Use of Nonphysician Providers and the Allergy/Immunology Physician Marketplace:

A Summary of Responses to an IBIS Panel Survey

February 2004



The Center for Health Workforce Studies University at Albany, State University of New York http://chws.albany.edu

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Preface

In order to better understand the trends and dynamics affecting the supply, demand, and distribution of allergists/immunologists in the United States, the Center for Health Workforce Studies at the University at Albany, State University of New York School of Public Health, at the request of the American Academy for Allergy, Asthma, and Immunology, has examined a variety of aspects of the allergist workforce. Since 1998, the Center has tracked the evolution of the allergist workforce through a number of surveys of practicing allergists, allergy and immunology fellowship program directors, and recent graduates of allergy and immunology fellowship programs.¹

In the spring of 2002, the Center recruited a representative panel of practicing allergist/ immunologists to participate in a series of online surveys conducted in order to keep abreast of developments within the specialty as well as the opinions of practicing allergist/immunologists on a number of timely topics selected in consultation with the Academy's Workforce Committee. The first survey of the panel was conducted in the fall of 2002. The survey focused on: 1) the volunteer activities of allergist/immunologists; and 2) an updated assessment of the allergist/immunologist marketplace. The results of the first survey were detailed in "Volunteerism and the Allergist/Immunologist Physician Marketplace: A Summary of Responses to an IBIS Panel Survey," released in February 2003. The current report summarizes the results of the second survey of the panel. The second survey was conducted in the late fall of 2003 and focused on the use of nonphysician providers (NPPs, e.g., physician assistants and nurse practitioners) in allergy/immunology practice as well as another update on the allergist/immunologist marketplace.

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,

¹ The Center's tracking efforts have produced a number of reports on the results of these surveys, including: a historical report, "The Supply, Demand and Distribution of Allergists and Immunologists in the United States, A Descriptive Analysis," (May 1999); "Physicians Providing Allergy and Immunology Services in the United States, 1999," (March 2000); a comprehensive report on the specialty, "The Allergy and Immunology Physician Workforce 2000," (June 2000); a brief examination of managed care and allergy practice, "Managed Care and Allergy and Immunology GME Surveys 2001); 3 annual graduate medical education tracking reports, "Allergy and Immunology GME Surveys 2000," (January 2001), "Allergy and Immunology GME Surveys 2001," (March 2002), and "Allergy and Immunology GME Surveys 2002," (February 2003); and an overview of second year internal medicine and pediatric residents," (February 2002).

and use of health workers. This report was prepared by Gaetano J. Forte and Edward S. Salsberg.

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

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I. Overview

The second IBIS survey was distributed in the late fall of 2003 to 302 allergist/immunologists practicing in the United States who had enrolled on the panel in the spring of 2002 and were representative of all practicing allergists/immunologists in the US. The Center received responses from 168 physicians for a response rate of 56%.² All responses were weighted taking into account gender, age, and geographical region to standardize to the characteristics of the allergist/immunologist population, thereby correcting for the over- or under-representation of any specific subgroup in the population.

The survey focused on two specific issues: 1) the use of nonphysician providers (NPPs, e.g., physician assistants and nurse practitioners³) in allergy/immunology practice; and 2) the allergist/immunologist marketplace.

The growing supply of nurse practitioners (NPs) and physician assistants (PAs) as well as pressures to improve efficiency have contributed generally to a greater use of NPPs in medicine. However, there is little information on how NPPs are being used in the practices of allergists/immunologists and their impact on the practice of allergy/immunology.

In the late 1990s, allergy/immunology stakeholders were concerned about the future of the specialty as interest had waned among young physicians, especially US medical school graduates. More recently, it appears that interest in the specialty has returned and that the supply of allergists/immunologists is increasing. The current survey was designed to help assess the effect of recent developments on the allergy/immunology on the marketplace.

A copy of the survey instrument can be found in Appendix A. Summary data tables can be found in Appendix B.

² This response rate is typical for a survey of this size. For more information on trends in response rates for survey of physicians, see Cummings et al 2001. Also, it should be noted the response to this survey was significantly higher than to the first IBIS panel survey (43%).

