

THIRTEENTH ANNUAL REPORT ON PHYSICIAN ASSISTANT EDUCATIONAL PROGRAMS  
IN THE UNITED STATES, 1996-1997

INTRODUCTION

Founded in 1972, the Association of Physician Assistant Programs (APAP) serves as the national organization representing physician assistant (P.A.) educational programs in the United States. The Association serves as a conduit for communication among P.A. educators by sponsoring meetings, organizing research studies and providing a forum to conduct the business of the membership. Another important role for the Association is to serve as a resource for individuals and organizations interested in the aspects of the physician assistant profession that pertain to the selection and education of the P.A. students and the characteristics of physician assistant programs. In addition, APAP provides representation to various bodies that help to chart the course of the P.A. profession, including the Commission on Accreditation of Allied Health Education Programs (CAAHEP) and the National Commission on Certification of Physician Assistants (NCCPA), among others.

As the primary organ for collection and dissemination of data about its member physician assistant educational programs, the Association publishes the "Physician Assistant Programs Directory."<sup>1</sup> The Directory provides a listing and description of APAP member programs. Each listing provides comprehensive information concerning each program's admission requirements, curriculum, institutional affiliates, credentials awarded and other descriptive data. The Directory also provides a summary of postgraduate educational programs for P.A.'s, information about accreditation and P.A. certification.

As of November, 1996, there were 89 operational (students enrolled in professional phase and accredited or have letter of review, accreditation pending ARC approval or pending site visit) physician assistant programs in the United States.<sup>2</sup> Of these programs, 83 were accredited (full or provisional) by the Commission on Accreditation of Allied Health Educational Programs. Of the remaining 6 programs, two had received a letter of review from the Accreditation Review Committee on Education for the Physician Assistant (ARC-PA). The Letter of Review Service was an option and not part of the accreditation process. As of March 1996, the Letter of Review Service was terminated. Four programs had accreditation approval pending or a pending ARC site visit.

There were 11 additional programs that had no students and/or do not have a letter of review, accreditation pending ARC approval or a pending site visit (by the end of April 1997). For these eleven programs, the only information reported that pertains to them is contained in Table 3.

In 1984, the process of establishing a national database on P.A. programs was initiated by Denis Oliver, Ph.D., Director of The University of Iowa Physician Assistant Program and then Past-President of the Association. The first national survey was developed and administered in the Fall of 1984. The questionnaire requested information on a variety of program "activities" including institutional sponsorship, financial support, program personnel (faculty and support staff), characteristics of applicants and students enrolled, curriculum, student attrition, and graduate employment characteristics. The findings from the 1984 survey were published as the First Annual Report on Physician Assistant Educational Programs in the United States, 1984-85 and, to date, a total of thirteen Annual Reports<sup>3-15</sup> have been published, including the present Report.

Dr. Oliver retired as author after publication of the eleventh Report. In 1995, the APAP Board of Directors authorized individuals from the Saint Francis College Department of Physician Assistant Sciences to author future Reports. Data from the annual report has been published in numerous other venues where discussions of the P.A. profession are ongoing. Examples of these publications include the Journal of Medical Education and the Journal of the American Academy of Physician Assistants. Selected data have been published in the Annual Reports to the President and Congress on the States of Health Personnel in the United States and in a publication of the Association of Academic Health Centers.

The data presented in the Report over the years represents responses from greater than 86% of the P.A. programs surveyed. This high rate of response leads the authors to present the findings contained herein to be representative

of the physician assistant educational programs in the United States. Given that the basic elements of the annual survey have remained consistent over its thirteen year history, a significant amount of data has been generated that can be used to depict the “typical” or “average” P.A. educational endeavor. The consistency in collection of data has also provided the ability to detect trends or document changes as they occur over time. Identified trends have been analyzed to generate reports on the following items:

- \* Characteristics of AMA-accredited P.A. Programs that have Closed.<sup>5</sup>
- \* Characteristics of Graduate-Level P.A. Programs.<sup>6,9</sup>
- \* Analysis of Alien and U.S. Unlicensed Medical Graduates Admitted to P.A. Programs.<sup>8</sup>
- \* Analysis of P.A. Program Personnel Turnover.<sup>10-15</sup>
- \* A Review of Program Characteristics by Sponsoring Institution.<sup>3</sup>

## **METHODS**

### **The Survey Instruments**

Two questionnaires (surveys #1 and #2) were administered. The first survey was seven pages in length, mailed in October, 1996, to 100 programs that were identified as operational or listed as “Programs to come” from databases maintained by APAP and the American Academy of Physician Assistants (AAPA). The cover sheet for survey #1 asked the programs to identify if they were accredited, provisional, not accredited. If not accredited, programs were asked if they had a Letter of Review, accreditation pending ARC approval or a pending site visit (by end of April, 1997). If the above conditions were not applicable, or if one of the conditions was met, however there were no students matriculating in the professional phase of the program, the program did not have to complete the survey. Survey #1 consisted of three major sections (see the Appendix for a copy of both questionnaires):

- A. General Program Information: Includes date of admission of first class, length of program, consortia membership, sponsoring institution, sources of financial support, student expenses and financial aid, and month of graduation and credentials earned.
- B. Program Personnel: Includes characteristics of program faculty and staff, clinical activity of P.A. personnel, and an assessment of program personnel turnover, attrition and recruitment.
- C. Applicant/Student Information: Includes the number, gender, age, ethnicity, residency, academic and health care experience background of applicants and students enrolled, including the disabled. A section requesting information of unlicensed medical graduate (UMG) applicants and students enrolled is also included.

