

Allergy and Immunology GME Surveys 2001

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The Center for Health Workforce Studies

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Preface

In order to better understand the trends and dynamics affecting the supply, demand, and distribution of allergists in the United States, the Center for Health Workforce Studies at the School of Public Health, University at Albany, State University of New York, at the request of the American Academy for Allergy, Asthma, and Immunology, has examined a variety of aspects of the allergist workforce. Beginning in 1998, the Center has tracked the evolution of the allergist workforce through a number of surveys of practicing allergists, allergy and immunology fellowship program directors, and recent graduates of allergy and immunology fellowship programs.

The Center has produced a number of reports on the results of these surveys, including: a historical report, “The Supply, Demand and Distribution of Allergists and Immunologists in the United States, A Descriptive Analysis,” (May 1999); “Physicians Providing Allergy and Immunology Services in the United States: Results of the Survey of Physicians Providing Allergy and Immunology Services in the United States, 1999,” (March 2000); a comprehensive report on the specialty, “The Allergy and Immunology Physician Workforce 2000,” (June 2000); a brief examination of managed care and allergy practice, “Managed Care and Allergy and Immunology Practice,” (February 2001); a graduate medical education tracking report, “Allergy and Immunology GME Surveys 2000,” (January 2001); and an overview of second year internal medicine and pediatric residents’ interest in allergy and immunology “Specialty Choices Among Second Year Medicine and Pediatric Residents,” (February 2002).

The current report examines the results of surveys of allergy and immunology fellowship program directors and recent graduates of these programs in 2001. The results from these surveys provide valuable, up-to-date information on the supply of new allergists as well as demand for their services. Collected on an annual basis, trends in these data can be identified and conclusions drawn about dynamics that may affect the allergy physician workforce.

The Center for Health Workforce Studies is dedicated to the collection, analysis, and distribution of health workforce data to assist health, professional and educational organizations, policy makers, and the public understand issues related to the supply, demand, and use of health workers. This report was prepared by Gaetano J. Forte, Karilyn Puccio, Mark Beaulieu, and Edward S. Salsberg.



The views expressed in this report are those of the Center for Health Workforce Studies and do not necessarily represent positions or policies of the School of Public Health, University at Albany, the State University of New York, or the American Academy of Allergy, Asthma, and Immunology.

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Summary of the Results of the Survey of Allergy and Immunology Fellowship Program Directors in 2001

The responses to the allergy and immunology fellowship training program director survey in 2001 reveal a number of findings. First, there has been a recent swing from contraction to expansion in the size of fellowship programs. Beginning in the mid-1990s, the number of fellows training in allergy and immunology declined, reaching a bottom in 1997. While the number of fellows in training was roughly the same in 2000 as it was in 1997, more directors are reporting increasing the size of their programs than are reporting reducing the size of their programs. Reports from directors clearly suggest that a bottom has been reached and that programs are poised to increase the number of new allergists trained each year.

Second, program directors continue to perceive strong interest in allergy and immunology among pediatric and internal medicine residents. Trainees look upon the specialty positively and their view of allergy and immunology is improving over time, according to the surveyed directors. The continued excellent reputation that allergy and immunology enjoys is likely to serve the specialty well in the future as it moves toward expansion. Positive views and interest in the specialty are likely to generate an abundance of qualified applicants to fill new training slots.

Third, program directors report that demand for recent graduates of allergy and immunology fellowship programs is high and do not anticipate a change in the near future. The current findings are consistent with those of past surveys which suggest that the practice opportunities for new allergists are abundant. Increased demand and practice opportunities for allergy and immunology graduates point to a healthy, robust job market now and in the near future for allergists.

Fourth, there are indications that areas around training sites are in the process of becoming saturated and unable to support any additional allergists. That is, the market for new allergists is tighter in areas close to allergy and immunology fellowship training sites than the market in other geographical areas. Program directors report that while practice opportunities in areas close to their training sites do exist for new allergists, they are much less abundant than in other areas of the country. It should be stressed, however, that program directors continue to perceive a strong national market for allergists.

Key Findings

- Just under two-fifths (39%) of the allergy and immunology fellowship program directors reported expanding the size of their programs over the past three years. This proportion is far greater than in previous years (10% in 1999, 16% in 2000), and it continues the recent trend of expansion. The most common reasons given for the expansion were the abundance of qualified applicants and increased financial support for the program. Only one-fifth (20%) of the allergy and immunology fellowship program directors reported reducing the size of their programs over the past 3 years. This proportion is far smaller than the 48% (1999) and 27% (2000) who reported contraction in previous years.
- Over one-third (37%) of the allergy and immunology fellowship program directors reported that they perceive the pediatric and internal medicine residents view allergy and immunology very positively. Close to three-quarters (69%) reported that these views have become better in recent years. These observations represent increases over the 2000 survey results and continue the recent trend in improving views of the specialty among other physicians in training.
- While close to four-fifths (79%) of the allergy and immunology fellowship program directors reported that their graduates in 2000 had no difficulties finding positions, almost one-third (31%) anticipated that their graduates in 2001 would have fewer difficulties than those in 2000. The current results are somewhat lower than the reports in 2000 (89% and 54%, respectively).
- The effects of managed care expansion on the demand for their graduates continues to be of little concern to allergy and immunology fellowship program directors. Only 5% of the directors foresee fewer practice opportunities as a result of managed care expansion over the next three years. This proportion is somewhat lower than observed in 1999 (16%) and 2000 (18%).

- Allergy and immunology fellowship program directors continue to assess the national job market for allergists as much better than the job market within 50 miles of their training sites. Moreover, allergy and immunology fellowship program directors reported a tighter job market within 50 miles of their training sites in 2001 than in 1999 and 2000.

Results of the Survey of Allergy and Immunology Fellowship Program Directors in 2001

Program directors are in a unique position to assess both changes in the job market and the attractiveness of the subspecialty to residents in internal medicine and pediatrics. Program directors can also provide valuable insights on possible future changes in the training of allergists. Thus, they are a good source of information on the aforementioned key issues in graduate medical education.

This section is organized around a number of key, ongoing issues in allergy and immunology graduate medical education, including: trends in fellowship program size, attractiveness of allergy and immunology as a subspecialty, and the experiences of recent allergy and immunology graduates in the job market.

The Center received responses from 43 (61%) of the 71 active allergy and immunology fellowship programs in the United States in 2001. For complete technical details on the survey of fellowship program directors, please see Appendices A and B. The following sections analyze the responses the Center received from the 43 programs, as well as comment on the 2001 responses compared to responses to previous surveys. It should be noted that the response rate to the survey in 2001 was significantly lower than the rate in 1999 (92%) and 2000 (90%). As a result, many of the small differences observed across years (e.g., comparing 2000 results to 2001) do not reach statistical significance. The results, however, remain informative with a focus on overall trends, rather than specific year-to-year differences.

1. Trends in Fellowship Program Size

As reported elsewhere (Forte et al. 2000), graduate medical education in allergy and immunology decreased in the mid-1990s through the late 1990s, with signs that a bottom had been reached in 1997 when the number of fellows in training was just 64% of the number training in 1990. In the year 2000, the number of fellows in training was still at the same level as it was in 1997. As indicated in Figure 1, these trends are borne out in the responses from program directors. As is evident, in 2001, only 20% of the program directors reported having reduced the size of their programs over the previous three years. This is far fewer than had been reported in 1999 and 2000. More telling perhaps was that close to two-fifths (39%) of the directors reported having increased the size of their programs. This figure is significantly higher than reports from previous years. The clear trends on both the reduction and expansion side of changes in program size suggest that the declines in the number of fellows-in-training

Figure 1. Changes in A/I Training Program Size over Past Three Years, 1999-2001

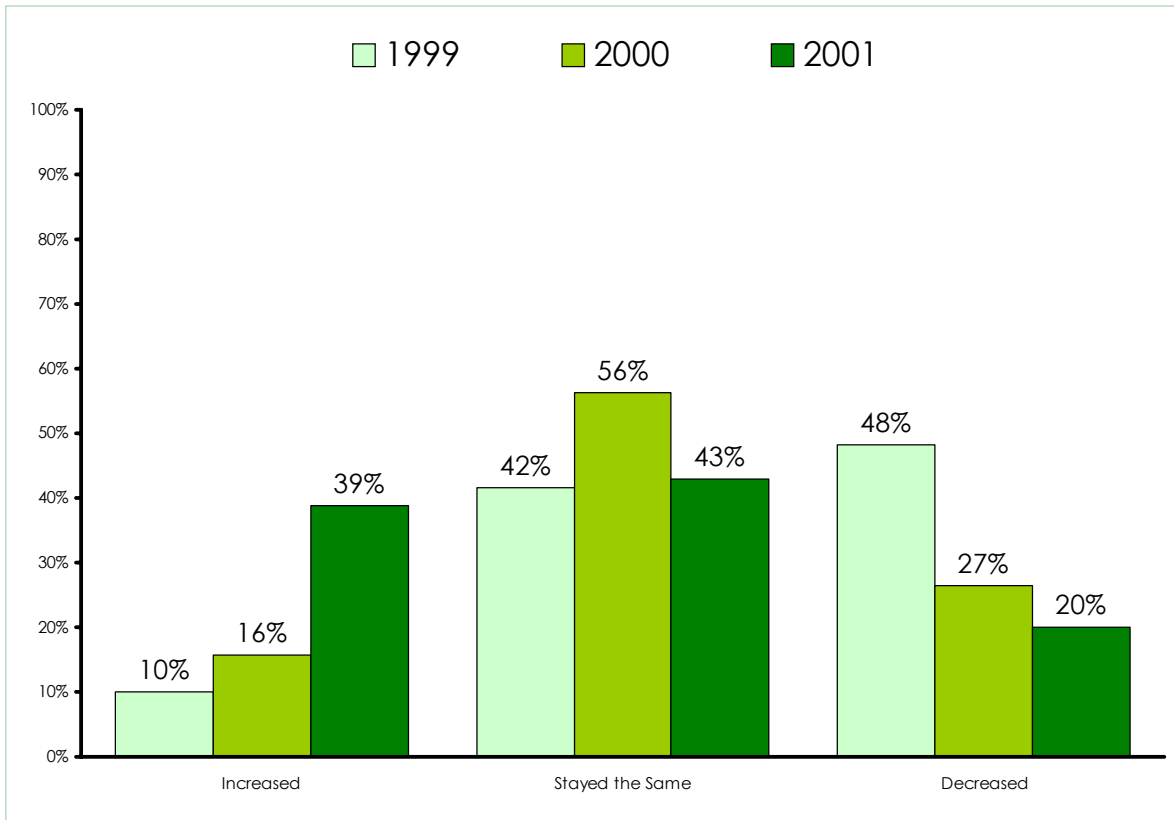


Table 1. Reasons for A/I Training Program Size Reduction over Past Three Years, 1999-2001

	1999	2000	2001
<i># of Programs Reporting a Decrease in Program Size:</i>	29	17	7
Reduced Training Grant Support	14%	0%	43%
Difficulty Attracting Qualified Applicants	34%	18%	14%
Reduced Financial Support for Program	66%	65%	29%
Institutionally Imposed Mandate	28%	18%	0%
Lack of Sufficient Faculty*	-	12%	14%
Decreased Demand / Employment Opportunities for Graduates	7%	0%	0%
Other	14%	18%	14%

** Not a choice on 1999 survey
Multiple answers possible, columns may add to greater than 100%*

have slowed to the point where the specialty may experience growth in the number of new allergists being trained each year.

Table 1 presents the explanations provided by program directors who reported downsizing over the previous three years. In 2001, the most common reason for reducing program size was

reduced training grant support (43%). This is a related, yet different explanation than the most common from previous years (reduced financial support for the program). The trends make it apparent that allergy and immunology training programs that are reducing their size are under financial pressure, either directly (financial support for the program) or indirectly (training grant support). On the other hand, difficulty attracting qualified applicants (14%) and lack of sufficient faculty (14%) are also offered as partial explanations for this reduction. Current explanations are consistent with previous survey responses.

Table 2. Reasons for A/I Training Program Size Increases over Past Three Years, 1999-2001

	1999	2000	2001
<i># of Programs Reporting an Increase in Program Size:</i>	<i>6</i>	<i>10</i>	<i>14</i>
Abundance of Qualified Applicants	33%	60%	43%
Increased Financial Support for Program	33%	10%	36%
Increased Faculty*	-	30%	29%
Service Needs of Training Site(s)	0%	20%	14%
Increased Training Grant Support	17%	20%	29%
Increased Demand/Employment Opportunities for Graduates	33%	0%	21%
Modified Fellowship Training	17%	20%	0%

** Not a choice on 1999 survey
Multiple answers possible, columns may add to greater than 100%*

For the 39% of programs directors who reported increasing the size of their programs over the previous three years, Table 2 presents the reasons for these changes. A majority of program directors (43%) reported that their programs increased in size due to an abundance of qualified applicants. Moreover, an increase in faculty (29%) was also provided as a reason for expanding. Importantly, increased demand or employment opportunities for their graduates (21%) was also given as an explanation for increasing program size as well.

While the overall indication is stability in program size in the near future, there continue to be signs of an increase in the number of fellows-to-be-in-training (Figure 2). The majority (75%) of program directors indicated that they do not have plans to change the size of their programs in the near future. Seventeen percent (17%) of the program directors indicated that they plan to increase the size of their programs. Finally, very few (8%) of program directors indicated plans for reducing the size of their programs over the next three years.

Figure 2. Planned Changes in A/I Training Program Size over Next Three Years, 1999-2001

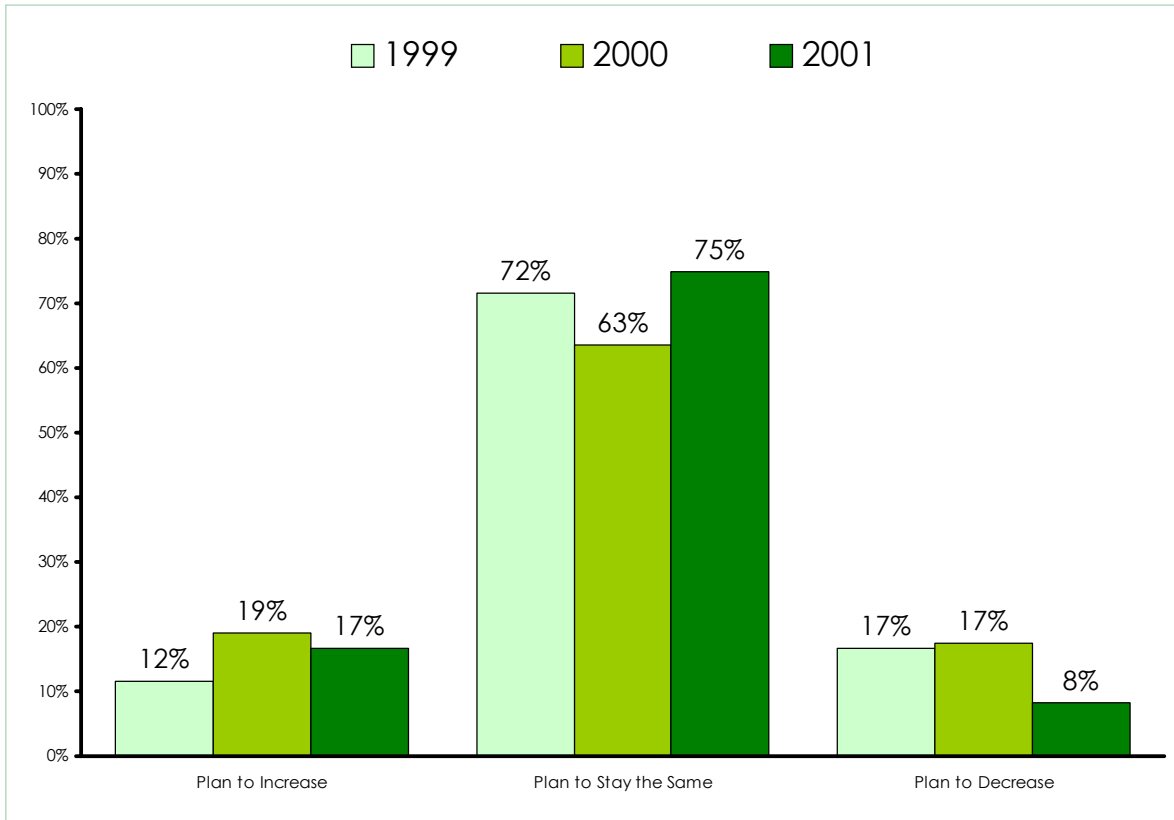


Table 3. Reasons for Planned Reduction in A/I Training Program Size over Next Three Years, 1999-2001

<i># of Programs Reporting Plans to Reduce Program Size:</i>	1999	2000	2001
Reduced Training Grant Support	10%	18%	0%
Difficulty Attracting Qualified Applicants	10%	0%	33%
Reduced Financial Support for Program	90%	55%	100%
Institutionally Imposed Mandate	0%	9%	0%
Lack of Sufficient Faculty*	-	36%	0%
Disapproval by RRC	10%	0%	0%
Merging with Participating Site	0%	9%	0%

** Not a choice on 1999 survey
Multiple answers possible, columns may add to greater than 100%*

Of those directors that reported plans to reduce the size of their programs over the next three years, as they indicated in 1999 and 2000, all (100%) reported that the reductions in program size will be due to reduced financial support for their programs (Table 3). Difficulty attracting qualified applicants was indicated by 1 of the 3 directors planning to reduce program size. Unlike in 2000, no director in 2001 reported faculty shortage as a reason for reducing the size

of his/her program.

Among the program directors who reported that they had plans to increase the size of their programs over the next three years (Table 4), the most commonly reported reason for the plans was an abundance of qualified applicants (83%). Other reasons for planned expansion included increased training grant support (50%) and increased financial support for the program (33%). Training grant and financial support have also been reasons for planned expansion in the past. The increased number of qualified applicants is a welcome development for the specialty.

Table 4. Reasons for Planned Increases in A/I Training Program Size over Next Three Years, 1999-2001

	1999	2000	2001
<i># of Programs Reporting Plans to Increase Program Size:</i>	7	12	6
Abundance of Qualified Applicants	14%	8%	83%
Increased Financial Support for Program	14%	42%	33%
Increased Faculty*	-	25%	17%
Service Needs of Training Site	14%	17%	17%
Increased Training Grant Support	14%	17%	50%
Increased Demand/Employment Opportunities for Graduates	43%	0%	17%
Other	14%	8%	0%

** Not a choice on 1999 survey
Multiple answers possible, columns may add to greater than 100%*

Three findings are worth noting in this section. First, responses from program directors indicated that program size, in general, has been and to a certain extent will continue to be stable. In addition, there is indication that more programs will expand than contract in the next several years. Second, program directors' survey responses this year indicated that financial issues have been and continue to be the bases for reductions and expansions of programs. A significant number of program directors who reported having to reduce or having plans to reduce the size of their programs indicated that decreased training grant and financial support for the program as the causes. On the other hand, increases in training grant and financial support were the causes of recent and planned expansion by programs. Third, the responses from the 2001 survey were consistent with and complementary to previous program director survey responses.

2. Training Program Director Views on the Attractiveness of Allergy and Immunology as a Subspecialty

In the long term, the viability of allergy and immunology as a specialty depends, in part, on its ability to attract new, well-qualified physicians to the specialty. To become an allergist, a physician must first choose to subspecialize, and then choose allergy and immunology over other subspecialties. Thus, it is important to understand how the specialty is viewed by medical residents who are still considering whether to subspecialize.¹ Moreover, this understanding is crucial in developing strategies to encourage an increase in the number of well-qualified applicants to programs in order to increase production of new allergists.

For allergy and immunology, the important group of medical residents to consider are pediatric and internal medicine residents.² As shown in Figure 3, over 85% of the program directors indicated that the specialty is viewed positively by pediatric and internal medicine residents. This is higher than either of the previous surveys and continues the upward trend. Only 7% of the program directors reported that these residents hold a negative view of the specialty.

Additionally, almost three-quarters (69%) of the program directors reported that they perceive the views of pediatric and internal medicine residents as having become better over the last three years (Figure 4). While 31% of the directors reported no change in the view of the specialty, no director reported that the view has become worse in the recent past. Compared to the previous surveys, the 2001 responses continue the trend toward an improving view of the specialty by potential applicants. These are positive indications for the specialty as any movement toward program expansion will likely be met with applicant interest.

¹While program directors' perceptions of how the specialty is viewed by medical residents is not a perfect measure of the attractiveness of the specialty to medical residents, program directors' experiences do provide valuable observations on medical resident attitudes. For more information on how the specialty is currently viewed by pediatric and internal medicine residents, please see *Specialty Choices Among Second Year Medicine and Pediatric Residents* (Puccio et al. 2002).

²All allergy and immunology fellows must complete an accredited residency program in pediatrics or internal medicine before they can begin fellowship training in allergy and immunology.

Figure 3. A/I Program Directors' Perceptions of Views of Pediatrics and Internal Medicine Residents, 1999-2001

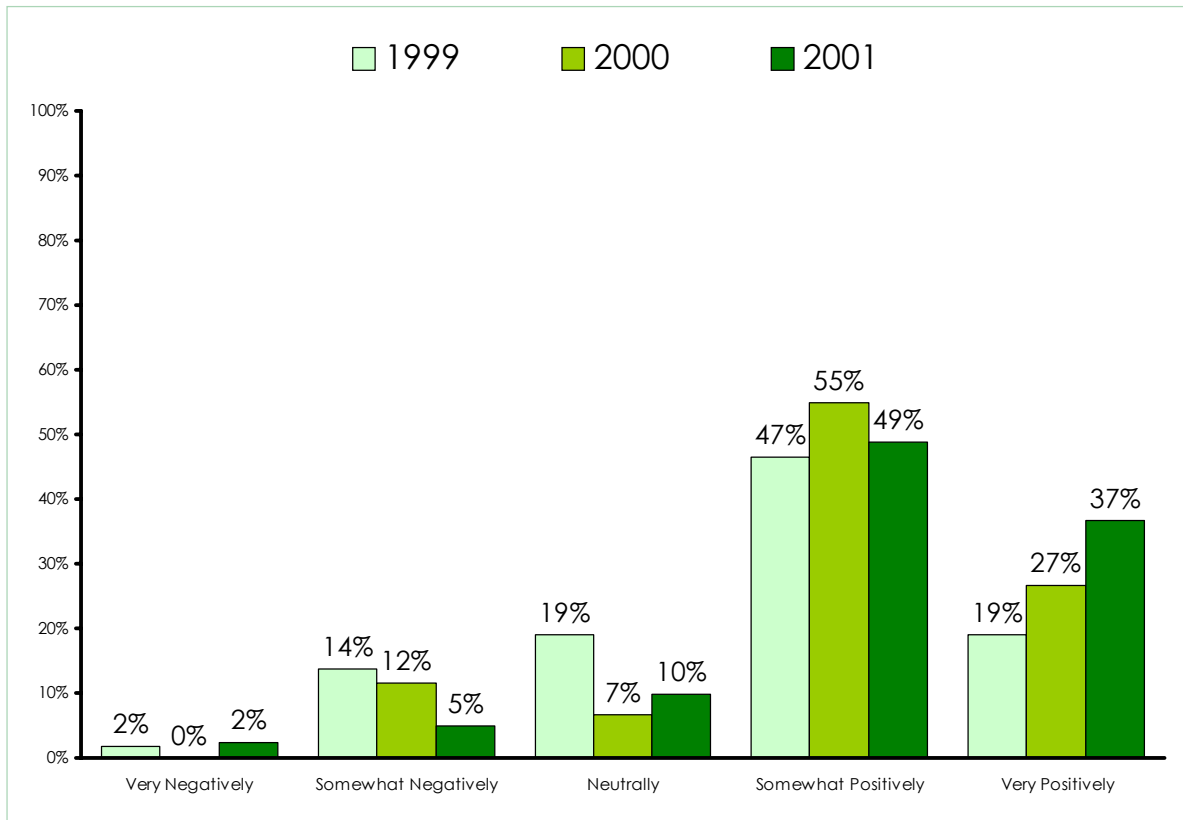
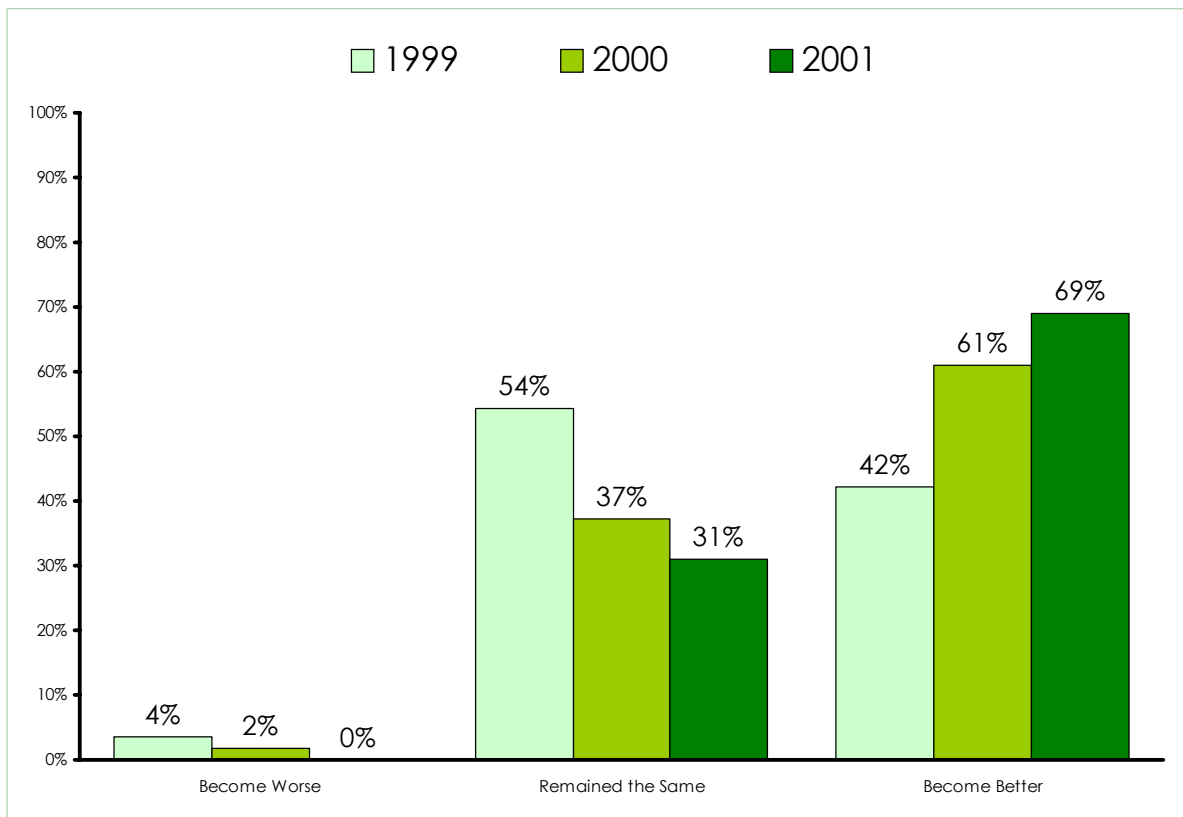


Figure 4. Change in A/I Program Directors' Perceptions of Views of Pediatrics and Internal Medicine Residents over Past Three Years, 1999-2001



3. Directors' Views of Recent Graduates' Experiences in the Job Market

Since allergy and immunology fellowship programs are small in size, with only a few fellows completing a particular program each year, program directors have a heightened awareness of the postgraduate plans and experiences of their graduating fellows. The views of the recently graduated fellows, themselves, on these issues are examined in the next chapter.

