# Allergy and Immunology GME Surveys 2000

***Final Report***
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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 various aspects of the allergist workforce. Beginning in September 1998, the Center has tracked the allergist workforce evolution 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: an 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); and a comprehensive report on the specialty, "The Allergy and Immunology Physician Workforce 2000," (June 2000).

The current report examines the results of surveys of allergy and immunology fellowship program directors and recent graduates of these programs in 2000. These surveys provide valuable, up-to-date information on the supply of new allergists as well as the demand for their services. Collected on an annual basis, trends in these data can be identified and conclusions drawn about dynamics that may be affecting 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 and Edward 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.

*January, 2001*

# RESULTS OF THE SURVEY OF ALLERGY AND IMMUNOLOGY FELLOWSHIP PROGRAM DIRECTORS IN 2000

## *Summary*

From the responses to the a/i program director survey in 2000, a number of findings are evident. First, program directors are still feeling the financial pressures they reported in 1999 forcing some to reduce the size of their programs. Moreover, program directors are also reporting a shortage of faculty members in their programs. These fiinancial and faculty pressures partially explain the continued decrease in the size of programs. On the other hand, there is evidence that these same factors are influencing a small number of programs to increase their size. Program directors that plan to expand their programs point to improved situations concerning faculty and financing as factors affecting their decisions.

Second, survey responses indicate that some programs are beginning to increase. In larger numbers than in 1999, program directors are planning to expand the size of their programs over the next three years. This is good news for the specialty as it signals the recognition of the potential shortage of practicing allergists looming in the near future (Forte and Salsberg, 2000). The reported plans to expand the number of fellows-in-training in a/i are welcome signs for a/i stakeholders.

Third, program directors continue to perceive strong interest in a/i among pediatric and internal medicine residents. These trainees look upon the specialty positively and their view of a/i is getting better over time, according to the surveyed directors. The continued solid reputation a/i seemingly enjoys is likely to serve the specialty well in the future.

Finally, in terms of the job market and practice opportunities for recent graduates of a/i fellowship programs, program directors report that the opportunities for recent graduates were good and they do not anticipate a change in the near future. Currently, both local and national job markets are assessed positively by program directors. Moreover, these assessments are more positive than those made in 1999. These observations point to a healthy, robust job market now and in the near future for allergists.

## *Key Findings*

- Just over one quarter (27%) of the a/i program directors report reducing the size of their programs over the past 3 years. This is far lower than the 48% who reported similarly in 1999. The most common reason indicated for the reductions is reduced financial support for the program. Somewhat fewer (16%) program directors report increasing the size of their

programs over the past 3 years.

- Over three-quarters (82%) of the program directors report that they perceive that pediatric and internal medicine residents view a/i positively. More than half (61%) report that these views have become better in recent years. Both of these are increases over the 1999 survey results (66% and 42%, respectively).

- Almost 90% of the program directors report that their 1999 graduates had no difficulties finding employment. This is higher than in the 1999 survey where 78% of directors reported that their 1998 graduates had no difficulties finding employment.

- More than half (54%) of the program directors report anticipating that their 2000 graduates would have fewer difficulties than their 1999 graduates. This is higher than program directors' reported anticipations in the 1999 survey (42%).

- Managed care expansion is not a major concern to a/i program directors. Only 18% of the directors foresee fewer practice opportunities as a result of manage care expansion over the next three years. This is essentially the same view purported in 1999.

- 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. However, the job market within 50 miles of training sites seems to be getting better.

## *Survey of A/I Fellowship Program Directors*

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. Program directors are in an opportune 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 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. Additionally, where available, the responses from the survey conducted in 2000 are compared with those from the survey conducted in 1999. The Center received responses from 64 (90%) of the 71 active a/i fellowship programs in the United States in 2000. For complete technical details on the survey of a/i fellowship program directors, see Appendices A and B. The following sections analyze the responses the Center received from the 64 programs.

### 1. Trends in Fellowship Program Size

As reported elsewhere (Forte et al. 2000), graduate medical training in allergy and immunology decreased from the mid-1990s through the late 1990s, with signs that a bottom had been reached in 1999. Still, it is important to note that the overall number of fellows training in allergy and immunology in 2000 is significantly less (close to 50%) than it was in 1990. As indicated in Figure 1, 27% of the program directors reported having reduced the size of their programs over the past three years. This is far lower than the percentage who reported similarly on the 1999 survey (48%). While a smaller percentage (16%) reported having increased the size of their programs, this was up from the 10% who reported increases in the 1999 survey. A majority (56%) of the program directors reported that the size of their programs had not changed over the previous three years. This is also higher than what was reported in 1999. These findings suggest that, indeed, the declines in the number of fellows-in-training have begun to slow somewhat, which may portend a reversal in the trend or, at least, a stabilizing of the number of physicians training in the specialty.

**Figure 1. Changes in A/I Training Program Size over Past Three Years, 1999-2000**

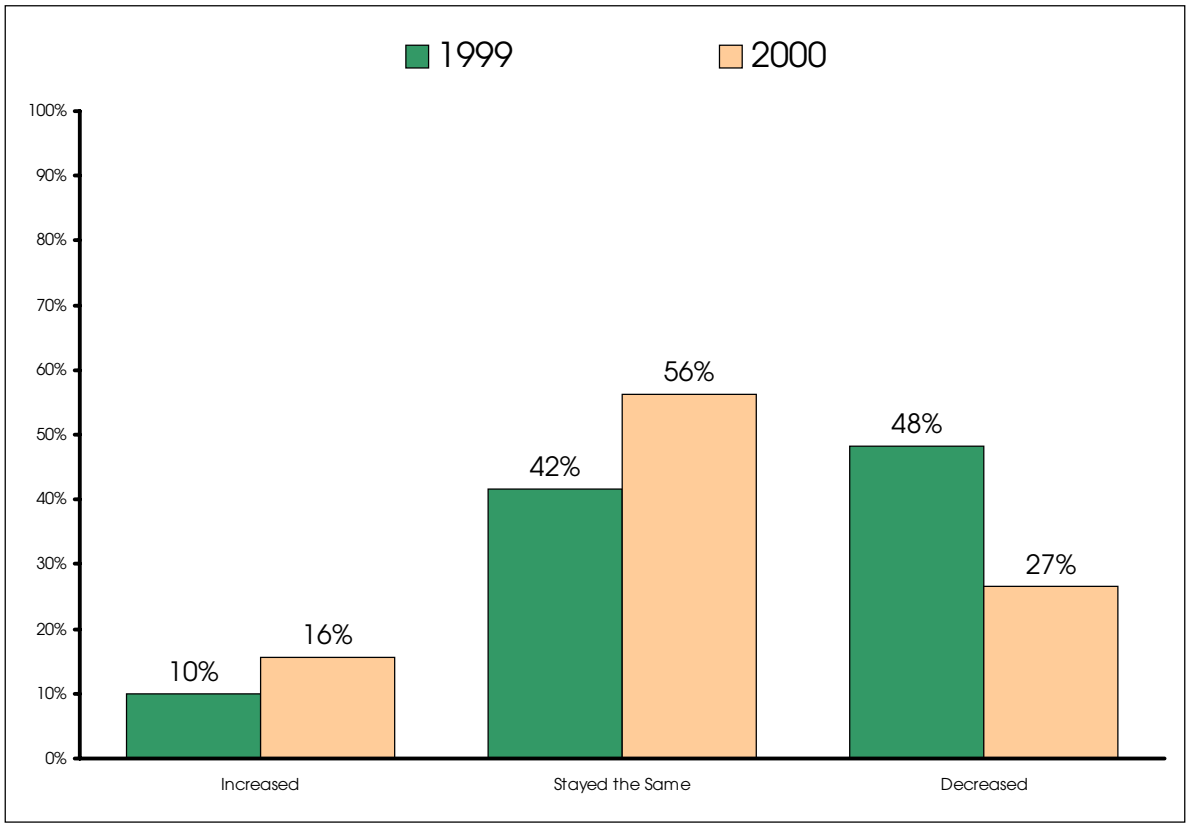



**Table 1. Reasons for A/I Training Program Size Reduction over Past Three Years, 1999-2000**

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

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

Table 1 presents the explanations given by program directors who reported downsizing over the past three years. The most common reason for the decrease in program size was reduced financial support for the program (65%). This closely follows the responses from last year's survey. Reduced training grant support, decreased demand or employment opportunities, difficulty attracting qualified applicants, and institutionally imposed mandates were reported by relatively fewer program directors in 2000 compared to 1999 as reasons for reducing the size of their programs. On the other hand,

**Table 2. Reasons for A/I Training Program Size Increases over Past Three Years, 1999-2000**

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

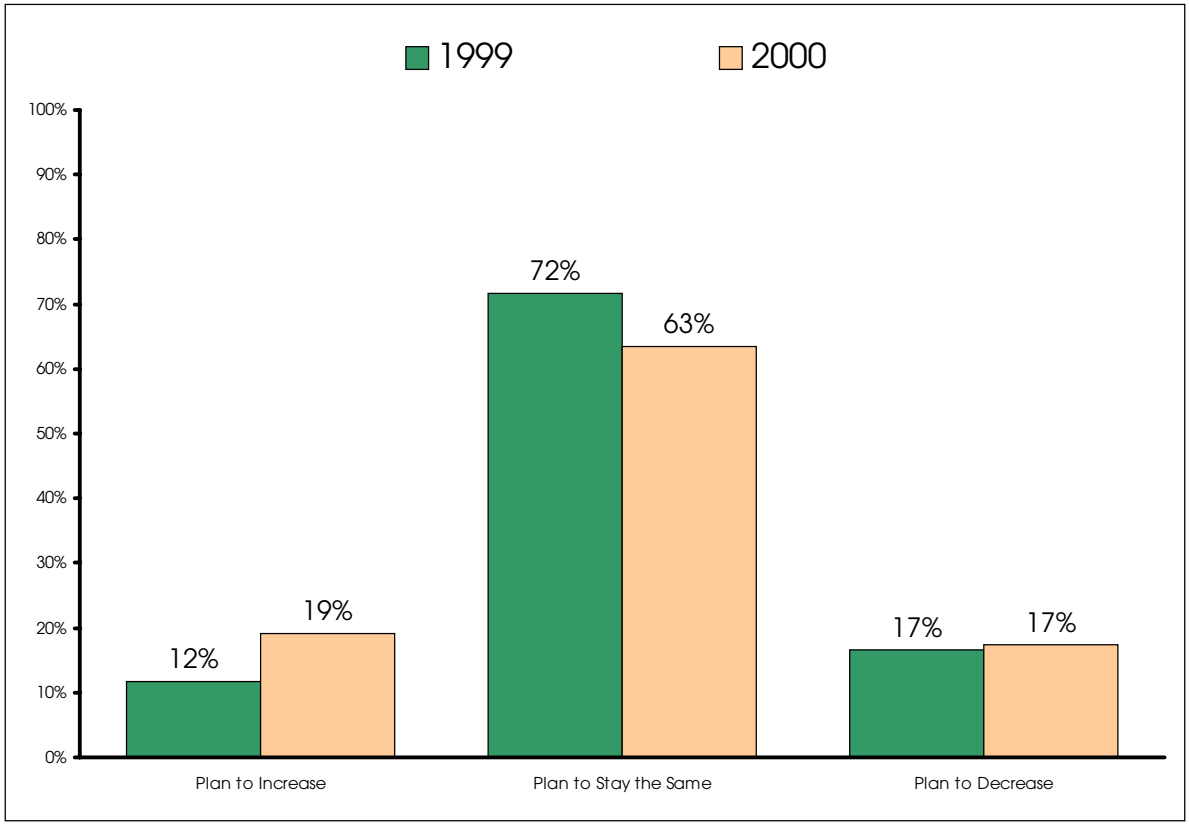
** Not a choice on 1999 survey*
*Multiple answers possible, columns may add to greater than 100%*

18% of the program directors pointed to the lack of sufficient faculty as a partial explanation of the reduction.

For the 16% of program directors who reported increasing the size of their programs over the past three years, Table 2 presents the reasons for these changes. A majority (60%) of the program directors reported that their programs increased in size due to an abundance of qualified applicants. This is a significant increase over the responses in 1999 (33%). The needs of the training site(s) and an increase in the training grant support, respectively, were given as reasons by 20% of the program directors, both representing increases over the 1999 survey results. A significant portion (30%) of the program directors indicated increased faculty as a reason for the expansion of their training programs. No directors reported an increase in demand or employment opportunities for their graduates as a reason for expanding their programs.

Looking toward the future, program directors indicated some movement to expand training in allergy and immunology over the next three years (Figure 2). Nineteen percent (19%) of the program directors indicated that they plan to increase the size of their programs. This is up slightly from the survey responses in 1999 (12%). The majority (63%) of program directors, however, indicated that they will not be changing the size of their programs in the near future. This figure is slightly lower than directors reported in 1999 (72%). The remainder (17%) of the program directors indicated that they plan to reduce the size of their programs over the next three years. The same proportion reported this way in 1999. While the overall indication is stability, there are some signs of an increase in the number of fellows-in-training in the near future.

**Figure 2. Planned Changes in A/I Training Program Size over Next Three Years, 1999-2000**




Of those directors that plan to decrease the size of their programs over the next three years, as they indicated in 1999, most (55%) reported that the reductions will be due to reduced financial support for their programs (Table 3). Reduced training grant support (18%), institutionally imposed mandate (9%), and mergers (9%) were also provided as reasons for the near future reductions. No directors reported a lack of qualified applicants as causing future reductions. This figure is down from last year's survey (10%) and is an indication that interest in the subspecialty is robust. Finally, a significant proportion (36%) of the directors indicated that their plans to reduce the size of their programs are due to a lack of sufficient faculty. Combined with the reasons reported for reducing program size during the past three years, there is an indication that fellowship programs may be experiencing a faculty shortage currently.

Among the 12 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 increase was increased financial support for their program (42%). This is somewhat surprising given that in 1999 there was great concern about a lack of financial support as a potential cause of the decline in the

number of fellows-in-training. Also unexpected was that no directors reported that their plans to increase the size of their programs were due to increased demand or employment opportunities for their graduates. In 1999, this was the single most commonly reported (43%) justification for increasing program size. Finally, 20% of the program directors reported that increases in faculty will lead to the expansion of their programs.

**Table 3. Reasons for Planned Reduction in A/I Training Program Size over Next Three Years, 1999-2000**

| *# of Programs Reporting Plans to Reduce Program Size:* | **1999** *10* | **2000** *11* |
|---|---|---|
| Reduced Training Grant Support | 10% | 18% |
| Difficulty Attracting Qualified Applicants | 10% | 0% |
| Reduced Financial Support for Program | 90% | 55% |
| Institutionally Imposed Mandate | 0% | 9% |
| Lack of Sufficient Faculty* | - | 36% |
| Disapproval by RRC | 10% | 0% |
| Merging with Participating Site | 0% | 9% |

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

**Table 4. Reasons for Planned Increases in A/I Training Program Size over Next Three Years, 1999-2000**

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

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

Three general findings are worth noting. First, program directors' survey responses this year indicated that program faculty availability is an important issue to consider when examining trends in graduate medical training in allergy and immunology. Significant proportions of program directors who reported having reduced or having plans to reduce the size of their programs indicated that lack of sufficient faculty was a factor influencing their actions. Moreover, significant proportions of program directors who reported having expanded or having plans to expand the size of their

programs indicated increased faculty as a factor influencing them. Second, the responses of a/i program directors to this year's survey indicated that programs continue to face financial pressures. While the financial pressures to decrease the size of training programs reported do not appear to be as immediate as they did in 1999, a number of programs reported plans to reduce their program size due to fiscal reductions. However, a number of programs will expand their training capacity in the near future due to increased financial support. The latter occurrence is indicative of a healthy specialty. Third, it is surprising, and somewhat disconcerting, that changes in the demand or employment opportunities for allergists are not reported by program directors to be explanations of their plans to reduce or expand their program size. Survey responses from 1999 indicated that demand for allergists was a reason for expansion of programs. Moreover, as reported elsewhere (Forte et al. 2000), demand is expected to continue to increase in the foreseeable future. Thus, this year's disconnection of demand for allergists from past and future changes in fellowship program size is troubling. Overall, the survey responses indicated that there is slight movement toward an increased number of physicians training to become allergists in the United States.

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

The long range viability of allergy and immunology as a specialty depends on its ability to attract new, well-qualified physicians to the specialty. For a physician to train in allergy and immunology, he/she 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 policies to encourage an increase in the production of new allergists in the United States.

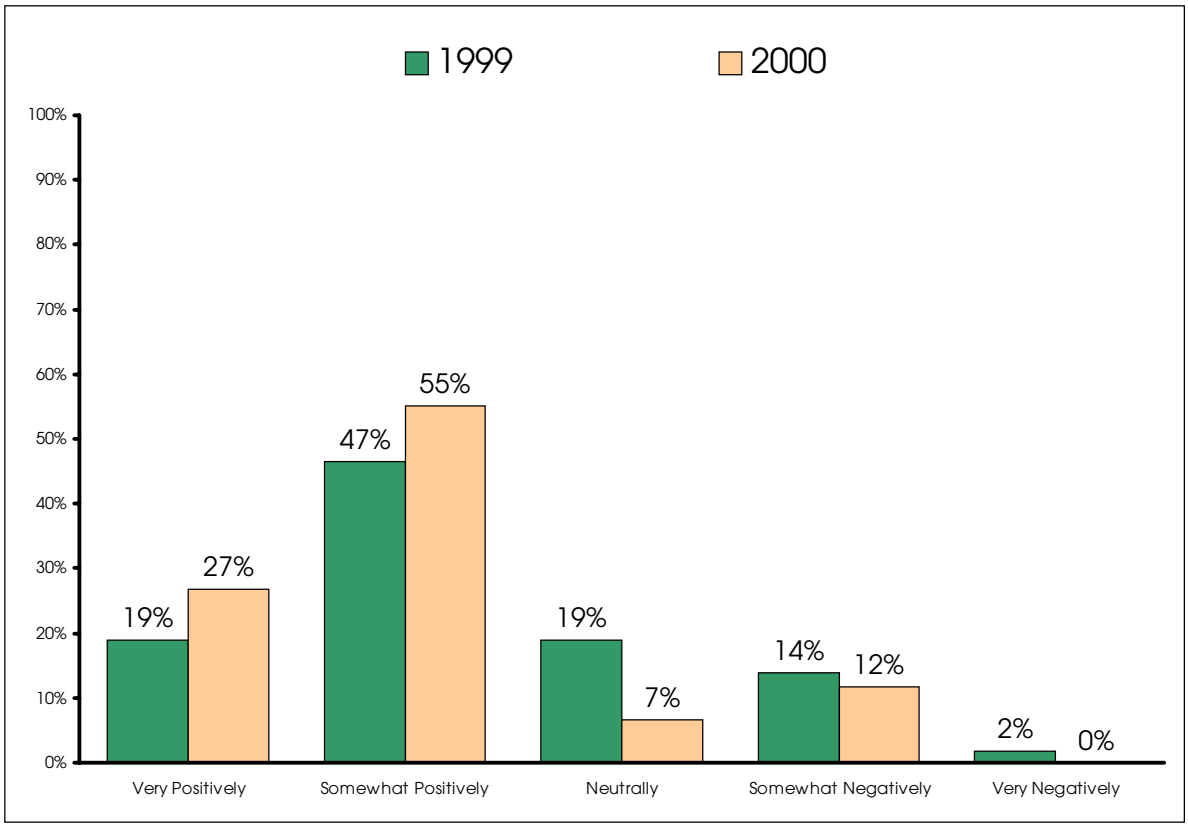
For allergy and immunology, the important group of medical residents to consider are pediatric and internal medicine residents.[2] As is shown in Figure 3, over three-quarters (82%) of the program directors reported that the specialty is viewed positively by pediatric and internal medicine residents. This is higher than the nearly two-thirds (66%) of program directors who reported similarly in 1999. Only 12% of the program directors reported negative perceptions of the specialty by pediatric

[1]While 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.

[2]All 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.

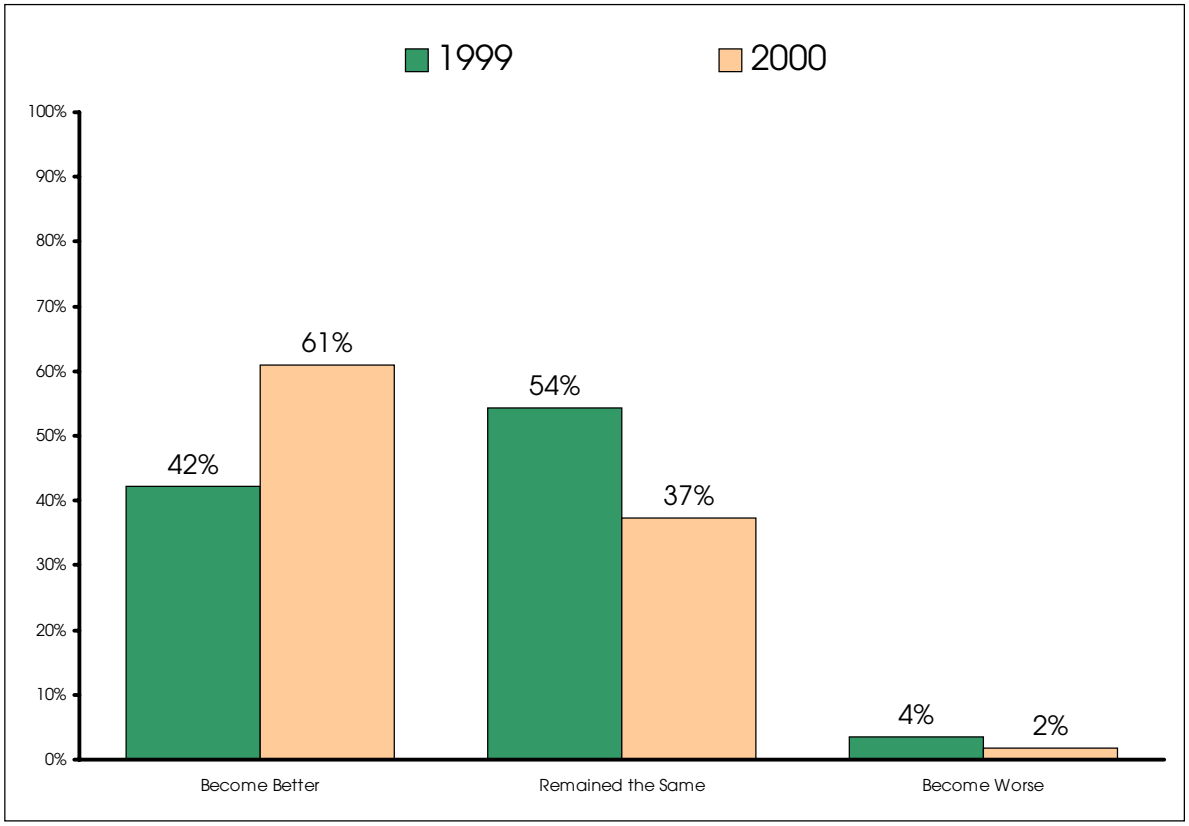
and internal medicine residents. This is marginally smaller than the 16% of program directors who reported similarly in 1999.

**Figure 3. A/I Program Directors' Perceptions of Views of Pediatric and Internal Medicine Residents, 1999-2000**




Additionally, more than half (61%) of a/i program directors reported that they perceive the views of pediatric and internal medicine residents as having improved over the last three years (Figure 4). While 37% of program directors reported no change in the view of the specialty, only 2% reported that the view has gotten worse over the past three years. Moreover, compared to the 1999 survey results, program directors reported more positively this year. These are positive indications for allergy and immunology as the apparent movement toward expanding in some programs will be met with interested applicants.

**Figure 4. Change in A/I Program Directors' Perceptions of Views of Pediatric and Internal Medicine Residents over Past Three Years, 1999-2000**




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

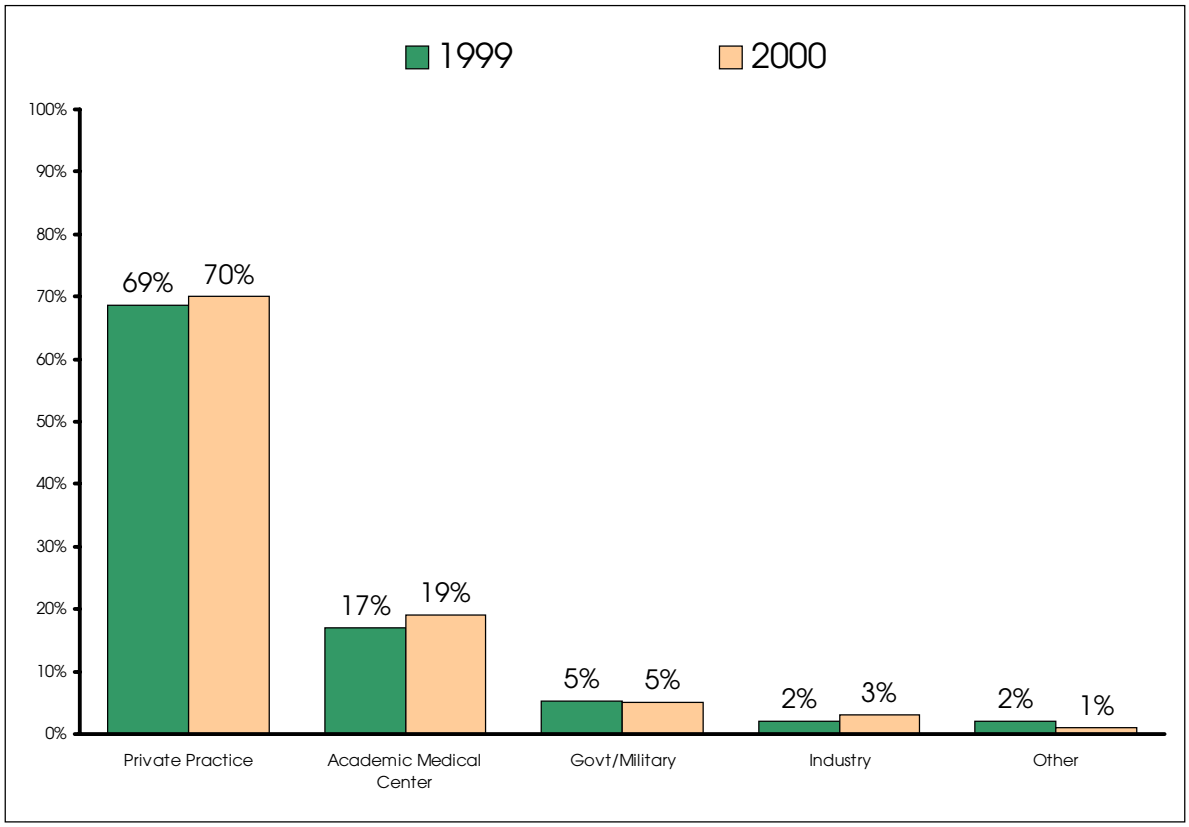
Because a/i fellowship programs are relatively small, with only a few fellows completing a particular program each year, program directors are in an excellent position to assess the relative ease or difficulty their graduating fellows experience in the job market compared to those in the past. The views of the recently graduated fellows, themselves, on these issues are examined in the next chapter.