³ For this survey and report, the Center operationalized nonphysician providers as physician assistants and nurse practitioners. While it is certainly the case that there are other health professionals who could be considered nonphysician providers (e.g., certified nurse anesthetists, certified nurse midwives, etc), PAs and NPs are the most commonly associated NPPs in private medical practices where the majority of allergist/immunologists practice currently.

II. Use of Nonphysician Providers in Allergy/Immunology Practice

The second IBIS panel survey included a number of questions concerning the use of NPPs in allergy/immunology practice. First, the survey elicited information on the number of physician assistants and nurse practitioners working with the panel members. Panel members were asked how long they had been practicing with NPPs and their degree of satisfaction with the NPPs with which they work. Second, the survey queried the panel on whether they planned to increase the number of NPPs working with them in the next two years. Finally, panel members were asked to identify the ways in which NPPs were used in their practices and what kinds of contributions NPPs provided their practices.

A) Nonphysicians Providers in Allergy/Immunology Practice

Overall, 27% of the panel members indicated that they worked directly with NPPs in their allergy/immunology practices. Allergists/immunologists in group practices were significantly more likely to work directly with NPPs than those in solo practice. Female respondents were slightly more likely to work directly with NPPs than males, but the difference was not statistically significance. Similarly, younger (those under age 55) allergists/immunologists were more likely to work directly with NPPs than their older counterparts (age 55 and above), but the difference failed to reach statistical significance.

Among those that worked with NPPs, allergists/immunologists were more than twice as likely to work with NPs as with PAs. On average, allergist/immunologists worked with 1.4 nurse practitioners (NPs) and 0.6 physician assistants (PAs). Moreover, in all subgroups (males, females, younger, older, solo practice, group practice, and hospital practice), allergist/ immunologists were significantly more likely to work with NPs than PAs. Neither the number of PAs nor the number of NPs with whom allergists/immunologists worked directly varied significantly by gender, age, or practice setting.

Among allergist/immunologists who reported working with NPPs, the majority (59%) have been working with NPPs for less than 5 years supporting the contention that the use of NPPs has been increasing. The length of time that allergist/immunologists have practiced with NPPs does not vary statistically with gender or age. However, allergist/immunologists working in group practices were significantly more likely to report working with NPPs for a longer period of time than those in other settings.

B) Uses and Contributions of Nonphysician Providers in Allergy/Immunology Practice

Respondents indicated that NPPs are used in a variety of ways in allergy/immunology practice. The most common use of NPPs reported by allergist/immunologists was to see routine follow-up patients (94%). Just over half (52%) of allergist/immunologists reported that NPPs see new patients.

Less than a third (29%) of respondents reported that NPPs in their practice had their own panels of patients. Other uses of NPPs in allergy/immunology practice reported include educational aspects of practice (e.g., working with patients on asthma care plans), serving as the initial point of contact during a patient visit, as well as assisting in clinical research.

There were some differences of note on the use of NPPs according to gender, age, and practice setting. Male allergist/immunologists were significantly more likely to report that NPPs were seeing routine follow-up patients than their female counterparts. In addition allergist/ immunologists working in group practice settings were significantly more likely to report that NPPs were seeing routine follow-up patients than those working in solo or hospital practices. Further, younger allergist/immunologists were significantly more likely to report that NPPs had their own panels of patients in their practices than older allergist/immunologists. Finally, allergist/immunologists in solo practice were significantly less likely to report that NPPs had their own panels of patients than those in hospital and group practices.

C) Satisfaction with Nonphysician Providers in Allergy/Immunology Practice

NPPs were reported to be providing a number of benefits to allergy/immunology practice. The vast majority of allergists/immunologists (89%) reported that using NPPs increases the number of patients that can be seen. Similarly, two-thirds (66%) of allergist/immunologists reported that using NPPs increases the efficiency of their offices. More than half (53%) of the respondents reported that using NPPs increased the income of their practices as well. However, female allergist/immunologists and those under age 55 were significantly less likely to report improved efficiency than their respective counterparts.

Almost three-quarters (69%) of allergist/immunologists reported that the use of NPPs improved patient satisfaction in their practices. This proportion did not vary statistically by gender, age, or practice setting. Slightly less than half (49%) of the respondents reported that the use of NPPs improved the quality of care in their practices. This proportion did not vary statistically by gender, age, or practice setting.