Survey #2 was five pages in length, was mailed in November and requested information on:

- A. Graduate Information: includes information on student attrition and deceleration, characteristics of recent and all graduate employment, program directors’ opinions concerning employment opportunities and starting salary for recent graduates.
- B. Additional Information: includes information on percentage of graduates working in a managed care environment, number of clinical sites gained/lost, reason for a site loss, payment of clinical sites and AHEC affiliations.

### **Survey Period and Response Rate**

The first survey was mailed (10/7/96) to 100 P.A. programs, including thirteen programs enrolling students for the first time in the 1996-97 academic year. An initial deadline of November 15, 1996 was established. A total of 77 responses were received from programs (N=89) that have students enrolled and are accredited or have a letter of review, accreditation pending ARC approval or a pending site visit (by end of April, 1997) for a response rate of 86.5%. An additional nine responses (cover sheet only) were received from those programs (N=11) who did not have students enrolled and/or do not have a letter of review, accreditation pending ARC approval or a pending site visit (by the end of April 1997).

The second survey was mailed upon receipt of survey #1 (all sections). If survey #1 was not received by the deadline,

a follow-up letter was mailed, which included a copy of survey #2. Fifty-eight survey #2's were received, with an additional 12 programs stating that they did not have graduate information to report.

### **Data Entry and Analysis**

In the process of editing each questionnaire, obvious misinterpretations or inconsistencies in the responses to specific items were resolved by telephoning the person completing the survey. A series of contingency checks were made to identify invalid characters or extreme values in any field.

In general, analyses of the data consisted of descriptive statistics on the variables of interest, e.g. arithmetic mean, standard deviation, median, and range of values. T-tests were used to determine levels of statistical significance between groups. Regression equations were developed for program budget and student enrollment as well as various parameters associated with personnel salary and certain variables which were expected to influence salary, i.e., gender, months of experience, academic credentials and academic rank. Data are not reported when only one person is represented in a category.

Tables and figures presented in this report represent aggregate data from the respondents. Due to missing data and/or unusable answers, the number of respondents to a particular questionnaire item varied. In most cases, the maximum number of valid responses was 77, however, in some cases, data on nonrespondents was obtained from the APAP Directory or personal communication with nonrespondent programs, in which case a total of 89 programs were represented.

### **Quality Improvement**

Given that the Report is an ongoing enterprise, the authors are interested in improving its usefulness to our customers. In 1995, the APAP Board of Directors approved the formation of an advisory board to review the planning and direction of the Report and to help to continually improve the product.

Constructive comments on how to improve the Report or any of its survey instruments are welcome at any time. Please address any comments to: Albert Simon, M.Ed., PA-C, Department of Physician Assistant Science, Saint Francis College, Loretto, PA 15940 (e-mail: BSimon@sfcpa.edu).

### **The "Typical" P.A. Program**

The data reported herein represents our best estimate of the population value for the variables involved and were used to describe the characteristics of the "typical" P.A. program. Mean and/or median values were reported for each characteristic examined. In calculating mean values, entries with zero values were usually included while 'missing' values were uniformly excluded. When only partial data were available, the number of respondents was identified.

In some cases, totals reported for a given category may not reflect a simple summation of the subcategories. For example, in the table presenting data on applicant age (Table 56), one program may report the total number of applicants, but not report data for any of the age subcategories for applicants. In such a case, means for each of the age groups are reported based on the programs that provided information. The programs that reported only the total number of applicants were included in the "total" figure (N=57), but not in the subcategory data (N=52). Thus, the number of responding programs upon which the category or subcategory means were based may differ. In addition to reporting aggregate data for the "typical program," program respondents were also compared on the basis of geographic region.

### **Analysis of Trends Over Time: 1984-1996**

In comparing current data to similar data collected in previous years, trends occurring in various aspects of P.A. educational programs were identified. Specific variables for which comparisons have been made include program budget, student expenses and financial aid, salaries of program personnel, number of applicants and students enrolled, student characteristics (age, gender, ethnicity, health related experience, G.P.A. and attrition) and employment

characteristics of program graduates (i.e., rate of employment, medical specialty, type of practice, starting salary).

**Availability of Previous Annual Reports**

Copies of the 1<sup>st</sup> to 11<sup>th</sup> Annual Reports may be obtained by contacting Denis Oliver, Ph.D., Professor and Director, P.A. Program, The University of Iowa, Iowa City, IA 52242. The 12<sup>th</sup> Annual Report may be obtained from the Association of Physician Assistant Programs.

**Additional Copies of this Report**

Copies of the report may be purchased by contacting: Association of Physician Assistant Programs, 950 N. Washington Street, Alexandria, VA 22314-1552 (703-548-5538).

## SECTION I. GENERAL PROGRAM CHARACTERISTICS

### Listing of P.A. Programs by Geographical Region

Operational programs are listed by state and APAP consortium in Table 1. The Northeastern (N=22) and Midwestern (N=21) regions had the largest number of programs, while the Heartland (N=8) had the fewest number of programs. In total, 38 states (including the District of Columbia) currently have an operational P.A. program.

