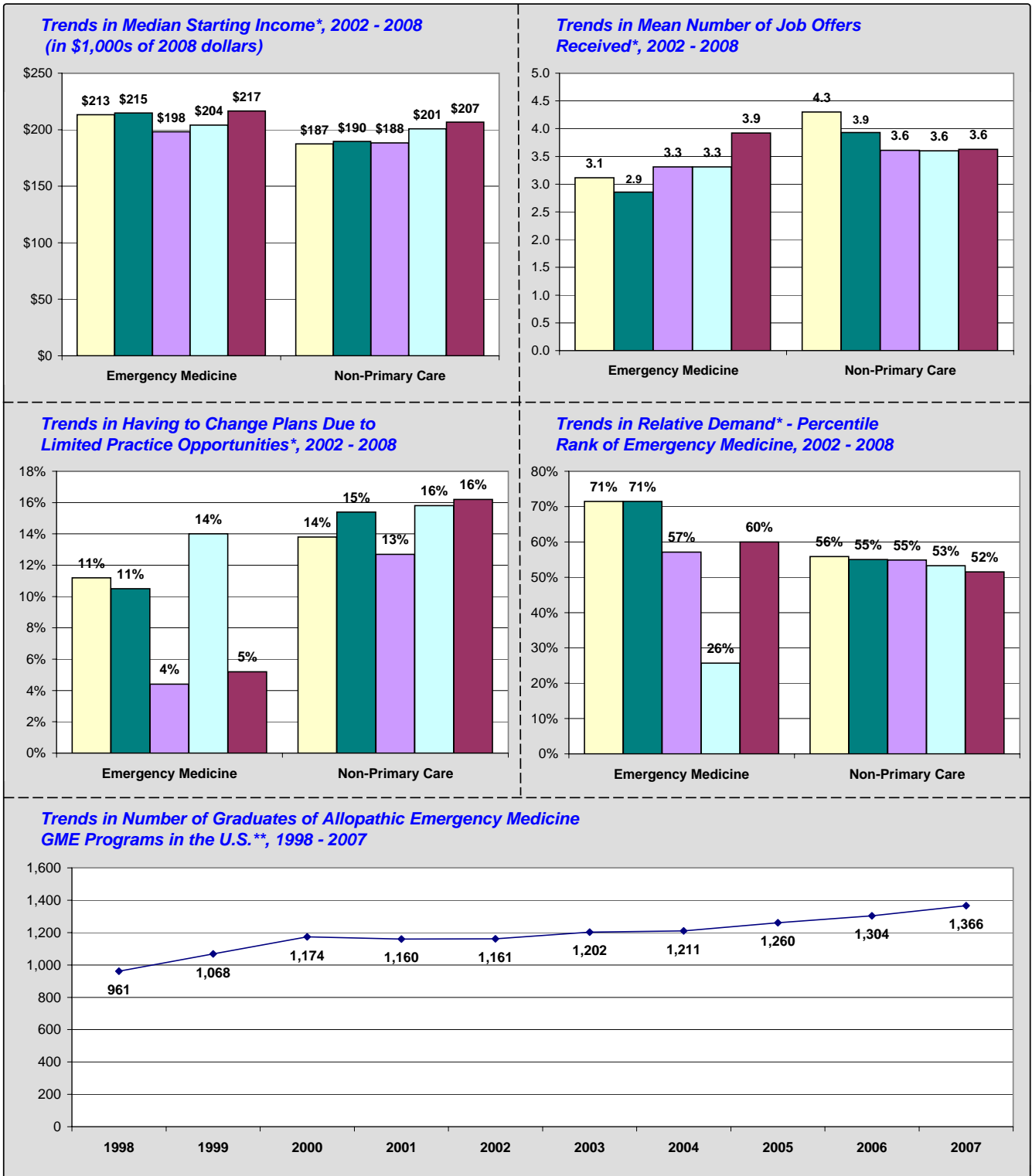
Number of responses: 2002: n = 26, 2003: n = 26, 2005: n = 17, 2007: n = 18, 2008: n = 21.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Emergency Medicine