Program directors reported that over the past five years, about two-thirds (66%) of their graduates on average go on to private practice (Figure 5). The second most frequent setting (26%) for new allergists to practice is an academic medical center. The historical data show an indication of an upward trend in the proportion of graduates working in academic medical centers. If there were an expansion in the number of fellows training in the specialty in the near future, the growing proportion of new graduates working in academic medical centers would be welcomed as the need for faculty would also increase. Above all, however, the responses in 2001 confirmed previous indications that allergy and immunology fellowship programs produce patient care physicians in private practice.

Examining program directors' perceptions of how much difficulty the recently graduated fellows had when seeking employment provides a good snapshot of demand for physicians providing allergy and immunology services. Almost four-fifths (79%) of the program directors reported that their year 2000 graduates had no difficulties finding full-time employment in allergy and immunology (Figure 6). The remainder reported that those graduates had some difficulties. These responses are somewhat less positive than those from the 2000 survey. This suggests that the market for new allergists was slightly tighter in 2000 than in 1999.

The relative level of difficulty program directors' perceived for their year 2000-2001 graduates compared with the year previous is presented in Figure 7. As is evident, almost a third (31%) of the directors reported that their graduates were having an easier time in the job market in 2000-2001 than they were in the previous year. The remainder (69%) reported that the level of difficulty finding employment was about the same over the past two years. These observations indicate that the job market for new allergists, while still robust and improving, may be leveling off slightly.

Figure 5. Practice Settings of New Allergists in Past Five Years, Mean Percentages, 1999-2001

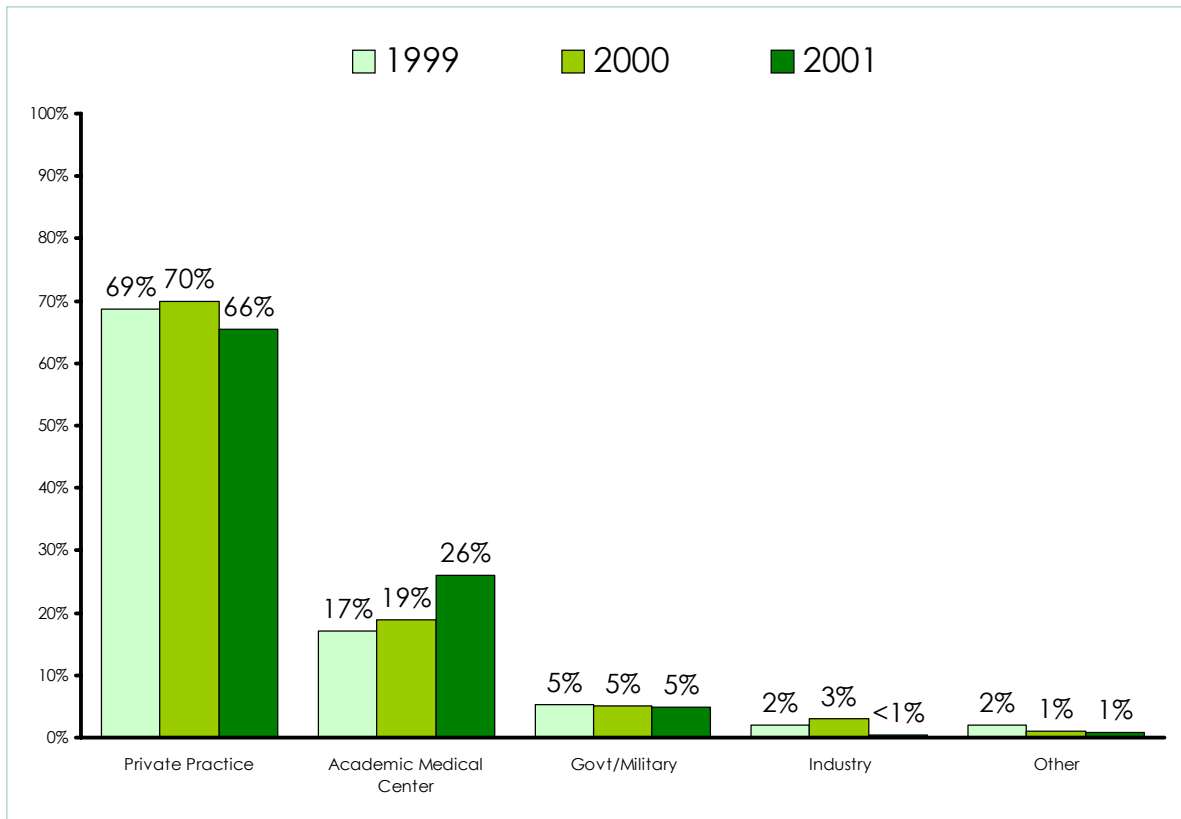


Figure 6. A/I Program Directors' Perceptions of Recent Graduates' Difficulty Finding Full-Time Employment Opportunities in A/I, 1998-2000

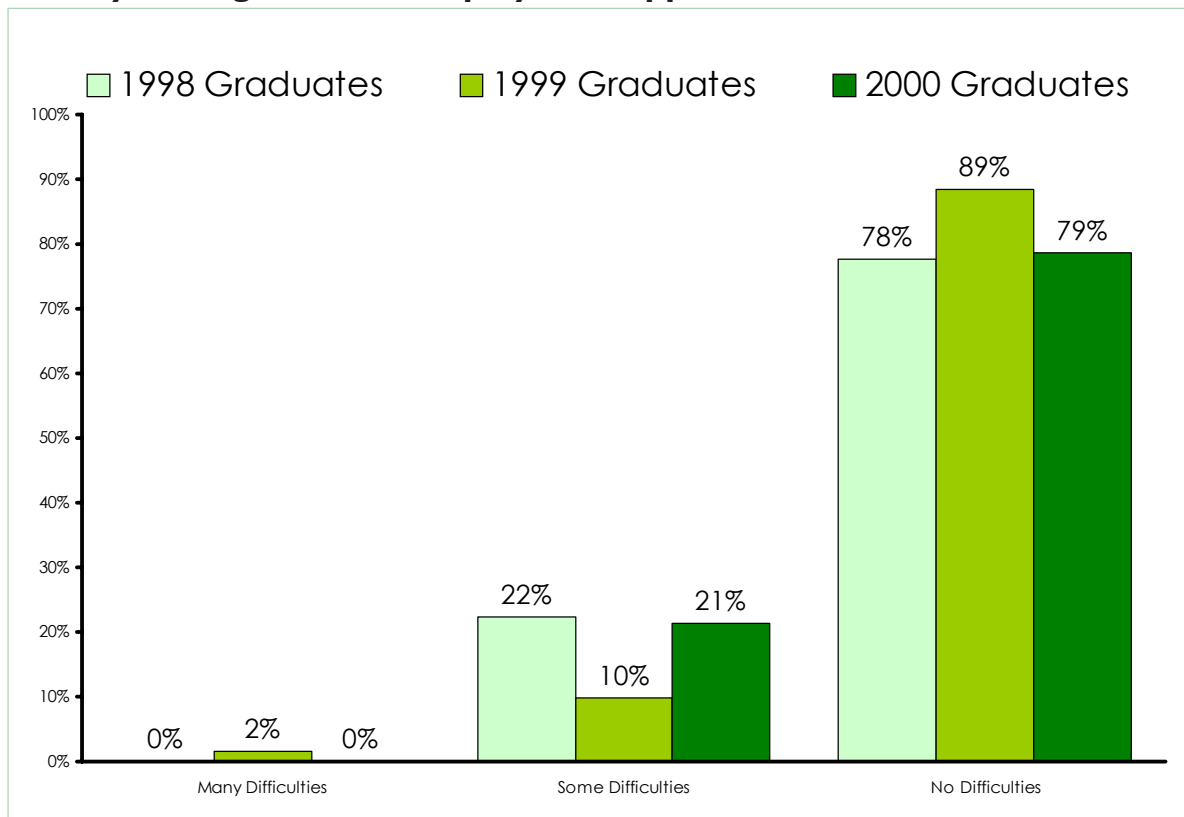
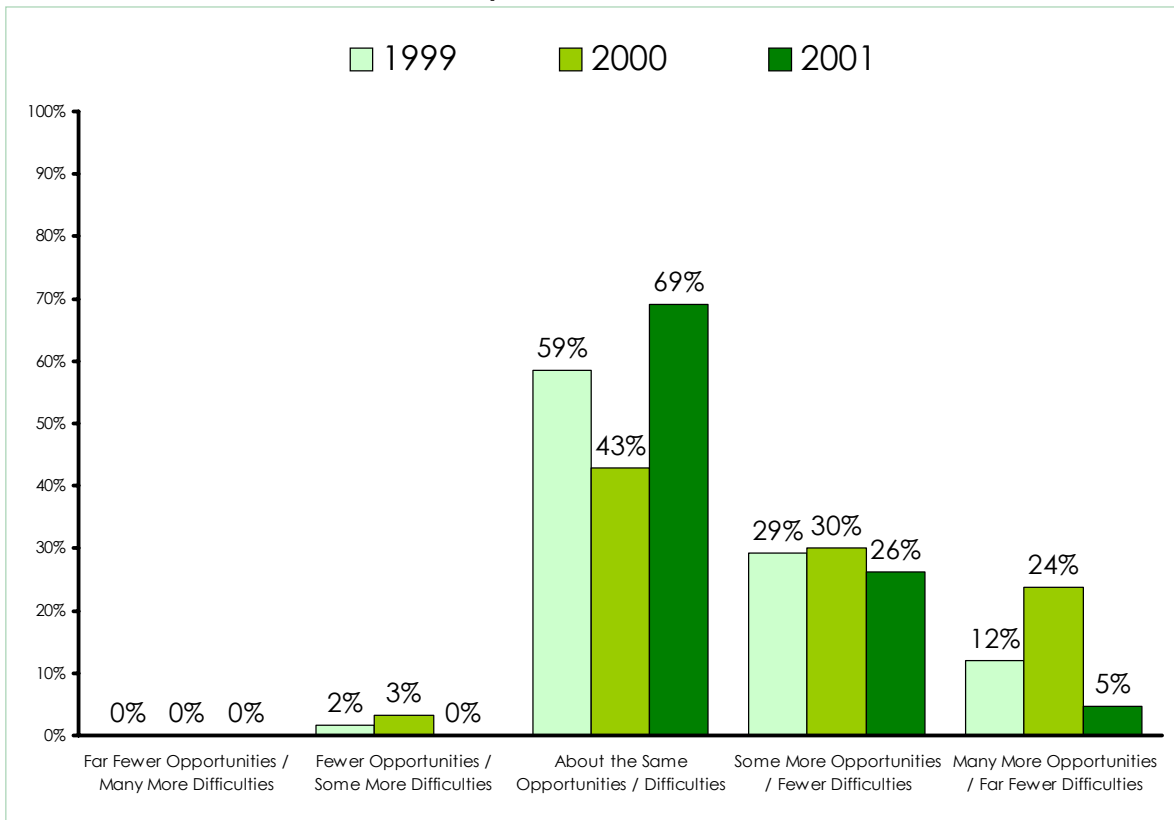


Figure 7. A/I Program Directors' Perceptions of Change in Job Market Opportunities for Current Academic Year Graduating Fellows Compared to Previous Academic Year Graduates, 1999-2001



For a number of important reasons managed care is an issue of concern among allergists, as well as other physicians. Figure 8 reveals that while 37% of the program directors reported expecting the expansion of managed care to increase the demand for allergists, only a very small proportion (5%) reported negative consequences due to managed care expansion in terms of decreasing practice opportunities for their graduates. The perceived negative consequences reported in previous years' surveys have disappeared for the most part, with a majority (58%) of program directors having reported no effect on the future job market as a result of managed care expansion.³

Finally, when asked to assess the local [within 50 miles of a particular training director's training site(s)] job market for allergists (Figure 9), only 12% of the program directors reported that there were a good number of positions available. Further, almost half (47%) of the directors reported that there were few or no positions available in the local market. These observations are indications of decay in the local job market around training sites for allergists

³For more information on allergists perceptions of the effect of managed care expansion on allergy practice, see *Managed Care and Allergy and Immunology Practice* (Forte and Salsberg 2001b).

Figure 8. A/I Program Directors' Perceptions of Effect of Managed Care on A/I Job Market for New Graduates over the Next Three Years, 1999-2001

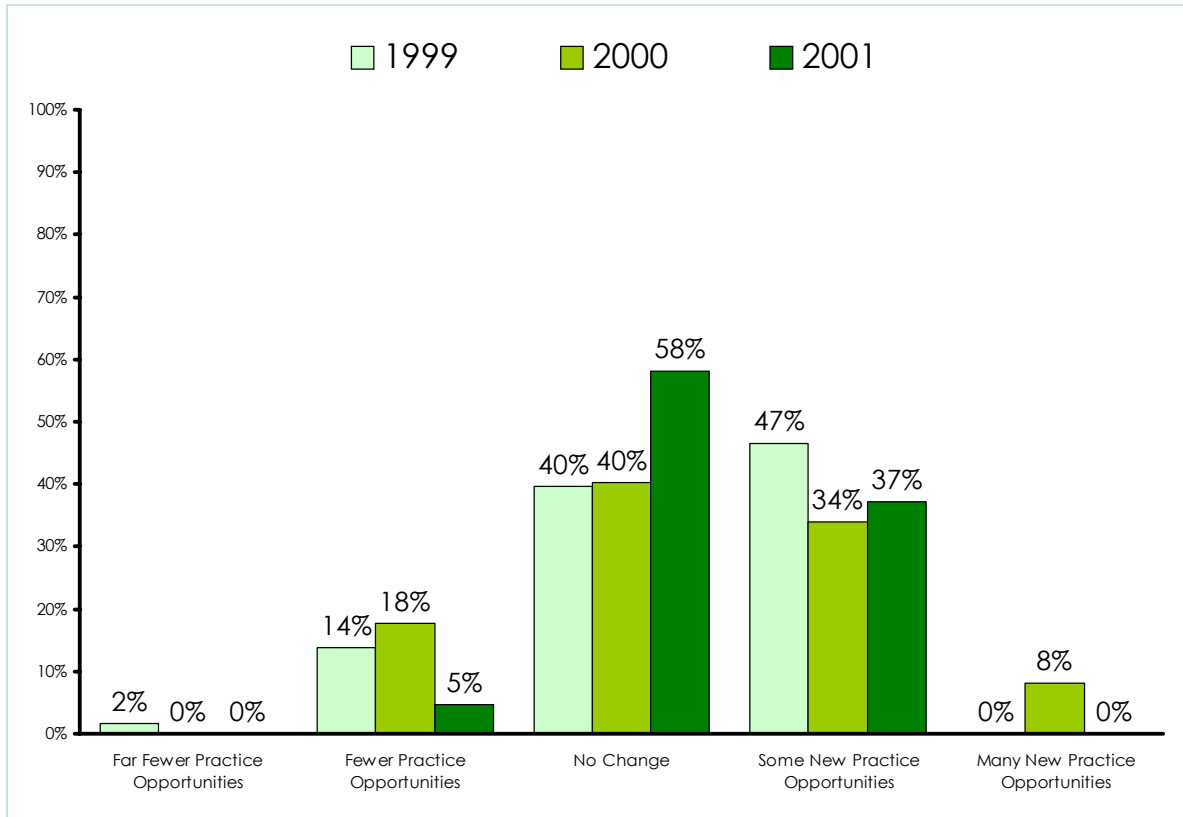
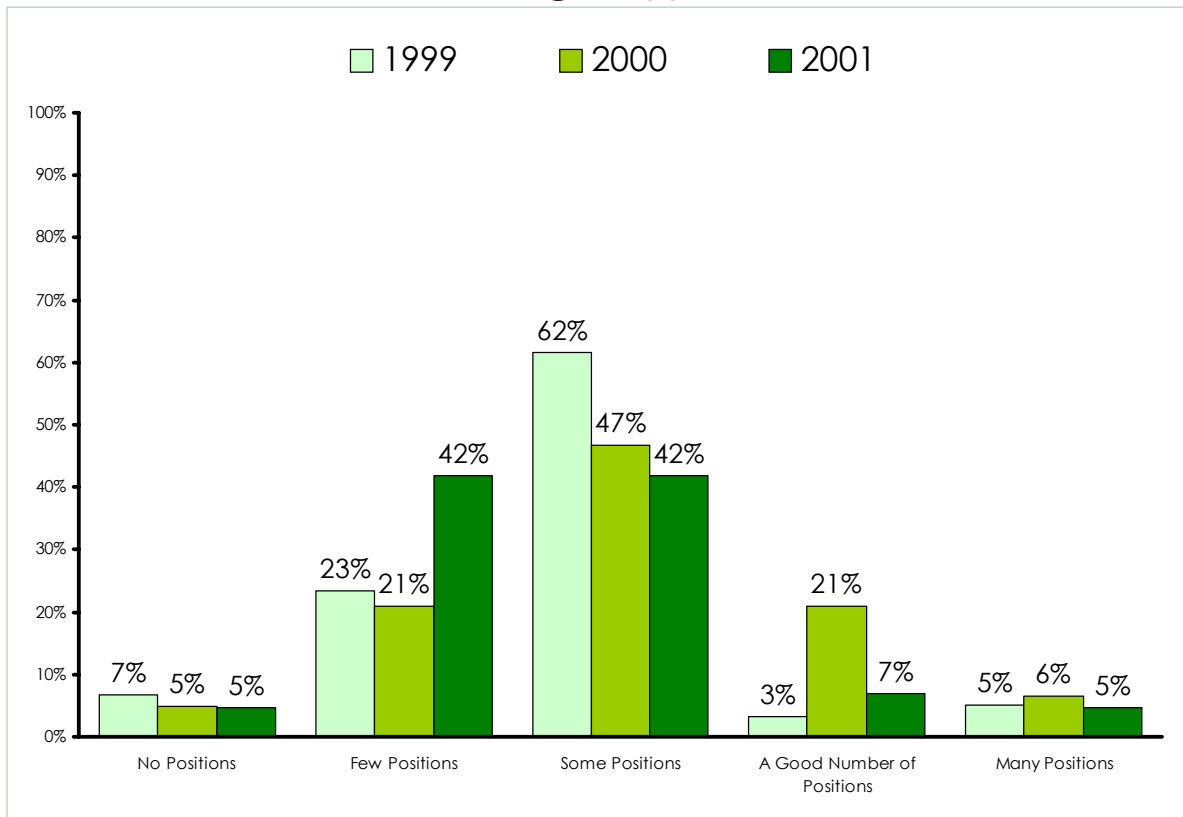


Figure 9. A/I Program Directors' Assessment of Practice Opportunities in A/I within 50 Miles of Their Training Site(s), 1999-2001

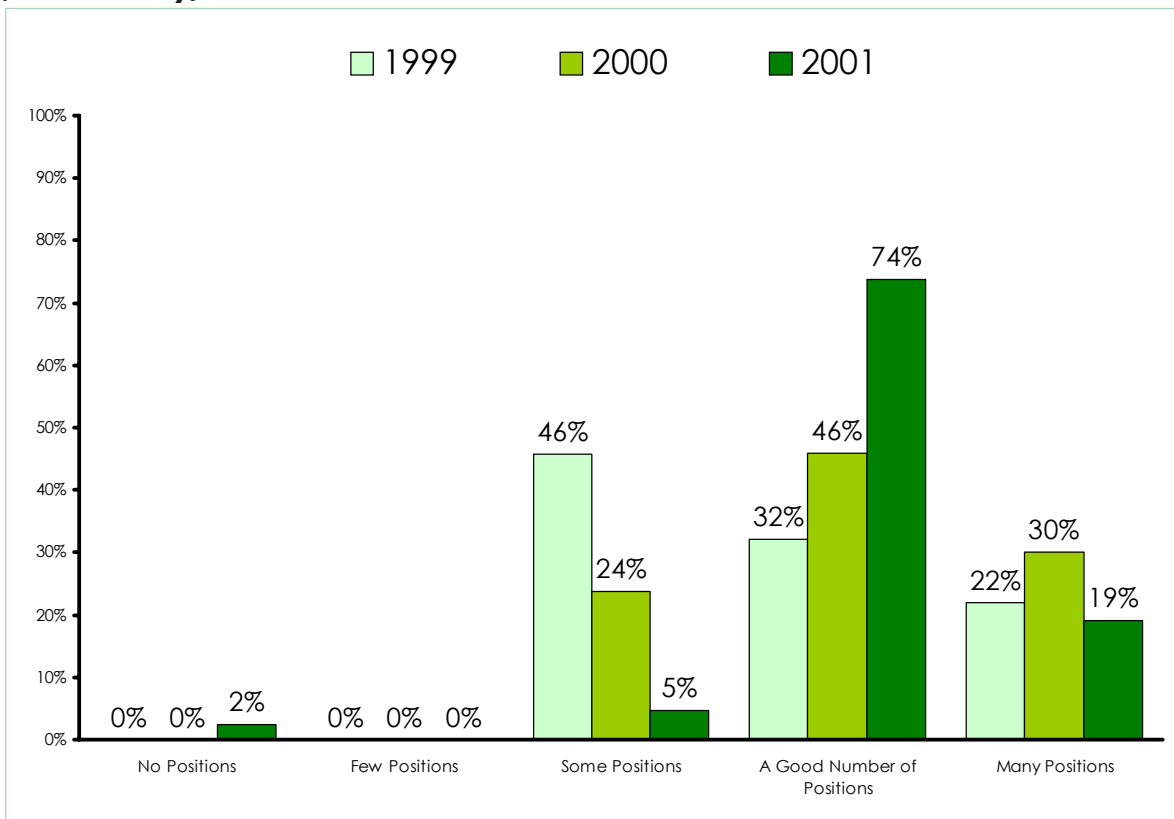


over the last year.

There is a clear trend toward the perception of a strong and growing national job market among program directors. Program directors were much more optimistic about the national job market (Figure 10). Over 90% of the program directors reported that there were a good number of jobs or better nationally. This proportion is up from 76% in 2000 and 54% in 1999.

The difference between the local and national allergist job market assessments suggests that the historical geographic distribution patterns among allergists have resulted in clusters of allergists. The areas around training sites have become (or are becoming) saturated with allergists. As will be shown in the next chapter, the recent graduates also reported this disparity at the local level and identified lack of opportunities in specific geographic locations as the reason for much of the difficulty they experienced in searching for a practice position.