Over the past five years, a/i program directos reported that on average, 70% of their graduates go on to private practice (Figure 5).[3] The second most frequent setting (19%) for new allergists to practice is the academic medical center. Other sectors into which graduates enter include the government/ military (5%) and industry (3%). These figures were very similar to those from the 1999 survey. Moreover, this year's responses confirm that the major outcome of a/i graduate medical education is the private practice of medicine by patient care allergists.

[3]Unfortunately, it cannot be determined from the directors' responses whether all of these graduating fellows are practicing in the United States currently. It also cannot be determined the precise point in time that these physicians entered the practice setting: after additional training or without additional training.

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 imunology services. The overwhelming majority (89%) of program directors reported that their 1998-1999 (academic year) graduates had no difficulties finding full-time employment in allergy and immunology (Figure 6). Only 10% of the directors reported some difficulties. These perceptions are indications of a better job market as significantly more directors reported no difficulties and less reported some difficulties. Surprisingly, 2% of the directors reported many difficulties for their graduates in the job market.

**Figure 5. Practice Settings of New Allergists in Past Five Years, Mean Percentages, 1999-2000**




In terms of perceived recent changes in the job market for allergists, the picture suggested by a/i program directors is encouraging (Figure 7). More than half (54%) of the directors predicted that the fellows graduating in 2000 would have less difficulties and more practice opportunities than those graduating in 1999. This is up from the 40% who reported similarly on the 1999 survey. Still, the most common way of comparing the 1999 and 2000 graduating fellows' chances in the job market was "about the same" (43%). This figure is down from the near three-fifths (59%) reported on the 1999 survey. Only a very few program directors admitted negative near-term job market outlooks in either year.

**Figure 6. A/I Program Directors' Perceptions of Recent Graduates' Difficulty Finding Full-Time Employment Opportunities in A/I, 1998 and 1999**

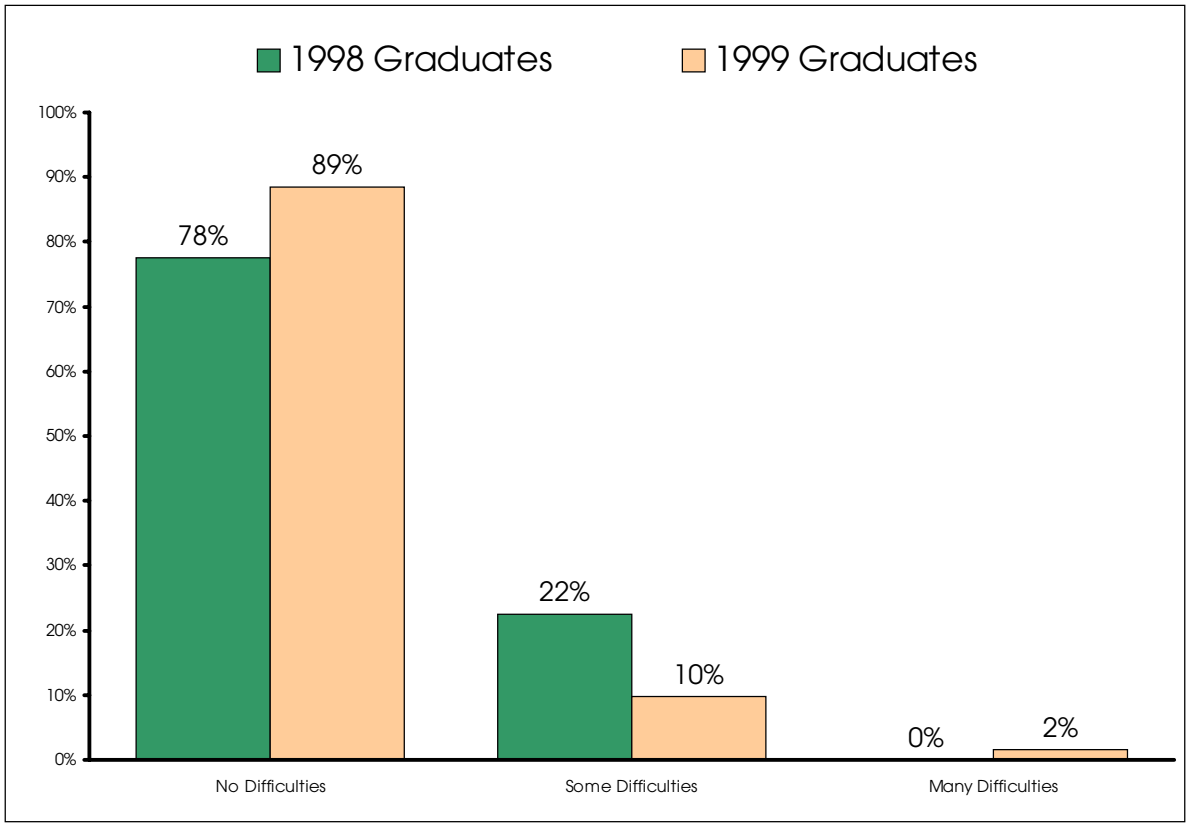



**Figure 7. A/I Program Directors' Perceptions of Change in Job Market Opportunities for Current Academic Year Graduating Fellows Compared to Previous Academic Year Graduates, 1999-2000**

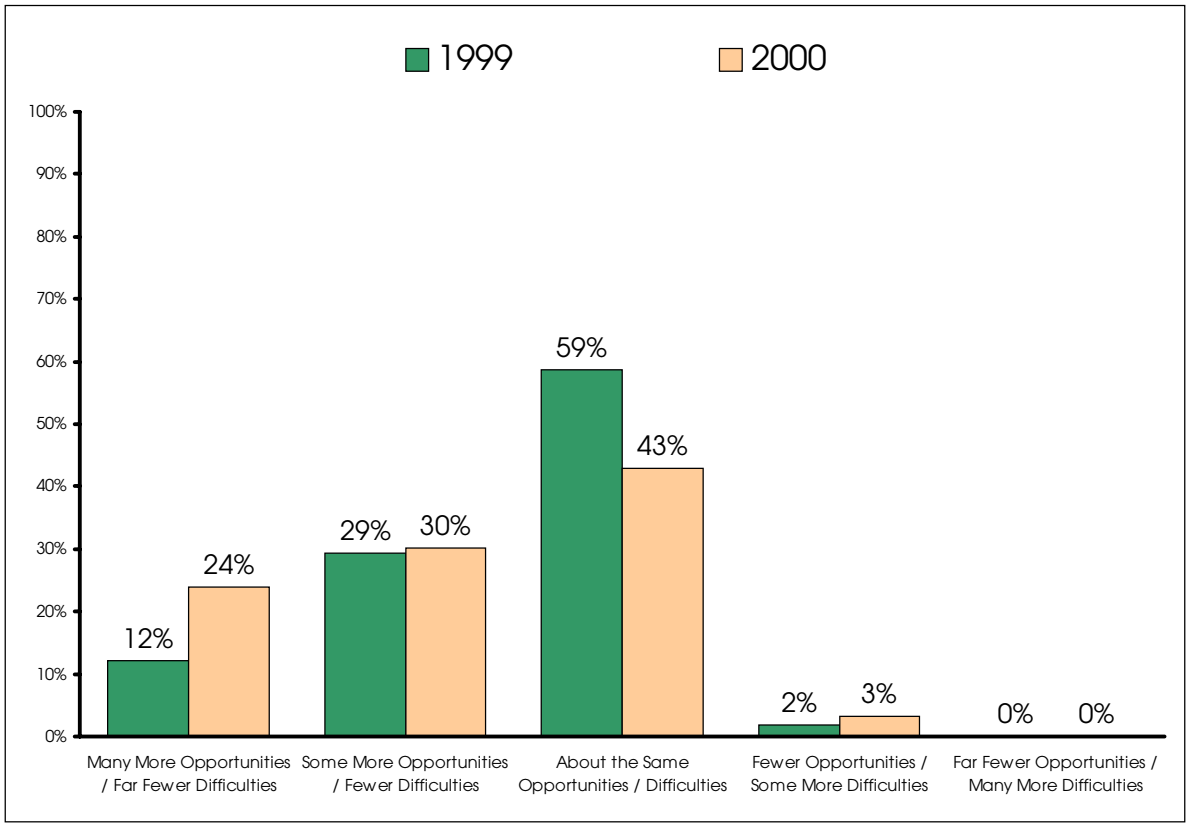


**Figure 8. A/I Program Directors' Perceptions of Effect of Managed Care on A/I Job Market for New Graduates Over the Next Three Years, 1999-2000**

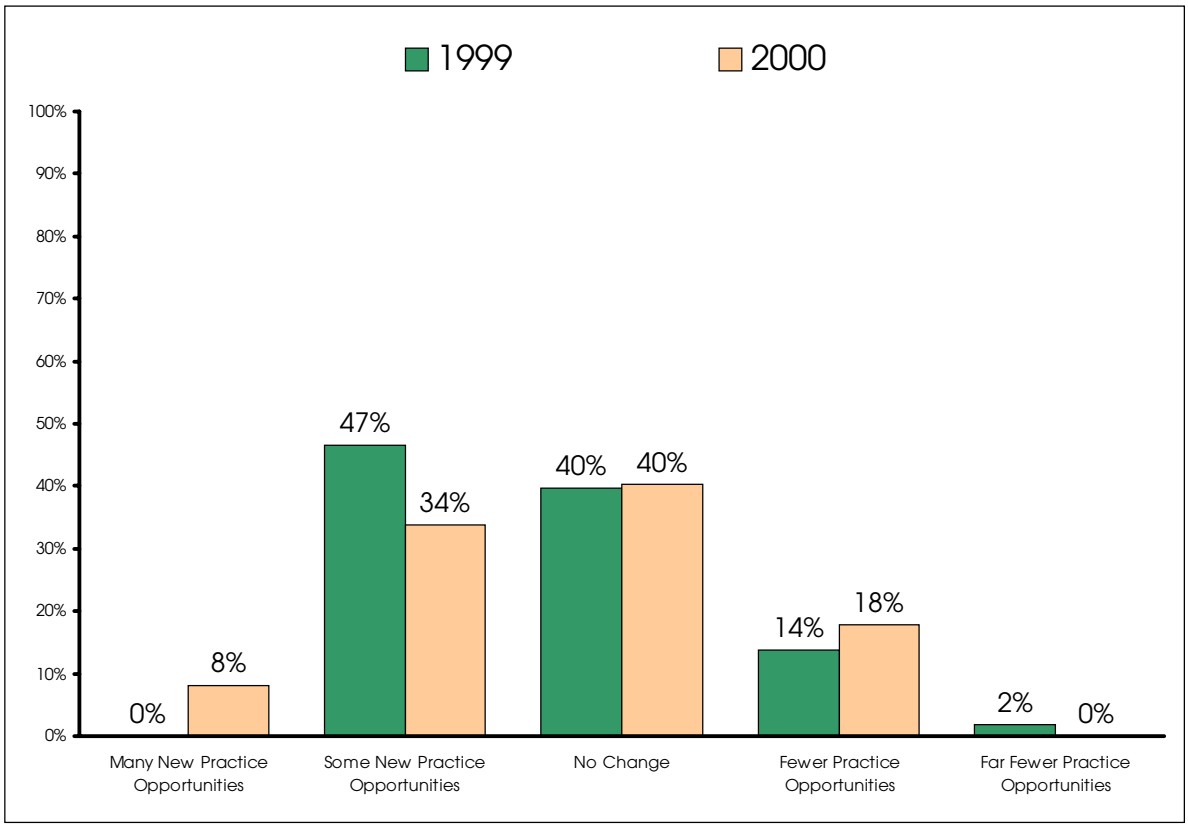
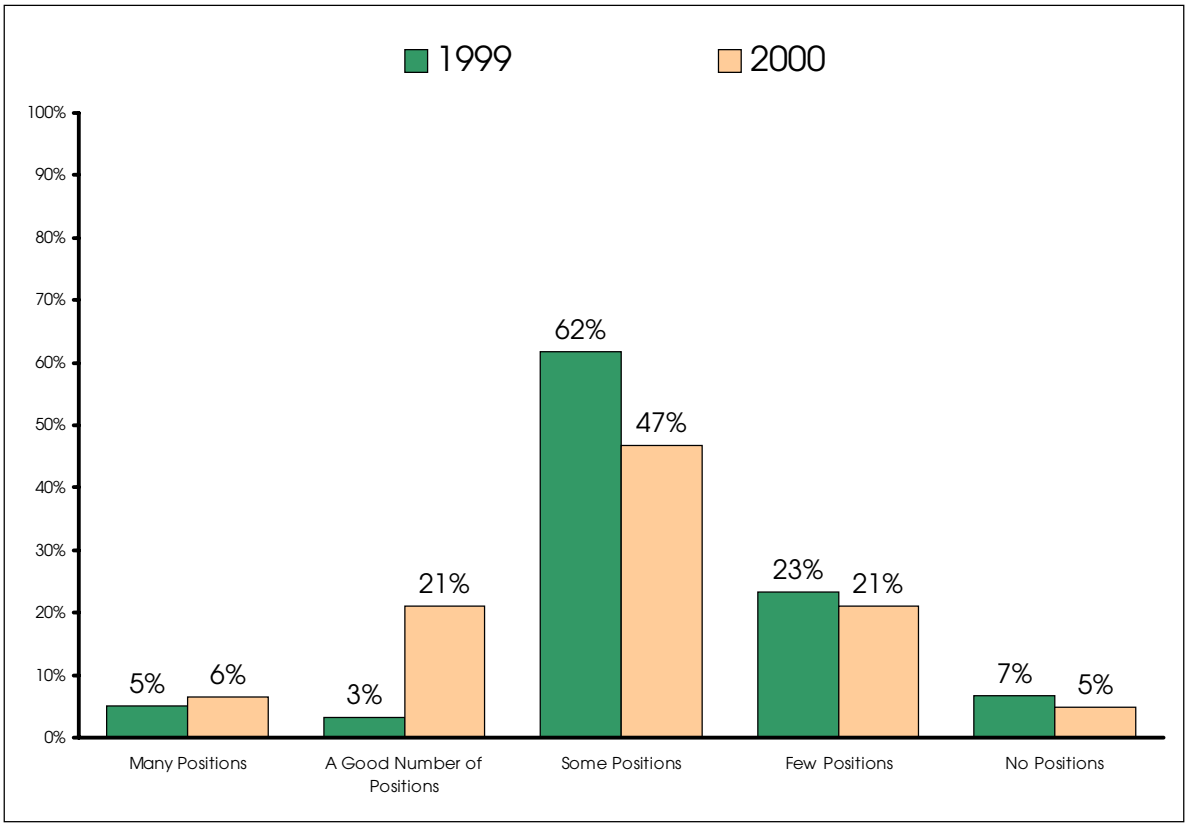



**Figure 9. A/I Program Directors' Assessment of Practice Opportunities in A/I within 50 Miles of Their Training Site(s), 1999-2000**



For a number of important reasons managed care is an issue of concern among allergists, as well as the general population of physicians. Figure 8 reveals that while 47% of the program directors reported expecting the expansion of managed care to increase the demand for allergists, only a small proportion (18%) of a/i program directors reported negative consequences in terms of future (over the next three years) practice opportunities for their graduates as a result. While there were slightly more program directors reporting negative consequences in 2000 compared to 1999, there were also more who reported many more practice opportunities for their graduates as a result of the expansion of managed care. The mixed findings with respect to managed care, most likely, reflect the uncertainty of the path and consequences of managed care for the overall healthcare delivery environment in the United States over the next few years.

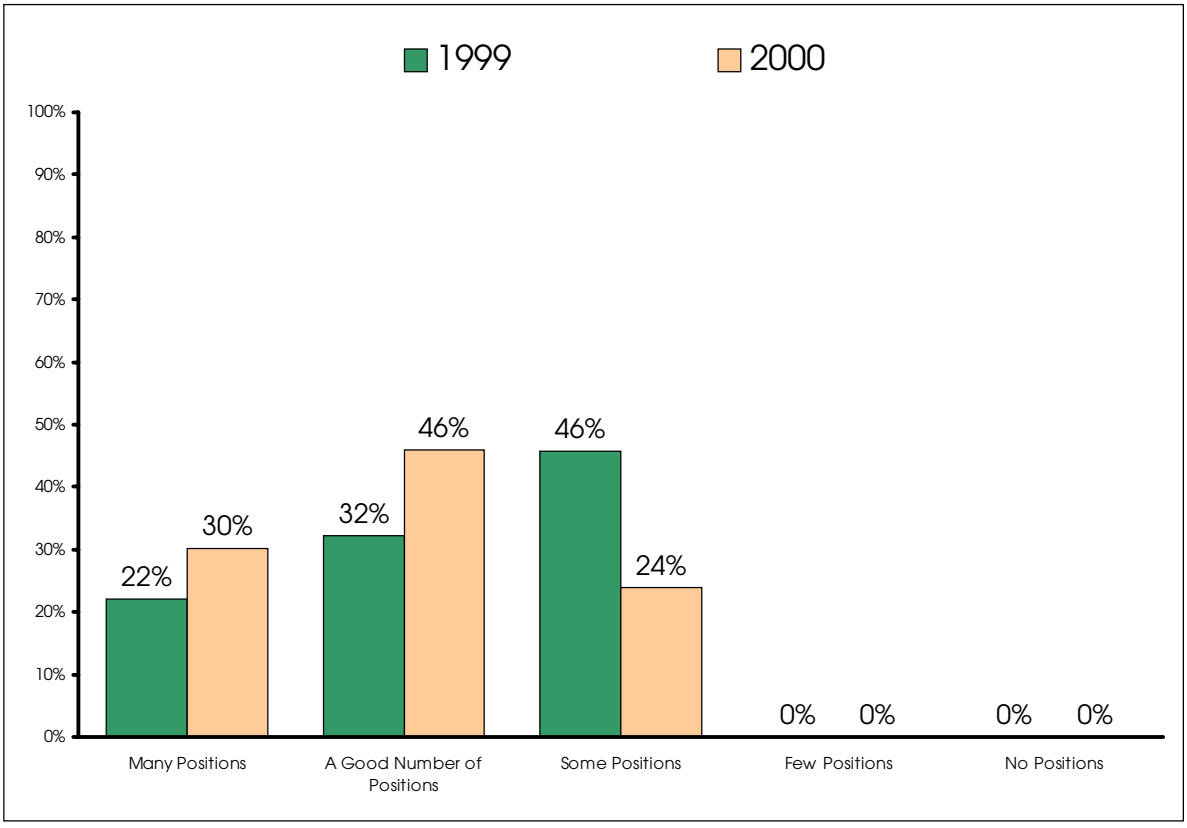
Finally, when asked to assess the local [within 50 miles of a particular director's training site(s)] job market for allergists (Figure 9), more than one-quarter (27%) of the directors reported that there were a good number of practice opportunities or better. This is encouraging; it is up from the 1999 survey where only 8% reported similarly. Further, 26% of the directors reported few or no local practice opportunities for allergists. This is slightly lower than the 30% of directors who reported a poor local job market in 1999. The remainder (47%) reported some positions, again lower than the previous year's survey. The local job market around training site(s) for allergists appears to be growing slightly. The results of the comprehensive assessment of the specialty (Forte et al. 2000) suggested that this, indeed, would be likely to occur.

Program directors were much more optimistic (Figure 10) about the national job market compared to the local job market. Over three-quarters (76%) of the program directors reported a good number of positions or better nationally. This compares to the 54% of directors who reported simlarly last year. Moreover, more than a quarter (30%) reported that there were many practice opportunities available nationally. Again, this is up from last year's figure of 22%. Slightly less than a quarter (24%) of the directors reported only some positions nationally. As was the case in 1999, there were no directors who reported few or no positions available nationally. While there was not as great a difference in local versus national job market assessments in 2000 compared to 1999, that there was a difference at all suggests that some locations may be in surplus situations, some in shortages, and some with a balance of supply of and demand for allergists. On the other hand, these varying assessments of the job market might also reflect differences in how a/i is practiced in different parts of the country. In any case, a closer examination of the supply and demand for physicians providing allergy and

immunology services with a smaller unit of analysis (e.g., a Census division) appears appropriate.

In this section, it has been shown that a/i program directors were optimistic about the job market for allergsts in 2000 -- they reported that their graduating fellows are having few difficulties finding employment, fewer difficulties than in previous years, they are not overly concerned about managed care or its expansion on the job market, and they believe that at both the local and national levels, there are practice opportunities available for allergists. In the brief period of time since they were last surveyed, program directors have also become more optimistic about the job market as well. In virtually all comparisons with the 1999 survey, this year's survey results indicated the perception of a better job market.

**Figure 10. A/I Program Directors' Assessment of Practice Opportunities in A/I Nationally, 1999-2000**




## *Conclusions*

Based on the responses to the a/i program director survey in 2000, several conclusions have become apparent. First, while the financial pressures reported by program directors in 1999 and 2000 seem to be easing somewhat, there still remain programs that are reducing their size for lack of financial support. Second, while it cannot be ascertained as to whether there has been a change in the situation, survey responses indicated that program directors have concerns about the adequacy of the

faculty in their training programs. In a significant portion of the programs across the country, there is a reported shortage of faculty. According to program directors, this has and will continue to cause further reductions in the size of their programs. Confirming both of these observations, those program directors that plan to expand indicated that both improved situations concerning faculty and financing were factors influencing their decisions.

Second, there is the beginning of movement toward the expansion of some programs. In larger numbers than in 1999, program directors reported that they have plans to expand the size of their programs over the next three years. This is likely to increase the number of allergists trained and, as a result, practicing in the United States. As reported elsewhere, there is concern that the supply of allergists is likely to fall short of the demand for the services they provide in the coming decade and a half. The reported plans to expand the number of fellows-in-training in a/i are welcome signs for a/i stakeholders. Also encouraging in the program directors' responses is the continued perceived strong interest in a/i among pediatric and internal medicine residents. The specialty is looked upon by these trainees positively and their view of a/i is getting better over time, according to program directors. The continued strong reputation a/i enjoys is likely to serve the specialty well if the movement toward expanding training continues.

Finally, in terms of the job market and practice opportunities for fellows completing training, the survey responses, once again, were encouraging. Program directors did not report that their graduates had many difficulties finding employment, and they reported that they anticipate this will not change in the near future. Both the current local and national job market were assessed positively by program directors. The directors' assessments were also, overall, improved over last year's assessments. Moreover, program directors did not report that they anticipate many detrimental effects on the job market due to managed care and its expansion in the near future. These observations point to a healthy, robust job market now and in the future for allergists.

## RESULTS OF THE SURVEY OF ALLERGY AND IMMUNOLOGY FELLOWS COMPLETING TRAINING IN 2000

### *Summary*

From the results of the a/i fellows completing training in 2000 survey, a number of findings are revealed. First, given the impending shortage of allergists, one of the greatest challenges to a/i is the issue of training IMG physicians. In 2000, almost half of the a/i graduates were IMGs. Of those, more than half 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. In either case, the likelihood that these physicians will join the allergist supply is much less than those who do not have these obligations (i.e., native born USMGs or permanent resident, naturalized IMGs). It is expected that the number of new allergists leaving the United States will decline in the coming years as the percentage of fellows in training who attended medical school outside of the country decreases.

As was the case in 1999, a/i fellowship programs continue to train *patient care physicians*. The overwhelming majority of fellows completing their a/i training in 2000 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 2000). New allergists most commonly reported finding private practice positions, that they expected to provide 40-49 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 2000 were satisfied with their choice of a/i as a career and would recommend it to other physicians in training. These findings were very similar to those from the 1999 survey of fellows completing a/i training.

There are a good number of practice opportunities available nationally, as opposed to within 50 miles of where allergist training takes place — in these places, there appears to be a softer job market for new allergists. USMG graduates assessed the job market as more robust than their IMG counterparts. Very few new allergists experienced difficulties finding a practice position, and those that did were able to find positions, albeit in less desirable locations and/or in less desirable practice settings. Further, in 2000 the distribution of locations where new allergists found positions differed from that of 1999. New allergists reported finding positions in traditionally allergist-poor areas, suggesting that the concentration of allergists in certain regions of the country may be lessening. That is, particular regions of the country that had previously attracted allergists may no longer be able to support new allergists. At the same time, areas that were not able to attract allergists in the past may now be viable locations for new practices. The changing geographical distribution of new allergists bears

watching in the coming years.

Finally, fellows completing training in 2000 confirm the results of the a/i program director survey in that there appears to be an abundant supply of opportunities in academic medicine for allergists. These current opportunities are likely to increase over time as well, especially if concerted efforts are made to increase the number of a/i fellows-in-training.