Legend: 2002 2003 2005 2007 2008



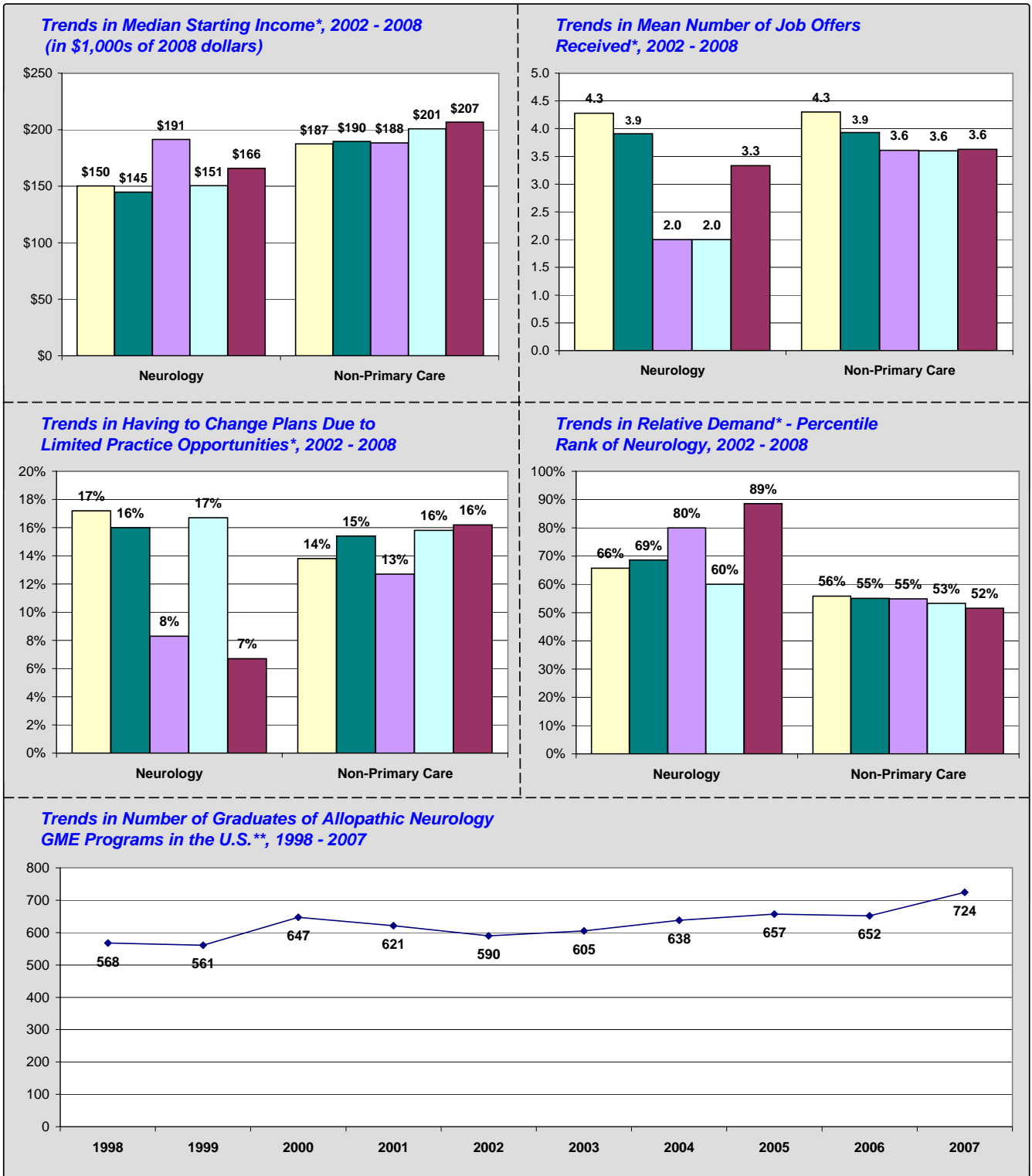
Number of responses: 2002: n = 119, 2003: n = 118, 2005: n = 72, 2007: n = 88, 2008: n = 78.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Neurology