Figure 10. A/I Program Directors' Assessment of Practice Opportunities in A/I Nationally, 1999-2001




Conclusions

From the responses to the allergy and immunology fellowship training program director survey in 2001, a number of findings are evident. First, there has been a recent swing from contraction to expansion in the size of fellowship programs. Beginning in the mid-1990s, the number of fellows training in allergy and immunology declined, reaching a bottom in 1997. While the number of fellows in training was roughly the same in 2000 as it was in 1997, more program directors reported increasing the size of their programs than reported reducing the size of their programs over the past three years. Financial concerns continue to be a common reason for both expansion and reduction in program size. In programs that have expanded and those that reported plans to expand, an abundance of qualified applicants was the most common reason provided for the expansion. Reports from directors clearly suggest that a bottom has been reached and that programs are poised to increase the number of new allergists trained each year.

Second, program directors continued to perceive strong interest in allergy and immunology among pediatric and internal medicine residents. Trainees look upon the specialty positively and their view of allergy and immunology is improving over time, according to the surveyed directors. The continued solid reputation that allergy and immunology enjoys is likely to serve the specialty well in the future as it moves toward expansion. Positive views and interest in the specialty are likely to generate an abundance of qualified applicants to fill any newly created training slots.

Third, program directors reported that demand for recent graduates of allergy and immunology fellowship programs is high and did not anticipate any significant change in the near future. Moreover, program directors perceived the expansion of managed care will have limited negative effects future practice opportunities for new allergists. Current and past reports suggest that the practice opportunities for new allergists are abundant, indicating a healthy, robust job market now and in the near future for allergists. This is not surprising given the findings of previous work around the supply and demand for allergists (Forte et al. 2000; Forte and Salsberg, 2001).

Fourth, it is becoming more apparent that the market for new allergists is tighter in areas close to allergy and immunology fellowship training sites. Program directors reported that while practice opportunities in areas close to their training sites do exist for new allergists, they are



much less abundant than in other areas of the country. This suggests that the areas around training sites are in the process of becoming saturated and unable to support any additional allergists. As will be presented in the next chapter, this interpretation receives support from the job search experiences of recent program graduates. It should be stressed, however, that program directors continued to perceive a strong national market for allergists.

Summary of Results of the Survey of Allergy and Immunology Fellows Completing Training in 2001

It is estimated that 109 fellows completed allergy and immunology training in 2001. While the production of new allergists was declining in the mid- to late 1990s, the class of 2001 appears to be slightly larger than those of 1999 (84) and 2000 (108). The increase is welcome news as the supply of allergists in the United States continues to move toward a potential crisis with far greater numbers of allergists leaving practice than new allergists being produced (Forte et al. 2000). Based on the results of the survey of fellows completing allergy and immunology training in 2001, several conclusions are apparent.

First, the number of IMGs completing training in allergy and immunology is declining. In 2001, less than two-fifths of the allergy and immunology fellows completing training were IMGs. Of those, only about two-fifths were J-1, J-2 exchange visitors who must either leave the United States after they complete their training or apply for a waiver of that requirement. These are positive indications for the specialty as the likelihood that J-1, J-2 exchange visitors will join the allergist supply is much lower than physicians who are either USMGs or naturalized/permanent resident IMGs. Thus, as the proportion of J-1, J-2 exchange visitor trainees declines, the effective production of allergists increases. The decrease in the number of IMGs completing training in allergy and immunology and predicted continuation of this decline (Forte and Salsberg 2001) is a positive indicator for growth in the specialty.

As was the case in the surveys of fellows completing training in 1999 and 2000, allergy and immunology fellowship programs continue to train *patient care physicians*. The overwhelming majority of fellows completing their allergy and immunology training in 2001 reported plans to go into patient care. Further, more than three-quarters of these fellows had already secured practice positions at the time of the survey (Spring/Summer 2001). New allergists most commonly reported finding private practice positions, that they expected to provide 30-49 hours per week in direct patient care, and that they would be compensated on a salary basis with incentives. For the most part, the new allergists of 2001 were satisfied with their choice of allergy and immunology as a career and would recommend the specialty to other physicians in training. These findings were consistent with those from the 1999 and 2000 surveys of fellows completing allergy and immunology training.

According to fellows completing training in 2001, there appears to be a good number of practice opportunities available nationally, as opposed to areas close to allergy and

and immunology sites. Very few new allergists experienced difficulties finding a practice position. Among the new allergists who experienced difficulties, the practice positions obtained were in less desirable geographic locations and/or less desirable practice settings.

Further, it is becoming apparent that the ability to support new allergists is not distributed evenly across all geographical regions of the country. As was the case in 2000, more new allergists reported finding practice positions in traditionally allergist-poor areas, suggesting that the high concentration of allergists in certain regions of the country may be forcing allergists to look elsewhere for practice opportunities. In other words, particular regions of the country (e.g., New England) that had previously attracted allergists may no longer be able to support new allergists. At the same time, areas that traditionally have not attracted allergists may now be viable locations for new or growing practices. The changing geographical distribution of new allergists bears watching in the coming years.

Finally, many of the observations from the 2001 survey of fellows completing allergy and immunology training are consistent with those from the surveys in 1999 and 2000. Most importantly, the job market for new allergists continues to thrive, which suggests that efforts to expand the training of allergists in the United States are warranted.

Key Findings

- Female physicians made up about half (49%) of the fellows completing allergy and immunology training in 2001.
- A significant proportion (43%) of the fellows completing allergy and immunology training in 2001 were non-white.
- Less than two-fifths (38%) of the fellows completing allergy and immunology training in 2001 attended medical school outside of the United States/Canada. This is substantially lower than in the recent past. Of those, 41% were J-1, J-2 exchange visitors, 24% were permanent United States residents, 12% were naturalized United States citizens, and 6% were native born United States citizens.

- A majority (62%) of the fellows completing allergy and immunology training in 2001 previously trained in internal medicine, 36% previously trained in pediatrics, while 2% had previously trained in combined internal medicine/pediatrics programs.
- The vast majority (91%) of the fellows completing allergy and immunology training in 2001 reported that they would be practicing as patient care allergists to some degree following training. Thirty-one percent (31%) will be active in teaching and 22% in research. Seven percent (7%) reported planning to seek additional training as their major professional activity subsequent to their allergy and immunology fellowships.
- Of those going into patient care, 83% had already secured a position at the time of the survey (Spring/Summer 2001). Ninety-three percent (93%) of the USMGs and 64% of the IMGs had secured positions.
- Of the new patient care allergists who had found positions, 67% were in private practice, 12% in hospital settings, 9% as medical school faculty, 18% in government/military positions, and 6% in other settings.
- A majority (58%) of the new patient care allergists who had found positions expected to spend 20-39 hours per week in direct patient care, while 30% expected to spend 40-49 hours per week in direct patient care.
- Many fellows completing allergy and immunology training reported finding practice positions in traditionally allergist-poor regions (South Atlantic and Pacific Census Divisions). At the same time, few fellows completing allergy and immunology training reported finding positions in traditionally allergist-rich areas (New England and Middle Atlantic Census Divisions).
- The vast majority (91%) of the new patient care allergists who had secured a position reported that they expect to be compensated through a salary for their services. Moreover, two-thirds (67%) of the salaried allergists also reported that they expect incentives in addition to their salaries. The mean base salary for new allergists was just over \$113,000, and slightly fewer than one-quarter (24%) expect to earn less than \$100,000 in annual base salary.

- The vast majority (91%) of the new patient care allergists reported being satisfied with their levels of compensation, with almost one-quarter (24%) reporting being very satisfied with their compensation.
- An overwhelming majority (94%) of new patient care allergists reported that they would recommend allergy and immunology to other physicians in training.
- A majority (58%) of new allergists reported no difficulties finding satisfactory employment. Among those that reported difficulties, the difficulties stemmed from the types of positions (e.g., not in desired locations or settings), rather than from a lack of positions more generally. Further, 28% of the new graduates reported having to change their practice plans due to limited practice opportunities.
- Close to half (46%) of fellows completing allergy and immunology in 2001 reported few or no practice opportunities within 50 miles of the site where they trained. Nationally, however, only 5% of the fellows reported few or no practice opportunities. Slightly more than one-quarter (28%) of the fellows completing training reported few or no academic opportunities nationally.

Results of the Survey of Allergy and Immunology Fellows Completing Training in 2001

This section is organized around a number of key issues in allergy and immunology graduated medical education and the current allergy and immunology job market, including: demographics of recent graduates of allergy and immunology fellowship programs, future plans (general and specific) of allergy and immunology fellowship graduates, and experiences of recent allergy and immunology fellowship graduates in the job market. Recently graduated fellows are in a unique position to assess the current state of the job market as they are in the midst of, or have just finished, securing practice positions. Moreover, recently graduated fellows can offer firsthand accounts of the ever-evolving job market. Thus, they provide an informed snapshot on the aforementioned key issues in graduate medical education and the job market.

The Center received responses from 45 (41%) of the estimated 109 allergy and immunology fellows completing training in the United States in 2001. For complete technical details on the survey of allergy and immunology fellows completing training, see Appendices C and D. The following sections analyze the responses the Center received from the 45 responding fellows. Additionally, since 2001 was the third year the survey was conducted, where available, responses from the 2001 survey are compared to those from the surveys conducted in previous years. It should be noted that the response rate to the survey in 2001 was significantly lower than the rate in 1999 (63%) and 2001 (88%). As a result, many of the small differences observed across years (e.g., comparing 2000 results to 2001) do not reach statistical significance. The results, however, remain informative with a focus on overall trends, rather than specific year-to-years differences.

1. Demographic Characteristics of Fellows Completing Training

Table 5 presents the gender, age, and race/ethnicity distributions of allergy and immunology fellows completing training in 2001. As is evident, about half (51%) of the graduates in 2001 were men. In terms of age, almost two-thirds (64%) of the fellows completing training were under the age of 35. This is expected as these physicians are at a relatively early state of their careers. Fewer graduates were 35 years of age and above in 2001 than in previous years. This is probably due to the decreasing proportion of international medical school graduates (IMG) training in allergy and immunology. Finally, the largest proportion (57%) of the graduating fellows in 2001 were whites. The next largest were asian/pacific islanders (16%) and those

Table 5. Demographic Characteristics of A/I Fellows Completing Training, 1999-2001

	1999	2000	2001
Gender			
Male	44%	55%	51%
Female	56%	45%	49%
Age			
Less than 35 Years of Age	62%	55%	64%
35 - 39 Years of Age	29%	26%	23%
40 - 44 Years of Age	8%	13%	11%
45 + Years of Age	2%	6%	2%
Race/Ethnicity			
Asian/Pacific Islander	25%	34%	16%
Black/African American (non-Hispanic)	2%	3%	2%
Hispanic/Latino(a)	8%	6%	2%
Indian Subcontinent	8%	8%	16%
Middle Easterner	8%	5%	5%
Other	4%	2%	2%
White (non-Hispanic)	46%	42%	57%

from the Indian subcontinent (16%). These proportions are consistent with previous years in terms of ranking, however, whites made up a substantially higher proportion of the fellows completing training in 2001 than in previous years. As in previous years as well, the proportion of under-represented minorities among graduates was very small (4%).

Between 1990 and 1997, graduate medical training in allergy and immunology experienced a sharp increase in the representation of IMGs in fellowship training (Forte et al. 1999). Since then the proportion has fallen steadily as graduates of medical schools in the United States and Canada (USMGs) have begun to choose allergy and immunology as a specialty at a higher rate. Figure 11 shows the distribution of location of medical school attended by fellows completing training in 2001. Almost two-thirds (62%) of these fellows were USMGs. This is the largest proportion of the three years for which data have been collected, which is expected because the proportion of IMGs in fellowship training has decreased. Moreover, it is not surprising that allergy and immunology would experience a decline in the proportion of IMG fellows as the number of IMGs in graduate medical training in the United States in general has declined in recent years.

One of the concerns in graduate medical education is the training of IMGs because many of them will have to return to their countries of origin once they complete their training due to

Figure 11. Location of Medical School Attended of Fellows Completing Training, 1999-2001

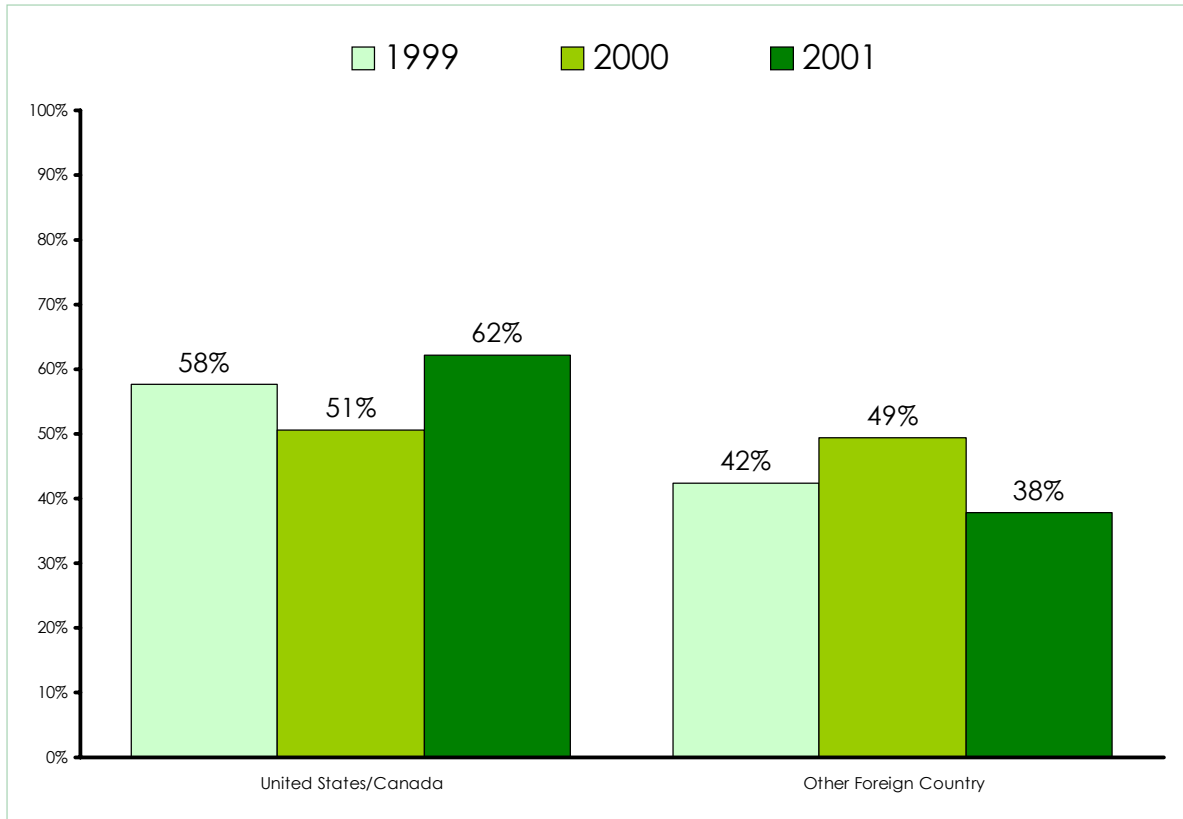
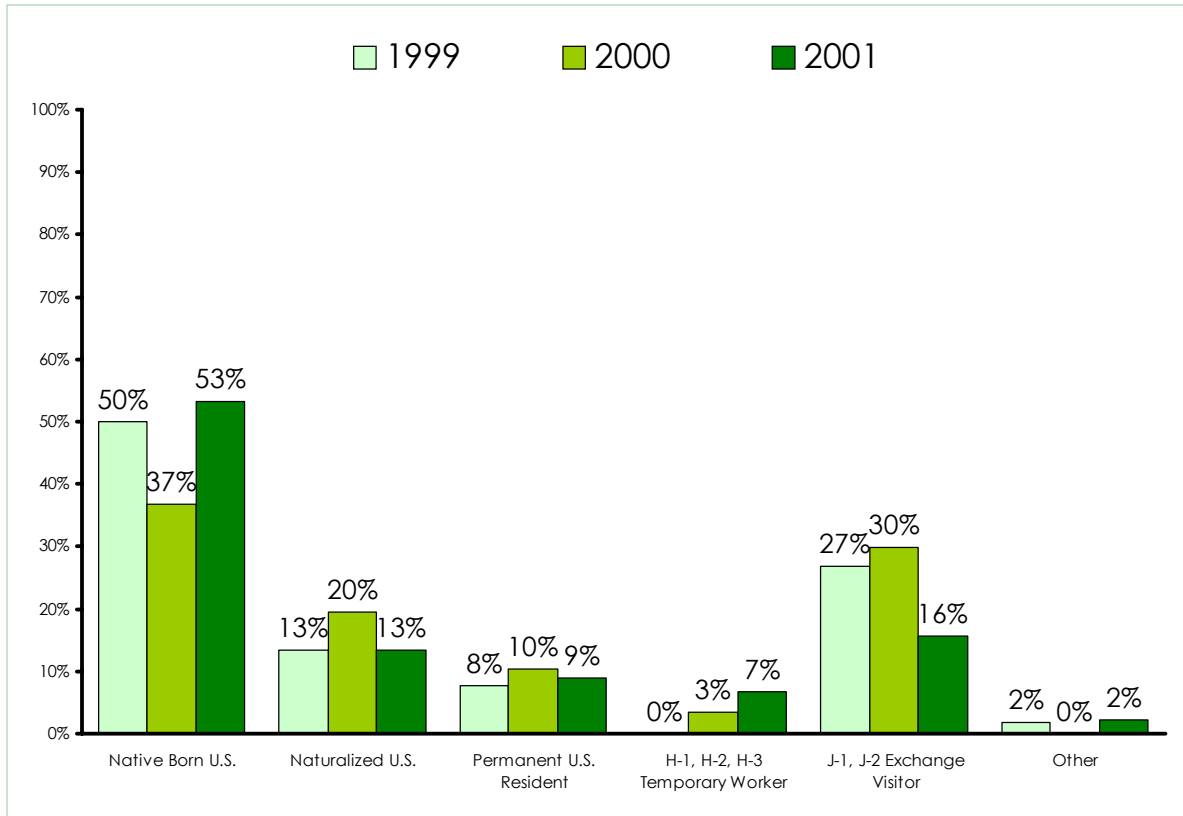


Figure 12. Citizenship of Fellows Completing Training, 1999-2001



federal visa and immigration restrictions (especially J-1, J-2 visa exchange visitors). Having a large proportion of such fellows in training, then, would decrease the effective production of allergists (new practicing allergist per fellow trained) in the United States. Figure 12 shows the citizenship of the fellows completing training in 2001. Two-thirds (66%) of the graduates in 2001 were United States citizens. Less than one-quarter (23%) were temporary workers or exchange visitors. Compared to previous years, the proportion of temporary and exchange visa holders has decreased.

Upon further examination of the IMG fellows completing training, it is revealed that slightly more than half (53%) of the IMGs were temporary or exchange visa holders. The percentage of temporary or exchange visa holder IMGs is down marginally from previous years (59% in 1999 and 63% in 2000). Furthermore, for the second year in a row, there was an increase in the number of permanent resident IMGs completing training and a decline in the number of United States citizen IMGs completing training.

Figure 13. Citizenship of IMG Fellows Completing Training, 1999-2001

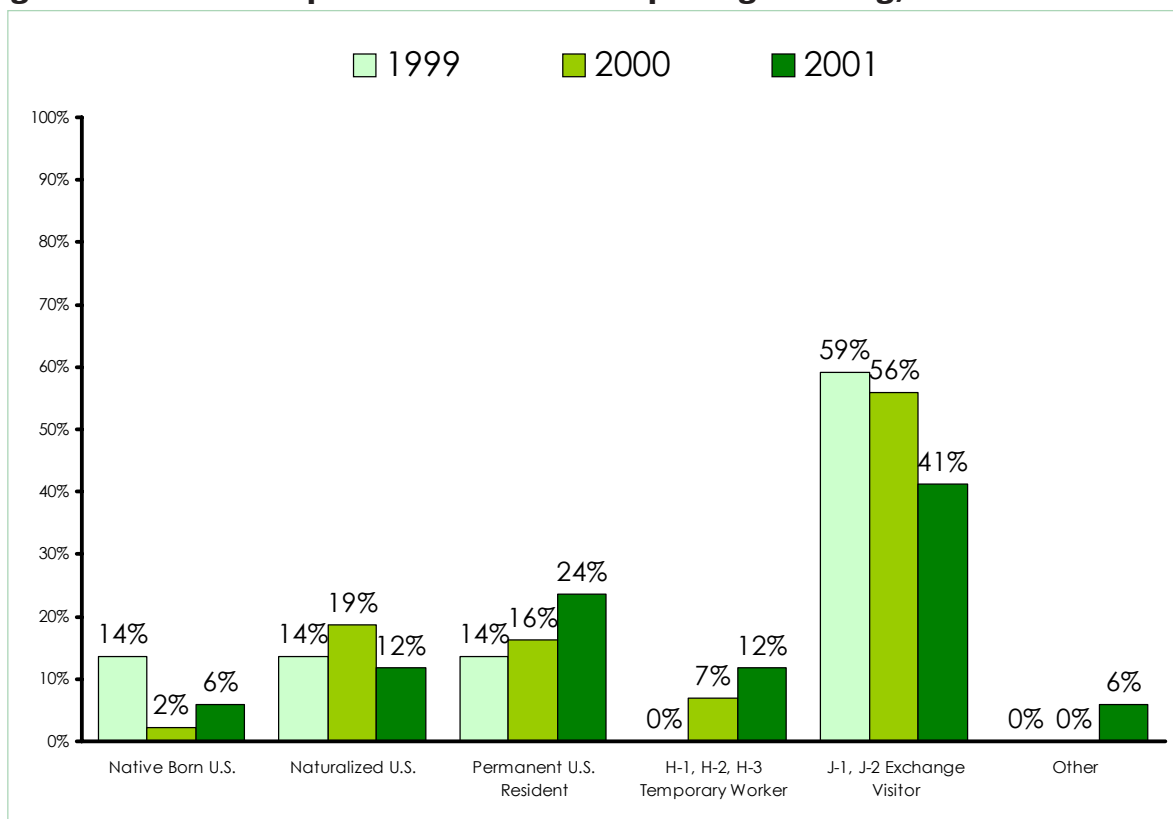
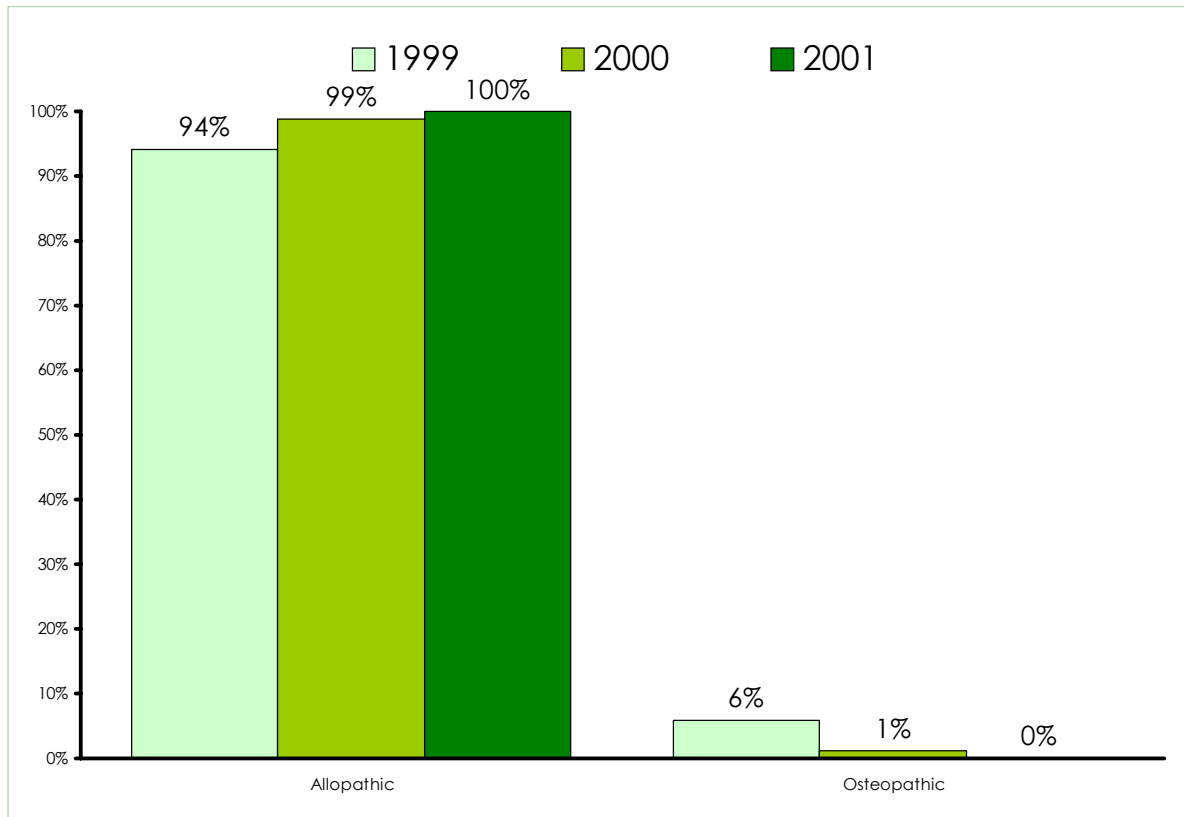


Figure 14. Medical School Education of Fellows Completing Training, 1999-2001



2. Medical Education and Training of Fellows Completing Training

In 2001 there were no osteopaths among the fellows completing training (Figure 14) which is lower than in previous years (6% in 1999 and 1% in 2000). The majority (62%) of fellows have completed graduate training in either internal medicine or in pediatrics (36%) (Figure 15). The distribution depicted in Figure 15 marks the second reversal since 1999, as internal medicine and pediatrics have exchanged positions as the most common training background among fellows completing training. Following this pattern should prove interesting as studies (Forte et al. 2000) have shown that the older cohorts of allergists practicing in the United States were predominantly trained in internal medicine, while the younger cohorts were progressively more likely to have backgrounds in pediatrics.