### *Key Findings*

- Female physicians made up 45% of the a/i fellowship graduates in 2000.
- A majority (58%) of the a/i fellowship graduates in 2000 were non-white.
- Almost half (49%) of the a/i fellowship graduates in 2000 attended medical school outside of the United States. Of those, 56% were J-1, J-2 exchange visitors, 19% were naturalized United States citizens, 16% were permanent resident United States citizens, and 2% were native born United States citizens.
- A majority (58%) of the a/i fellowship graduates in 2000 previously trained in pediatrics, while the remained previously trained in internal medicine. No graduates had previously trained in combined internal medicine/pediatrics programs.
- The vast majority (89%) of a/i fellowship graduates in 2000 reported that they would be practicing as patient care allergists to some degree following training. Forty percent (40%) will be active in teaching and 23% in research. Ten percent (10%) reported planning to seek additional training as their major professional activity subsequent to the a/i fellowship.
- Of those going into patient care, 77% had already secured a position at the time of the survey (Spring/Summer 2000). Eighty-seven percent (87%) of the USMGs and (66%) of the IMGs had secured positions.
- Of the new patient care allergists who had found positions, 83% were in private practice, 6% in hospital settings, 6% as medical school faculty, 4% in government or military positions, and 2% in other settings.

- A plurality (45%) of the new patient care allergists who had found positions expected to spend 40-49 hours per week in direct patient care, while 39% expected to spend 20-39 hours per week in direct patient care.

- A/I fellowship graduates reported finding practice positions in traditionally allergist-poor regions (such as, the Mountain, East South Central, and West South Central Census Divisions).

- More than three-quarters (84%) 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, almost three-quarters (73%) of the salaried allergists also reported that they expect incentives in addition to their salaries. The mean base salary for new allergists was just under $104,000; however, 53% of them expect to earn less than $100,000 in annual base salary. USMGs reported expecting to earn slightly more than $109,000 in base salary, compared to just over $96,000 for IMGs. For those expecting to receive incentives, the mean expected level of incentive was just over $12,000. USMGs reported expecting about $15,000 in incentives, while IMGs reported expecting just over $8,000.

- Many (88%) new patient care allergists reported being satisfied with their levels of compensations, with a third (33%) reporting being very satisfied with their compensation.

- An overwhelming majority (96%) of new patient care allergists reported that they would recommend the specialty to other physicians in training.

- A majority (55%) of new allergists reported no difficulties finding satisfactory employment. Among those that reported difficulties, the difficulties stemmed from types of positions (e.g., not in desired locations or settings), rather than from a lack of positions more generally. Further, 30% of the new graduates reported having to change their practice plans due to limited practice opportunities.

- A third (33%) of a/i fellowship graduates in 2000 reported few or no practice opportunities within 50 miles of the site where they trained. Nationally, however, no graduates in 2000 reported few or a lack of practice opportunities. Slightly less than a fifth (18%) of the graduated reported few or no academic opportunities nationally. In general, USMGs assessed the job market for allergists as more robust than IMGs.

**Table 6. Demographic Characteristics of A/I Fellows Completing Training, 1999-2000**

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

## *Survey of A/I Fellows Completing Training*

This section is organized around a number of key issues in allergy and immunology graduate medical education and the current allergy and immunology job market, including: demographics of recent graduates of a/i fellowship programs, future plans (general and specific) of a/i fellowship graduates, and experiences of recent a/i 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. Additionally, where available, the responses from the survey conducted in 2000 are compared with those from the survey conducted in 1999. The Center received responses from 84 (88%) of the estimated 95 a/i fellows completing training in the United States in 2000. For complete technical details on the survey of a/i fellows completing training, see Appendices C and D.

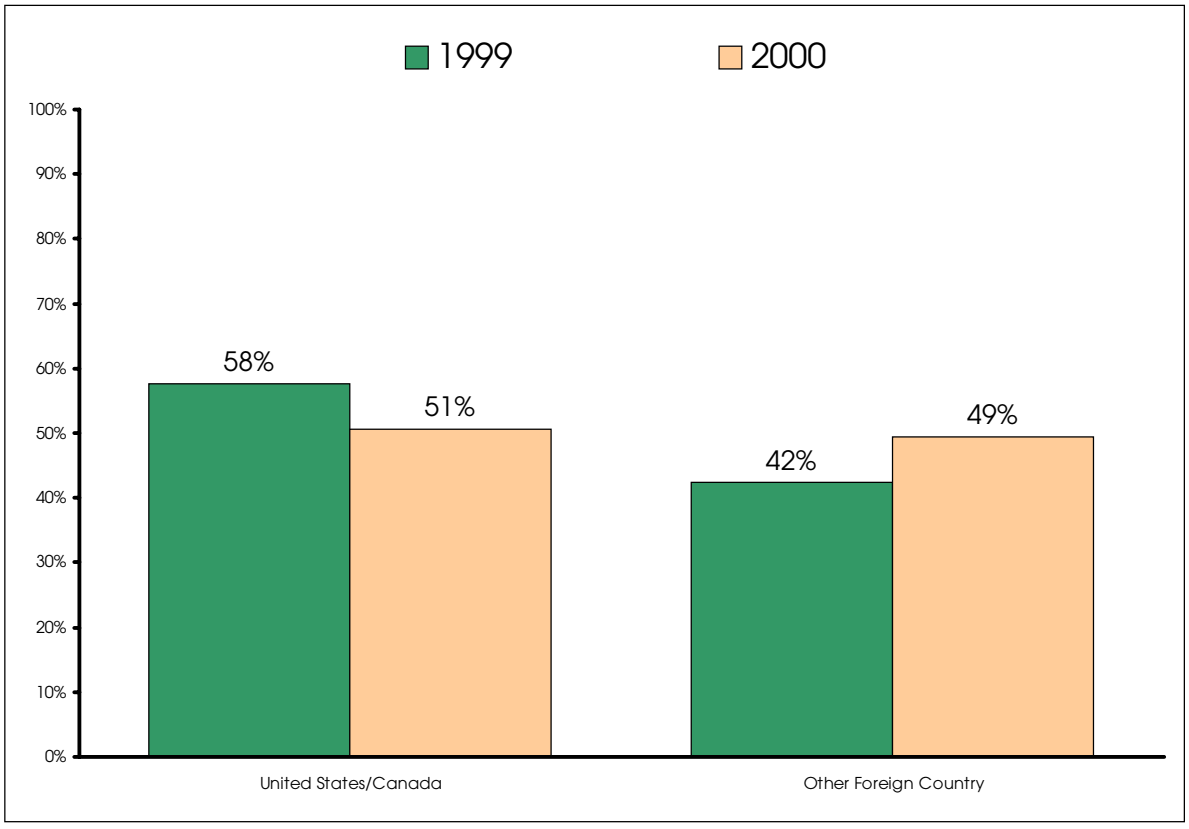
### 1. Demographic Characteristics of Fellows Completing Training

Table 5 presents the gender, age, and race/ethnicity distribution of a/i fellows completing training in 2000. As is evident, the majority (55%) of the graduates in 2000 were men. This is somewhat surprising[4] given the trend toward increased female participation (in both relative as well as

[4]While it would be premature to presume a reversal in the trend toward an increased representation of women in the specialty, it certainly bears watching how the proportion female in the a/i training population and physician population change over time.

absolute terms) in the physician population, in general, and in the allergist population as reported elsewhere (Forte and Salsberg 1999; Forte et al. 1999; Forte et al. 2000). Specifically, in 1999, more than half (56%) of the fellows completing training were women. In terms of age, most (55%) of the fellows completing training were under the age of 35. This is expected as these physicians are at a relatively early stage of their careers. At the same time, there were a significant proportion (45%) age 35 and above. Such a high proportion in this age group was probably due to the large representation of international medical graduates (IMGs) amongst those in a/i training (Forte et al. 1999). IMGs tend to be older upon entrance into residency programs in the United States, and thus, are older upon exit. Further, the proportion age 35 and older in 2000 was greater than in 1999. Specifically, 19% of the fellows completing training in 2000 were age 40 and above compared with 10% in 1999. One potential ramification of an older cohort completing training over time is a shorter practice career. Finally, the largest proportion (42%) of graduating fellows in 2000 was white. The next largest proportion (34%) were asian/pacific islanders. These proportions ranked in 2000 as they did in 1999, but whites made up fewer, while asian/pacific islanders made up more of the graduating fellows. Under-represented minorities were not well represented (9%) among 2000 graduates.

**Figure 11. Location of Medical School Attended of Fellows Completing Training, 1999-2000**



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). Figure 11 shows the distribution of location of medical school attended by fellows completing training in 2000. Almost half (49%) of these fellows were IMGs. This was a larger portion than in 1999 (42%). Since 1997, the percentage of IMGs in fellowship training has decreased, so the percentage of IMGs among fellows completing training is also expected to decrease in the next few years.

One of the concerns with a large proportion of IMGs in training is that many of them will have to return to their countries of origin once they complete their training due to federal visa and immigration restrictions (especially J-1, J-2 visa exchange visitors). This phenomenon, then, would decrease the effective production of allergists in the United States. Figure 12 shows the citizenship of the fellows completing training in 2000. While a majority (57%) of the fellows completing training were United States citizens, the percentage native born dropped to 37%. More than a quarter (30%) were J-1, J-2 visa exchange visitors. In 1999, a larger percentage (63%) were United States citizens and a smaller percentage (27%) were J-1, J-2 visa exchange visitors. Again, as the representation of IMGs begins to decline, so should the percentage of fellows completing training who are J-1, J-2 visa exchange visitors.

**Figure 12. Citizenship of Fellows Completing Training, 1999-2000**

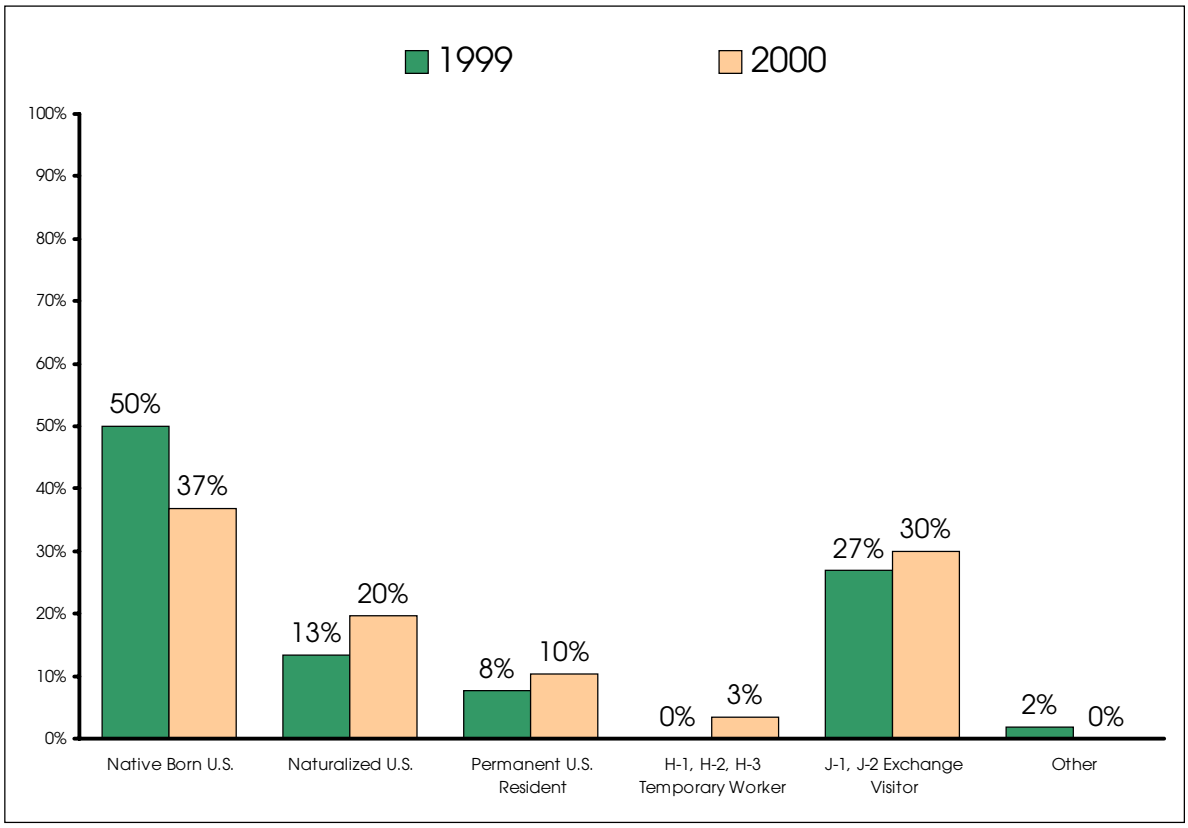
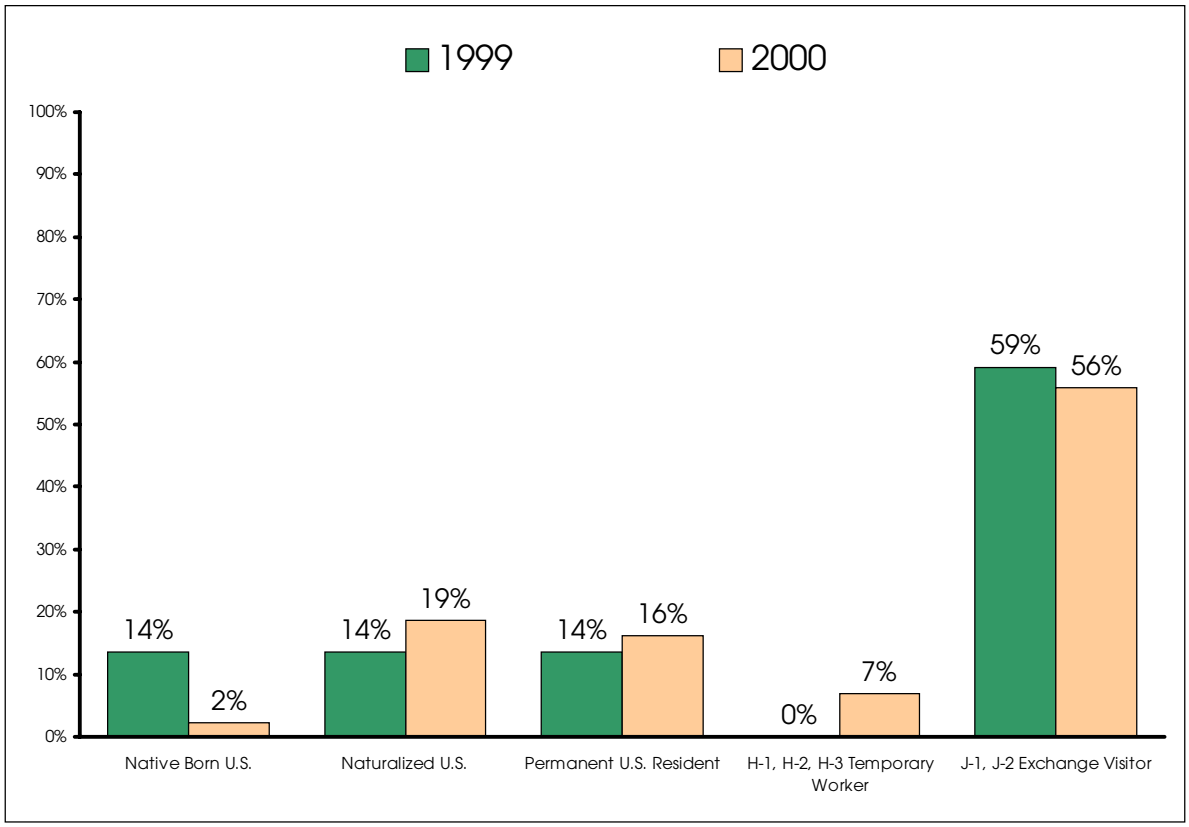


**Figure 13. Citizenship Status of IMG Fellows Completing Training, 1999-2000**




Examining the IMG fellows completing training more closely (Figure 13) is revealing. In 2000, a majority (56%) of the IMGs completing training were J-1, J-2 visa exchange visitors who, thus, have restrictions to leave the United States when they have completed training, pursue additional trianing, or practice in an underserved area.[5] This figure down marginally from 1999 (59%). Interestingly, there were more naturalized United States citizens (19%) and permanent residents (16%) in 2000 than in 1999 (14% and 14%, respectively), but fewer native born United States citizens than in 1999 (2% compared with 14%).

**2. Medical Education and Training of Fellows Completing Training**

The overwhelming majority (99%) of the fellows completing training in 2000 had allopathic medical educations (Figure 14). This is slightly higher than in 1999 (96%). Furthermore, 58% have completed pediatrics training and 42% completed internal medicine training (Figure 15). This distribution was a slight reversal of 1999 where 51% had completed internal medicine training, while 45% had completed pediatrics training (the remainder had completed combined internal medicine and pediatric training). Previous training should be tracked meticulously as it was found that while an older cohort of practicing allergists were predominant internists by training, the younger cohorts

[5]In fact, 44% of the IMGs completing training in 2000 have such obligations. This compares with 41% in 1999.

**Figure 14. Medical School Education of Fellows Completing Training, 1999-2000**

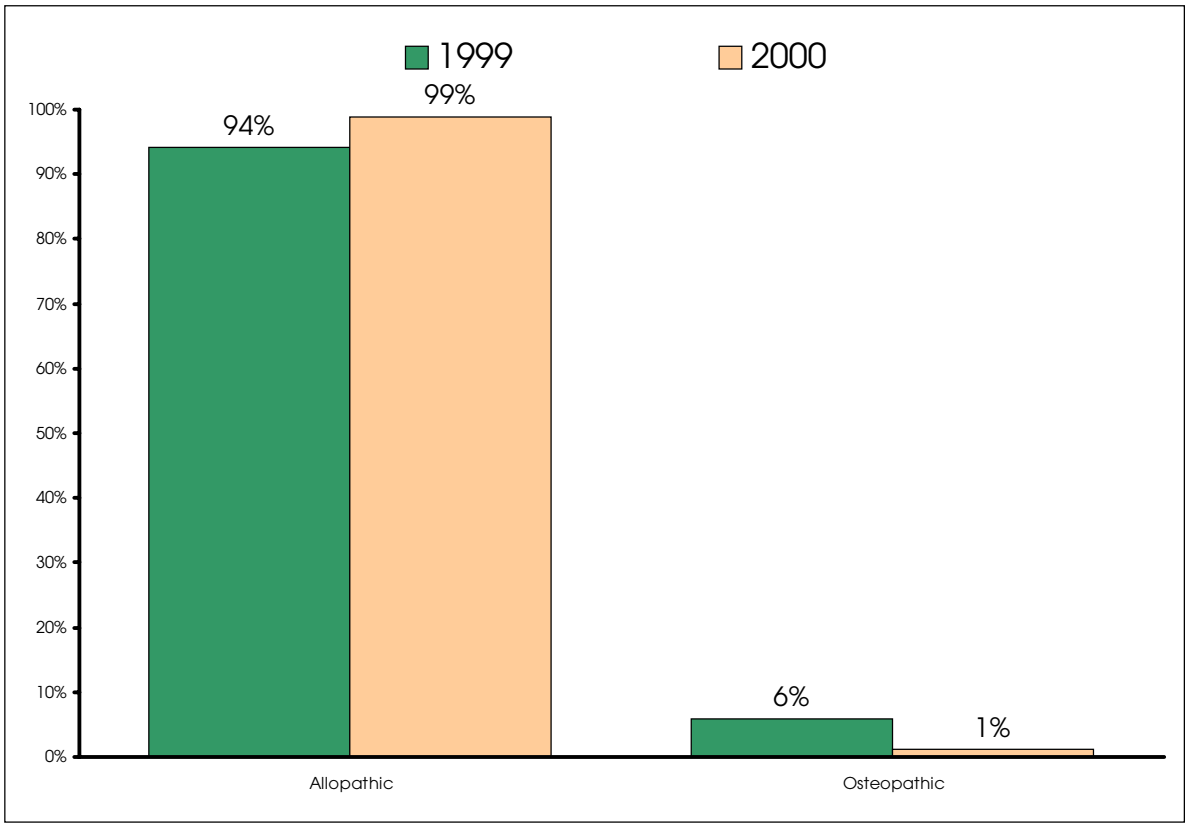
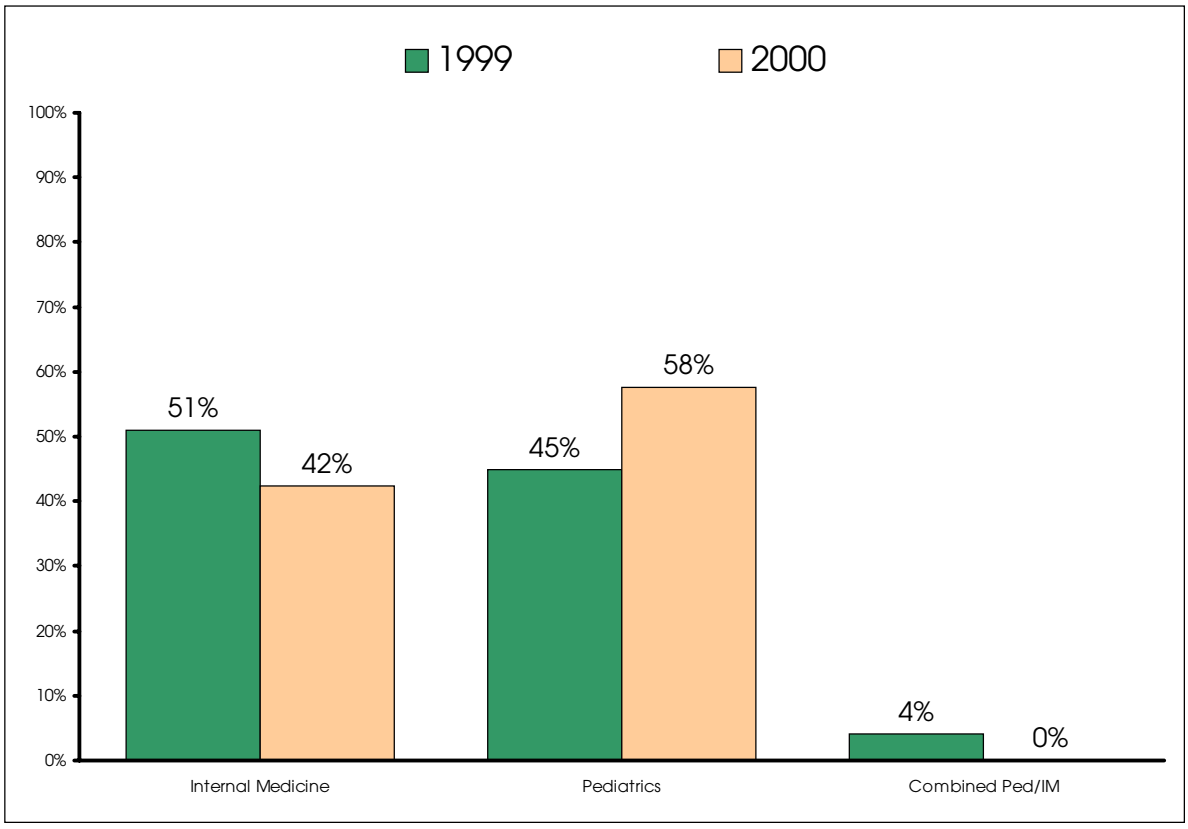


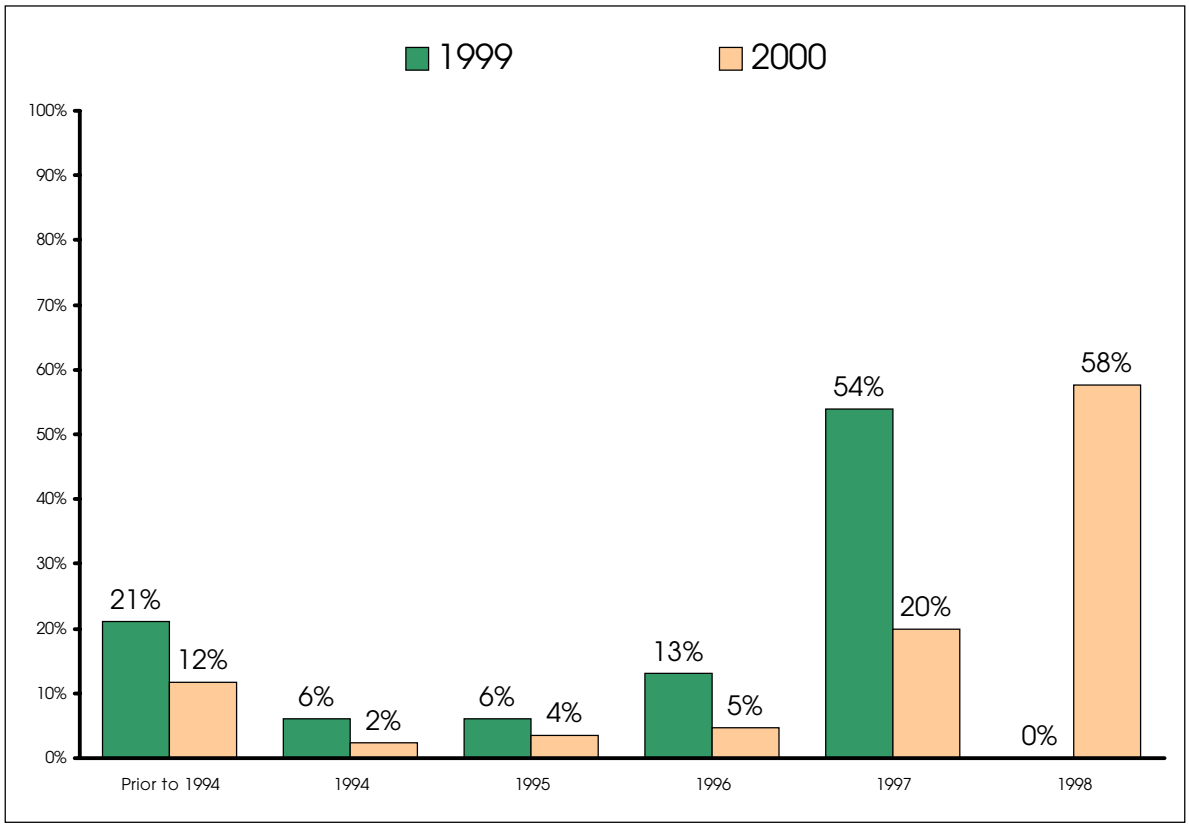

**Figure 15. Previous Specialty Training of Fellows Completing Training, 1999-2000**



were progressively more likely to be pediatricians (Forte et al. 2000). The most recent exit survey results suggested that this may be moving back to the previous pattern.