Legend: 2002 2003 2005 2007 2008



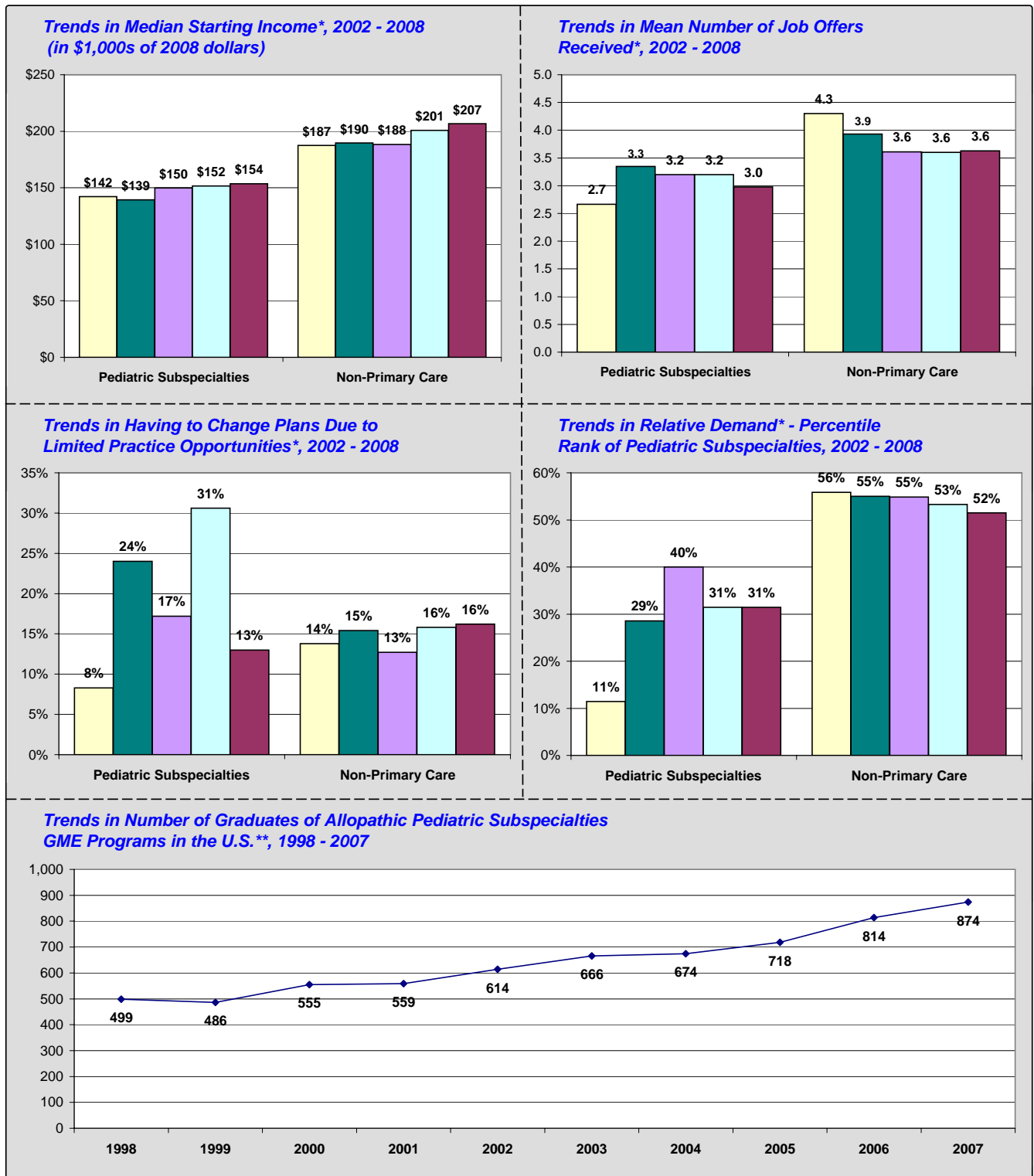
Number of responses: 2002: n = 31, 2003: n = 28, 2005: n = 13, 2007: n = 15, 2008: n = 18.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Pediatric Subspecialties