Most of the fellows completing training in 2001 had only been trained in allergy and immunology since their initial internal medicine and/or pediatrics training (Figure 16). A large percentage (63%) of these fellows had finished their initial residency training in 1999 (then completed their allergy and immunology training the historically-typical 2 years later in 2001). This percentage has been growing since 1999. These observations are not surprising given the

Figure 15. Previous Specialty Training of Fellows Completing Training, 1999-2001

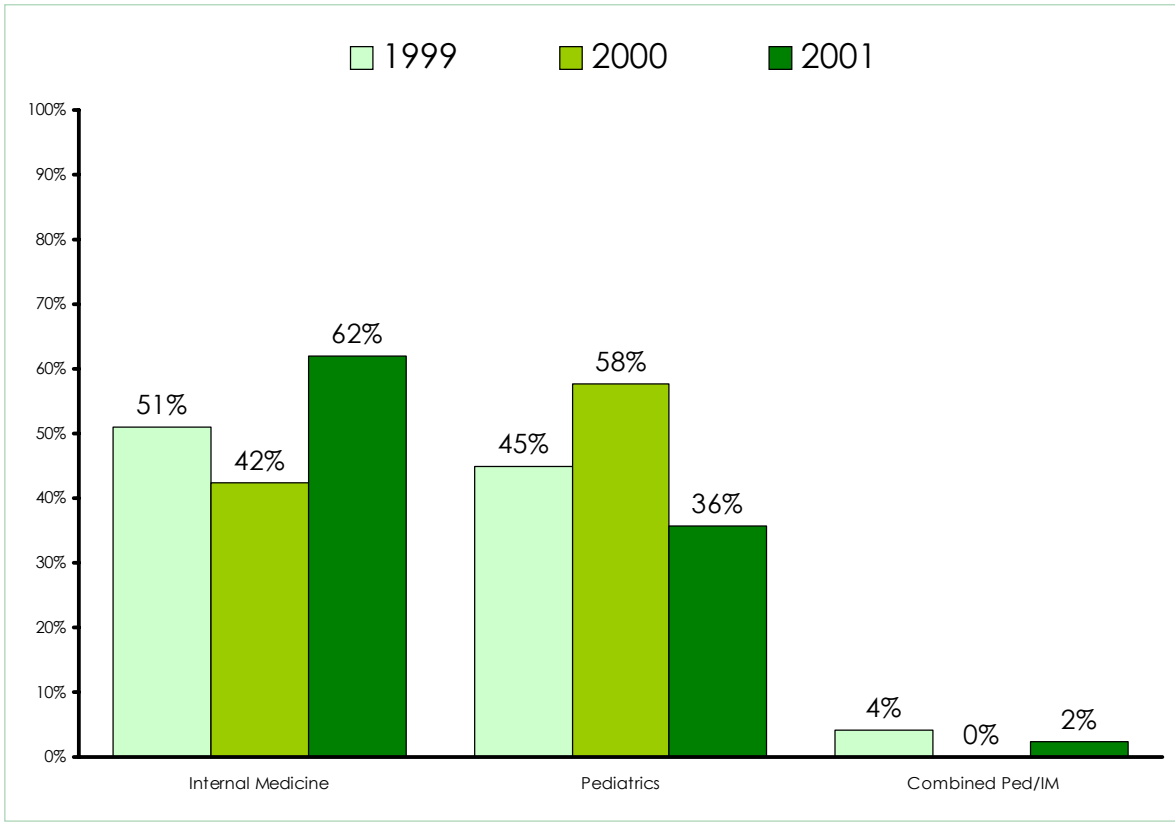
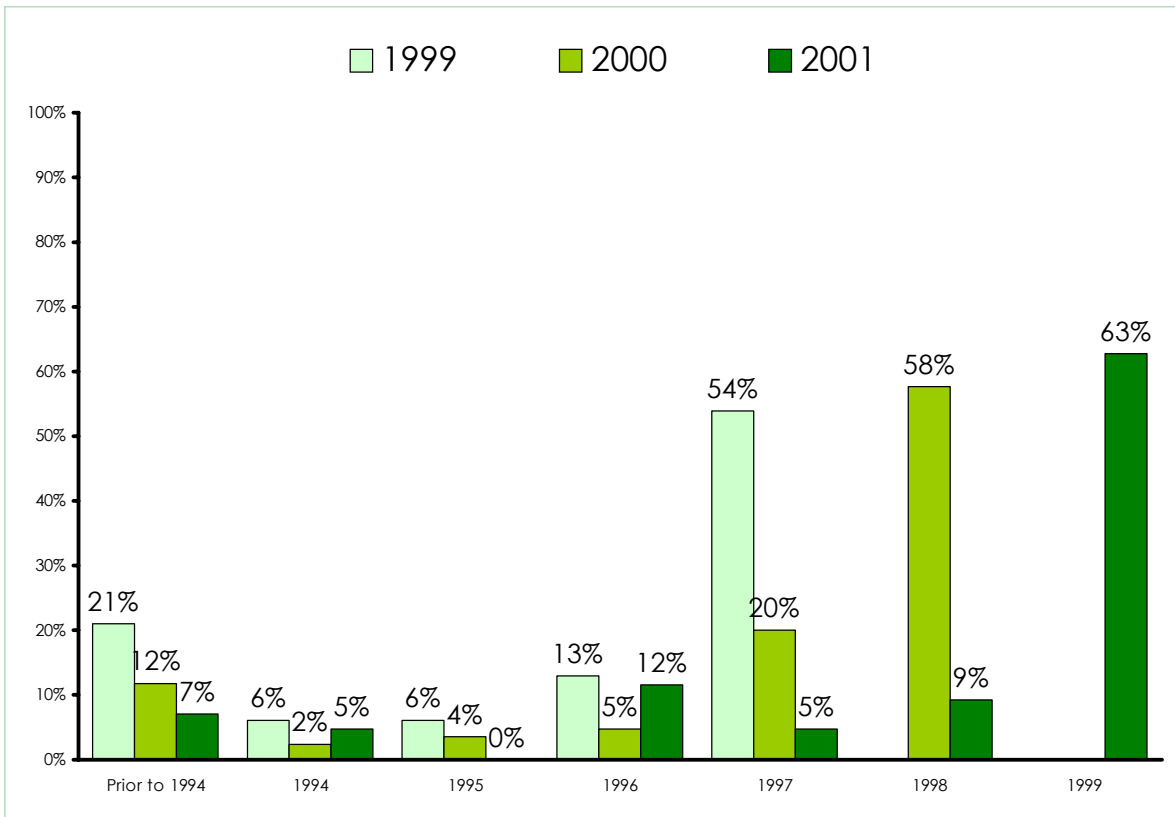


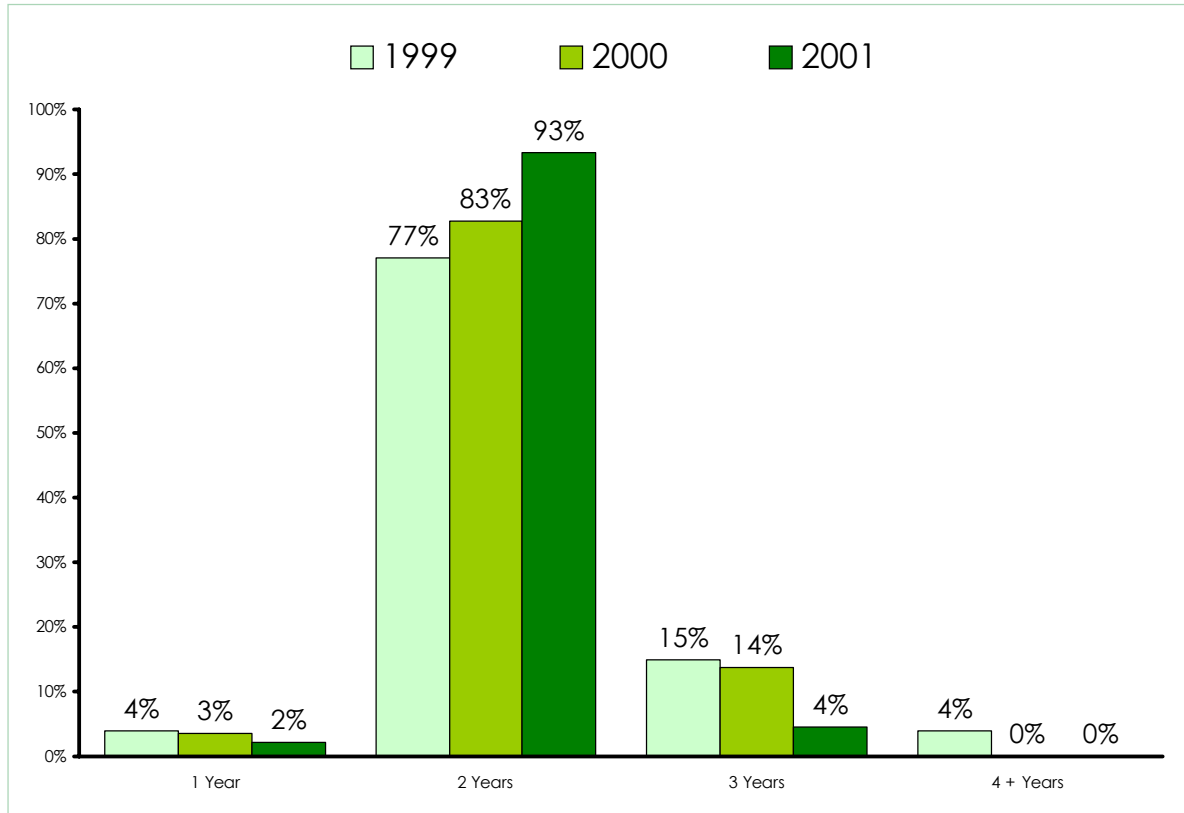
Figure 16. Year Completed Initial Residency Training of Fellows Completing Training, 1999-2001



decline in IMG fellows training in allergy and immunology. Since IMG fellows are more likely to subspecialize (thereby continuing their training) than USMGs, the proportion of fellows completing training with more than 2 years of training beyond the initial pediatrics and internal medicine preparation is likely to decline. These observations also confirm previous speculations (Forte and Salsberg 2001) that fewer physicians who train in allergy and immunology have trained in another subspecialty prior to allergy and immunology and/or returned to train in allergy and immunology after being in practice for a number of years.

As was the case in previous years, there was some slight variation with respect to the number of years fellows completing training spent training in allergy and immunology (Figure 17). The overwhelming majority (93%) reported having spent the traditional 2 years in training (almost all allergy and immunology fellowship programs are 2-year programs), while a very small percentage (4%) reported having spent 3 years in training. As such, allergy and immunology is a terminal program; that is, once a physician completes an allergy and

Figure 17. Years A/I Training Completed of Fellows Completing Training, 1999-2001



immunology fellowship, s/he goes on to practice.⁴

3. Future Plans of Fellows Completing Training

In this section, the reported future plans of fellows completing training in 2001 are examined. Initially, all responses are analyzed to determine what general plans these physicians reported, including: going into practice, teaching, and going on to further training. The second portion examines only those who reported that they would be going into patient care after completing their training.

a. General Plans

Of the fellows completing training in 2001, 91% reported plans to enter patient care in some capacity⁵ (Table 6). This is analogous to the responses from the 2000 exiting fellows and slightly higher than responses from 1999 exiting fellows. Teaching made up the next most commonly (31%) reported after-training plans among fellows completing training. Almost a quarter (22%) reported going on to perform research activities in academic medical centers. These observations are consistent with those from previous surveys. Importantly, only 7% of the fellows completing training in 2001 reported that they were going on to further graduate medical training.

Table 6. Planned Activities after Completing A/I Training, 1999-2001

	1999	2000	2001
Patient Care / Clinical Practice	83%	89%	91%
Research (Academic Medicine)	35%	23%	22%
Teaching	31%	40%	31%
Temporarily Inactive in Medicine	4%	0%	0%
Additional Training	2%	10%	7%
Other	2%	2%	9%

Multiple answers possible, columns may add to greater than 100%

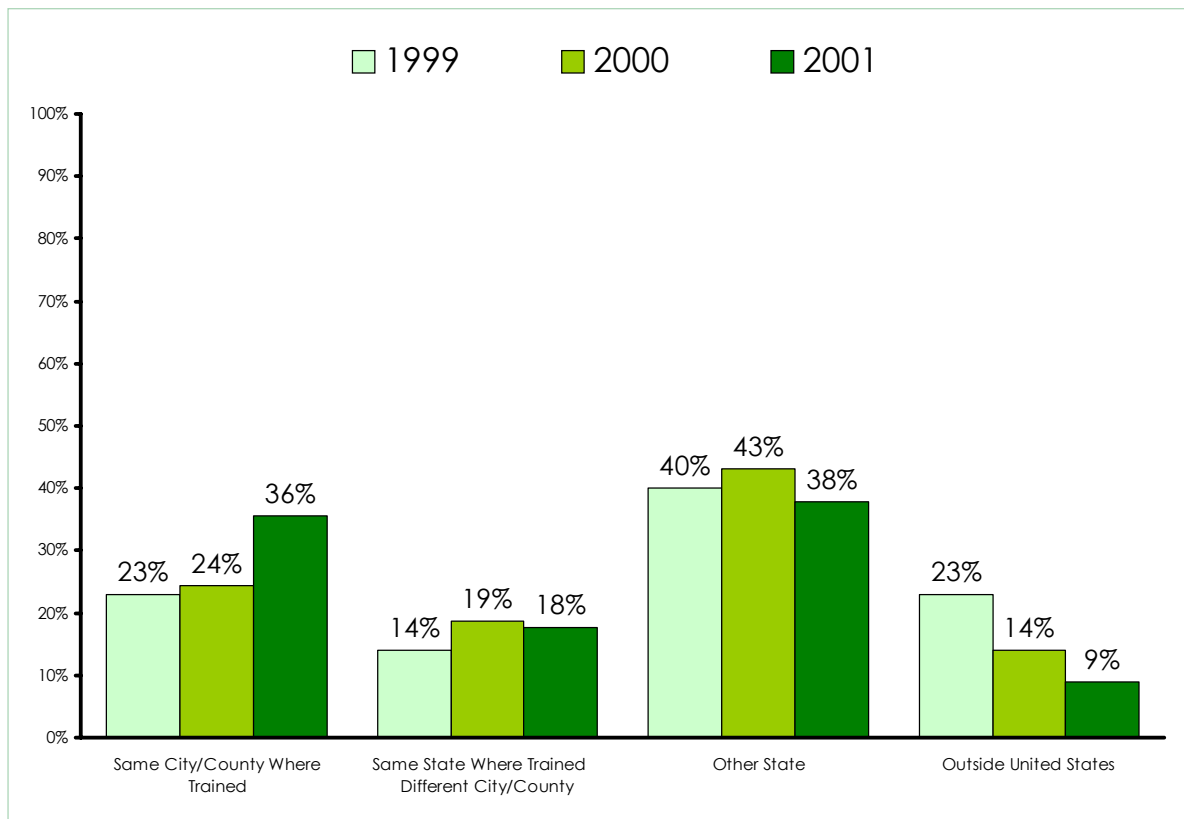
In terms of mobility, in general, fellows completing training in 2001 reported that their after-training activities would be in places other than where they trained (Figure 18). Thirty-eight percent (38%) reported that they would be working in different states than where they trained. This figure is slightly lower than reported in the past, but certainly consistent. Almost one-fifth

⁴Subspecializing further is possible (e.g., clinical and laboratory immunology), but physicians tend not to repeat allergy and immunology training.

⁵Respondents were allowed to report more than one planned activity, hence the “in some capacity” phraseology.

(18%) reported that they would be located in a different city or county within the same state as they had trained. Surprisingly, more than a third (36%) of the fellows completing training reported that they would be located in the same city or county in which they trained. Not only is this observation out of line with previous surveys, it also contradicts the assessment of the job market around training sites provided by training program directors. Finally, fewer than 10% of the fellows completing training reported that their plans would take them abroad. This observation is lower than those from previous surveys. The observed downward trend in the percentage of fellows completing training and then leaving the country, combined with the declining representation of IMGs with temporary visas, indicates that a larger portion of the allergy and immunology training effort is benefiting patients in the United States.

Figure 18. Location of Planned Activity after Completing A/I Training, 1999-2001



Finally, of the 91% who reported that they had plans to go on to patient care activities after training, more than four-fifths (83%) reported already securing employment (Figure 19). The fact that such a high percentage of fellows completing training had achieved success in the patient care job market is indicative of a healthy job market that is certainly able to support the current level of new allergist production. It should be noted that responses to the survey of

Figure 19. Finding a Practice Position of Fellows Completing Training with Plans to Go on to Patient Care, 1999-2001

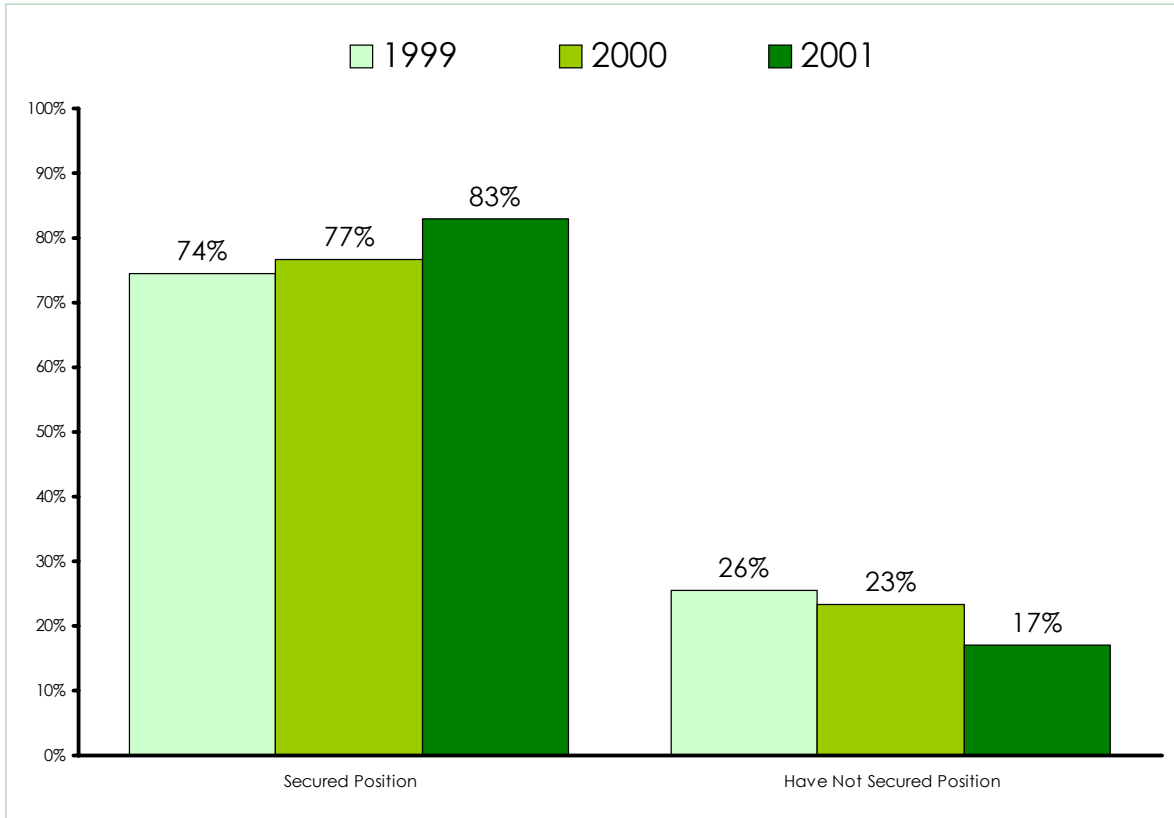
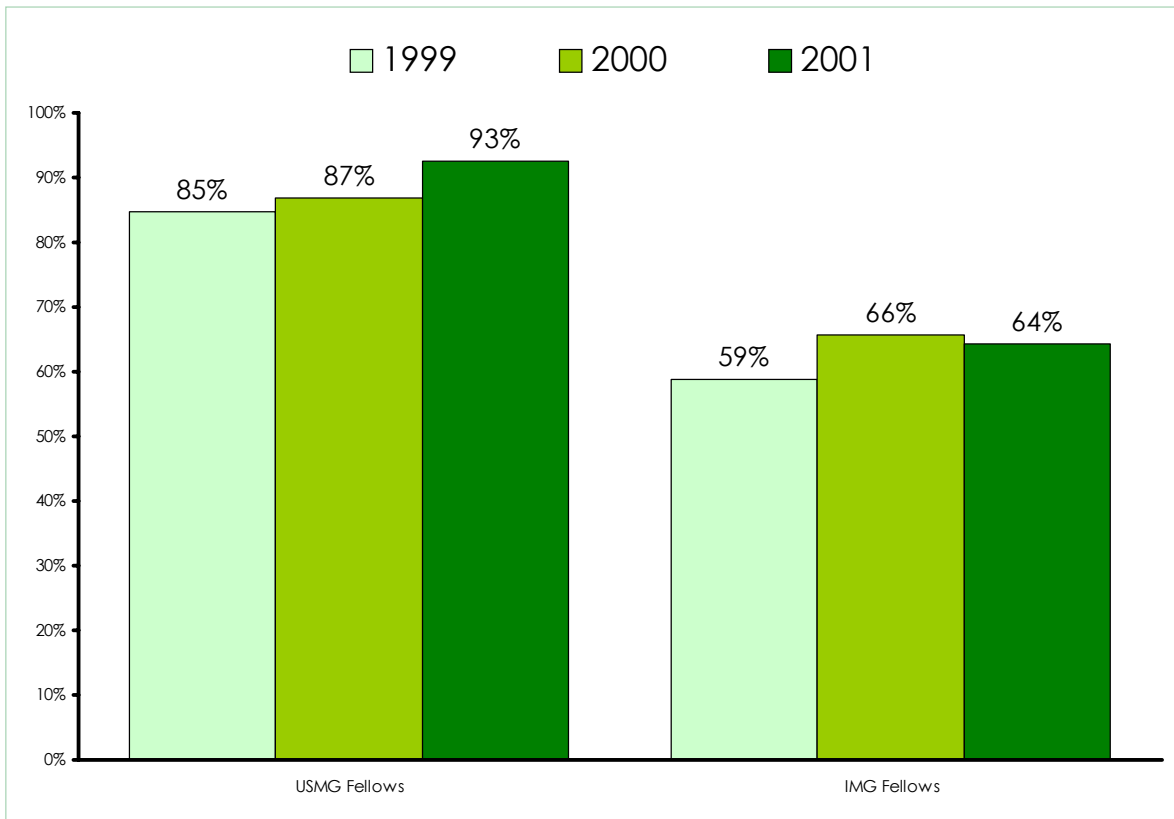


Figure 20. Success in Job Market Among Fellows Completing Training with Plans to Go on to Patient Care by Location of Medical School Attended, 1999-2001



fellows completing training were received from May to October, so it is likely that most or all of the remaining 17% may have found positions by the time this report is released. While it is not possible to interpret due to differences in when surveys are administered and returned, it is worth noting the positive trend observed in the responses shown in Figure 19.

Figure 20 shows the percentage of USMG and IMG fellows completing training in 2001 who secured a practice position and planned to go on to patient care activities. As is evident, USMG fellows, once again, had more success finding practice positions than their IMG counterparts in 2001 (93% having secured positions compared with 64%, a difference of 29%). While outcomes have been similar in previous surveys, the difference between USMG and IMG fellows in securing practice positions has widened.

b. Specific Plans

For those fellows completing training in 2001 who reported plans to go on to patient and reported having secured a practice position, a series of questions was included on the survey to obtain additional details about these new positions. This section explores those responses including: practice setting, location of practice, compensation, and satisfaction.

i. Practice Characteristics

Figure 21 presents data on the reported practice settings of this group of fellows completing training in 2001. While private practice dominated over all other settings in 2000, fellows completing training in 2001 reported a wider variety of practice settings. While two-thirds (67%) of the fellows reported going into private practice settings, a substantial proportion reported going into hospital (inpatient, ambulatory care/emergency room) settings (12%) and medical school faculty positions (9%).⁶

Figure 22 shows the practice settings of fellows completing training who reported plans to go on to patient care and had secured positions by the location of the medical school they attended. While private practice was the most common practice setting for both USMGs (58%) and IMGs (89%), a similar percentage of USMGs and IMGs reported entering positions in hospital settings. The differences in practice setting observed between USMG and IMG fellows can be explained by the fact that IMG fellows have not reported entering military/

⁶The increase in the percentage of fellows completing training going on to careers in military or government settings is due, at least in part, to a higher rate of response from the few allergy and immunology military fellowship programs.