Table 1. Consortium Regions of Operational Physician Assistant Programs

#### NORTHEASTERN CONSORTIUM (N=22.): Connecticut, Maine, Massachusetts, New Jersey, New York

Albany-Hudson Valley	Daemen College	Springfield College
Bayley Seton Hospital	<b>LeMoyne College</b>	SUNY/Hlth Sci Brooklyn
<b>Bronx Lebanon Hosp. Center</b>	Northeastern University	SUNY/Stony Brook
Brooklyn Hosp/L.I. University	Quinnipiac College	<b>Touro College</b>
Catholic Med. Ctr., Brooklyn	Rochester Institute of Tech.	<b>Univ. Of New England</b>
CUNY/Harlem Hospital	Rutgers University	Wagner College/Staten Isl
Cornell University	<b>Seton Hall University</b>	Yale University
D'Youville College		

#### EASTERN CONSORTIUM (N=13): Maryland, Pennsylvania, Wash. D.C.

Allegheny Univ. of Hlth Prof.	Gannon University	Lock Haven University
<b>Beaver College</b>	George Washington Univ.	PA College of Technology
Chatham College	Howard University	Phila College of Textiles
Duquesne University	King's College	St. Francis College
Essex Community College		

#### SOUTHEASTERN CONSORTIUM (N=13): Alabama, Florida, Georgia, Kentucky, N.Carolina, S. Carolina, Tennessee, West Virginia

Alderson-Broadus College	Medical College of Georgia	Trevecca Nazarene University
Bowman Gray/Wake Forest	<b>Medical Univ South Carolina</b>	Univ. of Alabama - Birmingham
College of West Virginia	Methodist College	University of Florida
Duke University	Nova Southeastern University	University of Kentucky
Emory University		

#### MIDWESTERN CONSORTIUM (N=21): Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, North Dakota, Ohio, South Dakota, Wisconsin

Augsburg College	Luthern College	Univ of Osteopathic Med
Butler U/Methodist Hospital	Medical College of Ohio	Univ. of South Dakota
Central Michigan Univ.	<b>Midwestern University</b>	University of WI - LaCrosse
Cook County/Malcolm X	St. Louis University	<b>University of WI-Madison.</b>
Cuyahoga (P.A. and S.A.)	University of Detroit Mercy	<b>Wayne State University</b>
Finch Univ of Hlth Sci	University of Iowa	Western Michigan University
<b>Kettering College</b>	Univ. of North Dakota	

#### HEARTLAND CONSORTIUM (N=8): Kansas, Louisiana, Nebraska, Oklahoma, Texas

Baylor University	University of Nebraska	University of Texas/SW Med Ctr
Interservice PA Program	University of Oklahoma	Wichita State University
<b>Louisiana St. University</b>	University of Texas/Galveston	

#### WESTERN CONSORTIUM (N=12): Arizona, California, Colorado, Idaho, Montana, Oregon, Utah, Washington

Charles Drew Univ	Rocky Mountain College	Univ of Southern California
Idaho State Univ	Stanford University	University of Utah
Kirksville Coll Osteopathic	Univ of California at Davis	University of Washington
Oregon Hlth Sci Univ	University of Colorado	Western Univ. of Hlth Science

### **Nonrespondents to Survey #1; N=12**

The above listing is based upon the newly established APAP Consortium guidelines. Each program responded as to

which consortia they belonged.

The geographic distribution of the eighty-nine operational P.A. Programs is shown in Figure 1.

Figure 1. Geographic Distribution of Programs



A summary of operational P.A. programs, with students enrolled in the professional phase, by sponsoring institution and by highest credential awarded is shown in Table 2 (next page). The majority of P.A. programs were sponsored by either a University (63%) or 4-year College (24.7%). Five programs were associated with a two-year College, five programs were sponsored by a hospital and one was sponsored by a branch of the armed services. The majority of programs (52.8%) awarded a baccalaureate degree on graduation, 23 programs awarded a master's degree (25.8%), and the remaining programs (N=19; 21%) awarded either a certificate or an associate degree as the highest credential granted. Over the past 5 years, eleven baccalaureate programs converted to masters programs, four programs converted from a certificate to a baccalaureate degree. Some programs offer a graduate degree on completion of additional courses (e.g., pub. hlth, prev. med., geriatrics, exer. sci.). These programs were not included as “entry-level”

masters programs.

Table 2. Operational P.A. Programs by Type of Sponsoring Institution and Credential Awarded\*

<u>Type of Sponsoring Institution</u>			<u>Highest Credential Awarded</u>		
	<u>N</u>	<u>%</u>		<u>N</u>	<u>%</u>
University	56	62.92	Master	23	25.84
4-Year College	22	24.72	Baccalaureate	47	52.81
Community College	5	5.62	Associate	6	6.74
Hospital**	5	5.62	Certificate	13	14.61
Military**	1	1.12			
<b>Total</b>	<b>89</b>	<b>100.00</b>	<b>Total</b>	<b>89</b>	<b>100.00</b>

\* Nonrespondent information was drawn from APAP.

\*\* Degrees granted from University/College Affiliates.

A summary of those upcoming P.A. programs without students enrolled in the professional phase or not having accreditation or pending accreditation, by sponsoring institution and by highest credential awarded is shown in Table 3. The majority of these P.A. programs are being sponsored by a University (54.6%). Three programs are associated with a four-year College. The majority of these programs (64%) awarded a baccalaureate degree on graduation, three programs awarded a master's degree (27.3%), and the remaining program awards a certificate.