Legend: 2002 2003 2005 2007 2008



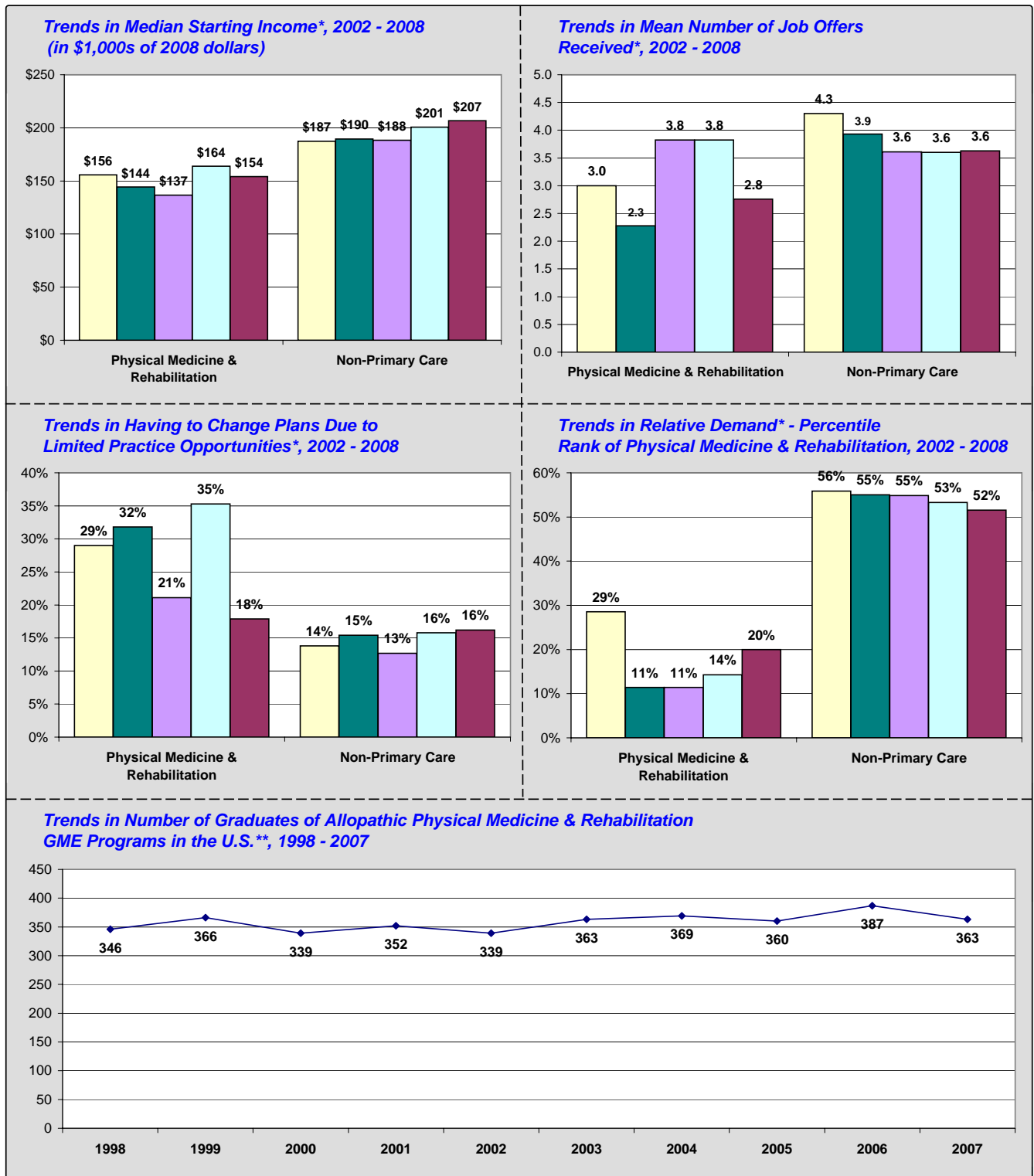
Number of responses: 2002: n = 24, 2003: n = 28, 2005: n = 30, 2007: n = 39, 2008: n = 49.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

Specialty: Physical Medicine & Rehabilitation

Legend: 2002 2003 2005 2007 2008



Number of responses: 2002: n = 34, 2003: n = 26, 2005: n = 22, 2007: n = 17, 2008: n = 29.

*Source: CHWS, Survey of Residents Completing Training in New York, 2002 - 2008.

**Source: JAMA Medical Education Issues, 1999 - 2008.

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 (i.e., it cannot be used to determine the number of physicians necessary to serve a given population). However, by analyzing several questions pertaining to the 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 (i.e., 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 specialty 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 family medicine in New York in 2008 is 66% (i.e., family medicine had a relative rank equal to or better than 66% of the 35 specialties that were ranked), and the percentile rank of pediatrics-general was 34%, this *does not* imply that demand for family medicine was almost twice as strong as for pediatrics-general. The scale is only ordinal.