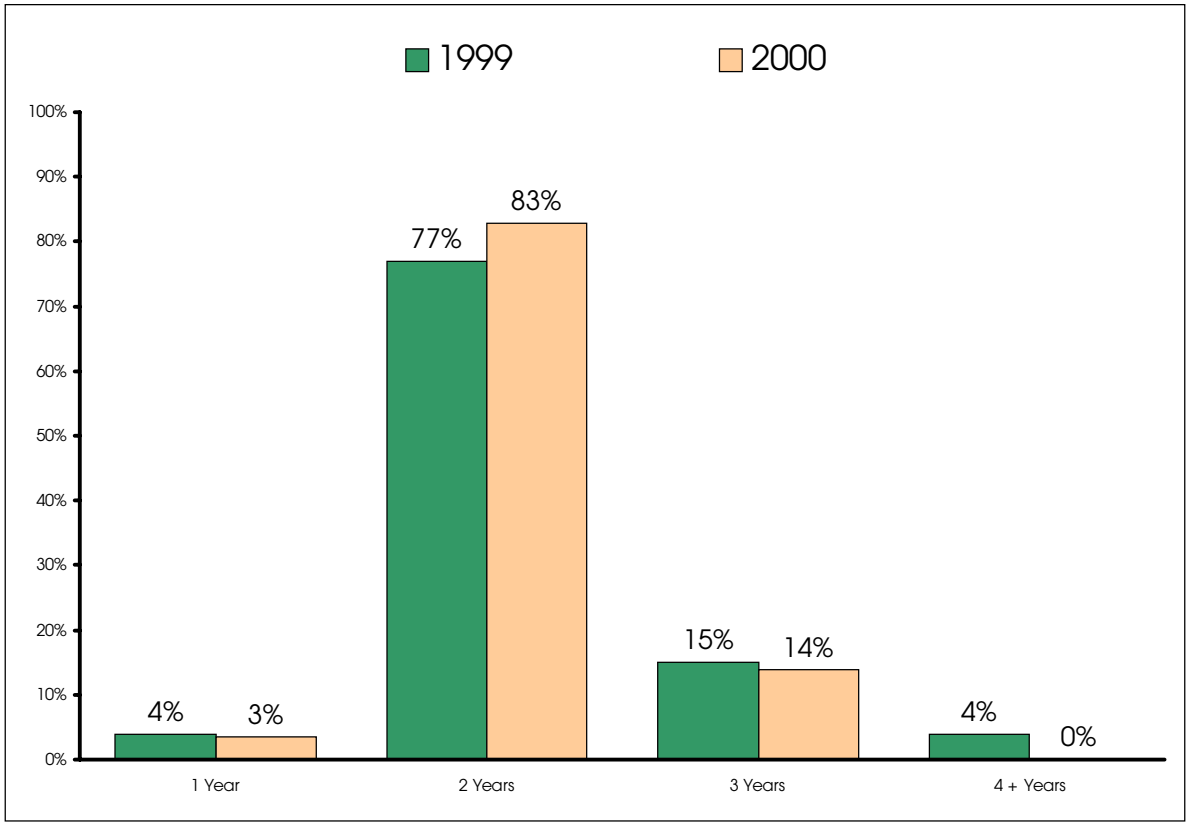
Most of the fellows completing training in 2000 had only been trained in allergy and immunology since their initial internal medicine and/or pediatrics training (Figure 16). A majority (58%) of these fellows had finished their initial residency training in 1998 (then completed their allergy and immunology training the historically typical 2 years later in 2000). This percentage was slightly higher than it was for fellows completing training in 1999 (54%). Further, there was a higher percentage (20%) of fellows who spent 3 years (finishing their initial residency training in 1997) completing a/i training in 2000 than in 1999 (13%). This suggests that fellows are taking more time in training than they had previously. Moreover, there was a smaller percentage (16%) of fellows completing training who had completed their initial training more than 5 years ago in 2000 than in 1999 (21%). This observation suggested 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.

**Figure 16. Year Completed Initial Residency Training of Fellows Completing Training, 1999-2000**



As suggested above, there was some variation among fellows completing training with respect to how many years they have spent training in allergy and immunology (Figure 17). The vast majority (83%) reported having spent the traditional 2 years in training (almost all a/i fellowship training programs are 2-year programs), while a small percentage (14%) reported having spent 3 years in training. These observations were very similiar to those from the exit survey in 1999. This confirmation of the 1999 results suggested that allergy and immunology is a terminal program, that is, once a physician completes an a/i fellowship program, he/she does not continue on in allergy and immunology training, but rather goes into practice.[6]

**Figure 17. Years A/I Training Completed of Fellows Completing Training, 1999-2000**




### 3. Future Plans of Fellows Completing Training

In this section, the reported future plans of fellows completing in 2000 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 trianing. The second portion examines only those who reported that they would be going into patient care after completing their training.

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

### *a. General Plans*

Of the fellows completing training in 2000, 89% reported plans to enter patient care in some capacity[7] (Table 7). This is slightly greater than the percentage that reported similarly in 1999 (83%). Teaching made up the next most commonly (40%) reported after-training plans among fellows completing training. Almost a quarter (23%) reported research activities in academic medical centers after training. In 1999, over a third (35%) reported research activities, while 31% reported teaching activities. Unlike 1999, a significant portion (10%) of the fellows completing training reported that they were going on to additional training. This is greater than the 2% who reported plans for additional training in 1999.

**Table 7. Planned Activities after Completing A/I Training, 1999-2000**

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

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

In terms of mobility, in general, fellows completing training in 2000 reported that their after-training activities would be in places other than where they trained (Figure 18). Forty-three percent (43%) reported they would be working in different states than where they trained. This was marginally greater than the percentage (40%) who reported they would be in different states in 1999. Almost one-fifth (19%) reported that they would be in a different city or county within the same state as they had trained, up from the 14% who reported similarly in 1999. Almost a quarter (24%) reported that they would be in the same locale. This observation is almost identical to that of 1999 (23%). Only 14% of the fellows completing training in 2000 reported that they would be leaving the country to pursue their planned activities. This is significantly lower than the percentage (23%) who reported plans to leave the country on last year's survey. This observation, combined with the declining representation of IMGs with temporary visas, may indicate that a larger portion of the a/i training effort is benefiting patients in the United States.

Finally, of the 89% who reported that they had plans to go on to patient care activities after training, more than three-quarters (77%) reported already securing employment (Figure 19). The fact that

[7]Respondents were allowed to report more than one planned activity, hence the "in some capacity" phraseology.

such a high percentage of a/i 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 the survey was administered between May and September 2000, so it is likely that most or all of the remaining 23% may have found positions by the time this report is released.

**Figure 18. Location of Planned Activity after Completing A/I Training, 1999-2000**

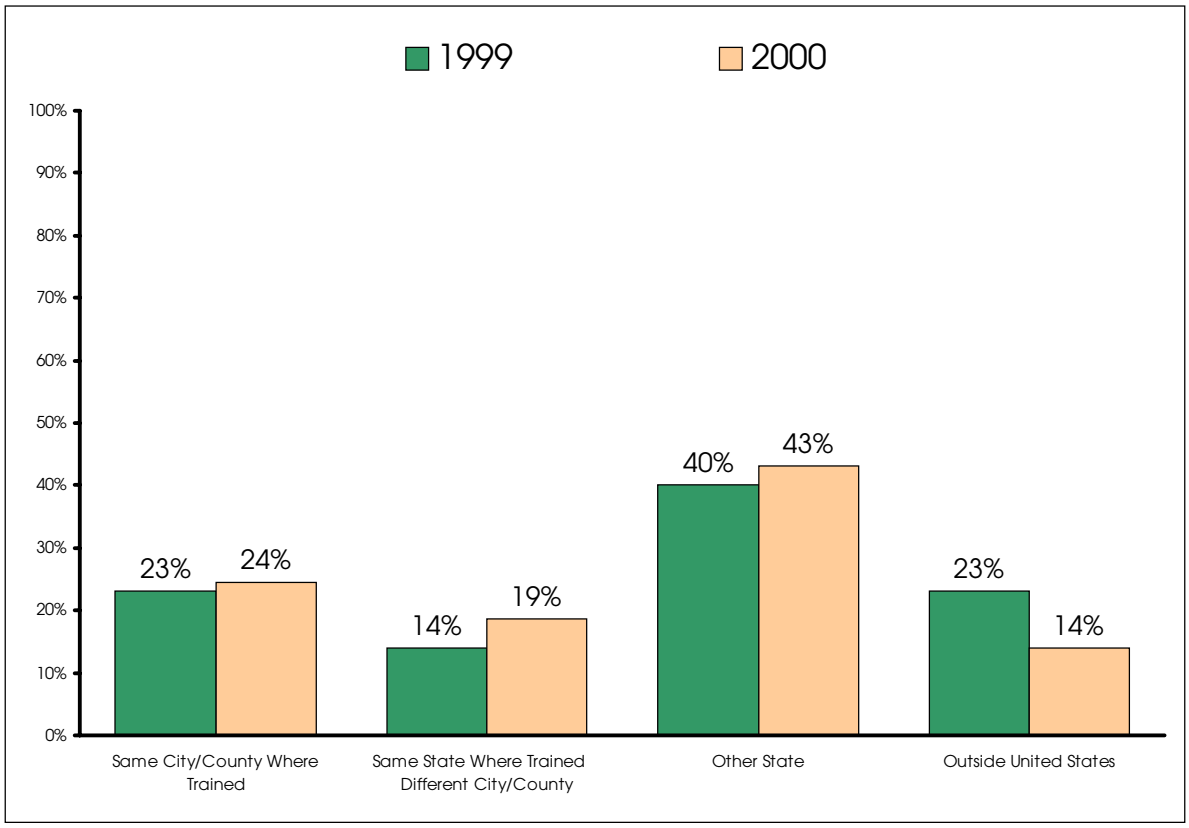



Figure 20 shows the percentage of USMG and IMG fellows completing training in 2000 who reported plans to go on to patient care activities after training who had also already secured practice positions. As is evident, USMG fellows had more success finding practice positions than their IMG counterparts in 2000 (87% having secured positions compared with 66%, a difference of 21%). In 1999, while there was a similar outcome, the actual difference between USMG and IMG fellows was larger (85% and 59%, respectively, a difference of 26%). This difference suggests that the job market, overall, was better in 2000 than in 1999.

**Figure 19. Finding a Practice Position of Fellows Completing Training with Plans to Go on to Patient Care, 1999-2000**

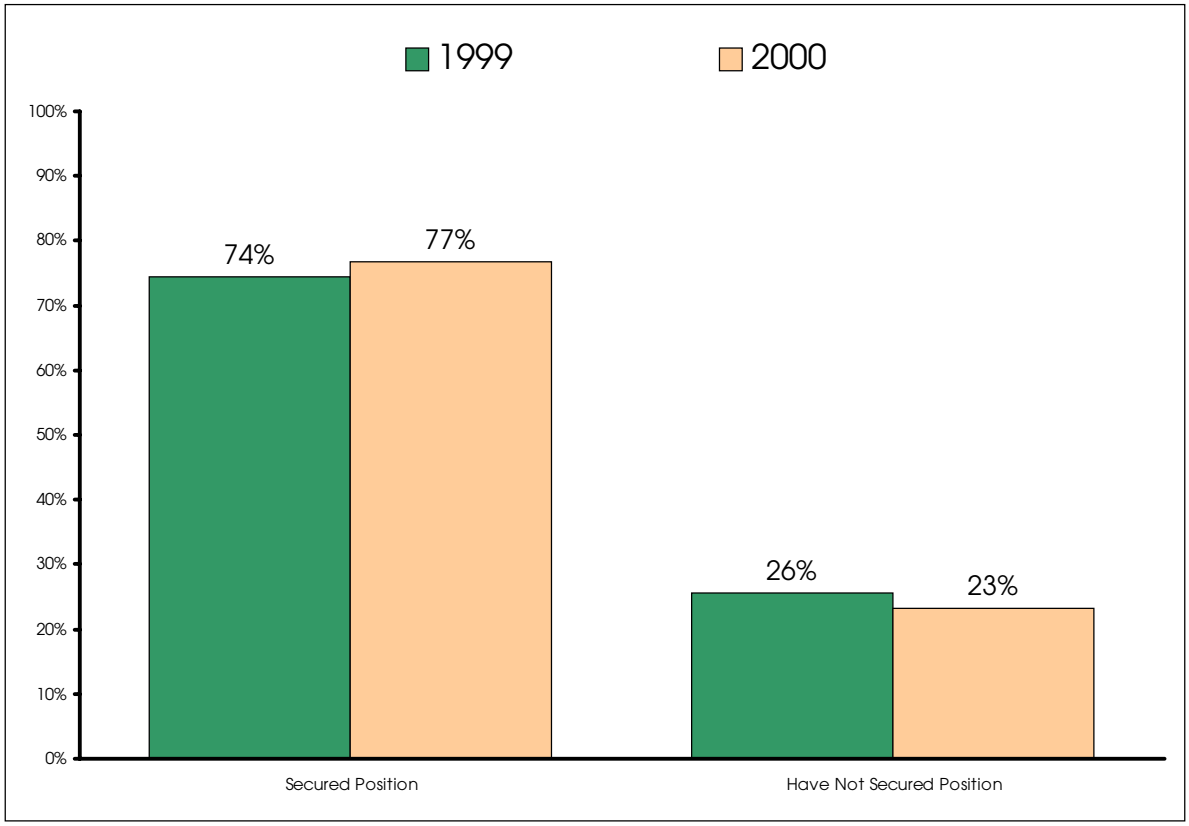
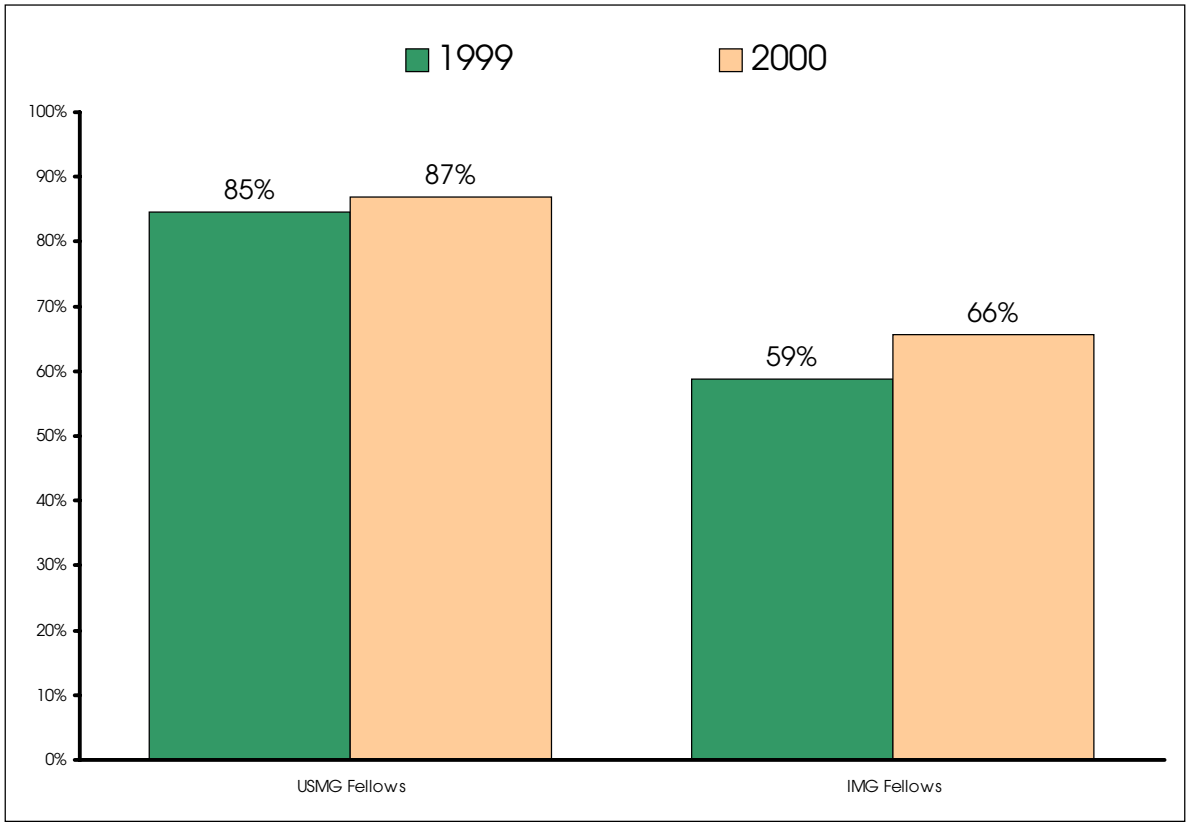



**Figure 20. Success in Job Market Among Fellows Completing Training with Plans to Go on to Patient Care by Location of Medical School Attended, 1999-2000**



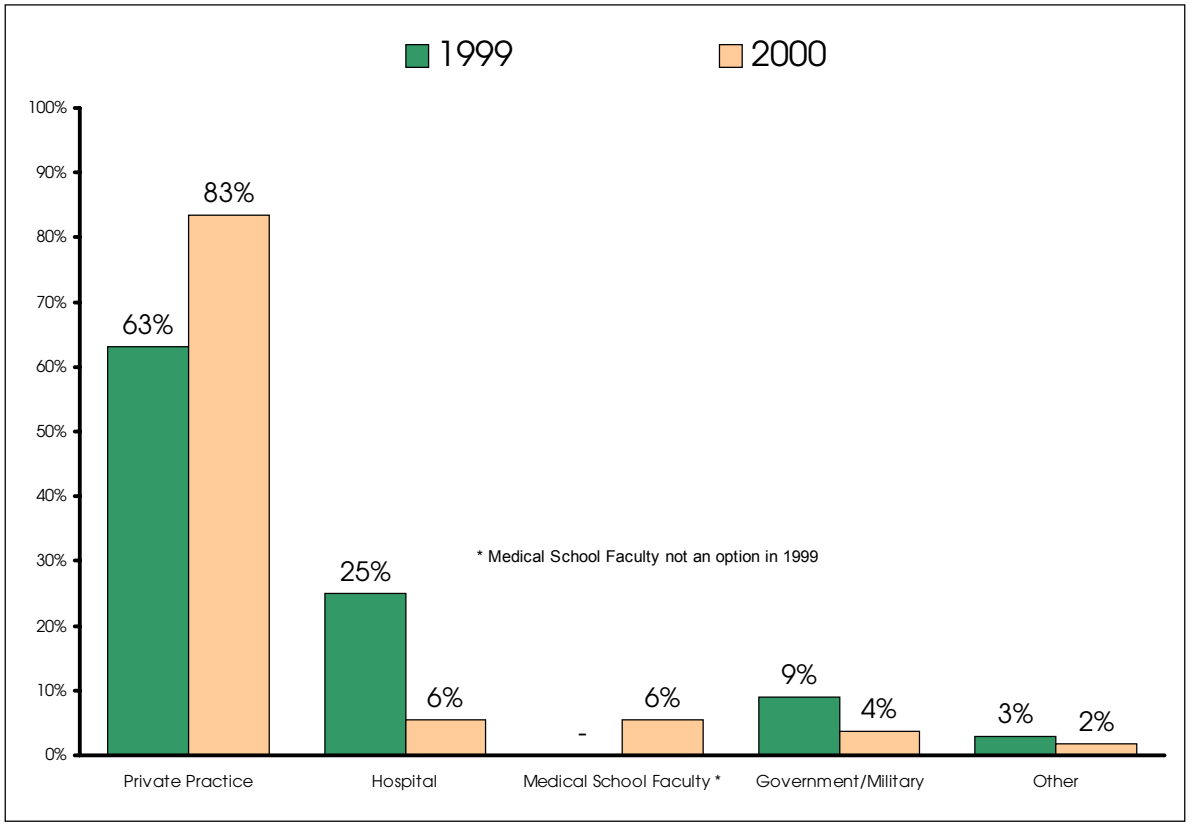
### *b. Specific Plans*

For those fellows completing training in 2000 who reported plans to go on to patient care and reported having secured a practice position, a series of questions was included on the exit survey to gather additional details about these new positions. The section explores these 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 2000. As is evident, the vast majority (83%) reported they would be in private practice. This was significantly greater than the fellows completing training in 1999 (63%). The remainder of the fellows completing training in 2000 were split amongst hospital (inpatient/ambulatory care/emergency room) settings (6%), medical school faculty settings (6%), government/military settings (4%), and other settings (2%). The observation that stood out the most was the drop in the percentage of fellows completing training who had secured positions in hospital settings (12% compared to 25%).[8] The indication of a shortage of a/i training faculty reported by program directors combined with these practice setting observations suggests that the shortage may continue.

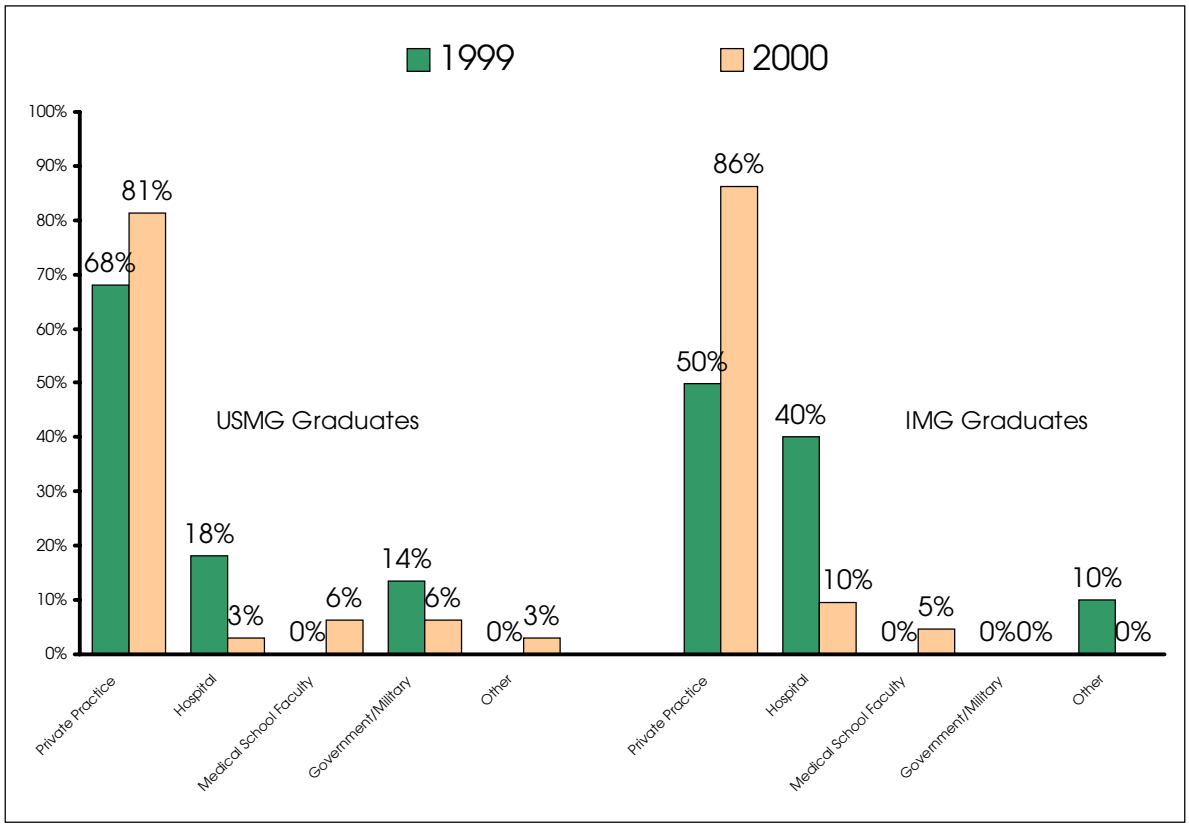
**Figure 21. Practice Settings Fellows Completing Training with Confirmed Plans to Go on to Patient Care, 1999-2000**




[8]It should be noted that in 1999, Medical School Faculty was not an option on the exit survey. This interpretation assumes that all medical school faculty work in hospital settings.

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 medical school they attended. While private practice was the most common practice setting for both USMGs (81%) and IMGs (86%), more IMG fellows completing training reported plans to go into hospital settings (14%) than USMG fellows (9%). As with the overall figures, the observation that stood out the greatest was the hospital plans of these physicians, particularly the IMGs. The decline in the percentage of IMGs who reported plans for hospital practices was drastic.