Figure 21. Practice Settings of Fellows Completing Training with Confirmed Plans to Go on to Patient Care, 1999-2001

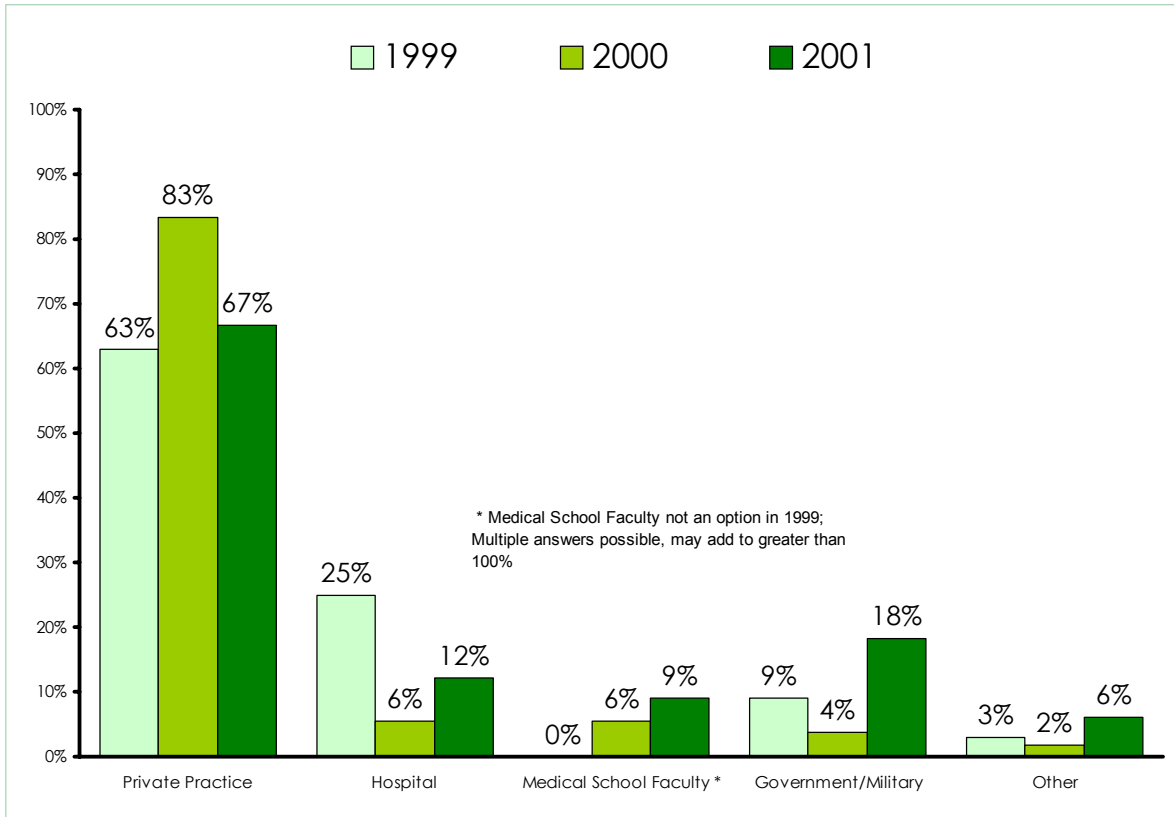
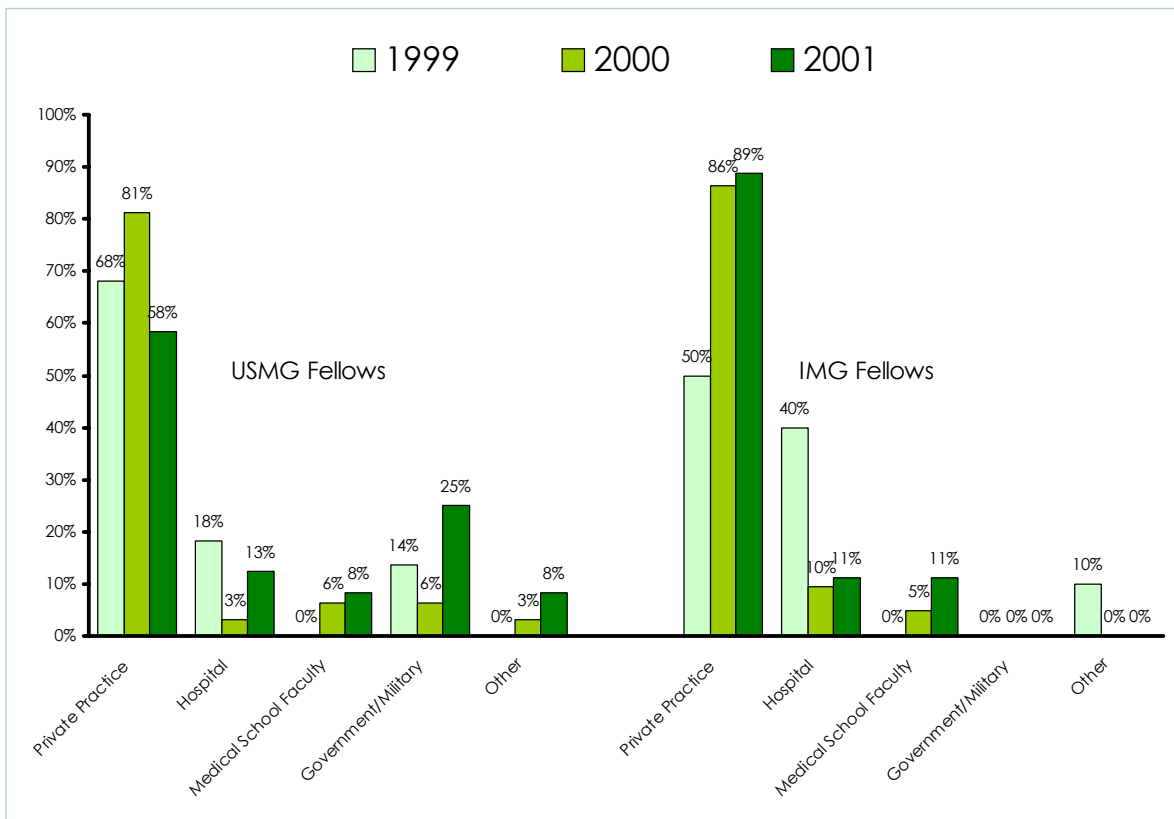


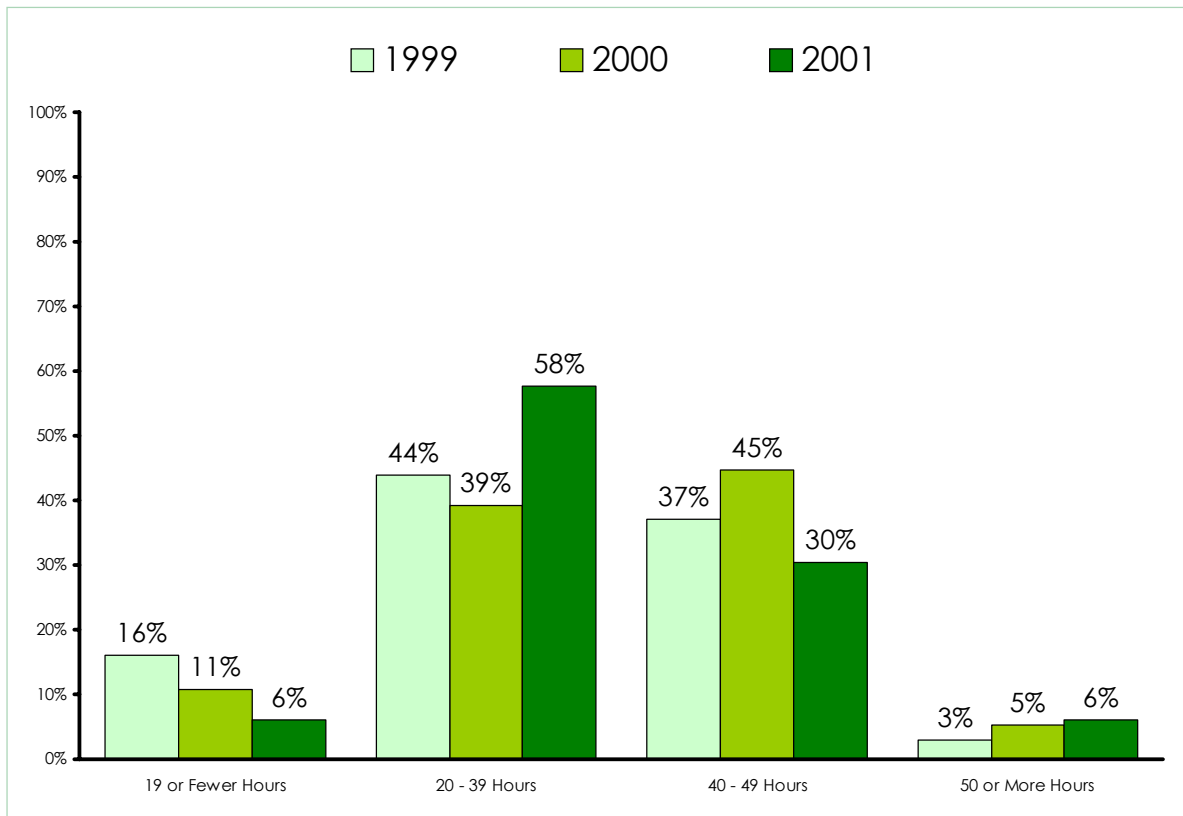
Figure 22. Practice Settings of Fellows Completing Training with Confirmed Plans to Go on to Patient Care by Location of Medical School Attended, 1999-2001



government positions.

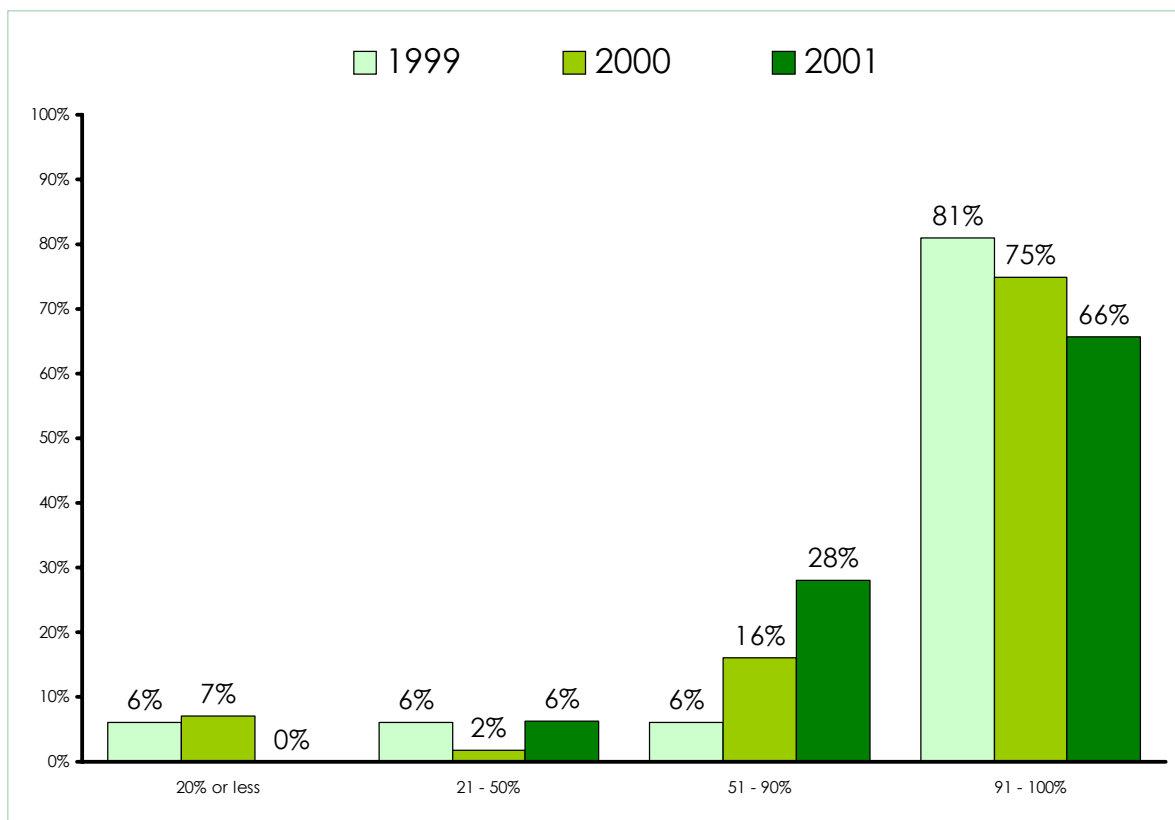
Fellows completing allergy and immunology training in 2001 reported expecting to spend an average of just under 35 hours in direct patient care per week. Figure 23 shows the distribution of reported expected hours in direct patient care per week. The largest group (58%) reported expecting to spend 20-39 hours per week in direct patient care. Somewhat fewer (30%) reported expectations of 40-49 hours per week in direct patient care. The remaining 12% were split evenly between those who reported 19 or fewer hours per week and those who reported 50 or more hours per week. The average weekly direct patient care hours in 2001 were also just about 2 hours fewer than in 2000. Moreover, compared to the average within the practicing allergist population (Forte et al. 2000), the fellows completing training in 2001 expected to work almost 4 hours fewer per week in direct patient care. As has been the case in the past, fellows completing training are expecting to work fewer hours than the typical allergist in practice.

Figure 23. Expected Direct Patient Care Hours per Week of Fellows Completing Training with Confirmed Plans to Go on to Patient Care, 1999-2001



Finally, two-thirds (66%) of the fellows completing training in 2001 who reported having found a patient care position also reported that they would be spending 91-100% of their practice time devoted to allergy and immunology services (Figure 24). Only a small group (6%) reported that they would be spending less than half of their patient care time devoted to allergy and immunology care. For the second consecutive year, a declining proportion of fellows completing training reported spending 91-100% of their time in allergy and immunology patient care activities. This suggests that the services provided by allergists might be evolving. If this trend continues, further investigation may be warranted.

Figure 24. Expected Percentage of Patient Care Time Devoted to A/I of Fellows Completing Training with Confirmed Plans to Go on to Patient Care, 1999-2001

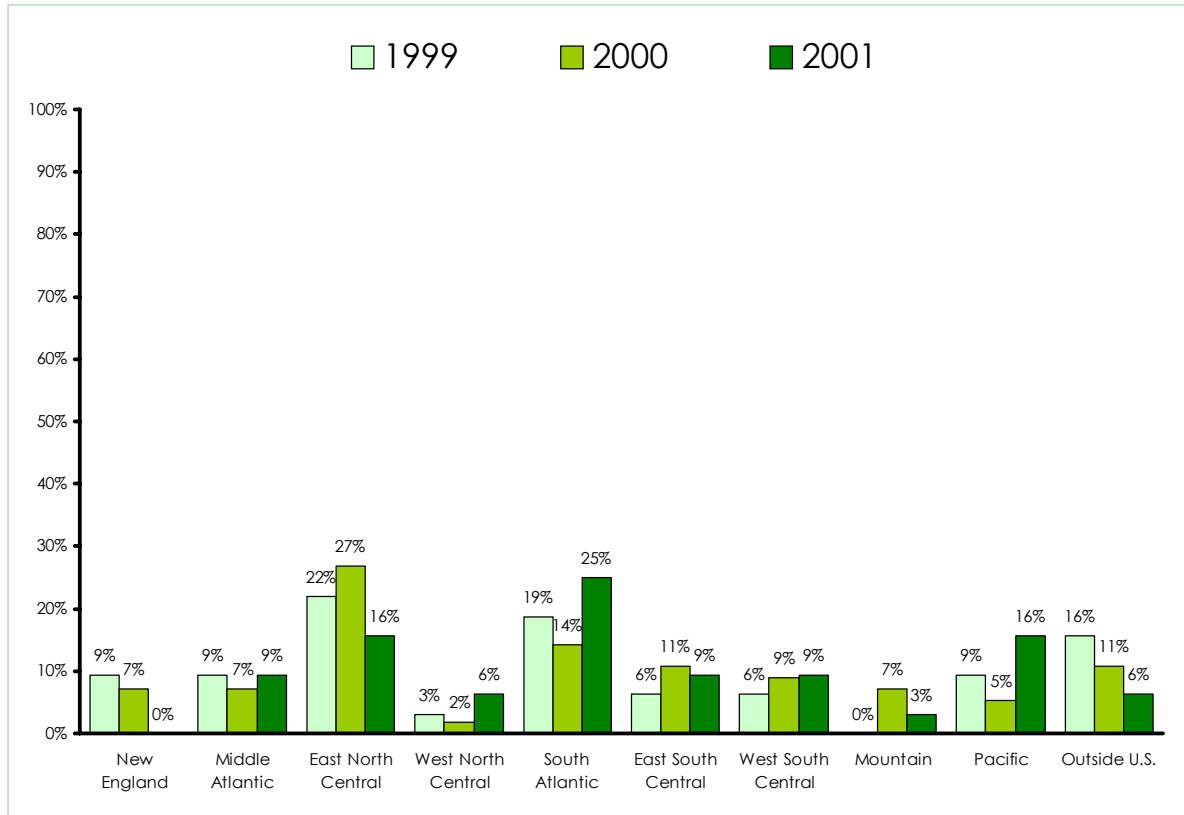


ii. Location of Practice

Where fellows completing training find practice positions is of interest to all involved in allergy and immunology graduate medical training. The fellows completing training in 2001 reported having found practice opportunities in all parts of the United States (Figure 25). The most common area of the country where fellows found patient care positions (25%) was the South Atlantic Census Division (Delaware, Washington, D.C., Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia). The second most common areas

were the East North Central (Illinois, Indiana, Michigan, Ohio, and Wisconsin) and the Pacific (Alaska, California, Hawaii, Oregon, and Washington) Census Divisions, where 16% of the fellows found patient care positions. No fellows reported having found positions in the New England Census Division (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont). While observations from the 2000 survey of fellows completing training only suggested that allergist-poor⁷ areas might be attracting new allergists as the allergist-rich areas become saturated with practitioners, the 2001 fellows' responses provide some support for this interpretation. In 2001, relatively allergist-poor areas, such as the South Atlantic and Pacific, were the places where most new allergists found positions. At the same time, in an allergist-rich area like New England, no new allergists found positions; and relatively few new allergists found positions in the Middle Atlantic Census Division (New Jersey, New York, and Pennsylvania). In allergist-poor areas of the country the job market for allergist is, indeed, robust. Finally, it is also a positive sign that only 6% of the fellows completing training were leaving the country to practice. This percentage has declined each year since 1999.

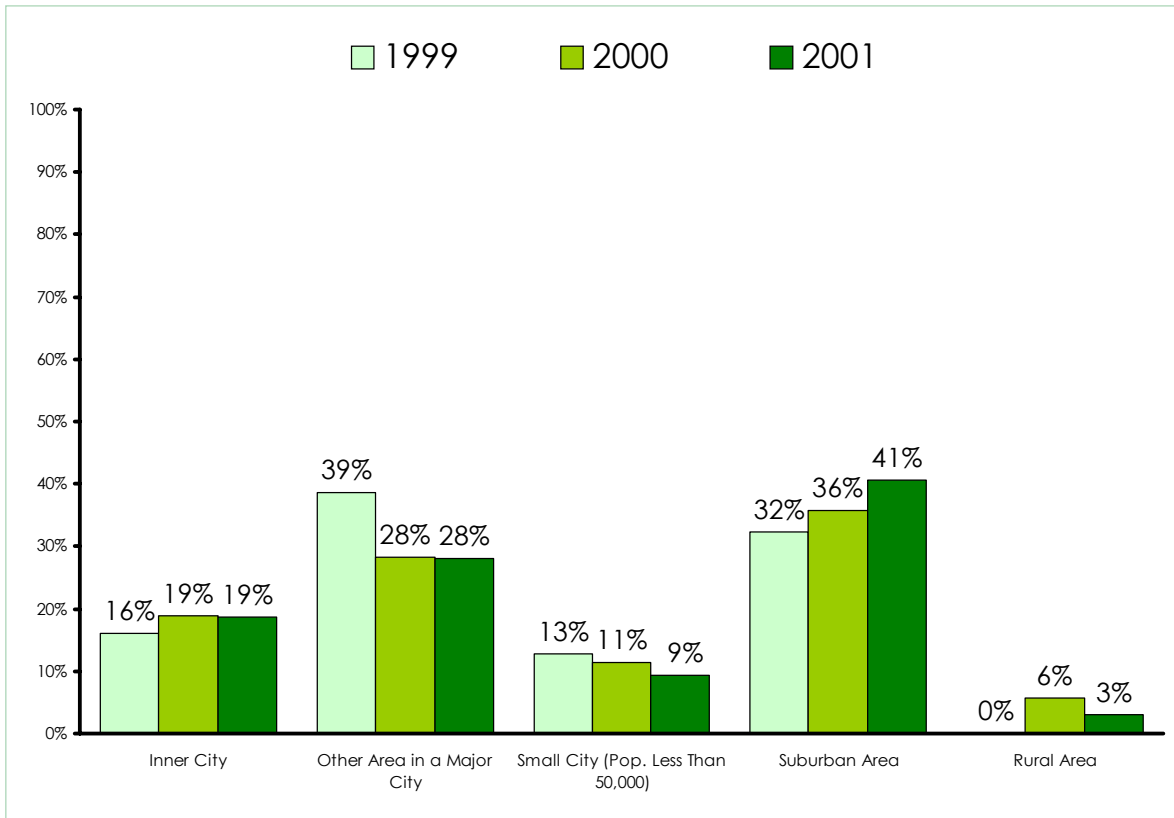
Figure 25. Geographical Distribution of Practice Location of Fellows Completing Training with Confirmed Plans to Go on to Patient Care, 1999-2001



⁷“Allergist-rich” areas refer to those Census Divisions that had above average allergist-to-population ratios in 1999 (see Forte et al. 2000 for a discussion of these ratios). “Allergist-poor” areas refer to those Census Divisions that had below average allergist-to-population ratios in 1999.

The types of areas that fellows completing training reported having secured patient care positions include suburban areas (41%), inner cities (19%), other areas within major cities (28%), small cities (9%), and rural areas (3%) (Figure 26). These observations are consistent with previous surveys.

Figure 26. Types of Practice Locations of Fellows Completing Training with Confirmed Plans to Go on to Patient Care, 1999-2001



iii. Compensation

Compensation for services is an important, and often sensitive, issue among physicians. For fellows completing allergy and immunology training in 2001, the vast majority (91%) reported they would receive some sort of salary (either with or without incentive) as compensation for their patient care activities (Figure 27). Further, of those who reported they would receive salaries, two-thirds (67%) reported that they would be compensated with some sort of incentive as well, while the other third would receive a salary only. Self-employment practice income remains as an infrequent (9%), yet consistent (6%-13% from 1999 to 2001) form of compensation.