A large proportion of allergists/immunologists (71%) indicated that they were very satisfied with the NPPs in their practices. Only a small group (11%) indicated any dissatisfaction, and

no respondents reported that they were very dissatisfied with the NPPs with whom they are working. Neither gender nor age nor practice setting was found to be associated with level of satisfaction with NPPs among allergists/immunologists.

D) Plans to Increase Nonphysician Providers in Allergy/Immunology Practice

When asked whether they had plans to increase the number of NPPs in their practices, allergists/immunologists who reported currently working with NPPs were significantly more likely to report plans to increase the number of NPPs in their practices over the next two years when compared to other allergists/immunologists. Overall, very few allergist/immunologists answered indicated plans to increase the use of NPPs. The likelihood of that an allergist/ immunologist reported plans to increase the number of NPPs in their practice did not vary by gender, age, or practice setting.

III. Assessing the Allergy/Immunology Marketplace

The second focus of the second IBIS panel survey was an assessment of the allergy/ immunology marketplace. The Center conducted an initial assessment of the allergist/ immunologist marketplace in the 1999 *Survey of Physicians Providing Allergy and Immunology Services in the U.S.* In 2002, an updated assessment was conducted on the first IBIS panel survey. The results of the previous assessments are compared to the results of the current assessment below. In addition, the current marketplace assessment is examined in greater detail by gender, age, and practice setting. Finally, a new question was added to the battery describing the allergy/immunology marketplace: waiting times for a non-emergent appointment.

A) Practice Capacity

A majority of allergist/immunologists (60%) reported that their practices were *far from full* and could accept many more patients. Very few (2%) allergist/immunologists reported that their practices were full and could not accept any more allergy/immunology patients. A large portion (38%) of the respondents reported that they could accept some more allergy/ immunology patients (i.e., their practices were nearly full). Practice capacity varied statistically by gender and practice settings, with female allergist/immunologists and those working in hospital settings reporting less excess capacity in their practices than their male and non-hospital-based counterparts, respectively. No differences were noted by age. Relative to the previous assessments of reported practice capacity, no statistically significant changes have occurred.

B) Local Practice Opportunities

The majority of allergists/immunologists (62%) indicated that there were *few* opportunities available in their local communities (i.e., within a 50 mile radius of their principal practice location). More than a quarter (28%) reported that there were *no* available practice opportunities in the local communities. Only 10% of allergists/immunologists reported that there were a *good number* or more available practice opportunities in their local communities. Female allergist/immunologists reported a better outlook for local practice opportunities than their male counterparts. Older allergist/immunologists were less likely to report no local practice opportunities than their younger counterparts. Hospital-based allergist-immunologist reported the highest level of local practice opportunities, followed by those in solo practice, with allergist/immunologists in group practices reporting the fewest local practice opportunities. Compared to previous assessments of local practice opportunities, respondents to the survey reported fewer available opportunities.

C) Local Supply and Demand

Almost half (46%) of the allergists/immunologists reported that the supply of providers and demand for services were *balanced*. A relatively high percent (37%) reported that the *demand was lower than the supply* of allergist/immunologists. Some (18%) indicated that the demand for allergy/immunology services was higher than the supply of allergist/immunologists practicing in their communities. Female allergist/immunologists were significantly more likely to indicate that demand was greater than supply than their male counterparts. Allergist/ immunologists working in group practices were significantly more likely to report that the demand for allergy/immunology was lower than the supply of allergist/immunologists. No differences were observed based on the age of the respondent. Compared to previous assessments of supply and demand, respondents to the most recent survey answered similarly to those in 1999, but were significantly more likely to report that the demand for allergy/immunology services was higher than the supply of allergist/immunology services was higher than the supply of allergist/immunologists. No differences were observed based on the age of the respondent. Compared to previous assessments of supply and demand, respondents to the most recent survey answered similarly to those in 1999, but were significantly more likely to report that the demand for allergy/immunology services was higher than the supply of allergist/immunologists. A clear trend, however, is not evident.

D) Waiting Time for an Appointment

Allergists/immunologists reported that the average waiting time for a non-emergent visit to an existing patient was 15 days. Male allergist/immunologists reported significantly shorter waiting times (12 days) compared to their female counterparts (27 days). Allergist/ immunologists working in hospitals reported the longest average waiting times (42 days), significantly higher than both solo practice (10 days) and group practice (14 days) allergist/ immunologists. Waiting times did not vary significantly by age of the allergist/immunologist.