Table 3. Upcoming P.A. Programs by Type of Sponsoring Institution and Credential Awarded\*

<u>Type of Sponsoring Institution</u>			<u>Highest Credential Awarded</u>		
	<u>N</u>	<u>%</u>		<u>N</u>	<u>%</u>
University	6	54.55	Master	3	27.27
4-Year College	3	27.27	Baccalaureate	7	63.64
Community College	1	9.09	Associate	0	0.00
Hospital**	1	9.09	Certificate	1	9.09
<b>Total</b>	<b>11</b>	<b>100.00</b>	<b>Total</b>	<b>11</b>	<b>100.00</b>

\* Nonrespondent information was drawn from APAP or by calling the program.

\*\* Degrees granted from University/College Affiliates.

**Financial Characteristics of P.A. Programs**

Information concerning the sources of financial support for P.A. programs is shown in Table 4 (next page). Only data from those programs reporting financial support from the sources indicated were used to calculate the sample mean and range for each category. The number of programs reporting no support from a particular source (last column) is also shown. Note, data presented in the latter column excludes those programs that did not respond to a specific item. Most programs (N=51) reported support from more than one source, for example, 25 programs reported two sources, 17 programs three sources, 7 programs four sources and 2 programs reported five sources of support.

Table 4. Sources of Financial Support for Physician Assistant Programs

<u>Source of Financial Support</u>	<u>Mean</u>	<u>Range</u>	<u>N</u>	<u># With No Support</u>
<u>Internal</u>				
Sponsoring Institution	\$410,456	\$ 43,000 - 1,500,000	67	10
Tuition and Fees (Retained by Program)	\$569,125	\$ 5,000 - 2,254,000	24	53
<u>External</u>				
Federal Grants	\$152,300	\$ 37,000 - 465,000	35	42
State Grants	\$134,047	\$ 41,000 - 368,000	14	63
Foundations	\$ 92,500	\$ 3,000 - 335,000	4	73
Private Donation	\$ 15,000	\$ 1,000 - 30,000	4	73
Industry	\$104,000		1	76
A.H.E.C. Support	\$ 20,333	\$ 5,000 - 47,000	6	71
Other	\$ 61,800	\$ 2,000 - 194,000	15	62
<b>Total Program Support</b>	<b>\$648,871</b>	<b>\$ 43,000 - 2,254,000</b>	<b>77</b>	<b>0</b>

The sources of financial support were classified as either internal or external. Internal support referred to funds available from within the sponsoring institution and/or tuition and fees retained by the program. External support included those funds available from outside the institution, such as federal or state grants, support from public or private foundations, and/or from private industry.

The primary source of internal financial support for the majority (N=67) of programs was the sponsoring institution, providing an average of \$410,656/year/program (median=\$353,000; S.D.=\$227,231; range of \$43,000 to \$1,500,000). Ten programs reported that they received no financial support from their sponsoring institution. Twenty-four respondents indicated that they received substantial support from student tuition and fees paid directly to the program (mean=\$569,125, S.D.=\$582,344; median=\$322,000; range=\$5,000 to \$2,254,000). Fifty-three programs did not receive revenue from student tuition or fees.

External financial support for programs was primarily from federal training grants from the Department of Health and Human Services, Division of Medicine, Bureau of Health Professions. Thirty-five programs (45.5% of the respondents to this item) received federal funds during 1996-1997 fiscal year. The amount of federal support ranged from \$37,000 to \$465,000, averaged \$152,300 per program (median=\$127,000; S.D.=\$86,121) and accounted for 22.4% of the total budget, similar to the figure (22.6%) reported last year. Forty-two programs indicated they did not receive federal grant support in 1996-1997. In addition to federal training grants, fourteen programs indicated they received state grants averaging \$134,047 per year and fifteen programs reported financial assistance received from other sources (e.g., rate appeals, teaching contracts hospitals, training grant, clinical service and program projects) averaging \$61,800 per program.

The total annual financial support from all sources for the 77 programs reporting averaged \$648,871 per program (median=\$568,000; S.D.=\$398,146). An analysis of the association between total budget and total student enrollment was examined. Two correlations were derived, the first using full-time (F.T.) students enrolled (r = 0.51; p<.0001) and the other utilizing the sum of F.T. and ½ of the part-time (P.T.) students (r = 0.53; p<.0001). The results demonstrated a statistically significant relationship between enrollment and program budget.



The following prediction equations were derived from the data using a least squares analysis, estimating program budget and total student enrollment:

- (a) Total Program Budget = (413.921) + (3.07 x # F.T. students enrolled) (in \$1,000's)
- (b) Total Program Budget = (408.526) + (3.11 x # (F.T. + P.T./2) students enrolled) (in \$1,000's)

Thus, using equation "a" for a program with an enrollment of 50 F.T. students, one would predict a budget of \$567,421 per year while equation "b" predicts, for a program with 50 F.T. and 10 P.T. students, a budget of \$579,576/year.

In terms of the reported program budget, the cost of training the average P.A. student for one year of professional training can be roughly estimated by dividing the program budget by the total number of students enrolled (F.T. + P.T./2). Thus, for the 1996 academic year, the cost for the typical program was approximately \$8,394 to educate each student (mean budget of \$648,871 divided by an average enrollment 77.3 of students/program). This figure is 4.9% lower than in the previous year.

The estimated cost/student is based on number of students enrolled and reported "program" budget. It should be noted, however, that these figures may exclude (1) overhead costs provided by the institution, (2) faculty, other than "core" program faculty (e.g., basic science faculty) that are supported by their respective departments and (3) preceptors responsible for the clinical training of P.A. students. Therefore, the values reported herein may be substantially underestimated.