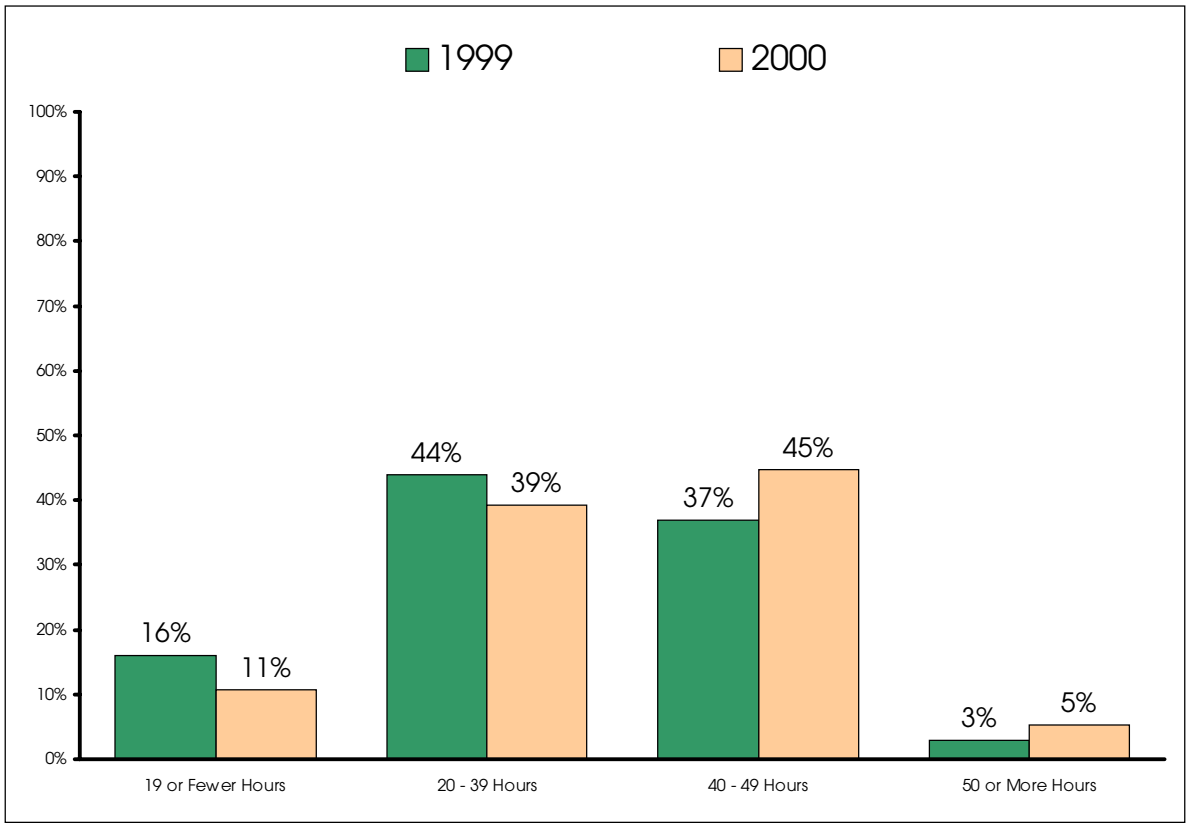
**Figure 22. Practice Settings of Fellows Completing Training with Confirmed Plans to Go on to Patient Care by Location of Medical School Attended, 1999-2000**




Fellows completing a/i training in 2000 reported expecting to spend an average of just under 37 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 (45%) reported expecting to spend 40-49 hours per week in direct patient care. Somewhat fewer (39%) reported expectations of 20-39 hours per week in direct patient care. The remainder were split between 19 or fewer direct patient care hours (11%) and 50 or more hours (5%). These figures varied from the 1999 survey results slightly. A higher percentage of the fellows completing training in 1999 reported expectations of 20-39 hours and less reported expectations of 40-49 hours in direct patient care. The average expectations were also different, as fellows reported expecting about 2 more hours in direct patient care than those in 1999.

Moreover, compared to the average within the practicing allergist population of 38.4 hours (Forte et al. 2000), the fellows completing training in 2000 had slightly lower expectations of the amount of time spent in direct patient care per week. Thus, using the practicing allergist population as a benchmark, the productivity level amongst new allergists appear to be lower, with each new allergists translating into slightly less than 1 full-time-equivalent (FTE) allergist.

**Figure 23. Expected Direct Patient Care Hours per Week of Fellows Completing Training with Confirmed Plans to Go on to Patient Care, 1999-2000**




Finally, three-quarters (75%) of the fellows completing training in 2000 who reported having found a patient care position also reported that they would be spending 91-100% of their practice time devoted to a/i services (Figure 24). Only a small group (9%) reported that they would be spending less than half of their patient care time devoted to a/i care. A slightly larger percentage (81%) of fellows completing training in 1999 reported positions where they would spend 91-100% of their time in a/i services, but a slightly larger percentage (12%) also reported positions where they would spend less than a majority of their time in a/i patient care.

**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, 1999-2000**

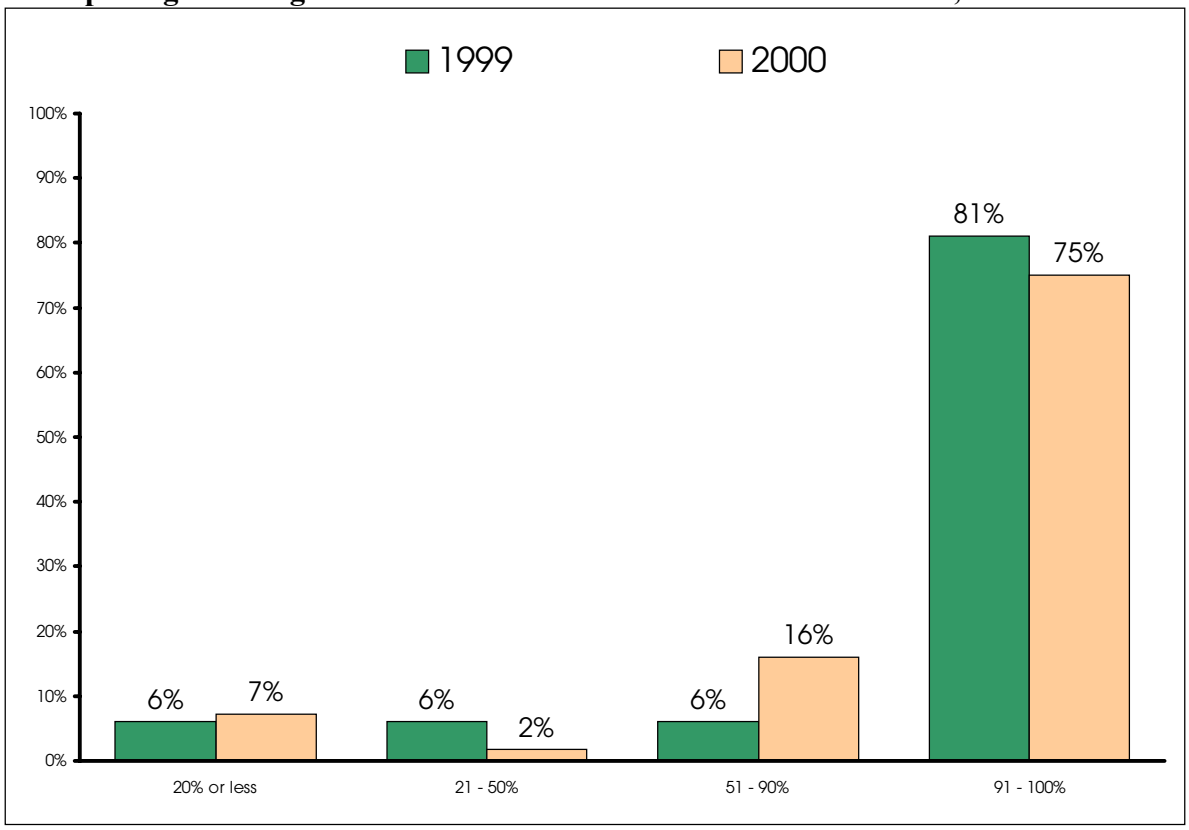
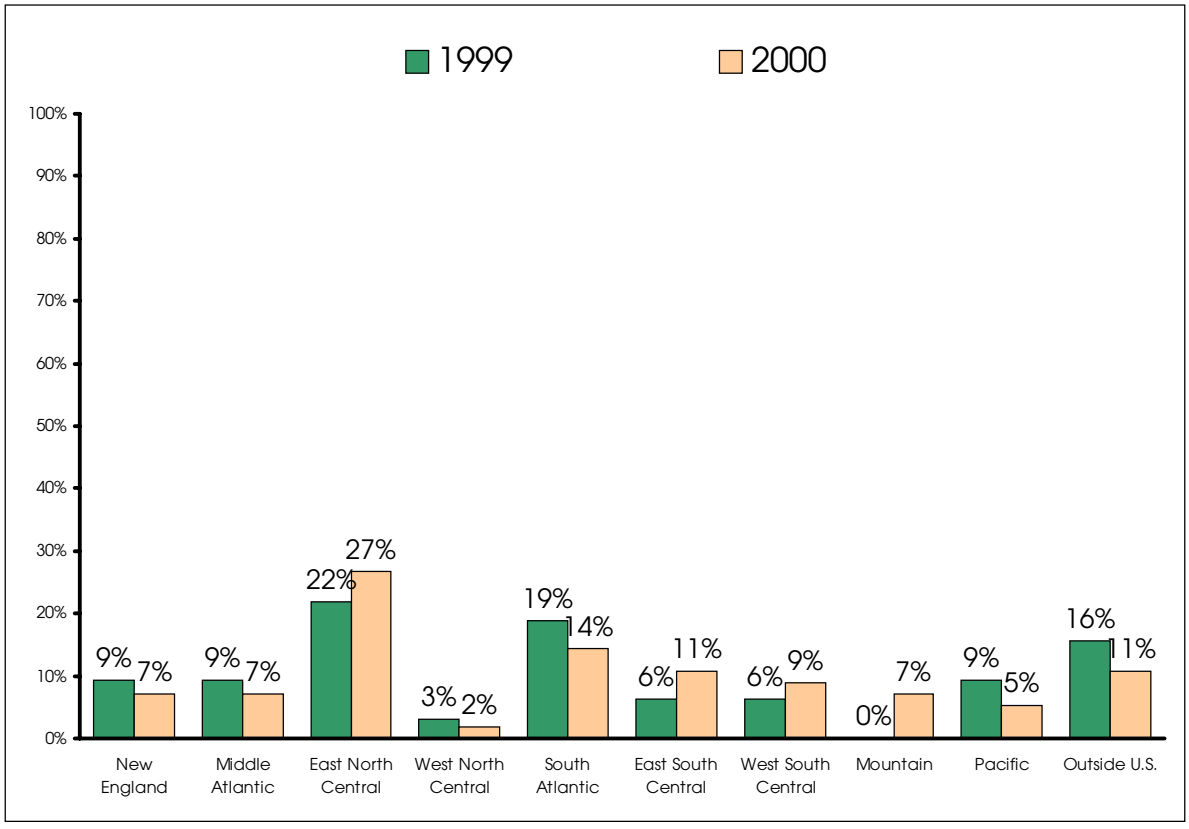


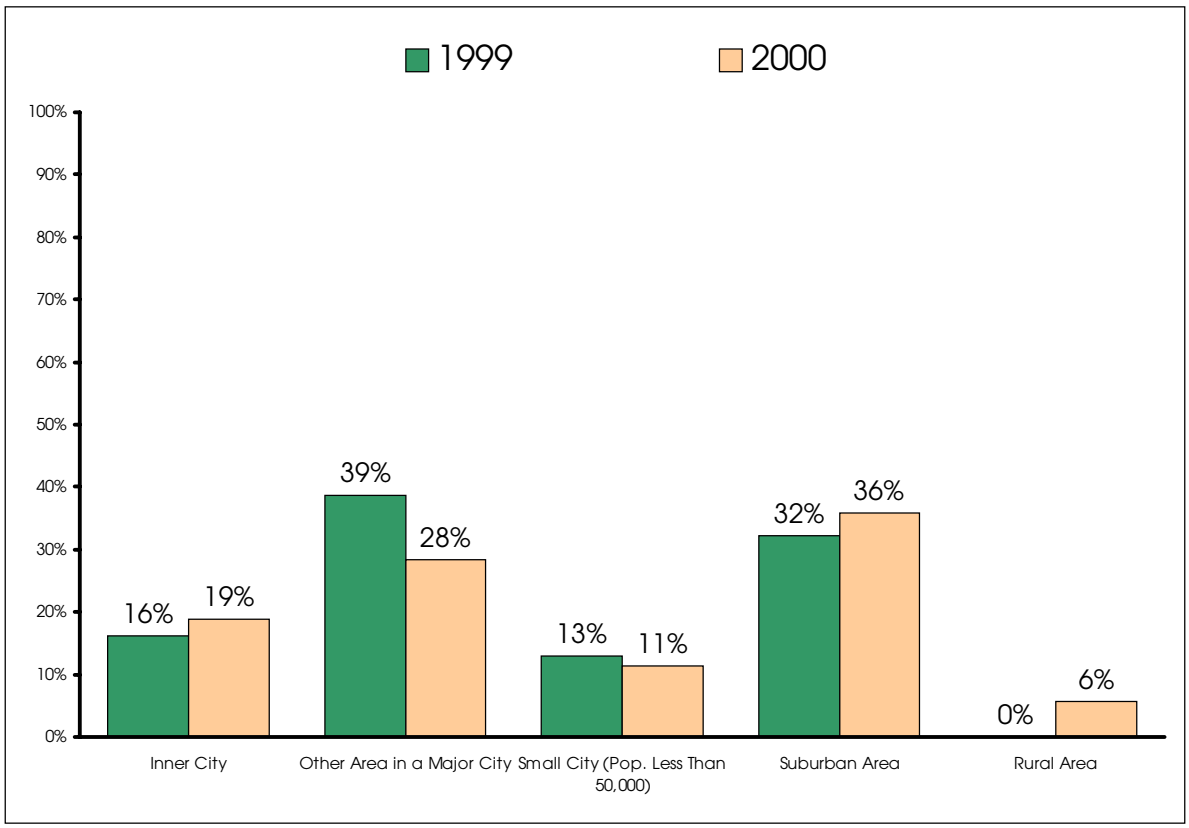

**Figure 25. Geographical Distribution of Practice Location of Fellows Completing Training with Confirmed Plans to Go on to Patient Care, 1999-2000**



ii. Location of Practice

Where fellows completing training find positions is of interest to all involved in a/i graduate medical training. The fellows completing training in 2000 reported having found practice opportunities in all parts of the United States (Figure 25). The most popular area of the country was the East North Central Census Division (Illinois, Indiana, Michigan, Ohio, and Wisconsin), where 27% of the fellows reported having found patient care positions. Second most popular was the South Atlantic Census Division (Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia), where 14% of the fellows reported having found patient care positions. The least popular area was the West North Central Census Division (Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota), where only 2% of the fellows reported having found patient care positions. A significant portion (11%) of the fellows reported having found patient care positions outside of the United States. As is evident, there is some variation in the responses across survey years. Year 2000 respondents were more likely to have found patient care positions in the East North Central (27% compared to 22%) East (11% compared to 6%) and West (9% compared to 6%) South Central and Mountain (7% compared to 0%) Divisions, but were also less likely to have left the country (11% compared to 16%) to find a position than fellows

**Figure 26. Types of Practice Locations of Fellows Completing Training with Confirmed Plans to Go on to Patient Care, 1999-2000**



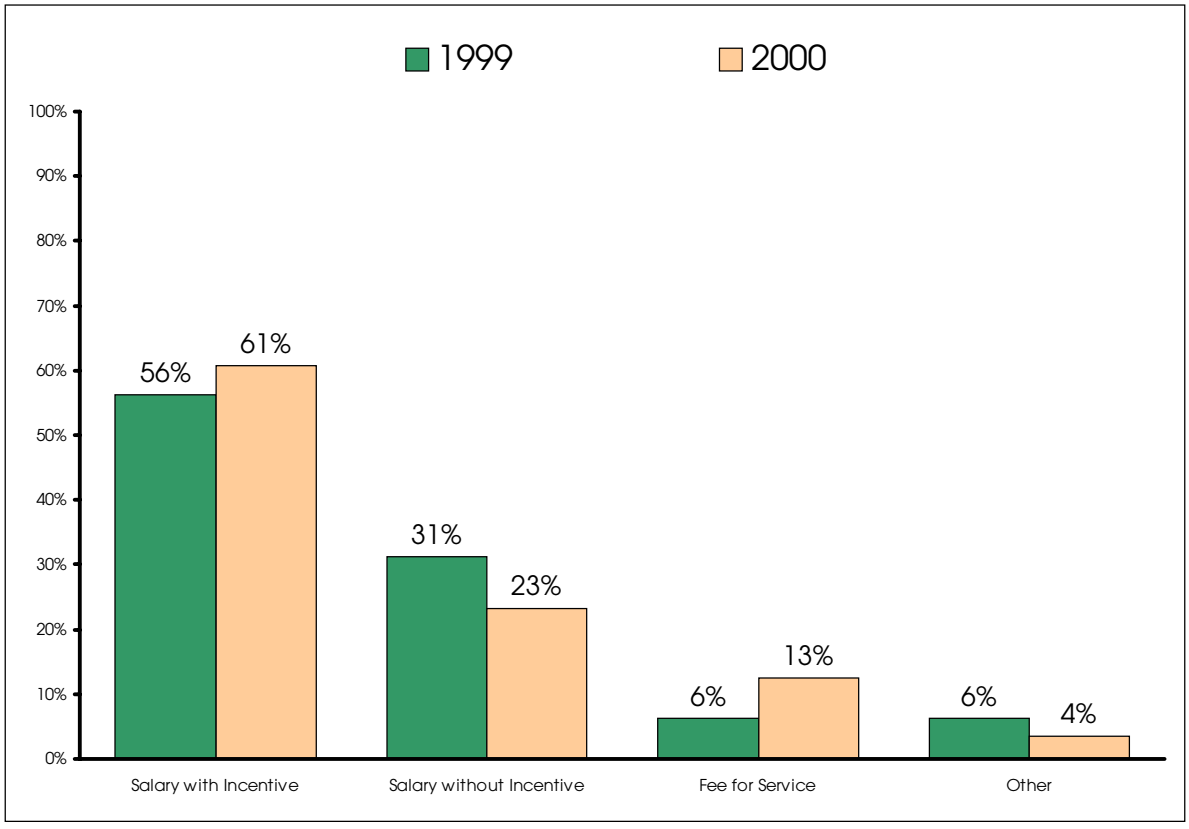
completing training in 1999. Overall, at least with respect to geographic region, some of the less allergist-rich areas were beginning to attract new allergists in 2000. This suggests that the job market for allergists is, indeed, robust in those areas. It is also encouraging that fewer fellows completing training were leaving the country. This means that the effective production of allergists may be increasing.

The types of areas that fellows completing training reported having secured patient care positions in include suburban areas (36%), inner cities (19%), other areas within major cities (28%), small cities (11%), and rural areas (6%) (Figure 26). A slightly smaller percentage (32%) of the fellows completing training in 1999 reported having found positions in suburban areas, while a greater percentage (39%) reported having found positions in other areas of major cities than the year 2000 fellows. No fellows completing training in 1999 reported patient care positions in rural areas compared with 6% of the fellows completing training in 2000.

iii. Compensation

Compensation for services is an important, and often sensitive, issue among physicians. For fellows completing a/i training in 2000, many (84%) reported they would receive some sort of salary (either

**Figure 27. Type of Compensation of Fellows Completing Training with Confirmed Plans to Go on to Patient Care, 1999-2000**



with or without incentive) as compensation for their patient care activities (Figure 27). This percentage was somewhat lower than that of the 1999 fellows completing training. Thirteen percent (13%) reported that they would receive compensation through fee for service arrangements and 4% through some other type of compensation. The percentage who reported fee for service arrangements was significantly greater in 2000 than in 1999 (13% compared with 6%). Further, of those who reported they would be receiving salaries, almost three-quarters (73%) reported that they would be compensated with some sort of incentive as well, while the others would only receive a straight salary.

The average (mean) base salary (without including incentives) reported by fellows completing training in 2000 was just under $104,000. This was about the same as the average (mean) reported by fellows completing training in 1999 (slightly more than $103,000). Figure 28 presents the base salary distribution. Almost one-fifth (17%) of the fellows completing training in 2000 reported salaries $125,000 or more. However, a majority (53%) of the fellows completing training in 2000 reported that they would have salaries under $100,000. This was slightly higher than what was reported in 1999 (50%). The remainder (31%) of the fellows completing training in 2000 reported

**Figure 28. Expected Base Salary During First Year of Practice of Fellows Completing Training with Confirmed Plans to Go on to Patient Care, 1999-2000**

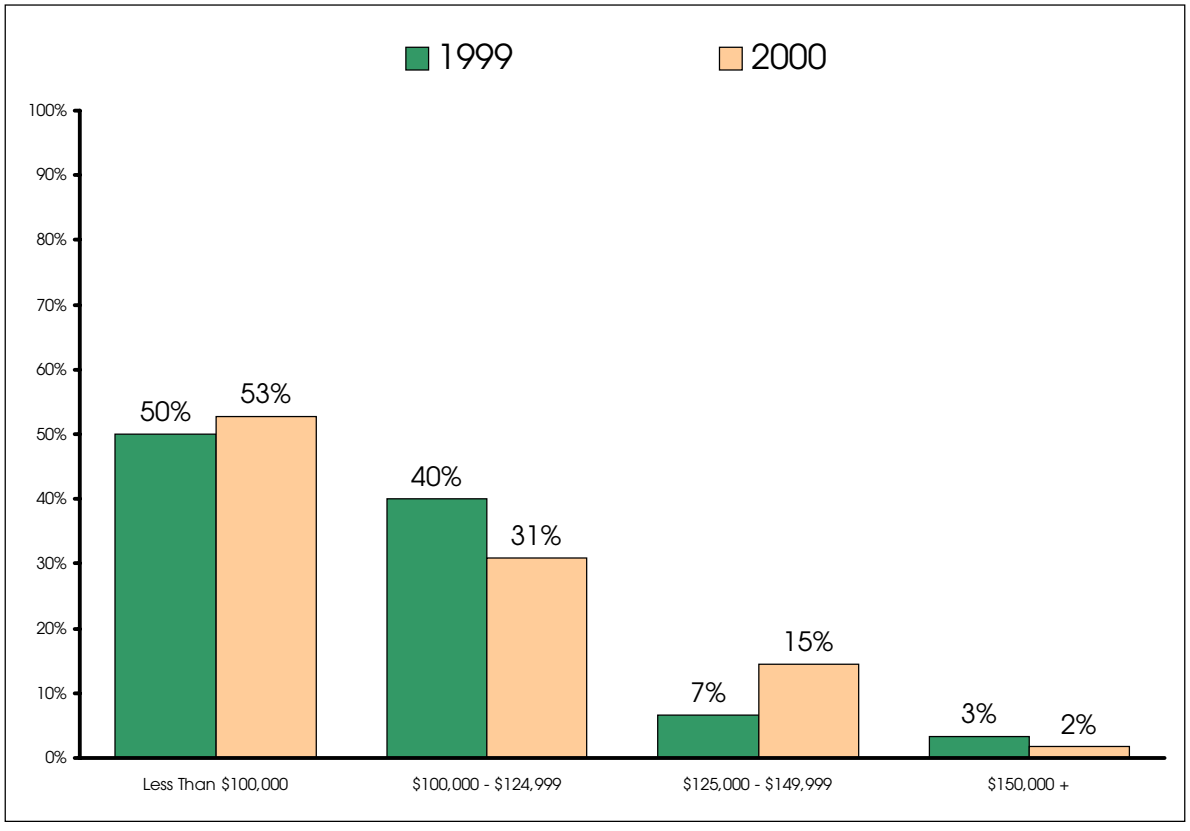
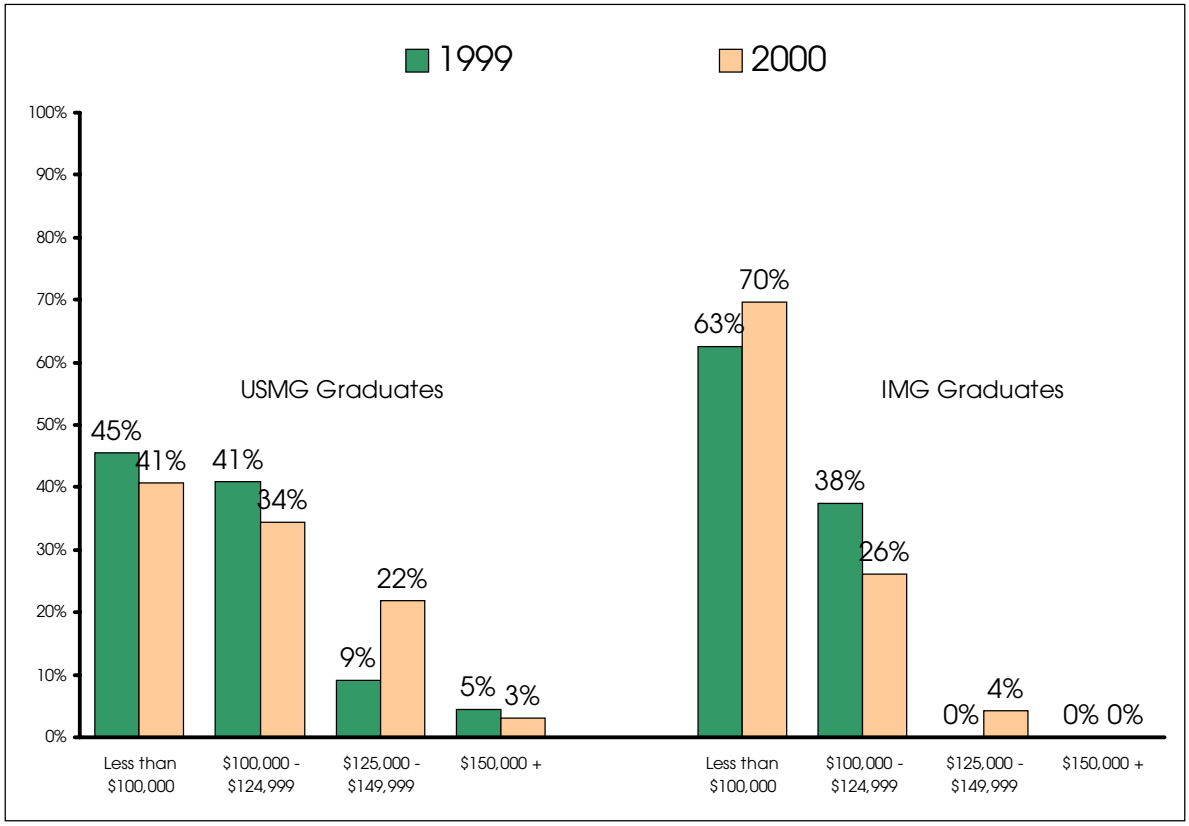


**Figure 29. Expected Base Salary During First Year of Practice of Fellows Completing Training with Confirmed Plans to Go on to Patient Care by Location of Medical School Attended, 1999-2000**



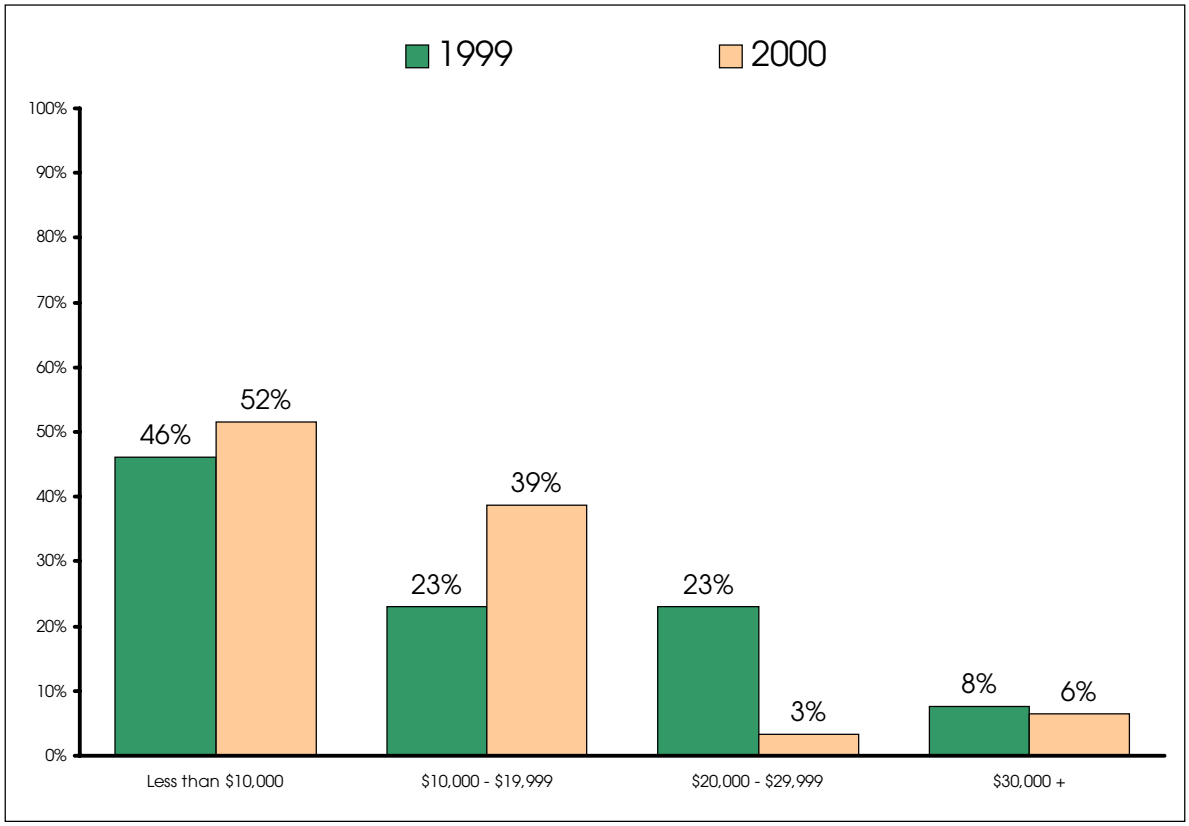

that they would have salaries between $100,000 and $124,999. This percentage was slightly lower than it was in 1999 (40%).