IV. Discussion

A) Nonphysician Providers in Allergy/Immunology Practice

While only slightly more than a quarter of practicing allergists/immunologists are using NPPs, the use of NPPs appears to be increasing with more than half of those who are working closely with NPPs having begun to use them in the past 5 years. While both nurse practitioners and physician assistants are used in all settings by allergists/immunologists, they are twice as likely to be working with NPs compared to PAs. In light of the positive experience of those allergists/ immunologists working with NPPs including the high percent of users reporting increased patient volume (89%), increased efficiency (66%), increased patient satisfaction (69%) and increased income (53%), the use of NPPs is likely to increase in the future. However, those allergists/immunologists to indicate plans to hire NPPs in the next two years, indicating that future growth is likely to be steady but slow.

In practice, NPPs are used in a variety of ways in allergy/immunology practice, most frequently to care for existing, routine patients, although many allergist/immunologists report that NPPs see new patients and their own panel of patients as well. Overall, allergist/immunologists report a very high degree of satisfaction with the NPPs in their practices.

B) Allergy/Immunology Marketplace

While there certainly have not been any widespread reports of a saturation of allergist/ immunologists in recent years, allergist/immunologists do report fewer available practice opportunities currently than they did several years ago. Having experienced a recent increase in interest in the specialty, it is possible that the larger young cohort of allergists has taken advantage of the opportunities reported in previous years. In the Center's previous examinations of the fellows completing allergy and immunology training programs, one of the most consistent findings was that fellows had few problems obtaining satisfactory practice positions upon completion of their training. In the upcoming census of allergist/immunologists to be conducted by the Center in the early summer, further analysis of changes in perceptions of available practice opportunities should prove useful in understanding recent dynamics of the allergy/immunology marketplace.

V. References

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Appendix A:	Survey	Instrument
	Carvey	

Allergy and Immunology Online Panel Survey Fall 2003

Center for Health Workforce Studies

School of Public Health, University at Albany

The following questionnaire is designed to obtain information on two important workforce issues for the American Academy of Allergy, Asthma, and Immunology: 1) current marketplace conditions for Allergists/Immunologists and 2) the use of Physician Assistants and Nurse Practitioners in allergy/immunology practice. Your responses are <u>confidential</u> and will only be reported in the aggregate.

If you have any questions about issues specifically related to your participation in this research, contact Tony Watson, Coordinator of the New York State Department of Health Institutional Review Board at (518) 474-8539.

If you have any questions about how to fill out the survey, experience any problems viewing the survey, or would like to request a paper-copy of the survey to complete, please contact Guy Forte at (518) 402-0250 or <a href="https://chws.gov/chws.

A. Physician Marketplace

1. Without making substantial changes to your current practice patterns, which response best describes your current Allergy and Immunology (A/I) practice?

Please select one:

I cannot accept any more A/I patients; my A/I practice is full. I can accept some more A/I patients; my A/I practice is nearly full. I can accept many more A/I patients, my A/I practice is far from full.

2. How would you describe the current employment/practice opportunities for physicians providing A/I services in your local community (i.e., within a 50 mile radius of your principal practice location)?

Please select one: No available opportunities Few available opportunities A good number of available opportunities Many available opportunities I don't know

3. How would you describe the relationship between the supply of physicians providing A/I services in your community and the demand for those services?

Please select one: Supply is much greater than demand Supply is greater than demand Supply is equal to demand Supply is less than demand Supply is much less than demand