**Program Budget and Federal Support by Region**

A comparison of federal support and total program budget by geographic region is shown in Table 5. Programs located in the Western region reported the largest total budget (\$856,212/program). The most federal grant support was located also in the Western region, averaging \$188,955/program. Programs in the Midwestern region reported the smallest total budget (\$470,294/program) and those in the Heartland region had the least amount of support from federal training grants (\$112,500/program). The proportion of total program budget derived from federal funds was lowest (11.4%) in the Eastern region, while programs in the Northeastern, Midwestern and Western regions derived over one-fourth of their total budgets from federal sources.

Table 5. Total Program Budget and Federal Training Grant Support by Geographic Region

<u>Geographic Region</u>	<u>N</u>	<u>Total Budget</u>		<u>Federal Grants</u>		<u>% of Budget</u>	<u>Fed. Support</u>	
		<u>Mean</u>	<u>S.D.</u>	<u>Mean</u>	<u>S.D.</u>		<u>Yes</u>	<u>No</u>
Northeastern	17	\$663,412	\$381,820	\$161,333	\$ 91,596	26.3%	6	11
Eastern	12	\$611,433	\$344,972	\$115,000	\$ 31,000	11.4%	2	10
Southeastern	12	\$811,863	\$591,362	\$153,200	\$ 70,229	19.2%	5	7
Midwestern	17	\$470,294	\$159,152	\$119,714	\$ 29,129	25.4%	7	10
Heartland	7	\$476,571	\$229,897	\$112,500	\$ 53,191	21.6%	4	3
Western	<u>12</u>	<u>\$856,212</u>	<u>\$376,109</u>	<u>\$188,955</u>	<u>\$110,201</u>	<u>25.5%</u>	<u>11</u>	<u>1</u>
<b>Total</b>	<b>77</b>	<b>\$648,871</b>	<b>\$398,146</b>	<b>\$152,300</b>	<b>\$ 86,121</b>	<b>22.1%</b>	<b>35</b>	<b>42</b>

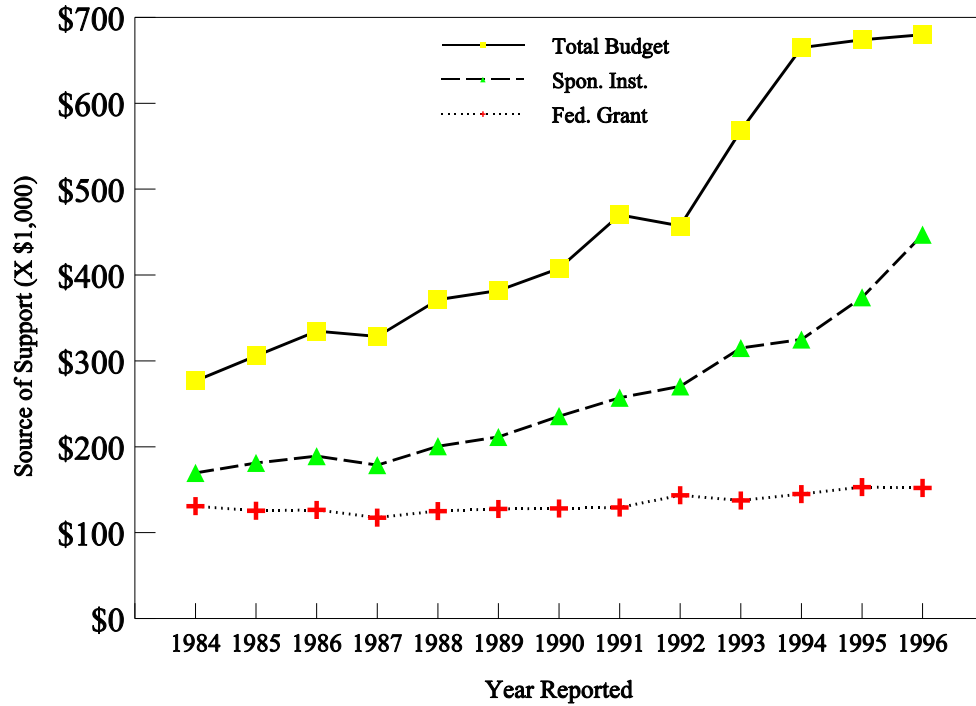
Trends in P.A. program support from 1984 through 1996 are shown in Table 6 (next page) and shown graphically in Figure 2 (next page). The total budget column is not a summation of institutional and federal grant support. The total budget for 1996 did not increase significantly, even though the amount from the sponsoring institution increased by