The average (mean) base salary (without including incentives) reported by fellows completing training in 2001 was just over \$113,000. This is about \$10,000 greater than the mean reported

Figure 27. Type of Compensation of Fellows Completing Training with Confirmed Plans to Go on to Patient Care, 1999-2001

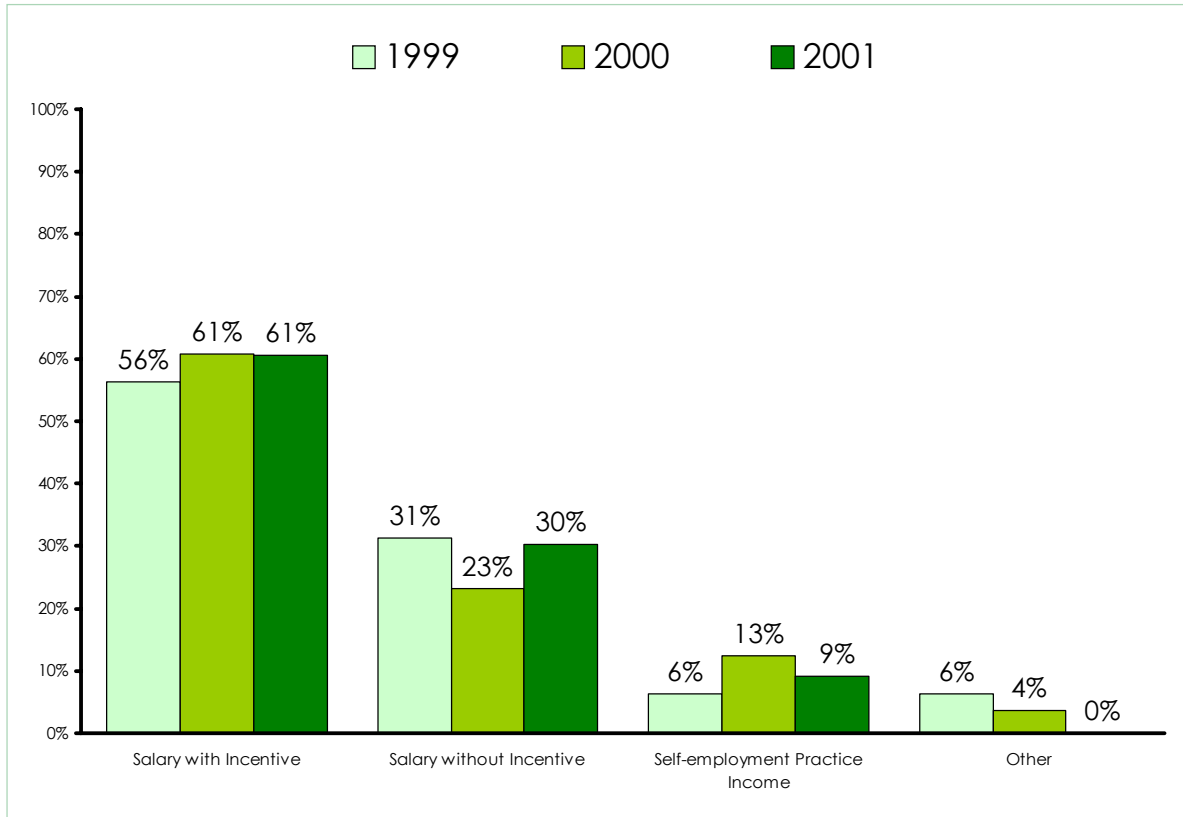
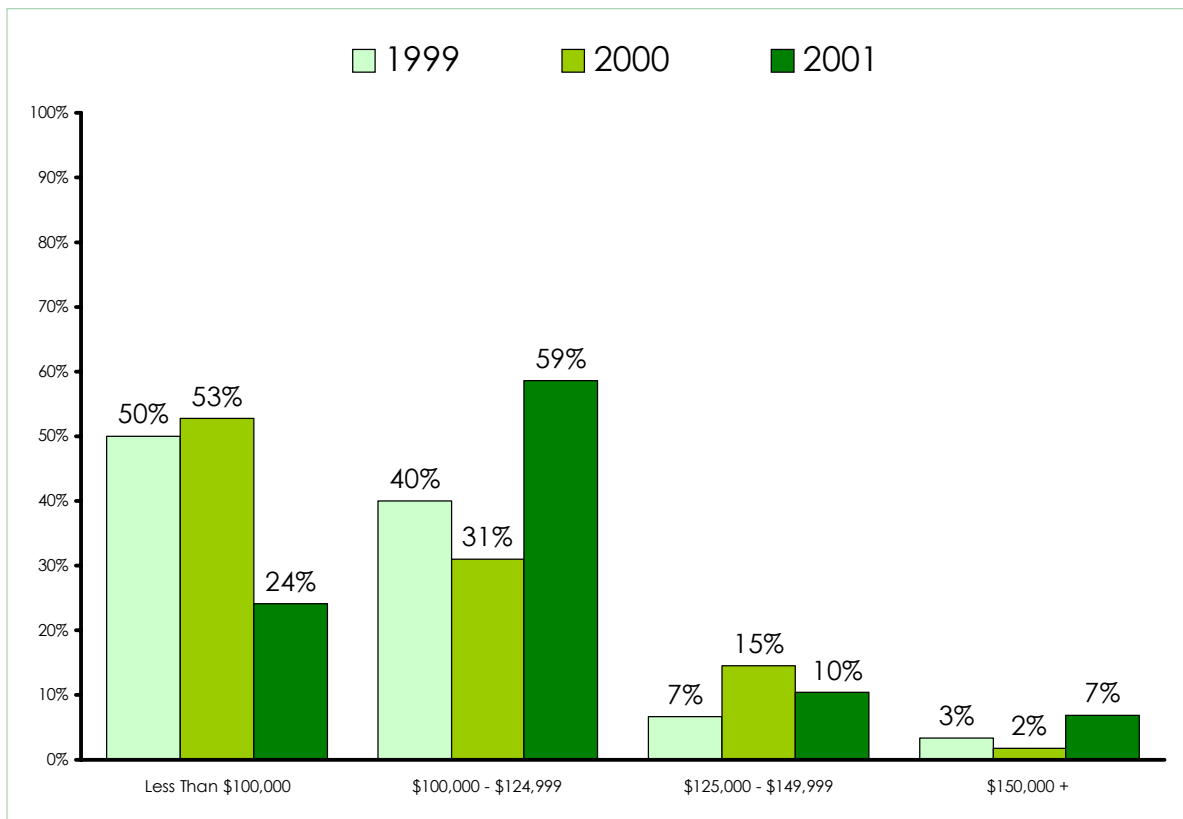


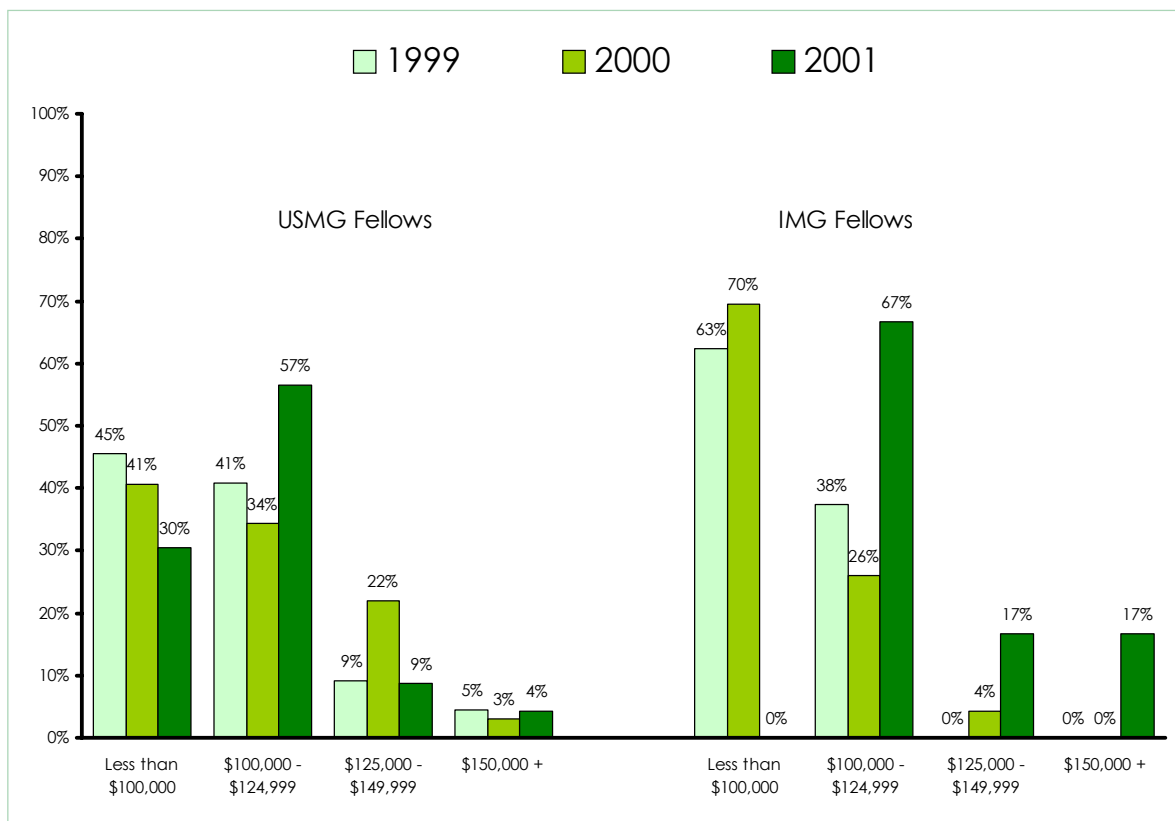
Figure 28. Expected Base Salary During First Year of Practice of Fellows Completing Training with Confirmed Plans to Go on to Patient Care, 1999-2001



in 1999 and 2000. Figure 28 presents the base salary distribution. Almost one-fifth (17%) of the fellows completing training in 2001 reported salaries of \$125,000 or more. However, almost a quarter (24%) reported salaries below \$100,000. The majority (59%) of fellows reported salaries between \$100,000 and \$124,999. The 2001 graduates were more likely to find positions with salaries between \$100,000 and \$124,999 rather than positions with salaries below \$100,000, which was the most likely base salary for graduates from previous years.

Figure 29 shows the distribution of reported expected levels of salary by location of medical school attended for fellows completing allergy and immunology training in 2001. As is evident, USMGs were more likely than IMGs to report expected salaries below \$100,000. The average salary among USMGs (\$109,000) was about \$20,000 lower than IMGs (\$129,000). The stability and accuracy of these estimates is questionable because there were so few IMGs among those who reported having found a salaried position (6). On the other hand, comparing USMGs in 2001 to those in 1999 and 2000, the reported average salary is consistent (\$106,000 in 1999, \$109,000 in 2000). The small number of IMGs also suggests that the overall salary

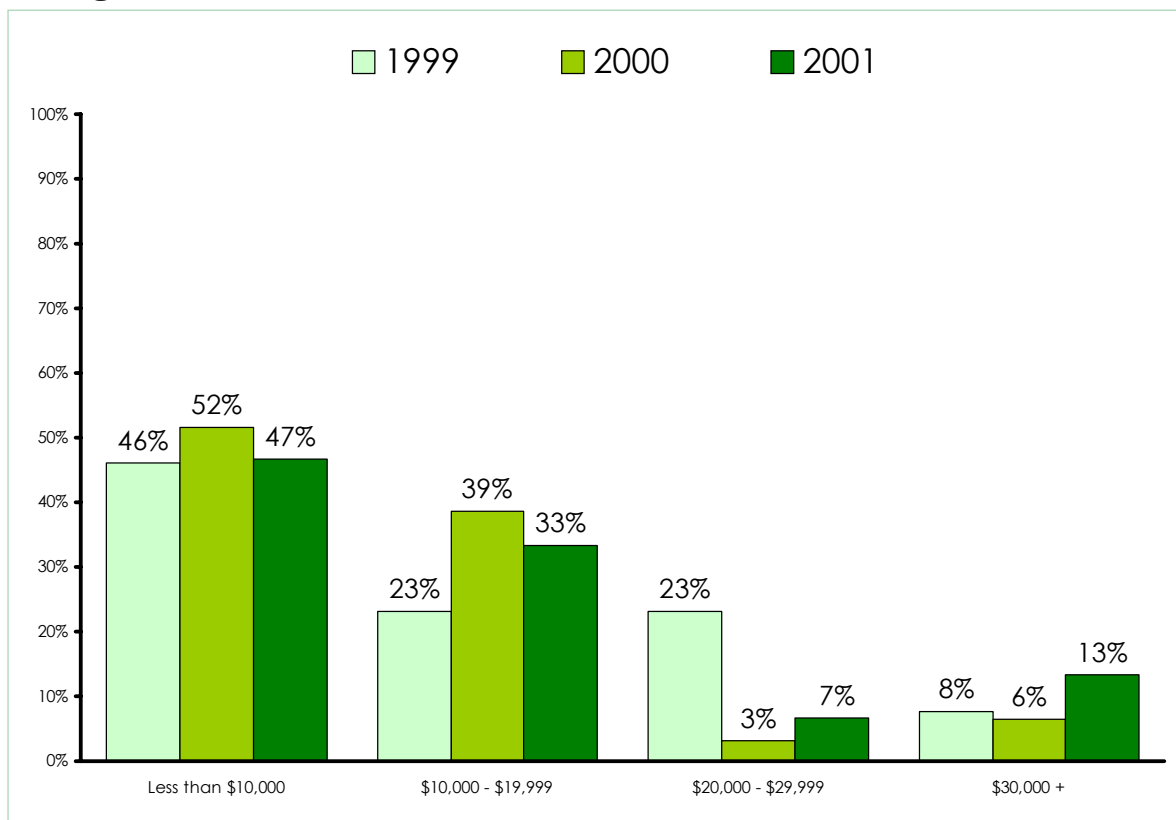
Figure 29. Expected Base Salary During First Year of Practice of Fellows Completing Training with Confirmed Plans to Go on to Patient Care by Location of Medical School Attended, 1999-2001



average (\$113,000) reported above may not be accurate as well. In sum, there is no conclusive evidence to suggest that the base salaries among new allergists have changed between 2000 and 2001.

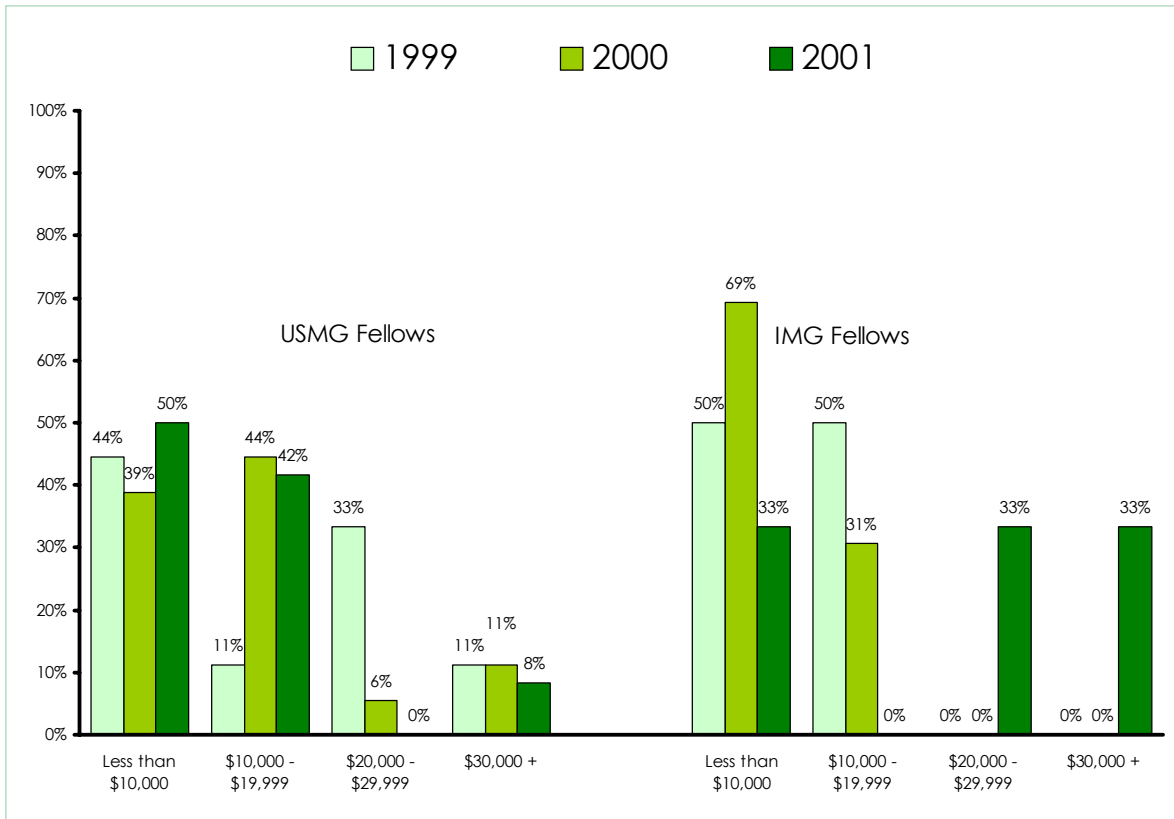
For the 61% of the fellows completing allergy and immunology training who reported anticipating additional incentive income, the average incentive was just about \$15,000. This is consistent with observations from previous years. Figure 30 presents the distribution of anticipated incentive income for fellows completing training in 2001. Almost half (47%) reported expecting less than \$10,000 in incentives, while only 20% reported expecting \$20,000 or more. The remaining third (33%) expected incentive income between \$10,000 and \$19,999. The distribution in 2001 was similar to that in 2000, but weighted more heavily toward the upper end of the incentive scale.

Figure 30. Anticipated Additional Incentive Income of Fellows Completing Training with Confirmed Plans to Go on to Patient Care, 1999-2001



As with annual base salary, USMG fellows completing training in 2001 reported a lower expected incentive income than IMGs (Figure 31). However, due to the small number of IMGs in the group (3), it is not possible to make a valid comparison between USMGs and IMGs for

Figure 31. Anticipated Additional Incentive Income of Fellows Completing Training with Confirmed Plans to Go on to Patient Care by Location of Medical School Attended, 1999-2001



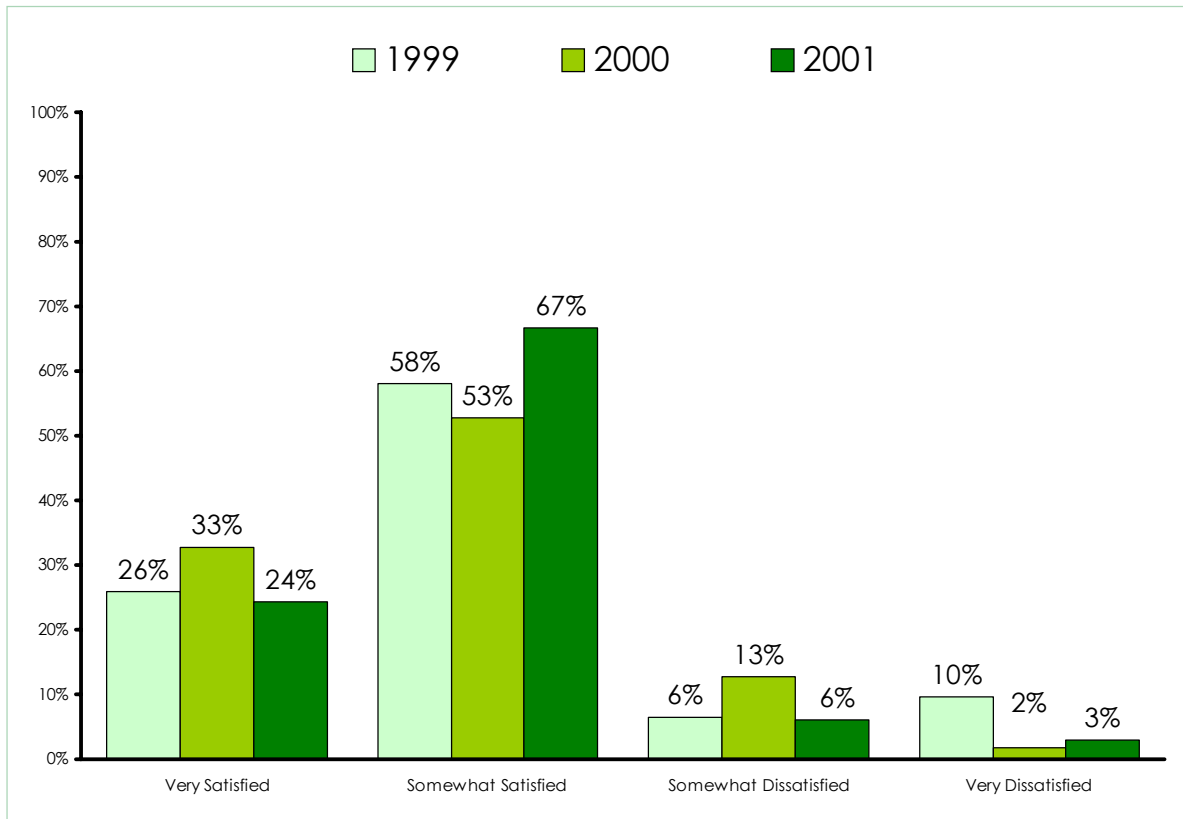
2001. However, the 2001 distribution of expected incentive income among USMGs does appear to be more concentrated toward the lower incentive levels than in 2000.

iv. Level of Satisfaction

Selecting a subspecialty for a physician is akin to selecting a career field for many other professionals. Understanding how satisfied physicians who have chosen allergy and immunology as a subspecialty is an important part of developing strategies to attract more and better qualified medical residents to the discipline. In this section, two indicators of satisfaction are examined: satisfaction with salary/compensation and whether the fellows completing training would recommend allergy and immunology to other physicians in training.

Overall, the fellows completing allergy and immunology training in 2001 appeared to be satisfied with their anticipated level of compensation (Figure 32). The vast majority (91%) reported that they were satisfied with their anticipated level of compensation, with nearly a quarter (24%) reportedly very satisfied with their compensation. Fewer than 10% reported any sort of dissatisfaction with their anticipated level of compensation, with 3% very dissatisfied.

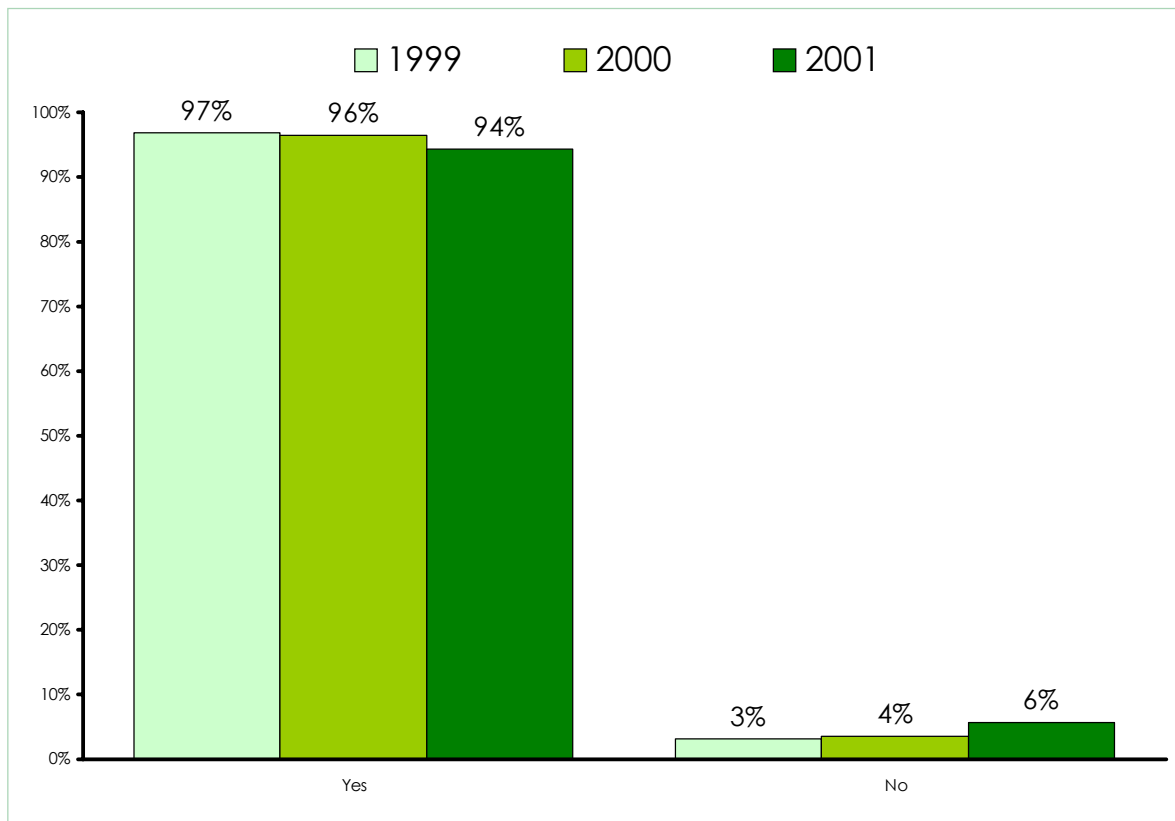
Figure 32. Level of Satisfaction with Anticipated Compensation of Fellows Completing Training with Confirmed Plans to Go on to Patient Care, 1999-2001



While fellows completing training in 2001 were less likely to report being very satisfied than in either 1999 or 2000, they were more likely to report that they were satisfied than in previous years.

The other indicator of satisfaction with one's selection of allergy and immunology as a subspecialty, whether a physician would recommend allergy and immunology to other physicians in training, also provides encouraging observations (Figure 33). Once again, an overwhelming majority (94%) of the fellows completing training in 2001 reported that they would recommend allergy and immunology to other physicians in training. In general, the satisfaction indicators in 2001 continued to provide positive results for allergy and immunology.