4. How would	l you describe your main profession	al practice setting?
	Please select one: Solo practice Partnership Allergy/Immunology group practice Multi-specialty group practice Hospital-based practice Other, specify:>	
	ng patient called your office today fo wait for an appointment with you?	r an appointment for a non-emergent condition, how many days
B. Use o	of Physician Assistant	s and Nurse Practitioners
1. In your cur you directly w		actice, with how many of the following medical professionals do
	a. Physician Assistants (PAs):	
	b. Nurse Practitioners (NPs):	
	c. Do you expect to increase the nu	imbers of PAs and NPs in your practice over the next two years?
	Please select one: Yes No	
STOP HE		ne or 0 (Zero) to BOTH a and b above, onses by clicking the button at <u>blottom of the pag</u> e
2. How long h	nave you worked with NPs and/or P	As in your practice?
	Please select one: Less than 1 year 1 year 2 years 3 years 4 years 5 years More than 5 years	
3. How would	l you assess your degree of satisfac	tion with the PAs and/or NPs with whom you work?
	Please select one: Very Satisfied Somewhat Satisfied Neutral Somewhat Dissatisfied Very Dissatisfied	
4. How do NF	Ps and/or PAs contribute to your pra	ctice? (Select all that apply.)

	□ Increase number of patients seen.
	Improve quality of care.
	Increase office efficiency.
	Increase income of practice.
	Improve patient satisfaction.
	Other, specify:
5. How are P	As and/or NPs used in your practice? <i>(Select all that apply.)</i>
	They see new patients.
	They have their own panel of patients.
	Other, specify:

Submit Responses

Appendix B: Summary Tabulations -

Table 1:	Respondent	Characteristics
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	N	%
Gender		
Female	64	21%
Male	238	79%
Age		
Under 55 years of age	182	60%
55 years of age and above	120	40%
Mean	51.6	
Median	52.0	
Practice Setting		
Tache Jelling		
Solo practice	104	35%
	104 167	35% 56%
Solo practice		
Solo practice Group practice	167	56%
Solo practice Group practice Hospital practice	167 21	56% 7%
Solo practice Group practice Hospital practice Other	167 21	56% 7%
Solo practice Group practice Hospital practice Other Practice Location	167 21 6	56% 7% 2%
Solo practice Group practice Hospital practice Other Practice Location Northeast	167 21 6 73	56% 7% 2% 24%