To measure demand by specialty and develop a ranking of specialties based on demand, a composite demand score was computed by taking a weighted average of the ranks (i.e., where each specialty stood among all specialties) scored by each specialty on each variable used to measure demand (or demand indicator). 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; and
- ✓ trend (i.e., 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 is 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 (i.e., a respondent reporting “difficulty...” was much more likely to also report “having to change plans...”). There is 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.

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

- ✓ diff: rank of each specialty based on the percentage of respondents reporting difficulty finding a satisfactory practice position→e.g., 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 (allergy and immunology) ranked #35.
- ✓ chpln: rank of each specialty based on the percentage of respondents that had to change plans due to practice opportunities→e.g., the specialty with the lowest percentage of respondents having to change plans (emergency medicine) ranked #1 and the specialty with the highest percentage of respondents reporting difficulty (plastic surgery) ranked #35.
- ✓ offrs: 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) →e.g., the specialty with the most job offers (gastroenterology) ranked #1 and the specialty with the fewest job offers (pathology) ranked #35.
- ✓ reg_mrkt: rank of each specialty in terms of the mean Likert score summarizing respondents' assessments of the regional job market for their specialty→e.g., the specialty with the most positive assessment of the regional job market (child and adolescent psychiatry) ranked #1 and the specialty with the least positive assessment of the regional job market (plastic surgery) ranked #35.
- ✓ nat_mrkt: rank of each specialty in terms of the mean Likert score summarizing respondents' assessments of the national job market for their specialty→e.g., the specialty with the most positive assessment of the national job market (child and adolescent psychiatry) ranked #1 and the specialty with the least positive assessment of the national job market (thoracic surgery) ranked #35.
- ✓ inc_trnd: rank of each specialty in terms the average annual change (or trend) in median starting income levels of respondents from each specialty→e.g., the specialty with the strongest trend in median starting income (plastic surgery) ranked #1 and the specialty with the least positive assessment of the national job market (ophthalmology) ranked #35.