Figure 33. Whether Fellows Completing Training with Confirmed Plans to Go on to Patient Care Would Recommend A/I to Other Physicians in Training, 1999-2001



4. Experience in the Job Market of Fellows Completing Training

In this section, data are presented that examine, firsthand, the job market for allergists. Survey data from all fellows completing training in 2001 (not just those who had found positions) are included in this section.⁸

a. Finding a Position

A good indicator of the demand for allergists is whether fellows completing training in a particular year report experiencing difficulties securing satisfying practice positions. If demand for allergists is high, it would be expected that allergists would have relatively few difficulties securing satisfying practice positions after completing their training. A majority (58%) of the fellows completing training in 2001 reported experiencing no difficulties securing satisfying practice positions (Figure 34). More than a third (35%), however, reported experiencing difficulties. The remainder (7%) reported that they had not started their job search at the time of the survey. In comparison to prior years, the fellows in 2001 were more likely to report

⁸The reader is encouraged to review the section on the perceptions of training program directors on the job market for new allergists in the previous chapter.

Figure 34. Practice Position Search Experiences of Fellows Completing Training, 1999-2001

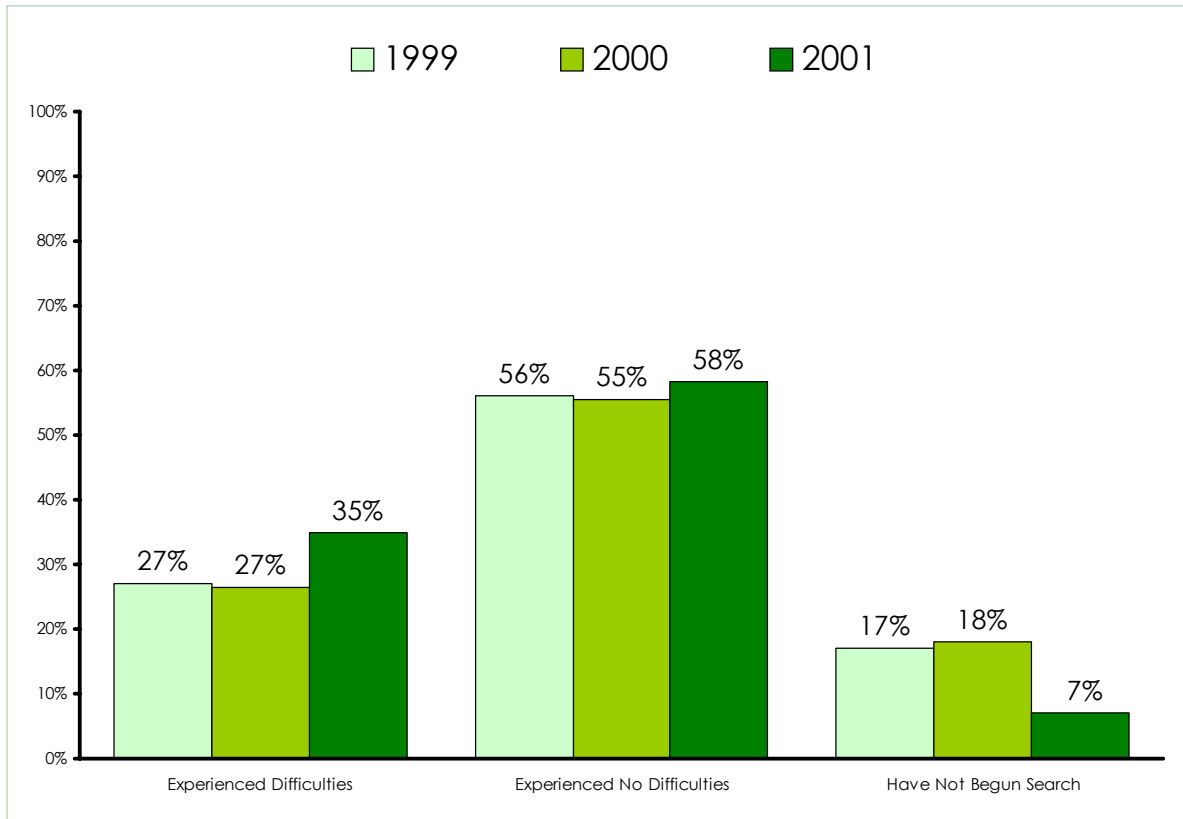


Table 7. Reasons for Difficulty Finding a Practice Position of Fellows Completing Training, 1999-2001

	1999	2000	2001
Lack of Positions in Desired Locations	62%	77%	67%
Lack of Positions in Desired Settings	38%	23%	40%
Limited Opportunities due to Visa Status	38%	32%	33%
Family Considerations	38%	14%	27%
Inadequate Salary/Compensation Offered	23%	9%	33%
Overall Lack of Positions / Practice Opportunities	15%	5%	20%

Multiple answers possible, columns may add to greater than 100%

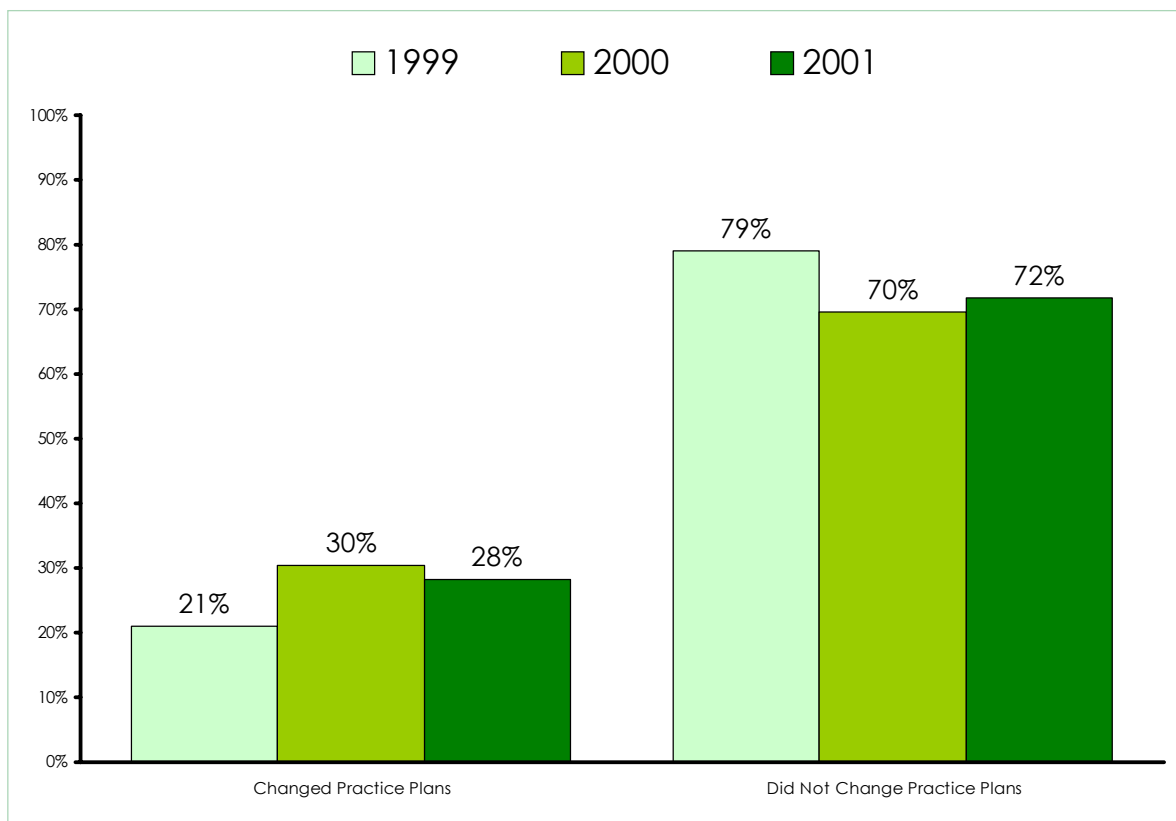
having experienced difficulties in their job search. While the majority of new allergists experienced no difficulties, the increase in those who reported some difficulty should be tracked closely over the next several years.

Of the fellows completing training in 2001 who reported experiencing difficulties finding a satisfying practice position, two-thirds (67%) reported that the difficulty was due to a lack of positions in desired locations (Table 7). This was somewhat lower than in 2000 (77%), but was

still the most common response provided. The difficulty in finding a position in their desired practice locations lends more support to the suggestion above that there has been and continues to be an evolution in the geographical locations where fellows are obtaining positions. Lack of positions in desired practice settings was also provided as an explanation of the difficulties experienced in the job market by a number (40%) of fellows. For a third (33%) of the fellows, visa status restrictions or inadequate salary/compensation offers were the source of the difficulties experienced in the job market. Unlike previous years, a significant proportion (20%) of the fellows completing allergy and immunology training in 2001 reported that their difficulties were related to an overall lack of practice opportunities.

Another indication of the status of the market for new allergists is whether fellows completing training have to alter their plans because of limited practice opportunities. Figure 35 shows that almost three-quarters (72%) of the fellows completing training reported that they did not have to change their plans due to limited practice opportunities.⁹ This percentage is similar to what was observed in 2000.

Figure 35. Effect of Limited Opportunities on Fellows Completing Training, 1999-2001



⁹For the purpose of comparison, slightly fewer than one-fifth (18%) of all physicians completing training in New York State in 2001 reported having to change their plans due to limited opportunities (Nolan et al. 2002).

Table 7. Reasons for Difficulty Finding a Practice Position of Fellows Completing Training, 1999-2001

	1999	2000	2001
Seeking Employment in Different Region of the Country	25%	43%	40%
Leaving United States	25%	0%	--*
Accepting Less Desirable Position	25%	14%	50%
Accepting Less Desirable Compensation	13%	19%	40%
Accepting Less Desirable Setting	13%	33%	50%
Continued Training in Subspecialty	13%	10%	10%
Temporarily Leaving Medicine	13%	0%	--*

Multiple answers possible, columns may add to greater than 100%
** Not an option in 2001.*

Of those fellows completing training who reported having to change their practice plans, 50% reported accepting a less desirable position; 50% reported accepting a position in a less desirable setting; 40% accepted a position with less desirable compensation; and 40% sought employment in a different part of the country (Table 8). Fellows completing training in 2001 were more likely to accept less desirable compensation, settings, and positions than fellows have in the past.

Finally, a quantitative indicator of the health of the job market for new allergists can be constructed by examining the ratio of the number positions applied for to the number of offers received by fellows completing training. The mean number of positions applied for by fellows completing training in 2001 was 6, and the mean number of position offers was 4. The ratio of applications to offers was about 1.5. That is, on average, fellows completing training reported receiving about 2 offers for every 3 applications they filed. In 2000, this ratio was close to 1. The main difference between 2001 fellows and 2000 fellows is that the 2001 fellows submitted applications at a higher rate.¹⁰

Examining the distributions of the number of positions applied for (Figure 36) and the number of offers received (Figure 37) by fellows completing training reveals that just over two-thirds (68%) of the fellows completing training reported having made 1 to 5 applications, with the remainder equally split among the 6 to 10, 11 to 15, and over 15 applicant groups. Fellows completing allergy and immunology training reported having applied for positions at a higher

¹⁰It should be noted that there were 3 fellows completing training in 1999 and 1 in 2000 who were offered multiple practice positions without having applied for them. No fellows completing training in 2001 shared such experiences.

Figure 36. Number of Positions Applied for by Fellows Completing Training, 1999-2001

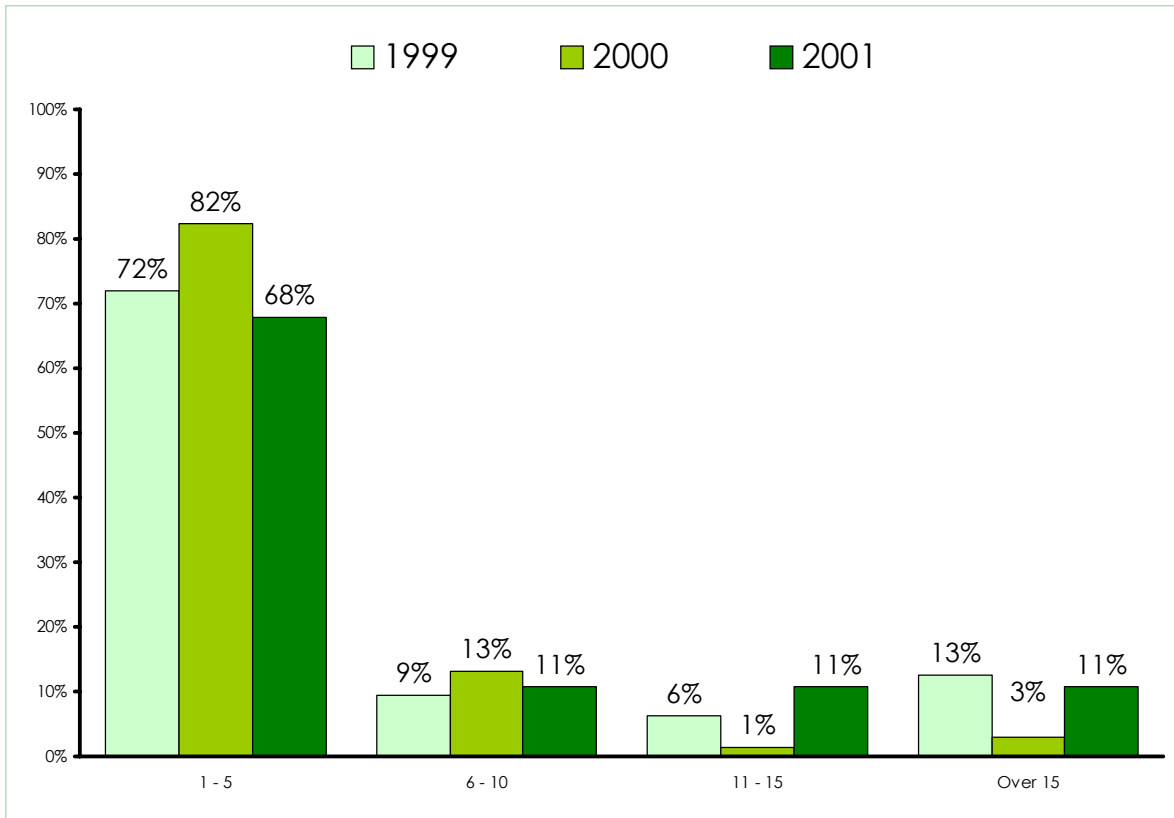
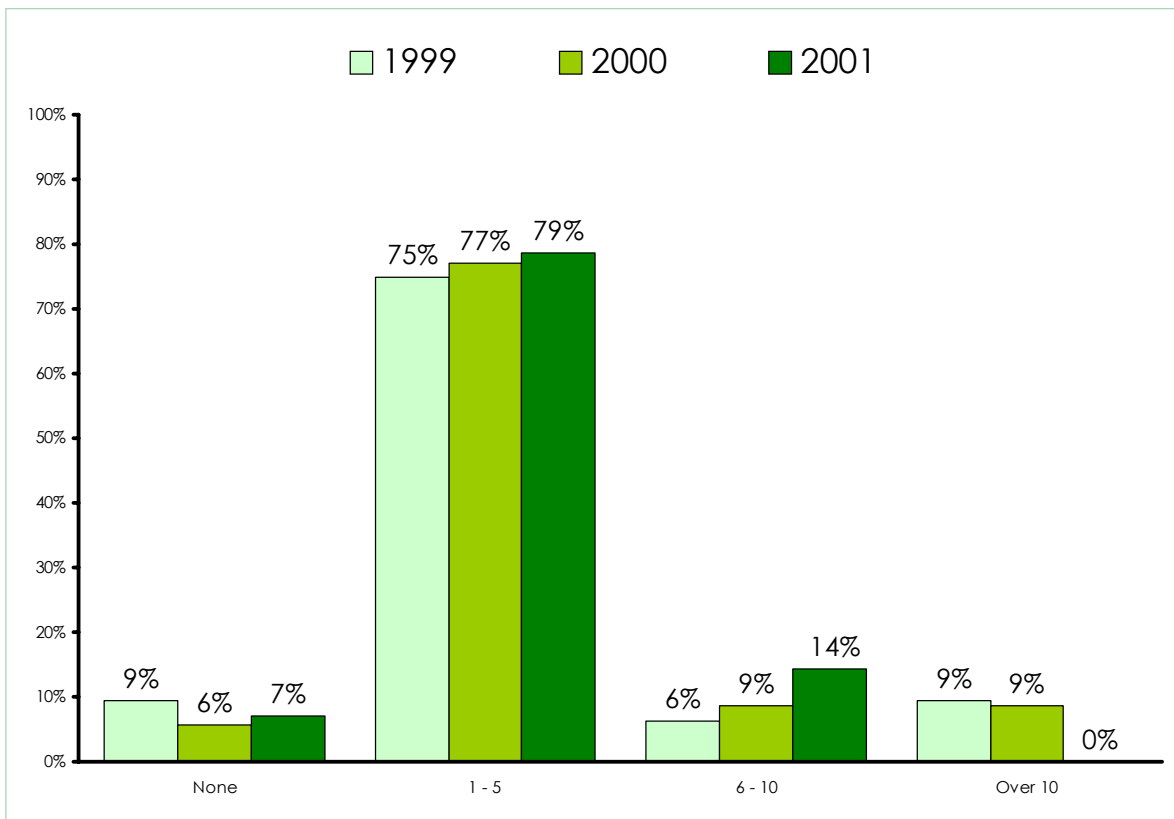


Figure 37. Number of Offers Received by Fellows Completing Training, 1999-2001

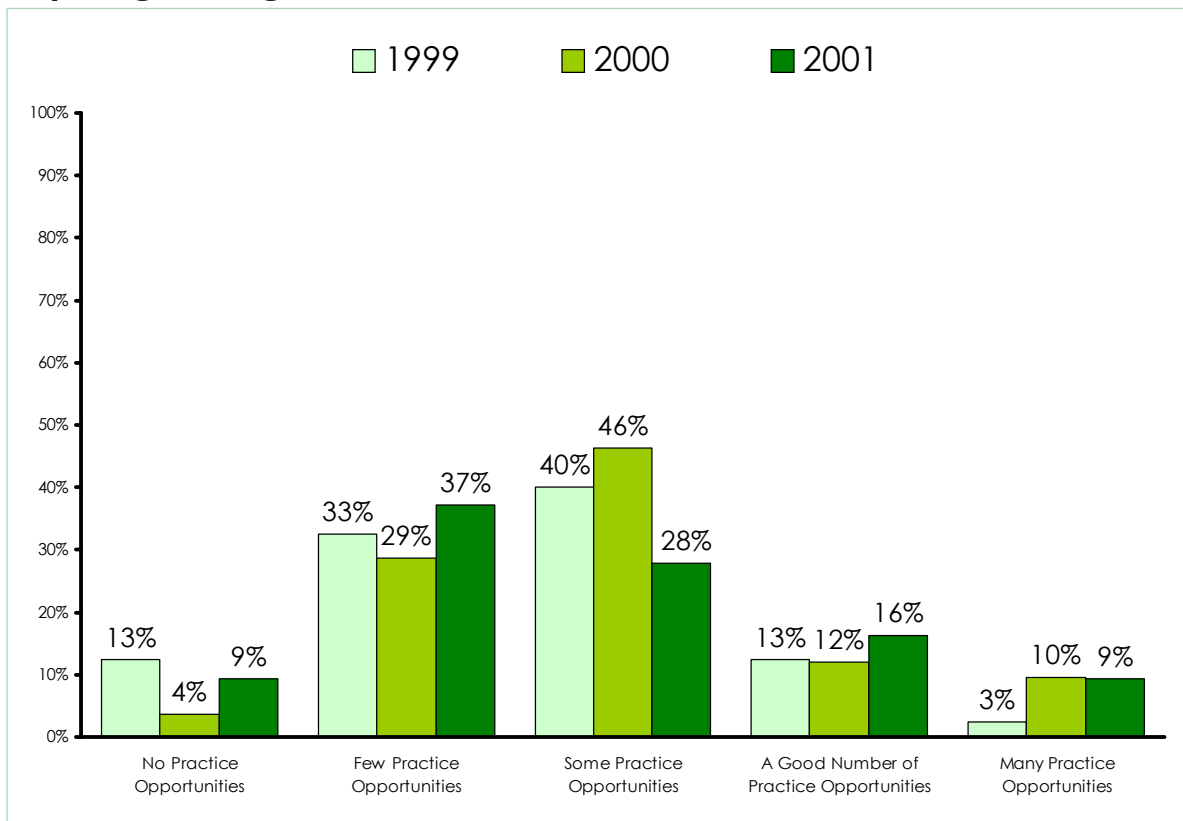


rate than the fellows who completed training in 1999. Further, close to four-fifths (79%) of the fellows completing training in 2001 also reported receiving 1 to 5 job offers. Very few (7%) of the fellows completing training reported not receiving any offers.

b. Assessment of the Job Market for Allergists

Figure 38¹¹ presents data on the local job market [within 50 miles of their training site(s)] assessments by fellows completing training in 2001. As is evident, most of the fellows reported that the local job market was soft. While 9% of the fellows reported no practice opportunities, more than a third (37%) reported only a few available practice opportunities. Only a quarter (25%) of the respondents reported a good number or many practice opportunities. The job market for allergists in the vicinity of fellowship programs is poor.

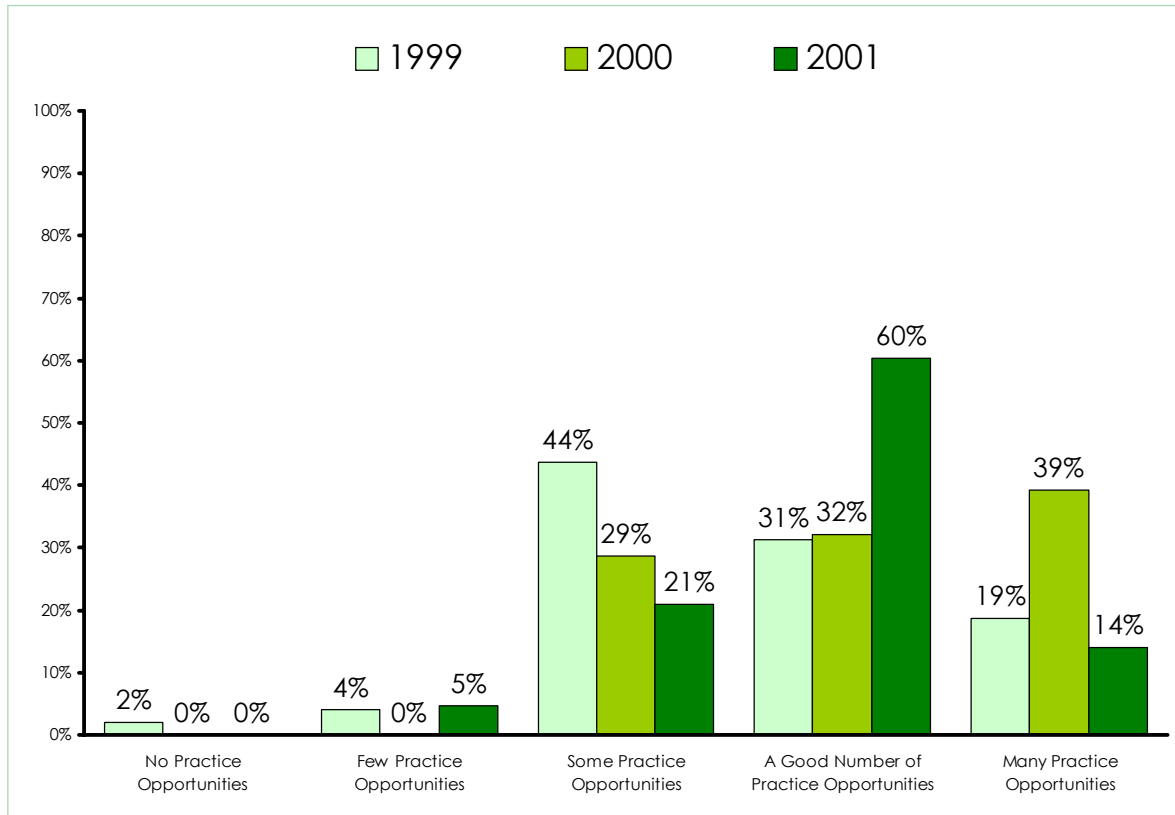
Figure 38. Assessment of Local A/I Practice Opportunities of Fellows Completing Training, 1999-2001



¹¹It should be noted that Prior to the 2001 survey, “Few Practice Opportunities” and “A Good Number of Practice Opportunities” were not used in the survey in either 1999 or 2000 to describe the job market data for allergists. Instead on the 1999 and 2000 surveys numeric values 0 through 4 were used with 0 as “No Practice Opportunities,” 2 as “Some Practice Opportunities” and 4 as “Many Practice Opportunities.” Values 1 and 3 were not assigned qualitative labels on the survey instruments, themselves, rather the labels were added for ease of interpretation. In 2001, all labels were assigned on the survey instrument, itself.

Figure 39 reveals a very different assessment of the national job market for allergists. Clearly, fellows completing training in 2001 perceived the national job market to be much better than the local market. Nearly three-quarters (74%) of the fellows completing training reported that a good number or many practice opportunities were available nationally. Only a few (5%) reported that there were few opportunities available.