				Gender			Age			Practice Setting	etting	
Male Fernate Diff Under 55 Off Diff Solo Group Hospital 9% 13% N 24% 11% N 5% 14% 9% 21% 28% N 24% 11% N 14% 25% 30% 21% 23% N 31% 22% N 14% 25% 30% 20.6 0.0 N 1.0 1.0 N 0.0 0.0 32% 40% 1.0					<u>s</u>		55 Years and	Sia				6
99% 139% N 10% 11% N 5% 14% 219% 28% N 24% 18% N 14% 22% N 14% 25% 26% 33% N 31% 22% N 14% 22% N 14% 25% 26% 0.0 0.0 0.0 0.3 N 0.4 32% 1.4 1.1 N 1.3 1.4 N 0.9 0.0 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 55% 71% N 63% 50% N 29% 46% 55% 29% N 51% S5% N 10% 100% 55% 29% N 51% S6% N 10% 25% 55% 19% N 51% S5% N 25% 25% 52% N 51	Vorking directly with NPPs	AII	Male	Female	Dif*	Under 55	Older	Dif*	Solo	Group	Hospital	Dif*
226% 33% N 31% 22% N 14% 22% N 17% 32% N 24% 32% <td>Works with PAs</td> <td>10%</td> <td>9%</td> <td>13%</td> <td>zz</td> <td>10%</td> <td>11%</td> <td>zz</td> <td>5%</td> <td>14%</td> <td>%6</td> <td> </td>	Works with PAs	10%	9%	13%	zz	10%	11%	zz	5%	14%	%6	
	Works with PAs or NPs	27%	26%	33%	z	31%	22%	z	17%	32%	40%	
	lumber of NPPs in practice**											
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	PAS	ч О	لا 0	7 0	Z	لا ا	ч ()	Z	0	∩ ¤	7 N	z
	Median	0.0	0.0	0.0	:	0.0	0.3	:	0.0	0.0	0.0	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	NPS											
55% 71% N 63% 50% N 71% 54% 45% 29% 37% 50% 50% 29% 46% 56% 38% N 51% 50% N 29% 46% 57% 33% N 51% 50% N 91% 100% 57% 33% N 19% 50% Y 11% 29% 59% 33% N 19% 50% Y 11% 28% 18% 43% Y 32% 85% Y 17% 28% 59% 38% N 91% 55% N 91% 25% 55% S2% N 63% S5% N 55% 55% 74% 52% N 63% 81% N 0% 55% 69% N 63% 81% N 0% 63% 63% 11% 12% <td>Mean Median</td> <td>1.4 1.0</td> <td>1.4 1.0</td> <td>1.1 1.0</td> <td>z</td> <td>1.3 1.0</td> <td>1.4 1.0</td> <td>Z</td> <td>0.9 1.0</td> <td>1.5 1.0</td> <td>1.1 1.0</td> <td>Z</td>	Mean Median	1.4 1.0	1.4 1.0	1.1 1.0	z	1.3 1.0	1.4 1.0	Z	0.9 1.0	1.5 1.0	1.1 1.0	Z
55% 71% N 63% 50% N 71% 54% 97% 29% 37% 50% 29% 46% 97% 81% Y 93% 96% N 29% 46% 97% 38% N 51% 50% Y 29% 46% 97% 38% N 19% 50% Y 11% 28% 27% 33% N 19% 50% Y 11% 28% 27% 33% N 91% 50% Y 11% 28% 18% 43% Y 32% 8% Y 17% 25% 53% 38% N 49% 50% N 91% 25% 74% 52% N 63% N 51% 55% 55% 52% N 68% N 63% 63% 10% 0% 12% 11% 11%	ength of time with NPPs in practice*	×										
17.70 2.770 37.70 37.70 37.70 37.70 17.70 97% 81% N 51% 96% N 91% 100% 56% 38% N 51% 54% N 40% 49% 27% 33% N 19% 50% Y 11% 28% 28% Y 32% 8% Y 17% 25% 25% 18% 43% Y 32% 85% Y 17% 25% 18% 43% Y 52% 85% N 91% 25% 52% 38% N 49% 50% N 51% 55% 52% 52% N 51% 58% N 51% 55% 10% 0% N 51% 58% N 68% 53% 10% 0% 76% N 61% 59% 11% 11% 10%	5 or fewer years		55%	71%	z	63%	50%	z	71%	54% 46%	100%	~
97% 81% Y 93% 96% N 91% 100% 56% 38% N 51% 54% N 40% 49% 27% 33% N 19% 50% Y 11% 28% 27% 33% N 19% 50% Y 11% 28% 27% 33% N 19% 8% Y 17% 28% 28% 43% Y 32% 8% Y 17% 28% 89% 90% N 91% 85% N 91% 25% 53% 38% N 49% 50% N 51% 55% 73% 48% Y 58% N 51% 59% 70% 52% N 63% 81% N 68% 63% 10% 0% 7% 88% N 11% 11% 11% 12% 12% 12%	low NPPs are used in practice**											
56% 38% N 51% 54% N 40% 49% 27% 33% N 19% 50% Y 11% 28% 18% 43% Y 32% 8% Y 17% 28% 18% 43% Y 32% 8% Y 17% 28% 18% N 91% 85% Y 17% 25% 89% S8% N 91% 85% Y 68% 55% 53% 38% N 49% 50% N 57% 55% 52% N 51% S8% N 51% 55% 74% 52% N 63% 81% N 63% 63% 10% 0% N 67% 88% N 0% 11% 11% 10% 12% 12% 11% 11% 12% 0% 0% 0% 0%	See routine follow-up patients	94%	97%	81%	\prec	93%	%96	z	91%	100%	59%	