Figure 29 shows the distribution of reported expected levels of salary by location of medical school attended for fellows completing a/i training in 2000. As is evident, USMGs were more likely to expect higher salaries with 25% expecting $125,000 or more annually for a base salary, while only 4% of IMGs expected salaries in that range. IMGs were more likely (70%) to expect salaries below $100,000 than USMGs (45%). The differences across years also clearly show that USMGs were more highly compensated in 2000 than 1999, while the opposite was true for IMGs. Specifically, USMGs, on average, reported expected salaries of just over $109,000 compared with slightly less than $106,000 in 1999. IMGs, on average, reported expected salaries of just over $96,000 compared with slightly less than $97,000 in 1999.

For the 61% of fellows completing a/i training who reported anticipating additional incentive income, the average incentive was just over $12,000. This was somewhat less than what fellows

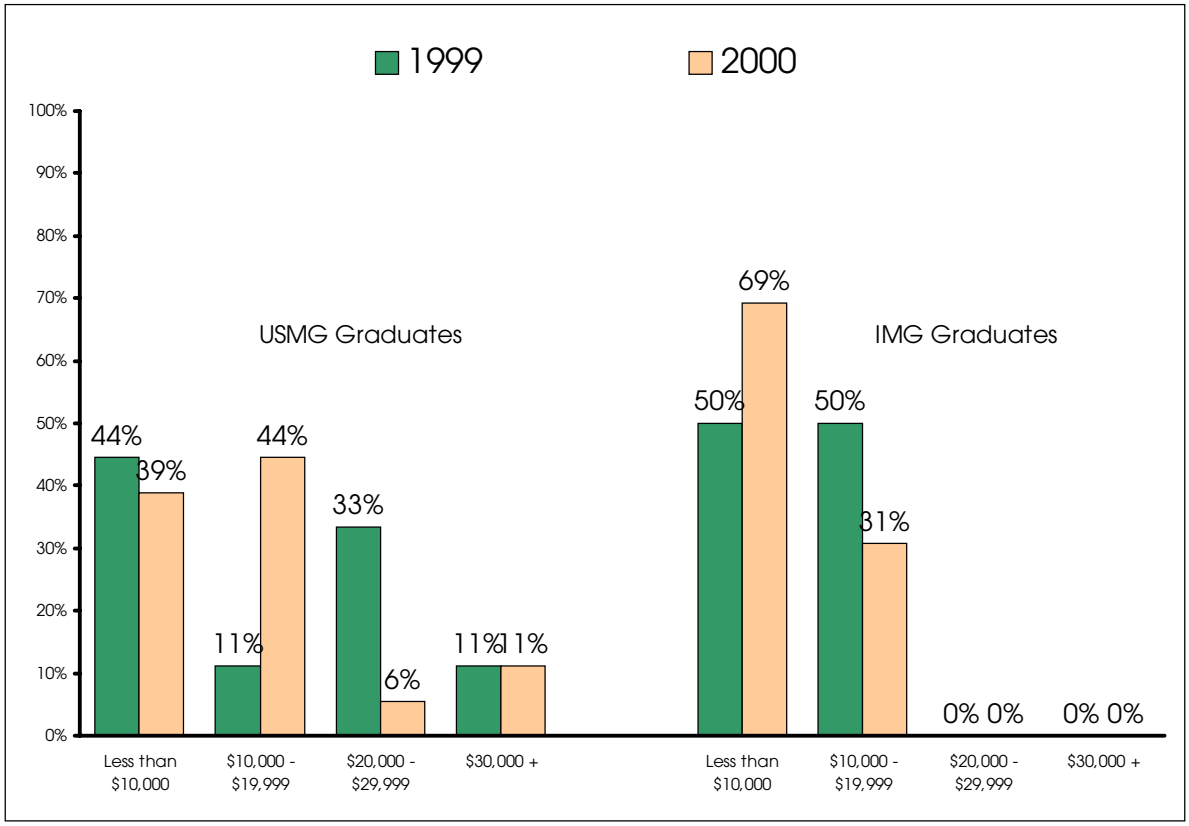
completing training in 1999 anticipated ($15,000). Figure 30 presents the distribution of anticipated incentive income for fellows completing training in 2000. Slightly more than half (52%) reported expecting less than $10,000 in incentives, while only 9% reported expecting $20,000 or more. The remainder (39%) reported expecting somewhere between $10,000 and $19,999 in incentives in their first year of practice. The distribution in 2000 leaned toward the lower end of the incentive scale compared to 1999, where slightly fewer (46%) reported expecting less than $10,000, about a quarter (23%) reported expecting $10,000 - $19,999 and $20,000 to $29,999, and 8% reported expecting $30,000 or more in incentives.

**Figure 30. Anticipated Additional Incentive Income of Fellows Completing Training with Confirmed Plans to Go on to Patient Care, 1999-2000**




As with annual base salary, USMG fellows completing training in 2000 reported expecting higher incentive income during their first year of practice than IMGs (Figure 31). While no IMGs reported expecting incentives of $20,000 or more, 17% of the USMG fellows did. On average, USMG fellows reported expecting about $15,000 in additional incentive income compared to just over $8,000 in incentives for IMGs. As was observed in the overall incentive analysis, new allergists, both IMG and USMG, reported lower expectations for incentive income in 2000 than they did in 1999.

**Figure 31. Anticipated Additional Incentive Income During First Year of Practice of Fellows Completing Training with Confirmed Plans to Go on to Patient Care by Location of Medical School Attended, 1999-2000**

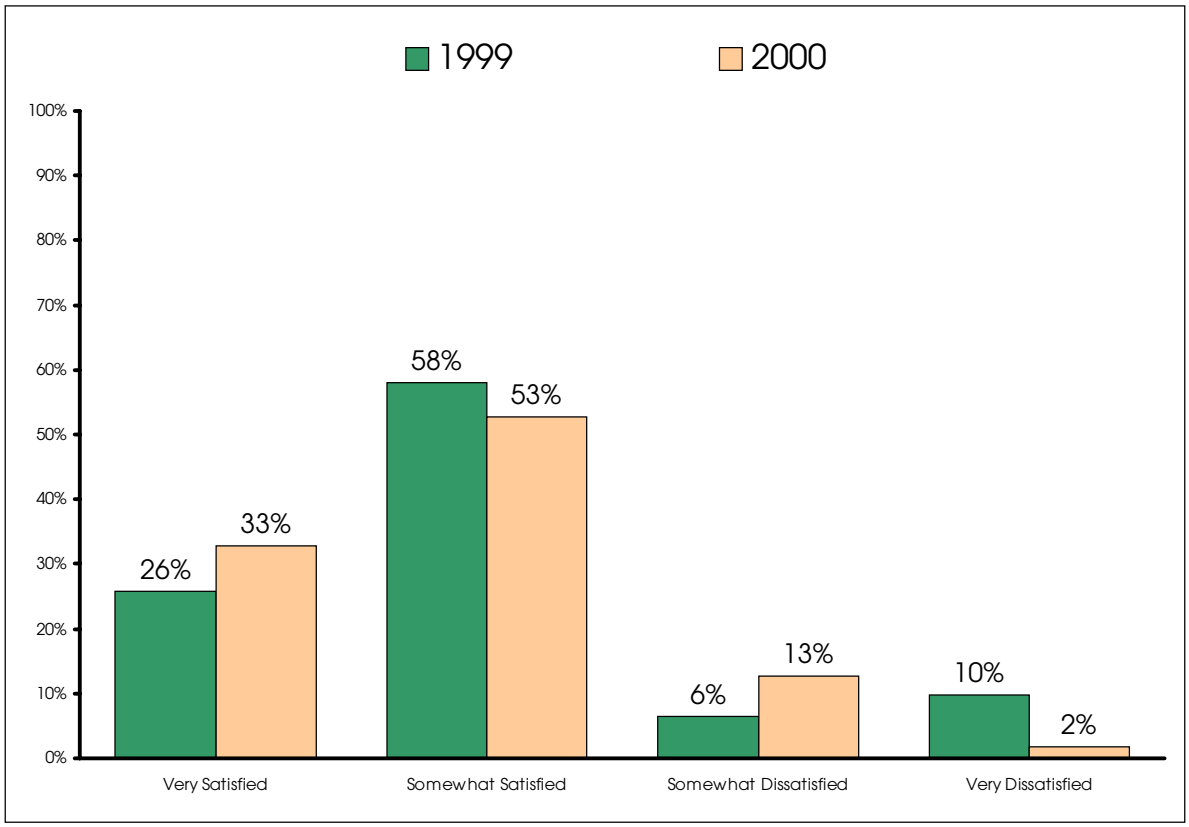



iv. Level of Satisfaction

Selecting a subspecialty for a physicians 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 policies to attract more and better qualified medical residents to the specialty. In this section, two indicators of satisfaction are examined: satisfaction with salary/compensation and whether the fellows completing training would recommend a/i to other physicians in training.

In general, the fellows completing a/i training in 2000 appeared to be satisfied with their anticipated level of compensation (Figure 32). The vast majority (86%) reported that they were satisfied with their anticipated level of compensation, with one-third (33%) very satisfied with their compensation. Only 15% reported dissatisfaction with their level of compensation, with 3% very dissatisfied. Fellows completing training in 2000 were slightly more satisfied than the fellows completing training in 1999, of which 84% reported satisfaction and 16% reported dissatisfaction. Most encouraging was the observation that only 3% of the fellows in 2000 reported extreme dissatisfaction compared

**Figure 32. Level of Satisfaction with Anticipated Compensation of Fellows Completing Training with Confirmed Plans to Go on to Patient Care, 1999-2000**




with 10% in 1999.

Finally, the other indicator of satisfaction with one's selection of allergy and immunology as a sub-specialty, whether a physician would recommend a/i to other physicians in training, also provided encouraging observations (Figure 33). An overwhelming majority (96%) of the fellows completing training in 2000 reported that they would recommend a/i to other physicians in training. While this percentage was a hair less than it was for fellows completing training in 1999 (97%), it still indicated a high level of satisfaction with subspecialty selection. In general, the satisfaction indicators in 2000 continued to provide positive results for allergy and immunology.

**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 2000 (not just those who had found positions) are included in this section.[9]

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

**Figure 33. Whether Fellows Completing Training with Confirmed Plans to Go on to Patient Care Would Recommend A/I to Other Physicians in Training, 1999-2000**

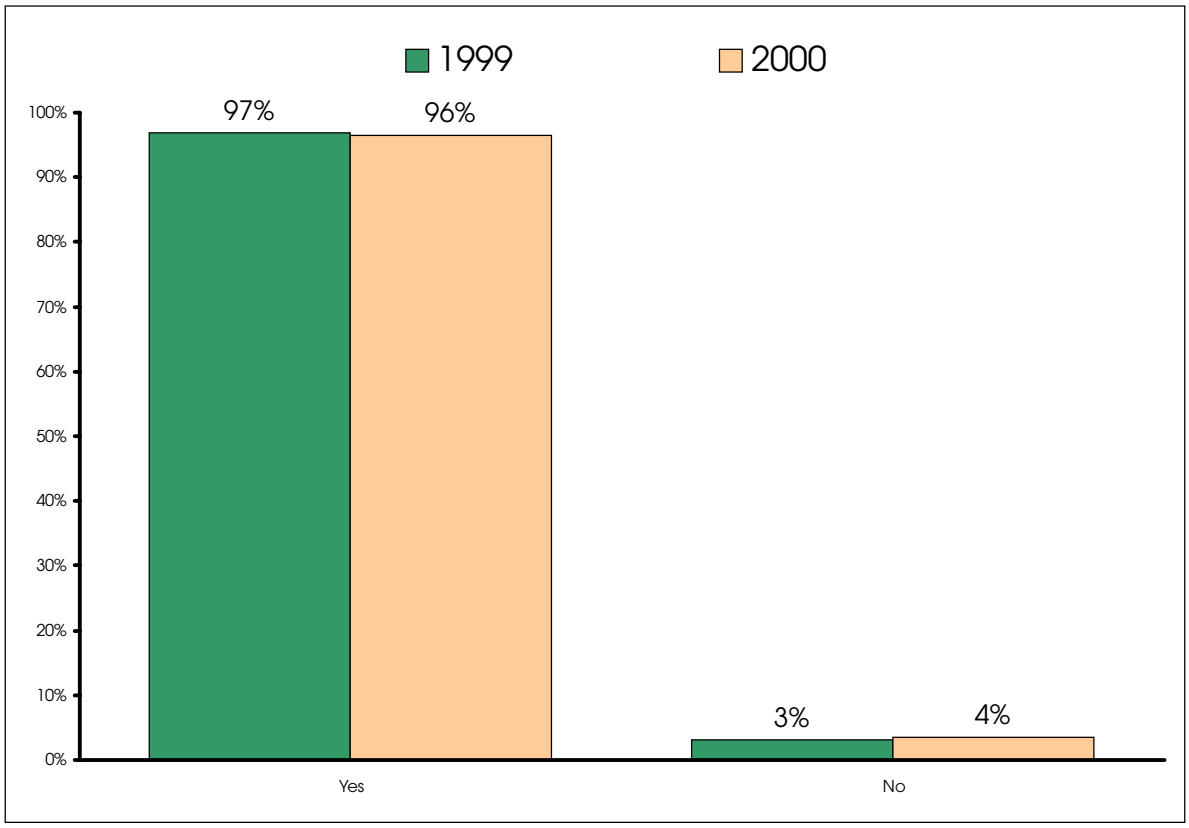
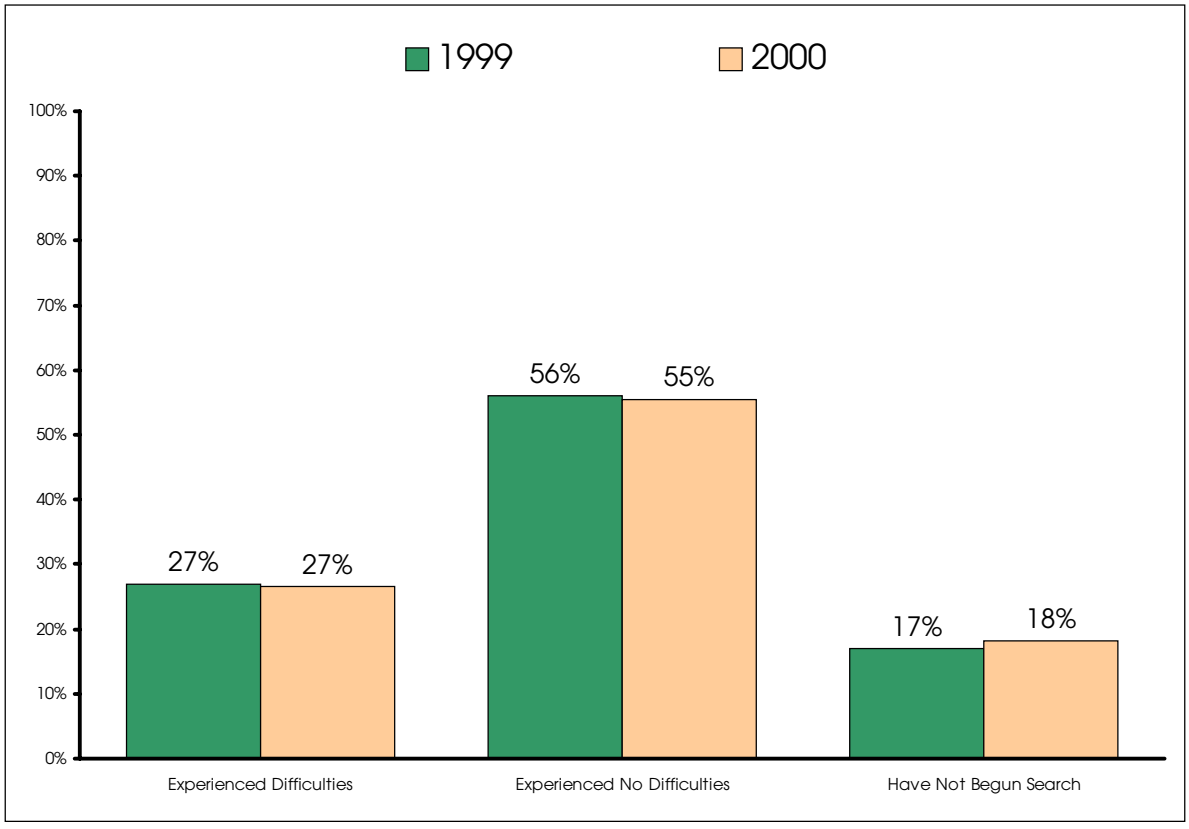



**Figure 34. Practice Position Search Experiences of Fellows Completing Training, 1999-2000**



### *a. Finding a Position*

A good indicator of the balance between supply and demand for allergists is whether fellows completing training in a particular year report experiencing difficulties securing satisfying practice positions. If demand for allergists is greater than the available supply, it would be expected that allergists would have relatively few difficulties securing a satisfying practice position after completion of training. A majority (55%) of the fellows completing training in 2000 reported experiencing no difficulties securing satisfying practice positions (Figure 34). A significant portion (27%) did report having difficulties. The remainder (18%) reported that they had not begun searching for a position at the time of the survey. If only those who actively sought positions are examined, 68% of the fellows completing training in 2000 reported no difficulties finding a satisfying position. These figures were almost identical to those generated from the fellow exit survey in 1999.

Of the fellows completing training in 2000 who reported experiencing difficulties finding a practice position, more than three-quarters (77%) reported that they difficulties they experienced stemmed from not being able to find a position in a desired location (Table 8). This is somewhat lower than reported in 1999 (62%). The alteration of the geographical distribution of practice positions found (see above, Figure 25) between 1999 and 2000 combined with this information suggests that, indeed, less allergist-rich locations may not be as desirable for new allergists, thus they might be more likely to seek employment elsewhere. A significant percentage (32%) of the fellows completing training reported limited opportunities due to visa status which reflected the relatively high percentage of IMGs completing a/i training. Responses from the year 2000 survey were very similar with respect to this item as those in 1999 (38%). Practice setting difficulties were reported by 23% of the fellows completing training. Other reasons behind difficulties included: family considerations (14%), inadequate salary/compensation (9%), and overall lack of positions/practice opportunities (5%). Each of these were reported by relatively fewer fellows in 2000 than in 1999. In sum, as they did in

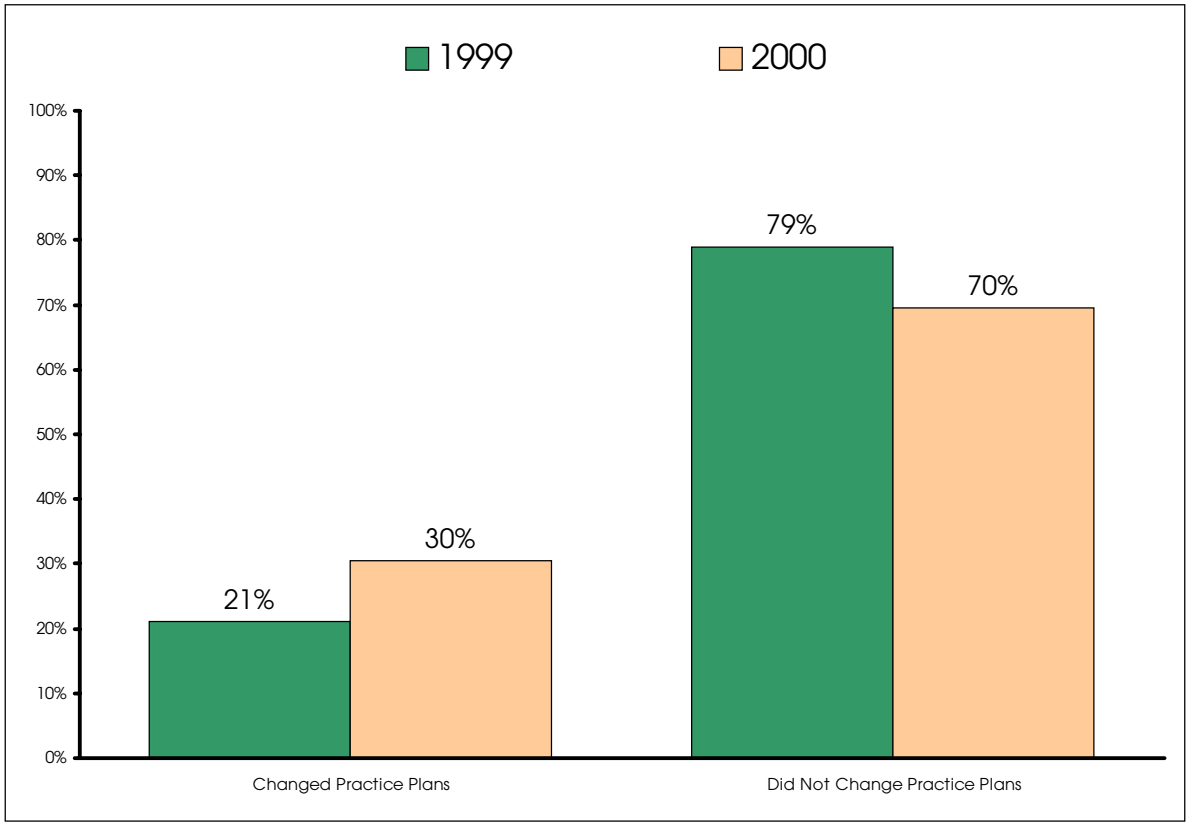
**Table 8. Reasons for Difficulty Finding a Practice Position of Fellows Completing Training, 1999-2000**

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

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

1999, the year 2000 responses indicated that the problems fellows completing training experienced had more to do with the location of the opportunities rather than whether an adequate number of opportunities existed. This is a very encouraging sign for allergy and immunology. Another indicator of the status of the market for new allergists is whether fellows completing training have to alter their plans because of limited opportunities. Figure 35 shows that almost three-quarters (70%) of the fellows completing training in 2000 reported not having to change plans due to limited practice opportunities. Thirty percent (30%) reported they did have to change plans.[10] The percentage who reported changing plans in 2000 was higher than it was in 1999 (21%). Again, this may reflect the increased distribution of new allergists into less allergist-rich areas due to an adequate and/or oversupply in allergist-rich areas.

**Figure 35. Effect of Limited Opportunities on Fellows Completing Training, 1999-2000**




Of those fellows completing training who reported having to change their practice plans, 43% reported seeking employment in another part of the country, 33% reported accepting a positions in less desirable settings, and just under one-fifth (19%) reported accepting positions with less desirable compensation. Others reported accepting overall less desirable positions (14%) and reported continuing subspecialty training (10%). As previously discussed, compared to the fellows completing

[10]For the purpose of comparison, slightly fewer than one-fifth (18%) of all physicians completing training in New York State in 2000 had to change their plans due to limited opportunities (Nolan et al., forthcoming).