Figure 39. Assessment of National A/I Practice Opportunities of Fellows Completing Training, 1999-2001

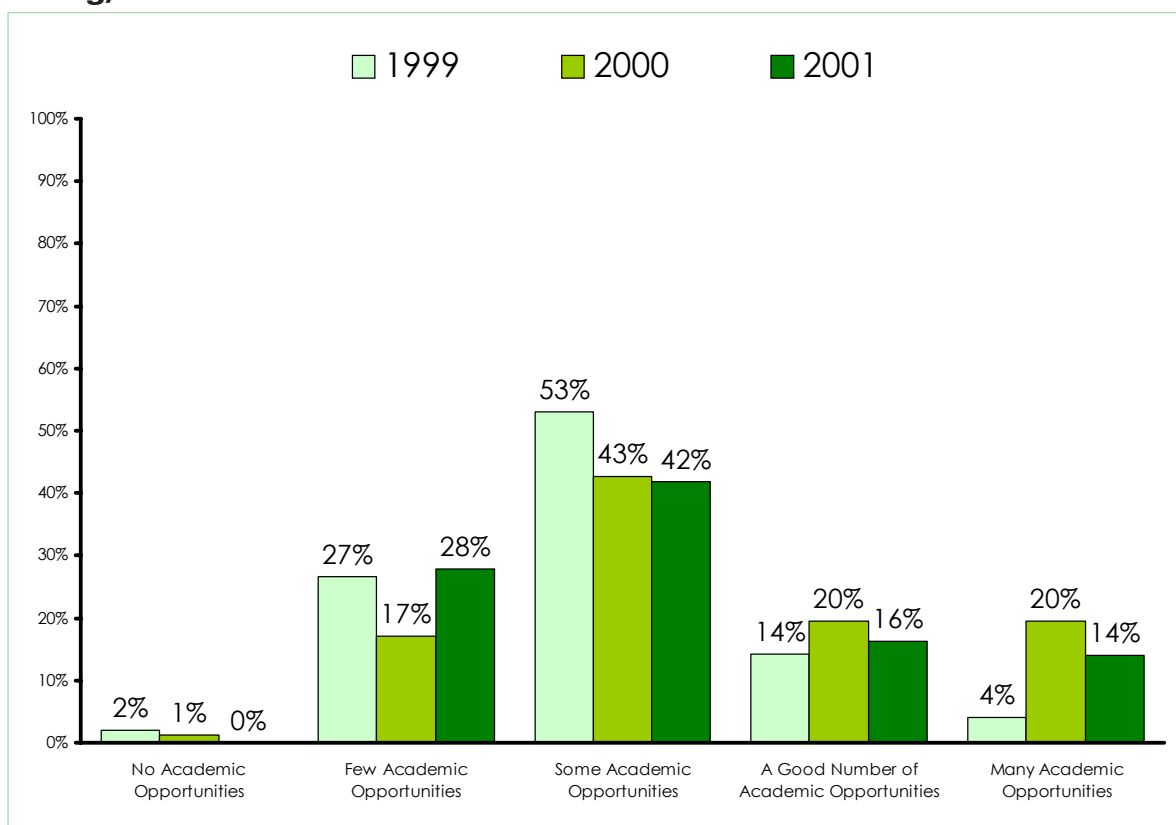


5. Academic Careers in Allergy and Immunology

Concerns about academic careers and the academic aspects of the practice of allergy and immunology have become more important to allergy and immunology stakeholders of late due to previous reports of faculty shortages (Forte and Salsberg 2001). As was discussed in the previous chapter, the availability of sufficient faculty is one of the factors impacting program size. In 2001, 70% of the fellows completing training reported considering academia as a career path. In terms of national academic opportunities, fellows completing training in 2001 perceived the market as somewhat less healthy than the practice market (Figure 40). Thirty percent (30%) of the fellows completing training in 2001 reported a good number or many academic opportunities nationally compared to the 74% who reported a good number or many

available practice opportunities nationally. However, the academic market was perceived as robust in and of itself as less than a third (28%) of the fellows completing training reported only a few opportunities nationally. The assessment of the academic job market by fellows in 2001 is consistent with that by fellows in 2000.

Figure 40. Assessment of A/I Academic Job Market of Fellows Completing Training, 1999-2001



Conclusions

It is estimated that 109 fellows completed allergy and immunology training in 2001. While the production of new allergists was declining in the mid- to late 1990s, the class of 2001 appears to be slightly larger than those of 1999 (84) and 2000 (108). The increase is welcome news as the supply of allergists in the United States continues to move toward a potential crisis with far greater numbers of allergists leaving practice than new allergists being produced (Forte et al. 2000). Based on the results of the survey of fellows completing allergy and immunology training in 2001, several conclusions are apparent.

First, the number of IMGs completing training in allergy and immunology is declining. In 2001, less than two-fifths of the allergy and immunology fellows completing training were

IMGs. Of those, only about two-fifths were J-1, J-2 exchange visitors who must either leave the United States after they complete their training or apply for a waiver of that requirement. These are positive indications for the specialty as the likelihood that J-1, J-2 exchange visitors will join the allergist supply is much lower than physicians who are either USMGs or naturalized/permanent resident IMGs. Thus, as the proportion of J-1, J-2 exchange visitor trainees declines, the effective production of allergists increases. The decrease in the number of IMGs completing training in allergy and immunology and predicted continuation of this decline (Forte and Salsberg 2001) is a positive indicator for growth in the specialty.

As was the case in the surveys of fellows completing training in 1999 and 2000, allergy and immunology fellowship programs continue to train *patient care physicians*. The overwhelming majority of fellows completing their allergy and immunology training in 2001 reported plans to go into patient care. Further, more than three-quarters of these fellows had already secured practice positions at the time of the survey (Spring/Summer 2001). New allergists most commonly reported finding private practice positions, that they expected to provide 30-49 hours per week in direct patient care, and that they would be compensated on a salary basis with incentives. For the most part, the new allergists of 2001 were satisfied with their choice of allergy and immunology as a career and would recommend it to other physicians in training. These findings were consistent with those from the 1999 and 2000 surveys of fellows completing allergy and immunology training.

According to fellows completing training in 2001, there appear to be a good number of practice opportunities available nationally, as opposed to areas close to allergy and immunology training sites. Very few new allergists experienced difficulties finding a practice position. Among the new allergists who experienced difficulties, the practice positions obtained were in less desirable geographic locations and/or less desirable practice settings.

Further, it is becoming apparent that the ability to support new allergists is not distributed evenly across all geographical regions of the country. As was the case in 2000, more new allergists reported finding practice positions in traditionally allergist-poor areas, suggesting that the high concentration of allergists in certain regions of the country may be forcing allergists to look elsewhere for practice opportunities. In other words, particular regions of the country

(e.g., New England) that had previously attracted allergists may no longer be able to support new allergists. At the same time, areas that traditionally have not attracted allergists may now be viable locations for new or growing practices. The changing geographical distribution of new allergists bears watching in the coming years.

Finally, many of the observations from the 2001 survey of fellows completing allergy and immunology training are consistent with those from the surveys in 1999 and 2000. Most importantly, the job market for new allergists continues to thrive, which suggests that efforts to expand the training of allergists in the United States are warranted.

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Appendix A
Allergy and Immunology Training Program Director Survey, 2001

2001 Survey of Directors of Allergy and Immunology Fellowship Programs

The American Academy of Allergy, Asthma, and Immunology
and
Center for Health Workforce Studies
School of Public Health, University at Albany

This questionnaire is designed to obtain information on Allergy and Immunology fellowship programs and practice opportunities for Allergy and Immunology fellows completing training in the U.S. Your response will be *confidential* and will be reported only in national and regional tabulations and summaries. A summary of the results of this survey will be available on the [CHWS website](#) later this year.

A. ALLERGY AND IMMUNOLOGY FELLOWSHIP PROGRAM CHARACTERISTICS

1. Please enter the **program identification number** indicated on your introduction letter:

2. Please indicate the number available fellowship positions, applications received, and the percentage of strong applications during the following academic years:

<u>Positions Available</u>	<u>Applications Received</u>	<u>% Strong Candidates</u>	<u>Academic Year for Start of Fellowship</u>
		%	2000-2001
		%	2001-2002
		%	2002-2003

3. Each year a new group of allergy and immunology fellows begins training. How many fellows began/will begin training in your program during the following academic years? Also, please indicate their previous training backgrounds.

<u>Prior Training of Fellows Entering Training</u>			<u>Academic Year</u>
<u>Pediatrics</u>	<u>Internal Medicine</u>	<u>Combined Peds/IM</u>	
			1999-2000

2000-2001

2001-2002*

4. Each year a group of allergy and immunology fellows complete their training. How many fellows completed/will complete training in your program during the following academic years? Also, please indicate their previous training backgrounds.

<u>Prior Training of Fellows Completing Training</u>			<u>Academic Year</u>
<u>Pediatrics</u>	<u>Internal Medicine</u>	<u>Combined Peds/IM</u>	
			1999-2000
			2000-2001
			2001-2002*

* Please estimate the figures for future years to the best of your ability.

5. If you **reduced** the size of the program in the **past 3 years**, what were the reasons for the change?
(Please mark all that apply)

Reduced training grant support

Difficulty attracting qualified applicants

Reduced financial support for program

Institutionally imposed mandate

Lack of sufficient faculty

Decreased demand/employment opportunities for graduates

Other (specify -->)

Not applicable

6. If you **plan to reduce** the size of the program over the **next 3 years**, what are the reasons for the change?

(Please mark all that apply)

Reduced training grant support

Difficulty attracting qualified applicants

Reduced financial support for program

Institutionally imposed mandate

Lack of sufficient faculty

Decreased demand/employment opportunities for graduates

Other (specify -->)

Not applicable

7. If you **increased** the size of the program in the **past 3 years**, what were the reasons for the change?

(Please mark all that apply)

Abundance of qualified applicants

Increased financial support for program

Increased faculty

Service needs of training site(s)

Increased training grant support

Increased demand/employment opportunities for graduates

Other (specify -->)

Not applicable

8. If you **plan to increase** the size of the program over the **next 3 years**, what are the reasons for the change?

(Please mark all that apply)

Abundance of qualified applicants

Increased financial support for program

Increased faculty

Service needs of training site(s)

Increased training grant support

Increased demand/employment opportunities for graduates

Other (specify -->)

Not applicable

9. How do you think Allergy and Immunology is viewed by pediatric and/or internal medicine residents?

9. How do you think the views of pediatric and/or internal medicine residents about Allergy and Immunology have changed over the previous 3 years?

B. ALLERGY AND IMMUNOLOGY JOB MARKET

1. Please indicate the percentage of fellows graduating from your program in the **past 5 years** who found employment in the following types of positions:

% Private practice

% Academic medical center

% Industry

% Government/Military

% Other (specify -->)

2. Do you think that fellows who completed your training program during the previous (1999-2000) academic year experienced difficulties finding full-time employment opportunities in Allergy and Immunology?

3. How do you anticipate the job market experiences of fellows who complete your training program during the current (2000-2001) academic year will compare to those who completed training during the previous (1999-2000) academic year?

4. During the **next 3 years**, what do you expect the effect of managed care expansion will be on the Allergy and Immunology job market?

5. What is your overall assessment of the practice opportunities in **Allergy and Immunology within 50 miles of your training site(s)**?

6. What is your overall assessment of the practice opportunities in **Allergy and Immunology nationally**?

C. COMMENTS

Please provide any additional comments or observations you may have about your training program and/or the employment opportunities for Allergists and Immunologists that cannot be captured from the questions above:

Appendix B: TPD Survey Technical Details

Definition of the Population

The Center defined the study population as program directors of active, accredited allergy and immunology fellowship programs in the United States. There are three groups that this definition excludes which could potentially generate new allergists: 1) active programs outside the United States; 2) clinical laboratory immunology programs; and 3) non-accredited fellowship programs that continue to train physicians. These exclusions, however, should not dramatically affect the results of the survey, as these sources have not accounted for very many patient care allergists historically. Focusing on the active, accredited allergy and immunology fellowship programs, the main producers of new formally trained patient care allergists, is appropriate and allows for comparisons with the 1999 and 2000 survey data.

Mailing List Sources

The elements of the population of directors of allergy and immunology fellowship programs were obtained from AAAAI's master list of allergy and immunology training programs. The list included 72 fellowship programs at the time of the survey (late Spring 2001). It was determined that one of the programs included on the list had closed since the list had been updated. For the purposes of this study, the population of directors included those of the *71 currently active, accredited* allergy and immunology fellowship programs in the United States.

Survey Distribution Details

On May 23, 2001, each director was sent a letter announcing the program director and fellow exit surveys. In the letter, instructions were given indicating the procedures necessary to complete the surveys online. Program directors were asked to pass this information along to completing fellows so that they too could participate in the survey. As an incentive to complete the survey (as well as announce the fellow exit survey to fellows) each director was provided a summary of the 2000 survey results and was offered a summary of the 2001 survey results.

A follow up letter was sent to the 51 non-respondents on June 28, 2001 that consisted of a reminder announcement of the program director and fellow exit survey with instructions indicating the procedures necessary to complete the surveys online.

At this point in the survey distribution process, it had become clear that directors were responding to the survey at a lower rate in 2001 than they had in the two previous years. Due to concerns that this drop in response rate was due to the change that had occurred in the technique of survey completion (from a paper-based mail, survey to an Internet-based, electronic survey), it was determined that in the second follow up contact with program directors a complete set of paper surveys would be included in the materials sent. This second follow up to the 45 non-respondents was distributed on August 2, 2001.

Response Rate Analysis

In all, 43 directors of the 71 active, accredited allergy and immunology fellowship programs responded to the survey for a response rate of 61%. Thirty (30) directors responded via the electronic version of the survey, while 13 responded via the paper version of the survey. While it is recognized that the response rate to the program director survey was significantly and substantially lower than in previous years, the main concern is whether the program directors who responded were representative of the population of program directors. The only variable available for representativeness assessments is geographic location of the program. To determine whether survey response rates varied significantly across geographic location, response rates were calculated for two sets of geographic areas: Census regions and divisions. Table B-1 presents the survey response rates by geographic area within the United States as well as the results of the statistical tests to determine whether response rate differences were statistically significant. As is evident, there was no statistically significant variation in response rate by geographic area.

While there was no significant variation in response rate by geographical location of the program, that is only one potential source of bias in the survey results. Unfortunately, there are little other data on non-responding programs available for analysis.

Table B-1. Response Rate by Geographical Location, 2001 Training Program Director Survey

	<i>Rate</i>	<i>N</i>	<i>Responses</i>	
Overall	60.6%	71	43	
<i>Census Region</i>				
	<i>Rate</i>	<i>N</i>	<i>Responses</i>	<i>t^{sig}</i>
Northeast	57.1%	21	12	-0.28
Midwest	64.7%	17	11	0.32
South	61.9%	21	13	0.11
West	58.3%	12	7	-0.15
<i>Census Division</i>				
	<i>Rate</i>	<i>N</i>	<i>Responses</i>	<i>t^{sig}</i>
New England	40.0%	5	2	-0.90
Middle Atlantic	62.5%	16	10	0.14
East North Central	77.8%	9	7	1.00
West North Central	50.0%	8	4	-0.58
South Atlantic	72.7%	11	8	0.77
East South Central	66.7%	3	2	0.21
West South Central	42.9%	7	3	-0.91
Mountain	100.0%	2	2	1.13
Pacific	50.0%	10	5	-0.64

* $p < .05$

Appendix C
Exit Survey of Fellows Completing Allergy and Immunology
Training, 2001

**2001 Survey of Allergy and Immunology
Residents Completing Training**

The American Academy of Allergy, Asthma, and Immunology
and
Center for Health Workforce Studies
School of Public Health, University at Albany

This questionnaire is designed to obtain information on the job market, demographic characteristics, and practice plans of allergy and immunology residents completing training in 2001. Your response will be **confidential** and will be reported only in national and regional tabulations and summaries. A summary of the results of this survey will be available on the [CHWS website](#) later this year.

A. DEMOGRAPHIC CHARACTERISTICS

1. Please enter the **program identification number** given to you by your program director:

2. Gender:

3. Age:

4. Citizenship Status:

5. Race/Ethnicity:

6. Professional Memberships:

(Please mark all that apply)

American Academy of Allergy, Asthma and Immunology (AAAAI)

American College of Allergy, Asthma and Immunology (ACAAI)

Clinical Immunology Society (CIS)

American Association of Immunologists (AAI)

Regional/State/Local Allergy and Immunology Society

American Thoracic Society (ATS)

American Academy of Pediatrics (AAP)

American College of Physicians-American Society of Internal Medicine (ACP-ASIM)

Other (specify -->)

B. MEDICAL EDUCATION AND TRAINING

1. Type of medical school education:

2. Location of medical school:

3. Graduate medical education:

Specialties in which you
have **completed** training at
the **graduate** level:

If subspecializing / doing additional
fellowship, specialty you are **entering**
this year:

(please mark all that apply)

Allergy and Immunology

-- Clinical and Laboratory

Immunology

Internal Medicine (General)

-- Pulmonary Disease

-- Rheumatology

-- Other Internal Medicine

Subspecialty

Internal Medicine and Pediatrics

(Combined)

Pediatrics (General)

-- Other Pediatrics Subspecialty

Other (specify

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4. Year completed **initial residency** training (i.e., pediatrics, internal medicine, combined program):

5. Years of allergy and immunology fellowship training completed as of June 30, 2001:

C. FUTURE PLANS

1. What do you expect your principal work activities to include after completion of your current fellowship program?

(Please mark all that apply)

Patient Care/Clinical Practice

Additional Subspecialty Training or Fellowship

Research (Academic Medicine)

Research (Industry)

Teaching

Temporarily Inactive in Medicine

Undecided

Other (specify -->)

2. Which best describes the location of your primary activity after training?

3. If you are going on for **additional residency training/fellowship** in 2001, what are the main reasons?

(Please mark all that apply)

To further your medical education

Unable to find a satisfying position

Unable to find any position

Other (specify -->)

4. Do you have an obligation or visa requirement to work in a federally-designated Health Professional Shortage Area (HPSA)?

5. If you are planning to enter patient/clinical care to any degree, have you found a practice position yet?

If you are not planning to provide Patient/Clinical Care services after completing your current training: [Skip to Part E](#)

D. SPECIFIC PLANS

1. Which best describes the type of **practice setting** you will be entering?
(Please mark all that apply)

Principal Practice Setting:

Secondary Practice
Setting:

Solo Practice
Partnership (2 physicians)
Group Practice --
Owner/Partner
Group Practice --
Employee
Medical School Faculty
Hospital -- Inpatient
Hospital -- Ambulatory
Care
Hospital -- Emergency
Room
Freestanding Health
Center or Clinic
Managed Care
Organization/HMO
Urgent Care Clinic
Military/U.S.
Government
State or Local Health
Department
Private Industry
Nursing Home
Temp Agency

Other (specify

-->)

Undecided

2. How many hours per week do you expect to work in the following professional activities?

<u>Activities</u>	<u>Hours per Week</u>					
	0-9	10-19	20-29	30-39	40-49	50 +
Direct Patient Care						
Research/Clinical Trials						
Teaching						
Administration						

3. What percentage of your practice time do you expect to be devoted to **allergy and immunology services**?

4. What is the zip code of the **principal practice address** at which you will be working?

If the zip code is unknown, please indicate city/town and state below.

City/Town

State

5. Which best describes the area in which your principal practice is located?

6. How will you be compensated at your principal practice?

7. Expected personal income during first year of practice (all sources):

Base Salary/Income

Anticipated Additional Incentive Income

8. What is your level of satisfaction with your anticipated salary/compensation?

9. Will you be practicing in a federally designated Health Professional Shortage Area?

10. Do you expect to be at your principal practice **more than 3 years**?

11. Would you recommend the specialty of Allergy and Immunology to medical students or other physicians in training?

E. EXPERIENCE IN JOB MARKET

1. Did you have a difficult time finding a position you were satisfied with?

IF YES, what would you say were the **main reasons**? (*Please mark all that apply*)

Overall lack of positions/practice opportunities

Lack of positions in desired locations

Lack of positions in desired settings (e.g., Hospital, Group Practice, Academic Medical Center, etc.)

Inadequate salary/compensation offered

Limited opportunities due to visa status

Family considerations

Other (specify -->)

2. Did you have to change your plans because of limited opportunities?

IF YES, how did you change your plans? *(Please mark all that apply)*

Sought employment in different region of the country

Continued training in a subspecialty

Accepted a less desirable position

Accepted less desirable compensation

Accepted less desirable setting or location

Other (specify -->)

3. Please quantitatively describe your experiences in the job market by indicating the number of **total and preferred** positions applied for, interviews and offers you have received to date.

Type of Position	Positions Applied for	Interviews	Offers
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All Positions

Preferred Positions

4. What is your overall assessment of the practice opportunities in **Allergy and Immunology within 50 miles of the site where you trained?**

5. What is your overall assessment of the practice opportunities in **Allergy and Immunology nationally?**

6. What is your overall assessment of the **academic** opportunities in **Allergy and Immunology nationally?**

7. Did you ever consider/are you considering a career in **Academics?**

IF NO, what would you say were/are the main reasons? *(Please mark all that apply)*

No positions available

Unable to obtain academic appointment

Decided academics is not a desirable career

Other (specify -->)

F. COMMENTS

Please provide any additional comments or observations you may have about your training experiences in Allergy and Immunology and/or the employment opportunities for Allergists and Immunologists.

Appendix D: Exit Survey Technical Details

Definition of the Population

The Center defined the study population as physicians who completed allergy and immunology fellowship programs in the United States in 2001. Physicians who have recently completed their allergy and immunology fellowship training and are or have been on the job market can offer valuable information about the demand for physicians who provide allergy and immunology services. Moreover, determining how large a proportion of the recent graduates enter patient care, continue training in another subspecialty, or leave the country can help advise allergy and immunology stakeholders how many physicians they need to train to maintain an adequate supply of physicians providing allergy and immunology services.

Mailing List Sources and Mailing Details

As in the past, for the exit survey, because the respondents were not known prior to administering the instrument, the Center could not rely on an existing list of physicians who had completed their allergy and immunology training in 2001. Instead, during the announcement of the program director survey, program directors were asked to instruct their graduating fellows to complete the exit survey online. Again, due to the low response rates to the GME surveys this year, it was decided that paper survey forms would be included in the final follow up to program directors. Five (5) copies of the fellow exit survey were included in the final follow up correspondence to each non-responding program.

Response Rate Analysis

The Center received 51 unique responses to the 2001 fellow exit survey. Forty (40) responses were obtained through the online version of the survey, and 11 were obtained through the paper version of the survey (there was one duplicate respondent). Initial “eyeballing” of the data revealed that some of the responses were submitted by physicians who had not yet completed their fellowship training, but rather had completed their first year in the program. After careful review of the responses, it was determined that 45 of the responses were from fellows who had completed their allergy and immunology training in 2001. The Center estimates that 109 physicians completed allergy and immunology training in the United States in 2001 [estimated from Table 3, Appendix II, p. 1099, *Journal of the American Medical Association*. 2001;286(9)]. Thus, the estimated response rate for the survey was 41%. Because there were no data points observed prior to administration of the survey, there is no definite way to determine how representative the respondents were of the total population of physicians



completing allergy and immunology training in 2001.

Table D-1. Response Rate by Geographical Location, 2001 Fellow Exit Survey

	Rate	N	Responses	
Overall	68.6%	35	24	
Census Region				
	Rate	N	Responses	t^{sig}
Northeast	55.6%	9	5	-0.73
Midwest	54.5%	11	6	-0.85
South	90.9%	11	10	1.47
West	75.0%	4	3	0.26
Census Division				
	Rate	N	Responses	t^{sig}
New England	50.0%	2	1	-0.55
Middle Atlantic	57.1%	7	4	-0.59
East North Central	57.1%	7	4	-0.59
West North Central	50.0%	4	2	-0.75
South Atlantic	100.0%	7	7	1.73
East South Central	0.0%	1	0	-1.43
West South Central	100.0%	3	3	1.15
Mountain	50.0%	2	1	-0.55
Pacific	100.0%	2	2	0.95

*p < .05

Following from the fellow exit survey analyses performed in 1999 and 2000, to assess representativeness *indirectly*, responses rates by geographical area of the fellowship program from which the fellows graduated were examined. The comparison of interest was the response rate of programs with graduates. Of the program directors that responded to the survey, 35 reported that they had graduates in 2001. The Center received fellow exit surveys from fellows who graduated from 24 of those programs generating a 69% response rate. Table D-1 presents this response rate by geographical area. While there was wide variation amongst divisions, the rates did not vary statistically from the overall rate. Based on these results, the responses to the fellow exit survey are considered representative of the population of fellows who completed training in allergy and immunology in the United States in 2001. It should be noted that while this method of determining representativeness is not ideal, it was the only option for this survey.



Moreover, geographical location is only one potential source of bias in the survey results. Unfortunately, there are no other data on non-responding fellows completing training available for analysis.