Table 6. Trends in Physician Assistant Program Support, 1984 Through 1996

<u>Year</u>	<u>Sponsor. Instit.</u>		<u>Federal Grant</u>		<u>Total Budget</u>		<u>% Budget Fed. Grant</u>	
	<u>N</u>	<u>Mean</u>	<u>N</u>	<u>Mean</u>	<u>N</u>	<u>Mean</u>	<u>N</u>	<u>Mean</u>
1984-85	31	\$169,581	27	\$130,889	37	\$276,919	27	35%
1985-86	35	\$181,171	31	\$125,484	38	\$305,868	31	41%
1986-87	37	\$189,135	25	\$126,457	42	\$334,690	33	39%
1987-88	39	\$178,590	35	\$117,429	45	\$328,444	35	38%
1988-89	40	\$200,700	34	\$125,118	44	\$371,386	34	34%
1989-90	35	\$211,400	33	\$127,600	44	\$381,978	34	33%
1990-91	41	\$235,780	36	\$128,222	47	\$409,745	36	31%
1991-92	44	\$257,182	37	\$129,243	48	\$470,063	37	28%
1992-93	49	\$270,346	35	\$143,514	55	\$457,200	35	31%
1993-94	47	\$315,085	35	\$137,514	55	\$568,564	35	24%
1994-95	54	\$324,889	41	\$144,926	58	\$664,797	41	22%
1995-96	65	\$373,957	37	\$152,514	71	\$673,975	37	23%
<b>1996-97</b>	<b>67</b>	<b>\$447,241</b>	<b>35</b>	<b>\$152,300</b>	<b>77</b>	<b>\$680,706</b>	<b>35</b>	<b>22%</b>

over \$73,000. The level of training grants accounted for 22% of the total budget, a decrease from 23% in 1995. Overall, the total program budget increased an average of 12.2% annually from 1984 to 1996 and program support from the sponsoring institution increased by an average of 8.6% per year for this same period. Although federal support has remained within a narrow range over the years, the proportion of the total budget from federal training grants has decreased from 41% in 1985 to 22% in 1996. As shown in Figure 2 there has been a sustained increase in both the total program budget and institutional support since 1984. Since 1984, total program budget increased by over 145% while support from the sponsoring institution increased 164%. Although Federal training grant support has remained relatively constant, averaging \$133,939 over thirteen years, the proportion of the total budget from this source has declined substantially.

**Figure 2. Trends in P.A. Program Support: 1984 Through 1996**



**Student Educational Expenses**

Student tuition and educational expenses for the first-year class entering in 1996 are shown in Table 7. Respondents provided estimates of the costs incurred by the typical first-year student during the 1996-1997 academic year, including tuition and other educational expenses. No information was requested concerning living expenses. It should be noted that for the first five Annual Reports, tuition was reported for the students ENTIRE professional program, however, since that time, tuition has been reported for the current academic year and other educational expenses (e.g., books, fees, equipment) for the total length of the program.

Table 7. Tuition and Expenses of P.A. Students

<u>Tuition Per Year</u>	<u>Mean</u>	<u>Range</u>	<u>N</u>	<u>Mean/Month/Program</u>
Resident Student	\$10,066	\$1,075-21,000	76	\$ 950
Nonresident Student	\$12,544	\$2,250-21,400	76	\$1184
<u>Books, Fees, and Equipment</u>	\$ 3,060	\$ 295-15,300	76	\$ 127
<u>Total Student Costs: (Tuition, Books, Fees, Equipment)</u>				
Resident Student	\$23,695	\$2,580-52,713	76	\$1077
Nonresident Student	\$28,775	\$6,680-52,713	76	\$1311

On average, there was a \$2,478 difference between resident and nonresident tuition among the 76 programs responding. To correct for differences in program length, data are also expressed as the mean cost per student per month. The results of this computation are shown in the right column of Table 7, and indicate that the typical resident student paid an average tuition of \$950 per month while the nonresident paid \$1184 per month, a 22% difference.

Expenses associated with books, equipment, and fees averaged \$3,060 per student for their entire professional training. These expenditures represented approximately 12.9% and 10.6% of the total educational expenses for

resident and nonresident students, respectively. The total expenses incurred by the typical P.A. student for their entire P.A. education (includes tuition, books, equipment, and fees) averaged \$23,695 for residents and \$28,775 for nonresidents. When corrections were made for length of the program, the average total cost was \$1077 per month for residents and \$1311 per month for nonresident students.

As shown in Table 8, the majority of students (79.3%) received financial aid which averaged \$14,114 per student per year and accounted for 109% of the costs of tuition, fees, books, and equipment (\$12,924) for the typical resident student. Using these values, one can estimate that the typical resident P.A. student would be indebted approximately \$28,228 (2 X \$14,114) at the conclusion of their professional education.

Table 8. Financial Aid Support Provided P.A. Students

<u>Financial Aid Characteristic</u>	<u>Mean</u>	<u>Range</u>	<u>Number</u>
% Receiving Financial Aid	79.3%	9-100%	68
Amount of Aid Received/Year	\$14,114	\$2,000-37,000	65

**Student Expenses by Geographic Region**

Tuition and total costs for first-year P.A. students during the 1996-97 academic year are shown by geographic region in Table 9. The average resident tuition and total expenses incurred by P.A. students varied extensively across geographic region. Resident tuition was highest for students enrolled in programs located in the Eastern region (\$13,062/year) and lowest for programs located in the Heartland region (\$4,088/year). Nonresident tuition varied less across regions with a difference of approximately \$2,500 between the highest and lowest values. Total student