2770 5370 N 1270 5070 F 1170 2670 18% 43% Y 32% 8% Y 17% 25% 89% 90% N 91% 85% N 91% 25% 53% 38% N 49% 50% N 91% 95% 52% 38% N 49% 50% N 57% 55% 52% 48% Y 58% N 57% 55% 74% 52% N 63% 81% N 51% 59% 10% 0% N 7% 89% N 0% 63% 11% 0% 7% 89% N 0% 63% 11% 11% 10% 12% 78% N 61% 6% 11% 10% 12% 7% 0% 0% 12% 0% 0% 0% 0%	See new patients	52%	56%	38%	z z	51%	54%	< 2	40%	49%	59%	
89% 90% N 91% 85% N 91% 95% 53% 38% N 49% 50% N 57% 55% 73% 48% Y 58% S5% Y 68% 68% 52% N 51% S5% Y 68% 68% 52% N 63% 81% N 51% 59% 73% 52% N 63% 81% N 80% 63% 10% 0% N 7% 8% N 0% 11% 69% 76% N 67% 78% N 61% 77% 11% 10% 12% 75% 0% 12% 6% 11% 10% 12% 7% 0% 12% 12% 0% 0% 0% 0% 0% 0% 12% 0% 12% 12% 16% 6% 0%	other use(s)	24%	18%	43%	~ 2	32%	%8%	~ -	17%	25%	36%	z -
89% 90% N 91% 85% N 91% 85% N 95% 53% 38% N 49% 50% N 57% 55% 55% 57% 55% 55% 55% 55% 55% 55% 55% 55% 55% 55% 55% 55% 55% 55% 55% 55% 55% 55% 85% N 51% 55%	IPP contributions to practice**											
53% 38% N 49% 50% N 57% 55% 73% 48% Y 58% S8% N 57% 55% 55% 52% N 51% S8% N 51% 58% N 59% 52% N 63% 81% N 51% 59% 74% 52% N 63% 81% N 80% 63% 10% 0% N 7% 8% N 0% 11% 69% 76% N 67% 78% N 61% 77% 16% 0% 12% 15% 39% 6% 11% 11% 10% 12% 7% 0% 0% 12% 0% 0% 0% 0% 0% 0% 12% 16% 6% 13% N 15% 12% 12%	Increase number of patients seen	%68	%68	%00	z	91%	85%	z	91%	95%	59%	_
13% 48% Y 51% 85% Y 68% 58% N 59%	Improve quality of care	49%	53%	38%	< Z	49%	50%	< Z	57%	55%	24%	
74% 52% N 63% 81% N 80% 63% 10% 0% 0% N 63% 81% N 80% 63% 10% 0% 0% 7% 8% N 0% 11% 69% 76% N 67% 78% N 61% 77% 69% 0% 12% 15% 39% 6% 11% 11% 10% 12% 7% 0% 6% 12% 0% 0% 0% 0% 0% 12% 0% 12% 0% 0% 0% 0% 0% 0% 12% 0% 0% 12% 16% 0% 0% 0% 0% 0% 0% 0% 0% 12% 16% 0% 14% 13% N 15% 12%	Increase income of practice	53%	55%	48% 52%	z -	51%	58%	z -	51%	59%	83% 47%	zz
10% 0% N 7% 8% N 0% 11% 69% 76% N 67% 78% N 61% 77% 16% 0% 12% 15% 39% 69% 11% 10% 12% 7% 0% 6% 11% 0% 0% 0% 0% 12% 0% 0% 0% 0% 0% 0% 16% 0% 12% 0% 0% 0% 12% 16% 0% 0% 0% 0% 0% 12% 16% 0% 0% 13% N 15% 12%	Improve patient satisfaction	69%	74%	52%	z	63%	81%	Z	80%	63%	83%	
69% 76% N 67% 78% N 61% 77% 16% 0% 12% 15% 39% 6% 3% 14% 9% 0% 6% 12% 11% 10% 12% 0% 0% 6% 11% 0% 0% 0% 0% 12% 0% 0% 0% 0% 0% 12% 11% 10% 12% 0% 0% 0% 0% 0% 0% 0% 0% 0% 12% 16% 0% 0% 0% 0% 12% 12% 16% 0% 0% 13% N 15% 12%	Other contribution(s)	7%	10%	0%	z	7%	8%	z	0%	11%	0%	_
69% 76% N 67% 78% N 61% 77% 16% 0% 12% 15% 39% 6% 3% 14% 9% 0% 0% 6% 11% 10% 12% 7% 0% 0% 12% 0% 0% 0% 0% 0% 12% 16% 6% N 14% 13% N 15% 12%	atisfaction with NPPs in practice**											
16% 0% 12% 15% 39% 6% 3% 14% 9% 0% 0% 6% 11% 10% 12% 7% 0% 12% 0% 0% 0% 0% 0% 0% 0% 16% 0% 0% 0% 0% 12% 16% 0% 0% 0% 0% 12% 16% 6% 13% N 15% 12%	Very satisfied	71%	69%	76%	Z	67%	78%	Z	61%	77%	78%	z
3% 14% 9% 0% 0% 6% 11% 10% 12% 7% 0% 12% 0% 0% 0% 0% 0% 0% 16% 6% N 14% 13% N 15% 12%	Somewhat satisfied	12%	16%	0%		12%	15%		39%	6%	0%	
11.% 10% 12.% 7% 0% 12.% 0% 0% 0% 0% 0% 16% 6% N 14% 13% N 15% 12%	Neutral	6%	3%	14%		·/06	70%		0%	10%	22%	
0% 0% 0% 0% 0% 0%	Somewhat dissatistied	11%	11%	10%		12%	/ %		0%0	12%	0%0	
16% 6% N 14% 13% N 15% 12%		0%	0%	0%		0%	0%		0%	0%	0%	
14% 16% 6% N 14% 13% N 15% 12%	Very dissatisfied	er next 2 v	ears									
	Very dissatisfied lans to increase NPPs in practice ov		1 2 0 /	6%	Z	14%	13%	z	15%	12%	18%	z