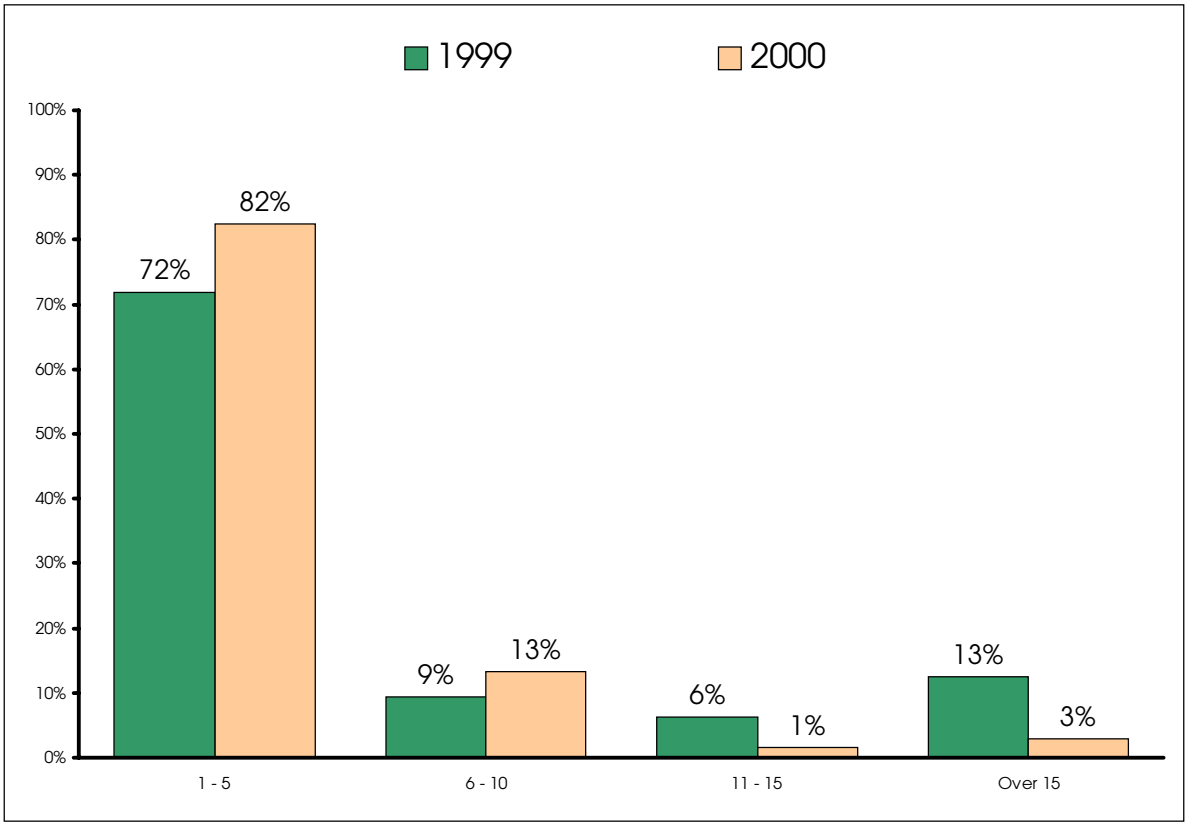
**Table 9. Practice Plan Changes Due to Limited Opportunities of Fellows Completing Training, 1999-2000**

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

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

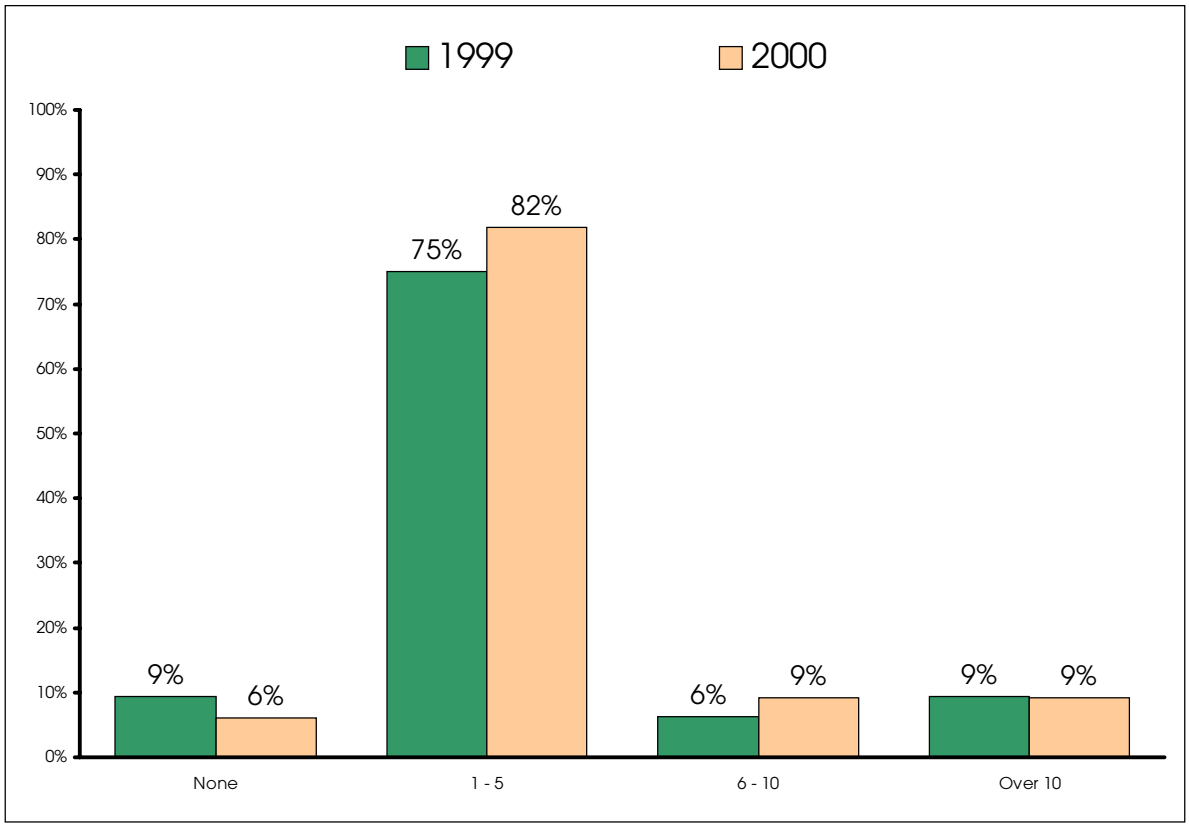
training in 1999, the fellows in 2000 were more likely to report seeking employment in another part of the country (43% compared with 25%). Moreover, there were no fellows completing training in 2000 that reported having to leave the country or temporarily leave medicine. In 1999, 25% of the fellows who had to change their plans due to limited opportunities reported having to leave the country and 13% reported temporarily leaving medicine.

**Figure 36. Number of Positions Applied for by Fellows Completing Training, 1999-2000**



Finally, a quantitative indicator of the health of the job market for new allergists can be constructed by examining the ratio of the number of 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 2000 was 4, and the mean number of position offers was also 4. The ratio of applications to offers was slightly greater than 1. That is, on average, fellows completing training reported receiving about 1 offer for every 1 position for which they applied. The ratio for fellows completing training in 1999 was slightly less than 1.5 (2 offers for every 3 applications). The main difference between the two groups of fellows was that in 2000, the average number of applications was 4 compared to 6 amongst the fellows completing training in 1999.[11]

**Figure 37. Number of Offers Received by Fellows Completing Training, 1999-2000**




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 the vast majority (82% and 88%, respectively) reported applying for and receiving offers on 5 or fewer positions. Only 3% of fellows who reported applying for at least 1 position also reported not receiving any offers. This is down from 9% reported in 1999. In all, the data describing the application and position offered experiences of fellows completing training imply a robust, and somewhat improved in the past year,

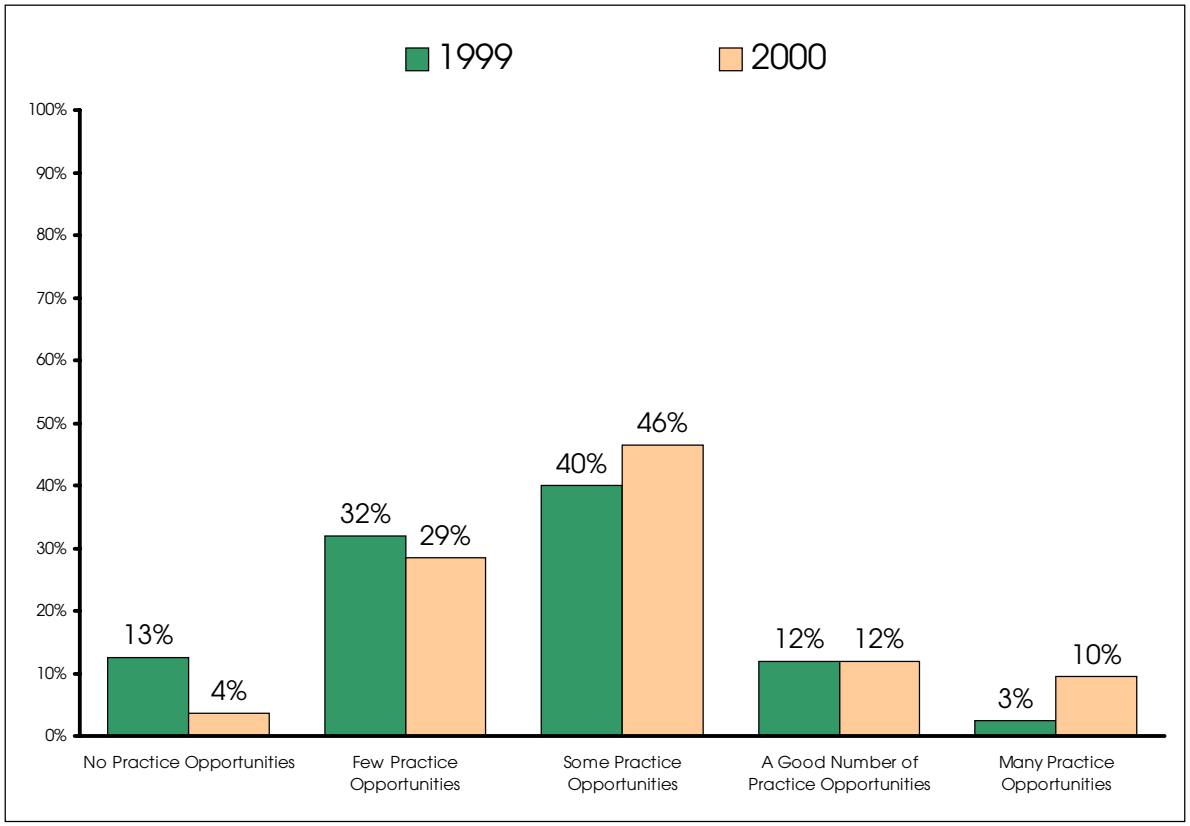
[11]It should also be noted that there were 3 fellows completing training in 1999 and 1 in 2000 who were offered multiple practice positions without having applied for them.

job market for new allergists.

***b. Assessment of Job Market for Allergists***

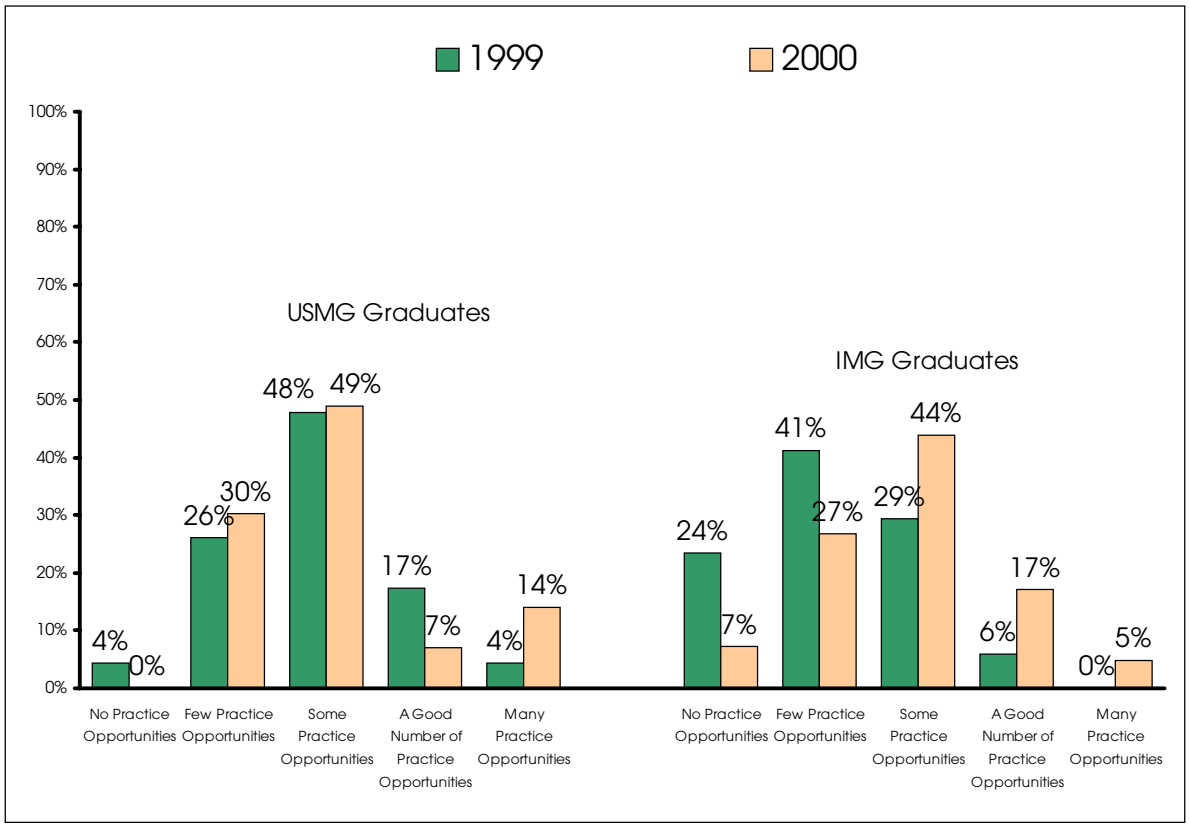
Figure 38[12] presents data on local job market assessments by fellows completing training in 2000. As is evident, most of the fellows reported that the local job market (within 50 miles of where they had done their a/i training) was not very robust. While only 4% of the fellows reported no practice opportunities, 29% reported few practice opportunities. Only 22% of the fellows reported a good number or many practice opportunities. Although these assessments were globally better than those received from the fellows completing training in 1999, it is abundantly clear that 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, 1999-2000**




[12]It should be noted that "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 for allergists. However, in Figures 38-43, the categories of "No Practice Opportunities," "Few Practice Opportunities," "Some Practice Opportunties," "A Good Number of Practice Opportunities," and "Many Practice Opportunities" *are* used to aid in reporting and interpreting the results of the surveys.

**Figure 39. Assessment of Local A/I Practice Opportunities of Fellows Completing Training by Location of Medical School Attended, 1999-2000**

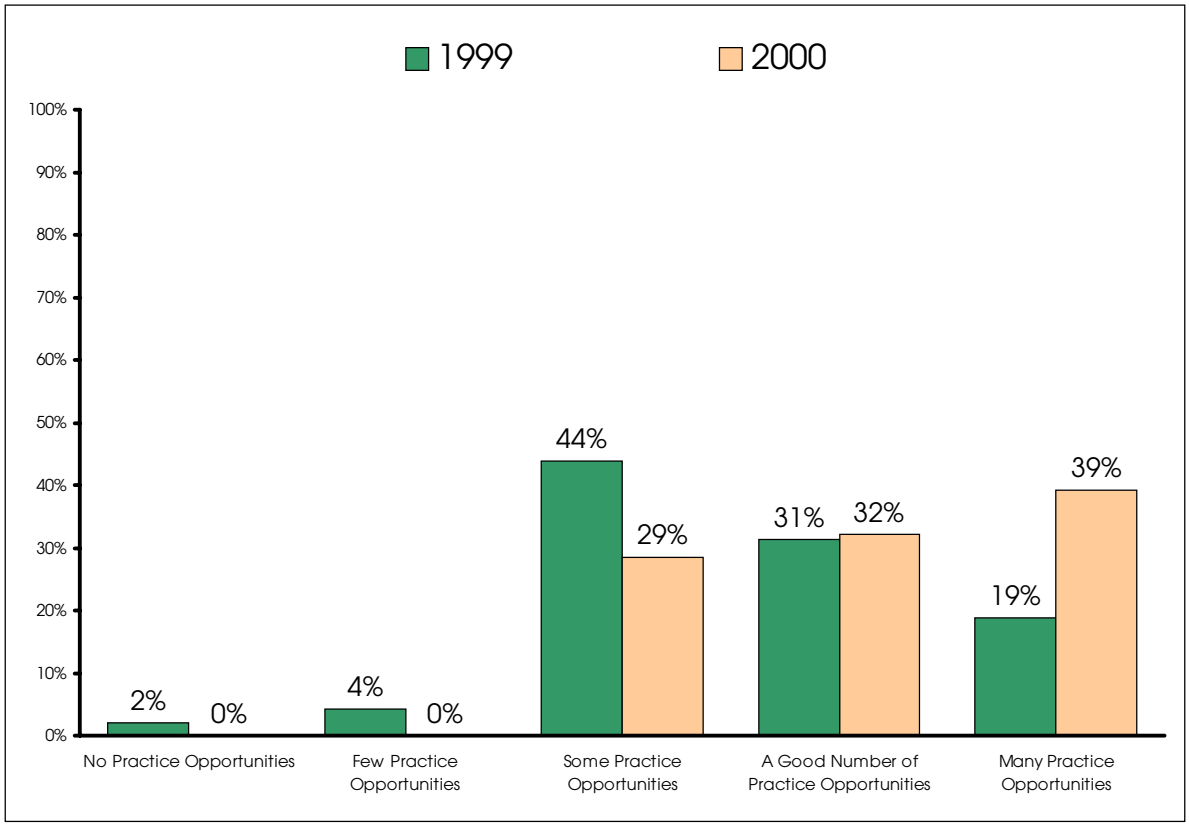



The local job market, however, was not perceived in the same way by all fellows completing training. Figure 39 presents the local job market assessment of fellows completing training by location of medical school attended. USMG fellows completing training in 2000 reported a slightly more positive assessment of the local job market than IMG fellows. Less than one-third (30%) of the USMG fellows completing training reported few or no local practice opportunities compared to slightly more than one-third (34%) of the IMG fellows. Further, none of the USMG fellows reported no local opportunities, while 7% of the IMGs completing training did. Also, 14% of the USMGs reported many practice opportunities compared to 5% of the IMG fellows. Comparing the data from 2000 to 1999, IMG fellows' assessments of the local job market were greatly improved as only 34% reported few or no practice opportunties in 2000 compared to almost two-thirds (65%) in 1999. USMGs' assessments of the local market for new allergists remained largely the same in 2000 as they were in 1999.

Figure 40 reveals a somewhat different picture of the national job market for allergists. Clearly, fellows completing training in 2000 perceived the national job market to be much better than the local market. Almost two-fifths (39%) of the fellows completing training reported many practice

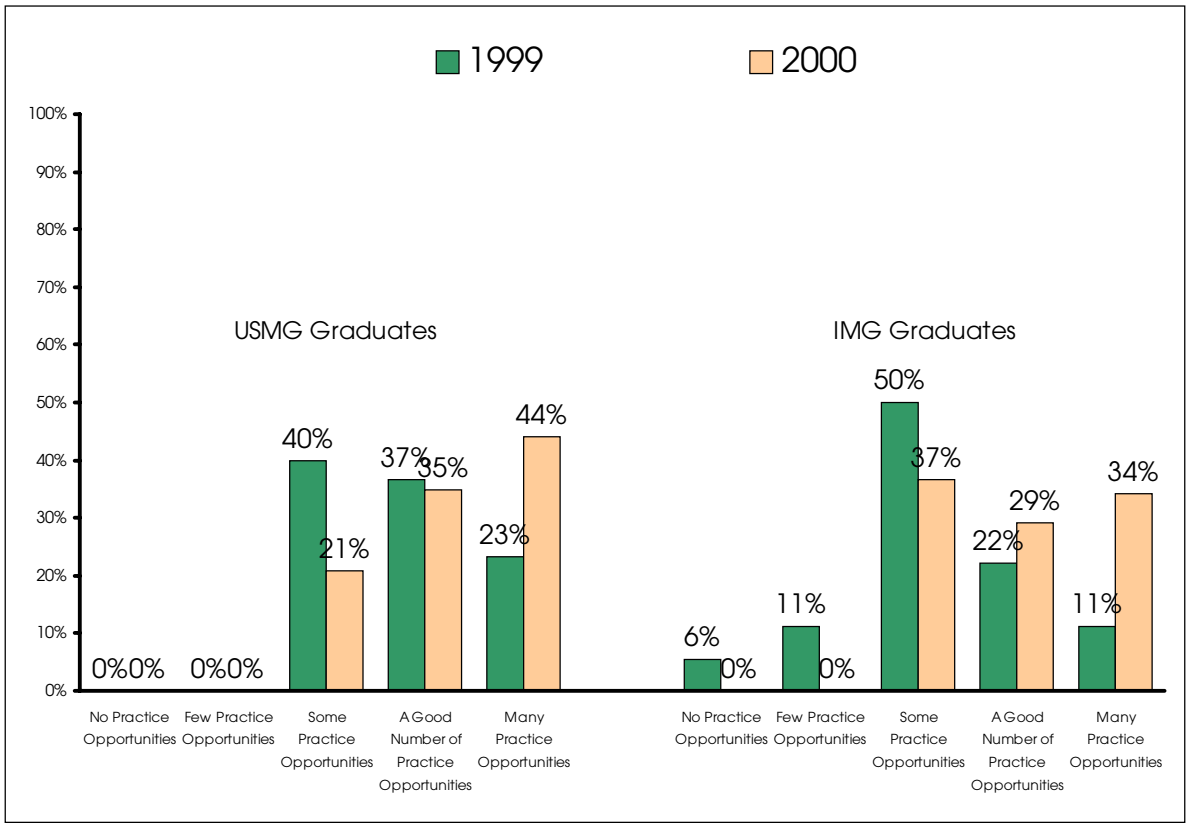
opportunities for allergists nationally. Almost one-third (32%) reported a good number of opportunities, and 29% reported some practice opportunties nationally. These assessments were much more heavily skewed toward the positive end of the national job market assessment scale than the assessments from 1999. Further, there were no fellows that reported few or no national practice opportunities.

**Figure 40. Assessment of National A/I Practice Opportunities of Fellows Completing Training, 1999-2000**




As with the local job market for allergists, the national job market was perceived slightly differently by USMG and IMG fellows completing trianing (Figure 41). USMG fellows assessed the national market slightly more positively, as 44% reported many national practice opportunities compared to 34% of the IMG fellows. Both groups showed an improved assessment of the national job market between 1999 and 2000. Again, the larger improvement occurred within the IMG fellows. In 1999, some 17% reported few or no national practice opportunities, while in 2000, no IMGs reported that this was the case. While not as dramatic, USMGs also assessed the national job market more positively.

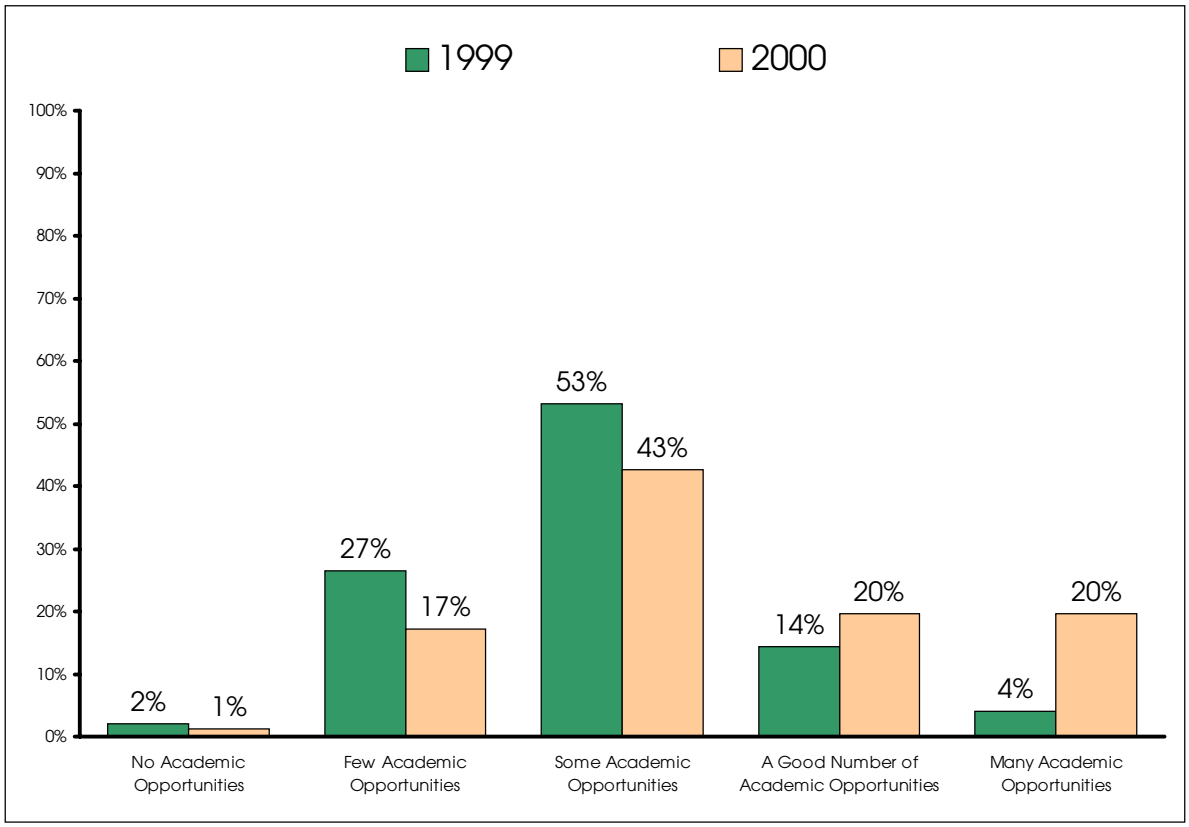
**Figure 41. Assessment of National A/I Practice Opportunities of Fellows Completing Training by Location of Medical School Attended, 1999-2000**




### 5. Academic Careers in A/I

Concerns about academic careers and the academic aspects of allergy and immunology have become more important to a/i stakeholders of late due to concerns about shortages of training faculty. As was discussed in the previous chapter, one of the factors reported by training program directors as important in deciding whether to change the size of a training program is the availability of sufficient faculty. In 2000, 68% of the fellows completing training reported considering academia as a career path. In terms of national academic opportunities, fellows completing training in 2000 perceived the market as somewhat less healthy than the practice markets (Figure 42). Forty percent (40%) of the fellows completing training reported a good number or many academic opportunities nationally. The largest proportion (43%) reported that there were some academic opportunities available. Only 1% reported no academic opportunities, while the remainder (17%) reported few opportunities in academics. The academic job market was perceived as more robust in 2000 than in 1999, where almost a third (29%) reported few or no academic opportunities and only 18% reported a good number or many opportunities.