SUMMARY OF RANKS ON DEMAND INDICATORS

| <u>Specialty</u> | <u>diff</u> | <u>ch_pln</u> | <u>offers*</u> | <u>reg_mrkt</u> | <u>nat_mrkt</u> | <u>inc_trnd*</u> | <u>Median Rank</u> | <u>Overall Rank</u> | <u>Percentile Rank**</u> |
|----------------------|-------------|---------------|----------------|-----------------|-----------------|------------------|--------------------|---------------------|--------------------------|
| Family Medicine | 22 | 19 | 10 | 13 | 9 | 15 | 14.0 | 13.0 | 66% |
| Internal Med-General | 23 | 18 | 8 | 20 | 13 | 11 | 12.0 | 8.0 | 80% |
| Pediatrics-General | 16 | 11 | 31 | 23 | 23 | 24 | 23.5 | 24.0 | 34% |
| IM & Peds (Comb) | 17 | 14 | 28 | 16 | 25 | 6 | 16.5 | 18.0 | 51% |
| Ob/Gyn | 15 | 10 | 14 | 17 | 22 | 22 | 16.0 | 16.0 | 57% |
| Cardiology | 21 | 12 | 5 | 14 | 8 | 30 | 13.0 | 11.0 | 71% |
| Critical Care Med | 17 | 23 | 18 | 12 | 15 | 10 | 16.0 | 16.0 | 57% |
| Endocrinology | 24 | 26 | 17 | 10 | 7 | 29 | 20.5 | 21.0 | 43% |
| Gastroenterology | 9 | 4 | 1 | 7 | 4 | 4 | 4.0 | 3.0 | 94% |
| Geriatrics | 31 | 25 | 11 | 25 | 29 | 28 | 26.5 | 27.0 | 26% |
| Hematology/Onc | 19 | 16 | 13 | 15 | 5 | 9 | 13.0 | 11.0 | 71% |
| Infectious Disease | 26 | 33 | 26 | 33 | 31 | 23 | 26.0 | 26.0 | 29% |
| Nephrology | 32 | 31 | 29 | 32 | 19 | 31 | 31.0 | 31.0 | 14% |
| Pulmonary Disease | 11 | 13 | 4 | 19 | 12 | 20 | 12.5 | 10.0 | 74% |
| Rheumatology | 33 | 34 | 19 | 31 | 18 | 34 | 32.0 | 33.0 | 9% |
| Surgery-General | 12 | 30 | 22 | 22 | 20 | 8 | 21.0 | 22.0 | 40% |
| Neurosurgery | 20 | 21 | 21 | 8 | 10 | 32 | 21.0 | 22.0 | 40% |
| Ophthalmology | 27 | 8 | 25 | 26 | 30 | 35 | 26.5 | 27.0 | 26% |
| Orthopedic | 8 | 7 | 7 | 18 | 21 | 14 | 11.0 | 6.0 | 86% |
| Otolaryngology | 13 | 17 | 6 | 6 | 17 | 5 | 6.0 | 4.0 | 91% |
| Plastic Surgery | 34 | 35 | 32 | 35 | 34 | 1 | 33.0 | 35.0 | 3% |
| Thoracic Surgery | 28 | 27 | 34 | 34 | 35 | 25 | 31.0 | 31.0 | 14% |
| Urology | 2 | 9 | 3 | 9 | 3 | 3 | 3.0 | 1.0 | 100% |
| Anesthesiology-Gen | 3 | 2 | 12 | 4 | 14 | 26 | 12.0 | 8.0 | 80% |
| Pain Management | 29 | 24 | 9 | 24 | 28 | 2 | 16.5 | 18.0 | 51% |
| Pathology | 25 | 29 | 35 | 30 | 33 | 12 | 29.5 | 30.0 | 17% |
| Radiology | 6 | 15 | 23 | 21 | 24 | 13 | 18.0 | 20.0 | 46% |
| Psychiatry-Adult | 4 | 5 | 16 | 2 | 6 | 18 | 11.0 | 6.0 | 86% |
| Psych-Child & Adol | 5 | 20 | 15 | 1 | 1 | 21 | 15.0 | 14.0 | 63% |
| Allergy & Immun | 35 | 32 | 33 | 29 | 32 | 16 | 32.0 | 33.0 | 9% |
| Dermatology | 10 | 3 | 2 | 3 | 2 | 33 | 3.0 | 1.0 | 100% |
| Emergency Medicine | 1 | 1 | 20 | 5 | 11 | 27 | 15.5 | 15.0 | 60% |
| Neurology | 7 | 6 | 24 | 11 | 16 | 7 | 9.0 | 5.0 | 89% |
| Pediatric Subspecs | 14 | 22 | 27 | 28 | 26 | 17 | 24.0 | 25.0 | 31% |
| Phys Med & Rehab | 30 | 28 | 30 | 27 | 27 | 19 | 27.5 | 29.0 | 20% |

*The job offers variable and the income trend variable were each double weighted in computing the median rank.

**The percentile rank is the percentage of all 35 specialties with a median demand rank equal to or lower than each specialty.

The following example illustrates how the demand score was calculated for family medicine in New York in 2008:

Median Rank_{FP} = median (diff, chpln, offers, offers, reg_mrkt, nat_mrkt, inc_trnd, inc_trnd)

Median Rank_{FP} = median (22, 19, 10, 10, 13, 9, 15, 15)

Median Rank_{FP} = 14.0***

***With a median rank of 14.0, family medicine ranked 13 out of 35 specialties. The percentile rank is computed as:

$\%rank_{FP} = \{ 1 - (Rank_{FP} / \#specs) + (1 / \#specs) \}$ where “#specs” is the number of specialties being ranked. In New York in 2008, there were 35 specialties being ranked, so the percentile rank of family medicine is:

$$\%rank_{FP} = \{ 1 - (13 / 35) + (1 / 35) \} \simeq 66\%.$$

APPENDIX B. Specialty Comparison Groups

SPECIALTY COMPARISON GROUPS

| <u>Specialty</u> | <u>Comparison Group</u> * |
|------------------------------------|----------------------------------|
| Family Medicine | Primary Care |
| Internal Medicine-General | Primary Care |
| Pediatrics-General | Primary Care |
| IM & Peds (Combined) | Primary Care |
| Obstetrics/Gynecology | Non-Primary Care |
| Cardiology | Medicine Subspecialties |
| Critical Care Medicine | Medicine Subspecialties |
| Endocrinology | 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 |
| Surgery-General | Non-Primary Care |
| Neurosurgery | Surgical Subspecialties |
| Ophthalmology | Surgical Subspecialties |
| Orthopedic Surgery | Surgical Subspecialties |
| Otolaryngology | Surgical Subspecialties |
| Plastic Surgery | Surgical Subspecialties |
| Thoracic Surgery | Surgical Subspecialties |
| Urology | Surgical Subspecialties |
| Anesthesiology-General | Non-Primary Care |
| Pain Management | Non-Primary Care |
| Pathology | Non-Primary Care |
| Radiology | Non-Primary Care |
| Psychiatry-Adult | Non-Primary Care |
| Psychiatry-Child & Adolescent | 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 |

*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 (i.e., 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. 2008 NY Resident Exit Survey Instrument

10. 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

11. Specialty you are **COMPLETING** in 2008
(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: _____

C. FUTURE PLANS

12. 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"/> |
| 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"/> |

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

- Same City/County as Current Training
- Same Region within New York—but Different City/County
- Other Area within New York
- Other State
- Outside of U.S.
- Don't know yet

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): _____
- Question does not apply

B. If you are leaving the state 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. Do you have an obligation or visa requirement to work in a federally designated Health Professional Shortage Area?

- Yes No

16. If you are planning to enter or have considered entering patient care/clinical practice:

- A.** Have you actively searched for a job?
- Yes
 - No, not yet (Skip to 16C)
 - No, I will be self-employed (Skip to 16C)

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

21. 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

22. Will you be participating in a loan forgiveness/repayment program while at this practice?
 Yes
 No

23. Expected Gross Income during first year of practice:

| | |
|---|---|
| A. <u>Base Salary/Income</u> | B. <u>Anticipated Additional Incentive Income</u> |
| <input type="radio"/> Less than \$60,000 | <input type="radio"/> None |
| <input type="radio"/> \$60,000–\$79,999 | <input type="radio"/> Less than \$5,000 |
| <input type="radio"/> \$80,000–\$99,999 | <input type="radio"/> \$5,000–\$9,999 |
| <input type="radio"/> \$100,000–\$119,999 | <input type="radio"/> \$10,000–\$14,999 |
| <input type="radio"/> \$120,000–\$139,999 | <input type="radio"/> \$15,000–\$19,999 |
| <input type="radio"/> \$140,000–\$159,999 | <input type="radio"/> \$20,000–\$24,999 |
| <input type="radio"/> \$160,000–\$179,999 | <input type="radio"/> \$25,000–\$29,999 |
| <input type="radio"/> \$180,000–\$199,999 | <input type="radio"/> \$30,000–\$34,999 |
| <input type="radio"/> \$200,000–\$219,999 | <input type="radio"/> \$35,000–\$39,999 |
| <input type="radio"/> \$220,000–\$239,999 | <input type="radio"/> \$40,000–\$44,999 |
| <input type="radio"/> \$240,000–\$259,999 | <input type="radio"/> \$45,000–\$49,999 |
| <input type="radio"/> \$260,000–\$279,999 | <input type="radio"/> \$50,000–\$54,999 |
| <input type="radio"/> \$280,000–\$299,999 | <input type="radio"/> \$55,000–\$59,999 |
| <input type="radio"/> \$300,000 and over | <input type="radio"/> \$60,000 and over |

24. What is your level of satisfaction with your salary/compensation?
 Very Satisfied Not Too Satisfied
 Somewhat Satisfied Very Dissatisfied

E. EXPERIENCE IN JOB MARKET
(If you are going into patient care or have considered going into patient care, please complete the following.)

25. A. Did you have difficulty finding a practice position you were satisfied with?
 Yes No Haven't looked yet
(Skip to Question #28)

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): _____

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

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

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

29. What is your overall assessment of practice opportunities in your specialty nationally?
 Many Jobs Very Few Jobs
 Some Jobs No Jobs
 Few Jobs Unknown

THANK YOU FOR COMPLETING THIS IMPORTANT SURVEY.



PLEASE DO NOT WRITE IN THIS AREA

SERIAL #