55 Years and Sig			
	<u> </u>		
			18%
38%	37%		36%
60%	63%	-	45%
			10%
4%	10%		24%
72%	52%	-	48%
22%	33%		19%
			19%
48%	50%	-	52%
13%	19%	-	29%
	V 10	14	40
7			71
	Older Di 2% N 38% 60% 60% 72% 2% N 4% 72% 72% 22% 4% 72% 139% N 13% N 12 N		Diff* Solo G N 0% 3 63% 6 52% 6 52% 6 52% 6 52% 6 33% 2 10% 4 19% 1

Table ຸ່ 2 Narkotaluco 2003

Use of Nonphysician Providers and the A/I Physician Marketplace B-5

Table 4: Allergy/Immunology Marketplace, 1999, 2002,	2003 Practice capacity	I cannot accept any more A/I patients; my A/I practice is full 2%	I can accept some more A/I patients; my A/I practice is nearly full 38%	I can accept many more A/I patients; my A/I practice is far from full 60%	Local practice opportunities	Many available opportunities 1%	A good number of opportunities 9%	Few available opportunities 62%				e opportunities ess than supply	le opportunities ecs than supply equal to supply	le opportunities ess than supply equal to supply ter than supply
1999, 2	2002	2%	45%	53%		5%	14%	54%	27%			31%	31% 41%	31% 41% 29%
2002, 2	1999	1%	43%	56%		3%	28%		45%	45% 25%	45% 25%	45% 25% 36%	45% 25% 36% 54%	45% 25% 36% 54% 10%
2003	Sig Dif*	Z				Y						~	~	~

Gender		Age	Pro	Practice Setting	tting
		55 Years			
All Male Fe	Female Under 55	and Older	Solo	Group	Hospital
1					
2%		3%	20/0	3%	6%
Works with NPs 2% 3%	6% 3%	4%	3%	3%	10%
Works with PAs or NPs 3% 3%	6% 3%	4%	4%	4%	11%
Number of PAs in practice 0.1 0.1		0.1	0.2	0.2	0.5
0.2 0.2	0.1 0.2	0.2	0.1	0.3	0.3
Practicing with NPPs for fewer than 5 years 5% 6%	10% 6%	10%	11%	7%	0%
)			1		1
See routine tohow-up patients 5% 6%	110/n 70/n	10%	17%	7%	17%
5% 6%		10%	7%	6%	17%
5% 5%	11% 6%	5%	9%	6%	17%
NPP contributions to practice					
3% 4%		7%	7%	3%	17%
Improve quality of care 5% 6%	11% 7%	10%	12%	7%	15%
5% 6%	11% 7%	7%	11%	6%	13%
Increase income of practice 5% 6%	11% 7%	10%	12%	7%	18%
Improve patient satisfaction 5% 6%	11% 6%	E0%	0%	7%	13%
Level of satisfaction with NPPs in practice 10% 12%	21% 12%	19%	22%	13%	34%
Plans to increase NPPs in practice over next 2 years 2% 2%	3% 3%	3%	4%	3%	8%
Practice capacity 5% 6%	12% 7%	9%	9%	7%	21%
Local practice opportunities 5% 6%	12% 7%	9%	9%	7%	21%
Local supply and demand relationship 5% 6%	12% 7%	9%	9%	7%	21%

Table 5: Standard Errors and Margins of Error

Use of Nonphysician Providers and the A/I Physician Marketplace B-7