Table 9. Expenses of P.A. Students by Geographic Region

<u>Geographic Region</u>	<u>N</u>	<u>Mean Tuition</u>		<u>Total Costs/Month</u>		<u>% Receiving Finan.Aid</u>
		<u>Resident</u>	<u>Nonresident</u>	<u>Resident</u>	<u>Nonresident</u>	
Northeastern	16	\$10,729	\$11,920	\$1012	\$1125	72.9%
Eastern	12	\$13,062	\$13,677	\$1232	\$1290	84.2%
Southeastern	12	\$11,233	\$12,683	\$1060	\$1197	86.5%
Midwestern	17	\$ 9,252	\$11,956	\$ 873	\$1128	74.9%
Heartland	7	\$ 4,088	\$11,186	\$ 386	\$1055	76.7%
Western	<u>12</u>	<u>\$ 9,661</u>	<u>\$13,730</u>	<u>\$ 911</u>	<u>\$1295</u>	<u>82.7%</u>
<b>Total</b>	<b>76</b>	<b>\$10,066</b>	<b>\$12,544</b>	<b>\$ 950</b>	<b>\$1184</b>	<b>79.3%</b>

expenses per month for residents were highest among programs in the Eastern region and lowest in the Heartland region, whereas nonresidents in the Western and Heartland regions had the highest and lowest total costs, respectively. The proportion of students receiving financial aid varied from 73% in the Northeastern region to 86.5% in the Southeastern region.

**Trends in P.A. Student Expenses**

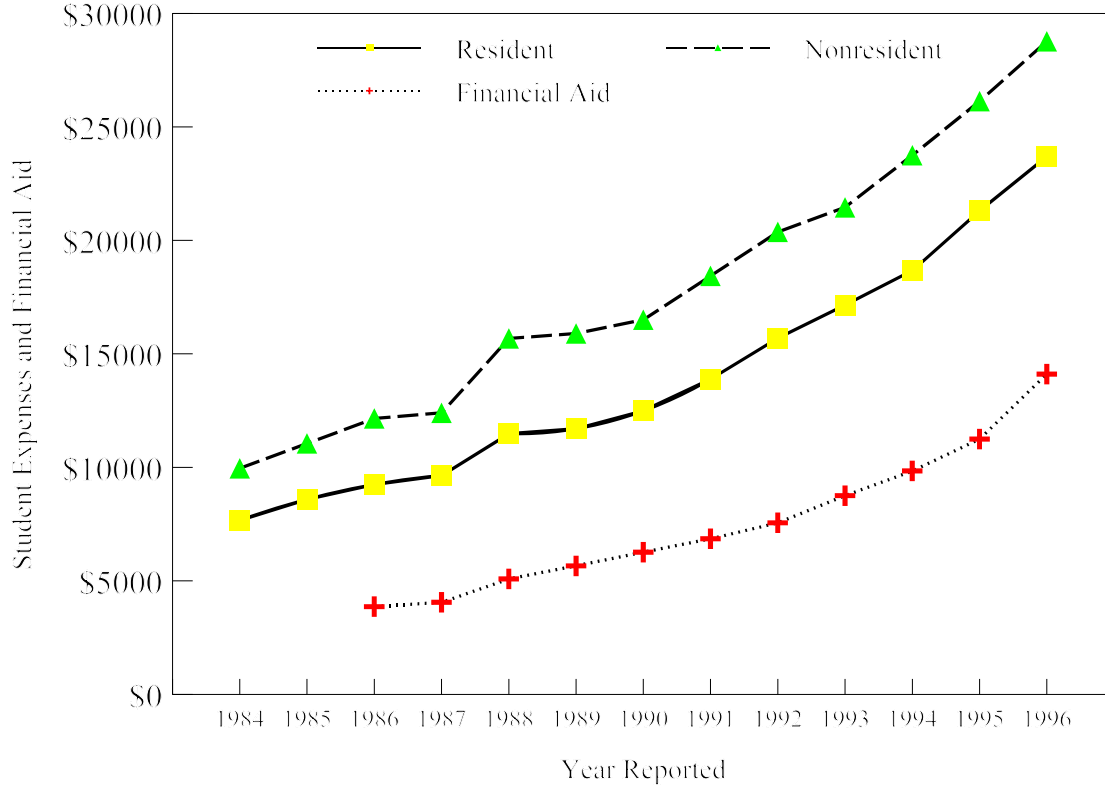
Comparisons between tuition and student expenses, and the proportion of students receiving financial aid from 1984 through 1996, are shown in Table 10 and Figure 3 (next page). Tuition has increased 216% and 179% over the past thirteen years for resident and nonresident students, respectively, an average of 13.7% and 12.2% per year,