**Figure 42. Assessment of A/I Academic Job Market of Fellows Completing Training, 1999-2000**

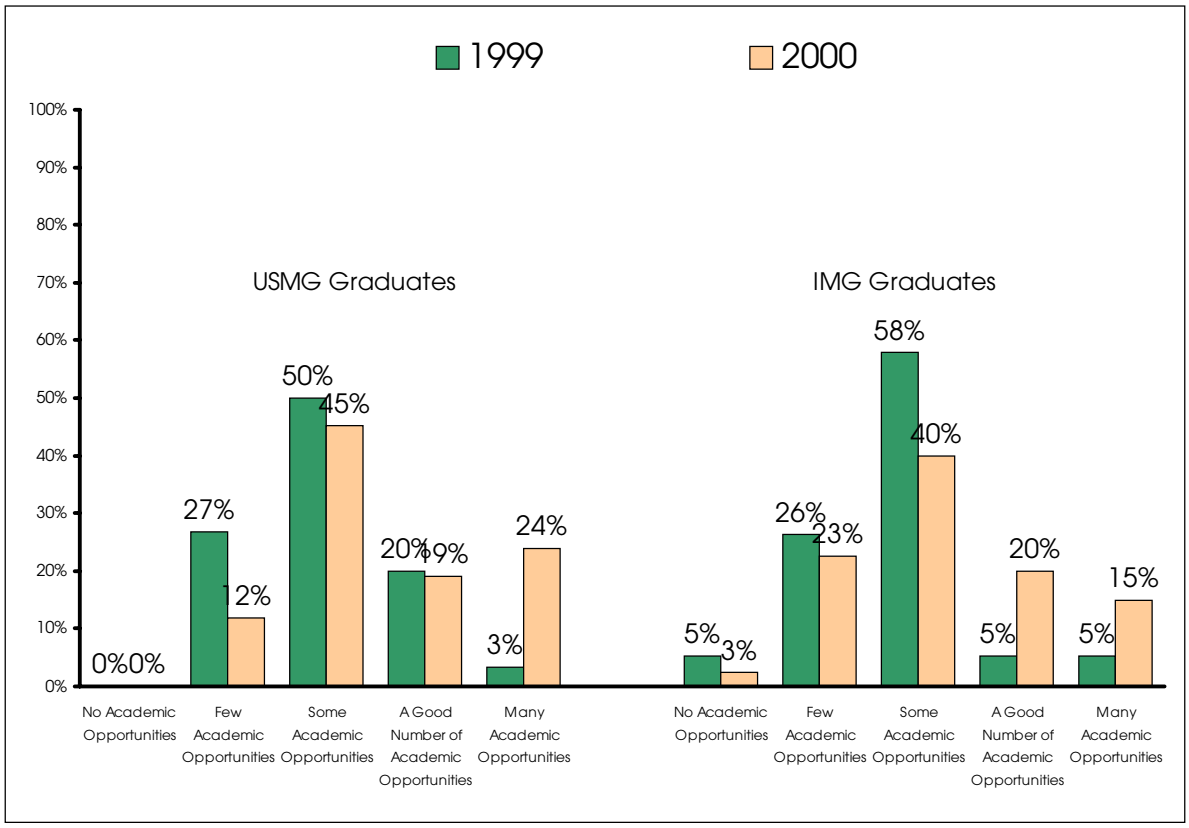



As shown above with respect to the national and local job markets for practicing allergists, USMG fellows reported a slightly better assessment of the national job market in academics than IMGs (Figure 43). Over two-fifths (43%) of the USMG fellows completing training reported a good number or many academic opportunities nationally compared to 35% of the IMG fellows completing training. Slightly more than a quarter (26%) of the IMG fellows reported few or no academic opportunties compared to the 12% of USMG fellows who reported few academic opportunities (no USMG fellows reported an absence of academic opportunities nationally). Further, both USMG fellows and IMG fellows assessed the academic opportunities as more abundant in 2000 than 1999.

## *Conclusions*

It is estimated that 95 fellows completed a/i training in 2000. While the production of new allergists had been declining in recent years (Forte et al. 2000), the class of 2000 appears to have been slightly larger than that of 1999 (84 graduating fellows). Moreover, as it has been projected, the supply of allergists in the United States is moving toward a potential crisis situation with far greater numbers of allergists leaving practice than new allergists being produced (Forte and Salsberg 2000). Based on the results of the survey of fellows completing a/i training in 2000, several conclusions have become apparent.

**Figure 43. Assessment of A/I Academic Job Market of Fellows Completing Training by Location of Medical School Attended, 1999-2000**




First, given its current situation, one of the greatest challenges to a/i is the issue of training IMG physicians. In 2000, almost half of the a/i graduates were IMGs. Of those, more than half were J-1, J-2 exchange visitors who have obligations to return to their countries of citizenship or practice in federally-designated health professional shortage areas. Because of these requirements, such allergists cannot be included in future supply projections because they are likely not to be practicing in the country. It is expected, however, that the number of J-1, J-2 exchange visitors in a/i training will decline as the proportion of a/i fellows-in-training declines. Because a/i fellowship training is 2 years in length, this decline will be seen in the 2001 fellows competing training survey results at the earliest.

Second, the a/i graduate medical education system continues to train patient care physicians. The overwhelming majority of fellows completing training in 2000 reported plans to go into patient care. Further, more than three-quarters of them had secured practice positions at the time of the survey. New allergists are most frequently finding private practice positions that entail spending 40-49 hours in direct patient care per week, and will be compensated through a salary with incentives. For the most part, the new allergists of 2000 were satisfied with their choice of a/i as a career and would

recommend it to other physicians in training. These characteristics did not changed substantially between 1999 and 2000.

Third, results from the fellows completing a/i training in 2000 survey suggest that the job market for allergists is good. There are a good number of practice opportunities nationally, as opposed to within 50 miles of where an allergist trained. USMG graduates assessed the job market as more robust than IMG graduates. Very few new allergists experienced difficulties finding a position, and those that did were able to find positions in less desirable locations or in less desirable practice settings. In fact, in 2000 the distribution of locations where new allergists found positions was different than it was in 1999. New allergists were finding positions in traditionally allergist-poor areas, suggesting that the concentration of allergists in certain regions of the country may be changing. That is, particular regions of the country which had previously attracted allergists may no longer be able to support new allergists. At the same time, areas that were not able to attract allergists may now be viable locations for new practices. It should be interesting to examine these aspects of the allergy physician workforce over the next few years.

Finally, as noted in the previous chapter, the academic career track for physicians trained in a/i is of increasing concern to a/i stakeholders. Fellows completing training in 2000 confirm the results of the a/i program director survey in that there appears to be an abundant supply of opportunities in academic medicine for allergists. These current opportunities are likely to increase over time as well, if serious efforts are made to increase the number of a/i fellows-in-training.

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# APPENDIX A: A/I TRAINING PROGRAM DIRECTOR SURVEY, 2000

**2000 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.

*Please mark only one answer for each question unless otherwise directed.*

**A. ALLERGY AND IMMUNOLOGY FELLOWSHIP PROGRAM CHARACTERISTICS**

1. How many applications did your program receive for the following academic years:

| Applications | Academic Year |
|---|---|
| _____ | 1999-2000 |
| _____ | 2000-2001 |
| _____ | 2001-2002 |

2. 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.

| Entering Fellows | | | Academic Year |
|---|---|---|---|
| Pediatrics | Internal Medicine | Combined Peds/IM | |
| _____ | _____ | _____ | 1999-2000 |
| _____ | _____ | _____ | 2000-2001 |
| _____ | _____ | _____ | 2001-2002* |

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

| Fellows Completing Training | | | Academic Year |
|---|---|---|---|
| Pediatrics | Internal Medicine | Combined Peds/IM | |
| _____ | _____ | _____ | 1999-2000 |
| _____ | _____ | _____ | 2000-2001* |
| _____ | _____ | _____ | 2001-2002* |

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

4. A) 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

B) 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

5. A) 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

B) 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

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

- ○ Very positively
- ○ Somewhat positively
- ○ Neutrally
- ○ Somewhat negatively
- ○ Very negatively

B) How do you think the views of pediatric and internal medicine residents about Allergy and Immunology have changed over the previous 3 years?

○ Become worse ○ Remained about the same ○ Become better

**B. ALLERGY AND IMMUNOLOGY JOB MARKET**

1. Indicate the percentage of fellows graduating from your program in the past 5 years who find 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 1998-1999 academic year experienced difficulties finding full-time employment opportunities in Allergy and Immunology?
   - ○ Many Difficulties
   - ○ Some Difficulties
   - ○ No Difficulties
   - ○ Don't Know

3. How do you anticipate the job market experiences of fellows who complete your training program during the 1999-2000 academic year will compare to those who completed training during the 1998-1999 academic year?
   - ○ Many more opportunities / far fewer difficulties finding positions
   - ○ Some more opportunities / fewer difficulties finding positions
   - ○ About the same
   - ○ Fewer opportunities / some more difficulties finding positions
   - ○ Far fewer opportunities / many more difficulties finding positions

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?
   - ○ Many new practice opportunities for new graduates
   - ○ Some new practice opportunities for new graduates
   - ○ No change
   - ○ Fewer practice opportunities for new graduates
   - ○ Far fewer practice opportunities for new graduates

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

| No Positions | | Some Positions | | Many Positions |
|---|---|---|---|---|
| **0** | **1** | **2** | **3** | **4** |
| ○ | ○ | ○ | ○ | ○ |

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

| No Positions | | Some Positions | | Many Positions |
|---|---|---|---|---|
| **0** | **1** | **2** | **3** | **4** |
| ○ | ○ | ○ | ○ | ○ |

7. 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:

_____

_____

_____

_____

_____

***THANK YOU FOR TAKING THE TIME TO HELP IN THIS STUDY!***

Please return the completed questionnaire in the enclosed SASE to:

Center for Health Workforce Studies
School of Public Health, University at Albany
One University Place, Suite 200
Rensselaer, NY 12214-3456

If you have questions about the questionnaire or the study, please call the Center at 518-402-0250

## Appendix B: TPD Survey Technical Details

### 1. Definition of the Population

The Center defines 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 historically accounted for very many allergists. Focusing on the active, accredited allergy and immunology fellowship programs, the main producers of new formally-trained allergists, is appropriate and allows for comparisons with the 1999 survey data.

### 2. 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 71 fellowship programs at the time of the survey (late Spring 2000).

### 3. Survey Mailing Details

On May 19, 2000, each director was sent a package consisting of a 3 page survey, a cover letter, 5 fellow exit surveys for their 2000 graduates, a summary of the 1999 training program and fellow exit surveys, and a self-addressed, stamped return envelope. As an incentive to complete the survey (as well as distribute and collect the fellow exit surveys) each director was offered a summary of the 2000 survey results.

A follow up packet was sent to the 43 non-respondents on June 13, 2000 that consisted of a cover letter, another copy of the program director survey, a summary of the 1999 training program and fellow exit surveys, 5 more fellow exit surveys for their 2000 with separate envelopes, and a self-addressed, stamped return envelope. A second follow up to the 30 non-respondents was distributed on July 7, 2000. On July 27, 2000, phone follow ups to the 19 non-respondents were initiated. A total of 4 rounds of phone follow ups were conducted. The follow ups ended October 6, 2000.

### 4. Response Rate Analysis

In all, 63 directors of the 71 active, accredited programs responded to the survey for a response rate of 89%. The main concern, in terms of representativeness, is the geographic location of the program. To determine whether survey response rates vary significantly across geographic location, response rates have been calculated for two sets of geographic areas. Table 1 presents the survey response rates by geographic area within the United States as well as the results of the statistical test to determine whether response rate differences are statistically significant. As is evident, there is

statistically significant variation in response rate by geographic area. However, statistically significant variation from the overall response rate only occurs in those areas where there was a 100% response rate which suggests that the statistical significance is an artifact of sample size.

**Table 9. Response Rate by Geographical Location, 2000 Training Program Director Survey**

**Geographic Location**

***Overall Response Analysis***

| | Rate | N | Responses |
|---|---|---|---|
| Overall | 90.1% | 71 | 64 |

***Census Region***

| | Rate | N | Responses | $t^{sig}$ |
|---|---|---|---|---|
| Northeast | 90.5% | 21 | 19 | 0.05 |
| Midwest | 88.2% | 17 | 15 | -0.22 |
| South | 100.0% | 21 | 21 | 2.79 |
| West | 75.0% | 12 | 9 | -1.17 |

***Census Division***

| | Rate | N | Responses | $t^{sig}$ |
|---|---|---|---|---|
| New England | 100.0% | 5 | 5 | 2.79 |
| Middle Atlantic | 87.5% | 16 | 14 | -0.29 |
| East North Central | 100.0% | 9 | 9 | 2.79 |
| West North Central | 75.0% | 8 | 6 | -0.96 |
| South Atlantic | 100.0% | 12 | 12 | 2.79 |
| East South Central | 100.0% | 2 | 2 | 2.79 |
| West South Central | 100.0% | 7 | 7 | 2.79 |
| Mountain | 100.0% | 2 | 2 | 2.79 |
| Pacific | 70.0% | 10 | 7 | -1.35 |

*$p < .05$

# APPENDIX C: EXIT SURVEY OF FELLOWS COMPLETING A/I TRAINING, 2000

**2000 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 2000. Your response will be **confidential** and will be reported only in national and regional tabulations and summaries.

*Please mark only one answer for each question unless otherwise directed. For questions with boxes for responses, please print responses neatly.*

**A. DEMOGRAPHIC CHARACTERISTICS**

1. Gender:
   - ○ Female
   - ○ Male

2. Age: ☐☐

3. Citizenship Status
   - ○ Native Born U.S.
   - ○ Naturalized U.S.
   - ○ Permanent Resident
   - ○ H-1, H-2, H-3 Temporary Worker
   - ○ J-1, J-2 Exchange Visitor
   - ○ Other, specify: _____

4. Race/Ethnicity:
   - ○ Asian or Pacific Islander
   - ○ Black / African American (non-Hispanic)
   - ○ Hispanic / Latino(a)
   - ○ Indian Subcontinent
   - ○ Middle Easterner
   - ○ Native American / Alaskan
   - ○ White (non-Hispanic)
   - ○ Other, specify: _____

5. Professional Memberships: (*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

6. Type of Medical School Education: ○ Allopathic (M.D.) ○ Osteopathic (D.O.)

7. A) Medical School:
   - ○ United States (if yes, complete below)
   - ○ Canada
   - ○ Other Country (specify: _____)

   B) Specify state if medical school in the United States:

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ○ AL | ○ CT | ○ IL | ○ MD | ○ MO | ○ NM | ○ OK | ○ SC | ○ VT |
| ○ AZ | ○ DC | ○ IA | ○ MA | ○ NE | ○ NY | ○ OR | ○ SD | ○ VA |
| ○ AR | ○ FL | ○ KS | ○ MI | ○ NV | ○ NC | ○ PA | ○ TN | ○ WA |
| ○ CA | ○ GA | ○ KY | ○ MN | ○ NH | ○ PR | ○ ND | ○ TX | ○ WV |
| ○ CO | ○ HI | ○ LA | ○ MS | ○ NJ | ○ RI | ○ OH | ○ UT | ○ WI |

8. Graduate Medical Education:

| Specialties in which you have **completed** training at the **graduate** level: (*Mark all that apply*) | If subspecializing/doing additional fellowship: Specialty you are **entering this year**: | |
|---|---|---|
| ○ | ○ | 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: |

9. Year completed Initial Residency training (i.e., pediatrics, internal medicine, combined program):

Initial Residency: 19 ☐☐

10. Years of Allergy and Immunology fellowship training completed as of 6/30/00:
    ○ 1 ○ 2 ○ 3 ○ 4+

## C. FUTURE PLANS

11. What do you expect your principal work activities to include after completion of your current fellowship program?
    (*Mark all that apply*)
    - ○ Patient Care / Clinical Practice
    - ○ Additional Subspecialty Training or Fellowship Medicine
    - ○ Research (Academic Medicine)
    - ○ Research (Industry)
    - ○ Teaching
    - ○ Temporarily Inactive in
    - ○ Other, specify: _____
    - ○ Undecided

12. Which best describes the location of your primary activity after training?
    - ○ Same city/county as current training
    - ○ Same state – but different city/county
    - ○ Other state
    - ○ Outside United States

13. If you are going on for **additional residency training/fellowship** in 2000, what are the main reasons?

(*Mark all that apply*)

- ○ To further your medical education
- ○ Unable to find a satisfying position
- ○ Unable to find any position
- ○ Other, specify: _____

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

- ○ Yes
- ○ No

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

- ○ Yes
- ○ No (Skip to Part E)

## If you are <u>not</u> planning to provide Patient/Clinical Care services after completing your current training: <u>Skip to Part E</u>

**D. SPECIFIC PLANS**

**If you are going to provide Patient/Clinical Care services:**

16. Which best describes the type of **Practice Setting** you will be entering? (*Please mark only one in the principal column and, if appropriate, only one in the secondary.*)

| a) Principal Practice Setting | b) 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 |
| ○ | ○ | Undecided |

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

| **<u>Activities</u>** | **0–9 hrs.** | **10-19 hrs.** | **20-29 hrs.** | **30-39 hrs** | **40-49 hrs** | **50+ hrs.** |
|---|---|---|---|---|---|---|
| Direct Patient Care | ○ | ○ | ○ | ○ | ○ | ○ |
| Research/Clinical Trials | ○ | ○ | ○ | ○ | ○ | ○ |
| Teaching | ○ | ○ | ○ | ○ | ○ | ○ |
| Administration | ○ | ○ | ○ | ○ | ○ | ○ |

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

| | | | |
|---|---|---|---|
| ○ 0% | ○ 21 – 30% | ○ 51 – 60% | ○ 81 – 90% |
| ○ 1 – 10% | ○ 31 – 40% | ○ 61 – 70% | ○ 91 – 100% |
| ○ 11 – 20% | ○ 41 – 50% | ○ 71 – 80% | |

17. What is the zip code of the **principal practice address** at which you will be working *(if zip code is unknown, please indicate city/town and state)*?

Principal Practice Zip Code ☐☐☐☐☐

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ City/Town ☐☐ State

18. Which best describes the area in which your principal practice is located?
    - ○ Inner city
    - ○ Other area within major city
    - ○ Suburban
    - ○ Small city (population less than 50,000)
    - ○ Rural

19. How will you be compensated at your principal practice?
    - ○ Salary without incentive
    - ○ Salary with incentive
    - ○ Self-employment practice income
    - ○ Other, specify: _____

20. Expected Personal Income during first year of practice (all sources):

| a) Base Salary/Income | b) Anticipated Additional Incentive Income |
|---|---|
| ○ Less than $75,000 | ○ Less than $10,000 |
| ○ $75,000 - $99,999 | ○ $10,000 - $19,999 |
| ○ $100,000 - $124,999 | ○ $20,000 - $29,999 |
| ○ $125,000 - $149,999 | ○ $30,000 - $39,999 |
| ○ $150,000 - $175,000 | ○ $40,000 - $50,000 |
| ○ Over $175,000 | ○ Over $50,000 |

21. What is your level of satisfaction with your anticipated salary/compensation?
    - ○ Very Satisfied
    - ○ Somewhat Satisfied
    - ○ Somewhat Dissatisfied
    - ○ Very Dissatisfied

22. Will you be practicing in a federally designated Health Professional Shortage Area?
    ○ Yes ○ No ○ Unknown

23. Do you expect to be at your principal practice **more than 3 years**?
    ○ Yes ○ No ○ Undecided

24. Would you recommend the specialty of Allergy and Immunology to medical students or other physicians in training?
    ○ Yes ○ No

**E. EXPERIENCE IN JOB MARKET**

25. a) Did you have a difficult time finding a position you were satisfied with?
    - ○ Yes
    - ○ No
    - ○ Haven't looked yet (*Skip to question 29*)

b) **IF YES**, what would you say were the **main reasons**? (*Please identify up to three*)

- O Overall lack of positions / practice opportunities
- O Lack of positions in desired locations
- O Lack of positions in desired setting (e.g., Hospital, HMO, Group Practice, Academic Medical Center, etc.)
- O Inadequate salary / compensation offered
- O Limited opportunities due to visa status
- O Family considerations
- O Other, specify: _____

26. a) Did you have to change your plans because of limited opportunities?
    - O Yes (*If yes, specify below*)
    - O No

    b) **IF YES**, how did you change your plans? (*Please mark all that apply*)
    - O Sought employment in different region of country
    - O Continued training in a subspecialty
    - O Temporarily left medicine
    - O Accepted less desirable position
    - O Accepted less desirable compensation
    - O Accepted less desirable setting or location
    - O Other, specify: _____

27. How many positions did you seriously consider/apply to?

| | | |
|---|---|---|
| O None | O 3 | O 6 - 10 |
| O 1 | O 4 | O 11 - 15 |
| O 2 | O 5 | O Over 15 |

28. How many employment / practice offers did you receive?

| | | |
|---|---|---|
| O None | O 3 | O 6 - 10 |
| O 1 | O 4 | O Over 10 |
| O 2 | O 5 | |

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

| No Positions | | Some Positions | | Many Positions |
|---|---|---|---|---|
| **0** | **1** | **2** | **3** | **4** |
| O | O | O | O | O |

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

| No Positions | | Some Positions | | Many Positions |
|---|---|---|---|---|
| **0** | **1** | **2** | **3** | **4** |
| O | O | O | O | O |

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

| No Positions | | Some Positions | | Many Positions |
|---|---|---|---|---|
| **0** | **1** | **2** | **3** | **4** |
| O | O | O | O | O |

32. a) Did you ever consider / are you considering a career in **Academics**?
    - O Yes
    - O No (*If no, specify below*)

b) **IF NO**, what would you say were/are the main reasons?

- ○ No positions available
- ○ Unable to obtain an academic appointment
- ○ Decided Academics is not what I wanted
- ○ Other, specify: _____

33. 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:

_____
_____
_____
_____
_____
_____
_____
_____

***THANK YOU FOR TAKING THE TIME TO HELP IN THIS STUDY!***

Please return the completed questionnaire to your program director.

Center for Health Workforce Studies
School of Public Health, University at Albany
One University Place, Suite 200
Rensselaer, NY 12214-3456

If you have questions about the questionnaire or the study, please call the Center at 518-402-0250

## Appendix D: Exit Survey Technical Details

### 1. Definition of the Population

The Center defines the study population as physicians who completed allergy and immunology fellowship programs in the United States in 2000. Physician 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.

### 2. Mailing List Sources and Mailing Details

For this 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 2000. Instead, during the distribution of the program director survey, program directors were asked to distribute the fellow exit survey to their graduating fellows. Five (5) fellow exit surveys were included in each of the three mailing (see above) to program directors. It came to the Center's attention after the first mailing that to ensure the confidentiality of the respondents, a separate self-addressed, stamped envelope for each exit survey was necessary. For the 2 follow ups, these seperate envelopes were included.

### 3. Response Rate Analysis

The Center received 97 responses to the 2000 fellow exit survey. Initial "eye-balling" of the data revealed that some of the responses were from physicians who had not yet completed their fellowship training. It was determined that 84 of the responses were from actual fellowship completers. The Center estimates that 95 physicians completed allergy and immunology training in the United States in 2000. Thus, the estimated response rate for the survey is 88%. Because there were no data points observed prior to adminstration of the surveys, however, there is no definite way to determine how representative the responses are of the total population of physicians completing allergy and immunology training.

Following from the Fellow Exit Survey 1999 analysis, to *indirectly* assess representativeness, response rates by geographical area of the fellowship program from which the fellows graduated can be examined. The comparison of interest is the response rate of programs with graduates. Of the programs that responsed, 58 reported that they had graduates in 2000. The Center received fellow exit surveys from fellows who graduated from 44 of those programs generating a 76% indirect response rate. Table 10 presents this response rate by geographical area. While there is wide variation amongst divisions these response rates, with the exception of the two with 100% response rates (East South Central and Mountain Census Divisions), the rates do not vary statistically from the overall rate. Therefore, 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 2000. It should be noted that while this method of determining representativeness is not ideal, it is the only option for this survey.

**Table 10. Indirect Response Rate by Geographical Location, 2000 Fellow Exit Survey**

**Geographic Location**

***Overall Response Analysis***

| | *Rate* | *N* | *Responses* |
|---|---|---|---|
| Overall | 75.9% | 58 | 44 |

***Census Region***

| | *Rate* | *N* | *Responses* | $t^{sig}$ |
|---|---|---|---|---|
| Northeast | 75.0% | 16 | 12 | -0.07 |
| Midwest | 73.3% | 15 | 11 | -0.20 |
| South | 85.7% | 21 | 18 | 1.04 |
| West | 50.0% | 6 | 3 | -1.22 |

***Census Division***

| | *Rate* | *N* | *Responses* | $t^{sig}$ |
|---|---|---|---|---|
| New England | 60.0% | 5 | 3 | -0.70 |
| Middle Atlantic | 81.8% | 11 | 9 | 0.46 |
| East North Central | 88.9% | 9 | 8 | 1.10 |
| West North Central | 50.0% | 6 | 3 | -1.22 |
| South Atlantic | 83.3% | 12 | 10 | 0.62 |
| East South Central | 100.0% | 2 | 2 | 4.30* |
| West South Central | 85.7% | 7 | 6 | 0.69 |
| Mountain | 100.0% | 1 | 1 | 4.30* |
| Pacific | 40.0% | 5 | 2 | -1.59 |

** p < .05*