Table 10. Trends in P.A. Student Expenses, 1984 Through 1996

<u>Academic Year</u>	<u>Mean Tuition</u>				<u>Total Expenses</u>				<u>% With Fin. Aid</u>		<u>Fin. Aid Received</u>
	<u>Resident</u>		<u>Nonresident</u>		<u>Resident</u>		<u>Nonresident</u>		<u>N</u>	<u>%</u>	
	<u>N</u>	<u>Mean</u>	<u>N</u>	<u>Mean</u>	<u>N</u>	<u>Mean</u>	<u>N</u>	<u>Mean</u>			
1984-85	37	\$ 6,378	36	\$ 8,986	35	\$ 7,669	34	\$ 9,962	33	65%	N/A
1985-86	40	\$ 7,098	40	\$ 9,565	40	\$ 8,588	40	\$11,055	40	65%	N/A
1986-87	46	\$ 7,626	43	\$10,451	45	\$ 9,247	42	\$12,155	39	63%	\$3,866
1987-88	47	\$ 8,012	47	\$10,775	47	\$ 9,643	47	\$12,494	43	63%	\$4,060
1988-89	47	\$ 9,472	47	\$13,660	47	\$11,485	47	\$15,681	43	67%	\$5,086
1989-90	47	\$ 9,978	47	\$14,174	47	\$11,706	47	\$15,902	43	69%	\$5,663
1990-91	47	\$10,620	47	\$14,614	47	\$12,495	46	\$16,511	42	71%	\$6,268
1991-92	48	\$11,714	47	\$16,240	48	\$13,890	47	\$18,440	45	71%	\$6,860
1992-93	55	\$13,092	55	\$17,772	55	\$15,694	55	\$20,375	51	71%	\$7,558
1993-94	55	\$14,470	55	\$18,774	55	\$17,153	55	\$21,457	49	71%	\$8,755
1994-95	59	\$16,030	59	\$21,106	59	\$18,676	59	\$23,752	53	77%	\$9,846
1995-96	69	\$17,872	69	\$22,702	69	\$21,308	69	\$26,132	64	79%	\$11,251
1996-97	<u>76</u>	<u>\$20,132</u>	<u>76</u>	<u>\$25,088</u>	<u>76</u>	<u>\$23,695</u>	<u>76</u>	<u>\$28,775</u>	<u>68</u>	<u>79%</u>	<u>\$14,114</u>
<b>Mean</b>	<b>48</b>	<b>\$11,730</b>	<b>51</b>	<b>\$15,959</b>	<b>52</b>	<b>\$14,195</b>	<b>51</b>	<b>\$18,234</b>	<b>48</b>	<b>76%</b>	<b>\$7,419</b>

respectively. Similarly, total student expenses (which includes tuition, books, equipment, and fees over the entire program) increased by 209% and 189% over the thirteen-year period for resident and nonresident students, respectively.

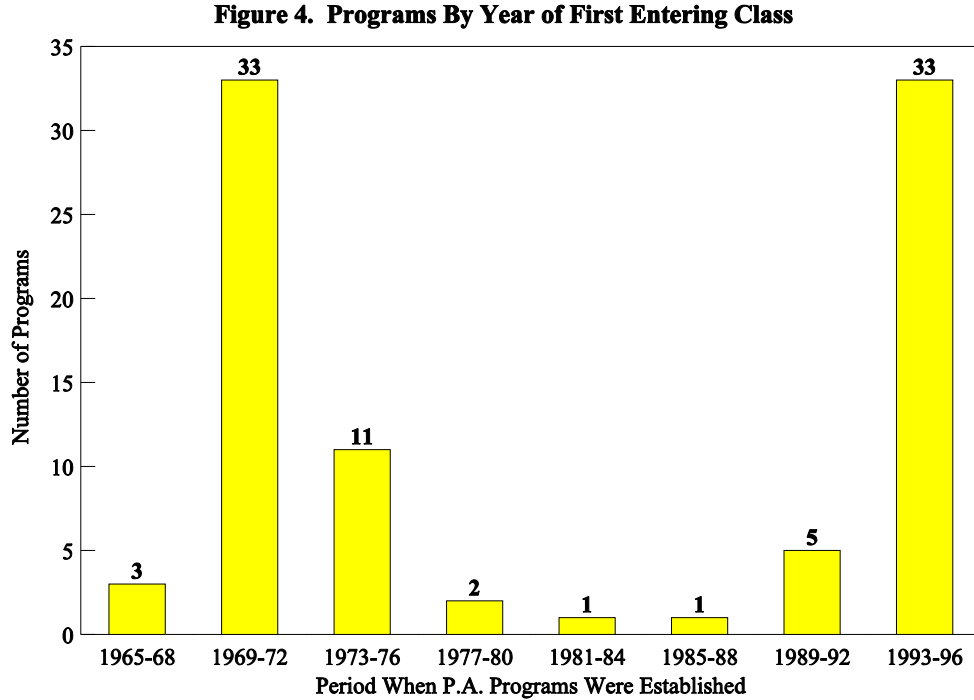
Figure 3. Trends in P.A. Student Expenses: 1984 Through 1996



The proportion of students receiving financial aid averaged 70% from 1984 through 1996 and has varied within a narrow range, i.e., 63% to 79%, over time. It should be noted that the data shown in Table 10 and Figure 3 represents the tuition and costs expended by the typical student for their entire professional, educational program and does not include pre-program academic preparation or living expenses. Beginning with the 1986 annual survey, respondents were asked to estimate the amount of financial aid received per student. Inspection of Figure 3 illustrates that while financial aid received by the typical student increased by approximately 265% since 1986, total expenses increased by 156% for resident and 137% for nonresident students during that same period. Unfortunately, since 1990-1991, student expenses increased 90% and 74% for resident and nonresidents, respectively, however, there was also a 125% increase in financial aid during that period.

### **Year Current P.A. Programs Were Established, 1965 Through 1996**

The distribution of respondent programs by year of their first entering class is shown in Figure 4 (next page). Eighty-nine programs are represented, as the data for the nonrespondent programs were obtained from the P.A. Program Accreditation Status Report (5/96) from the AAPA/APAP.



The first P.A. program was established in 1965 at Duke University Medical Center and over the next four years (1965-1968) three additional programs were developed. With the passage by Congress of the Comprehensive Health Manpower Act in 1971, federal training grant support provided the stimulus for the rapid development of the majority of current P.A. programs. Indeed, over the subsequent eight year period (1969 through 1976), forty-four new programs were established. Over the next twelve years, from 1977 through 1988, only four additional programs were established. However, in the most recent four years (1993-1996), 33 new programs were established.

The recent trend in program growth will likely continue, at least for the immediate future, creating additional programs and increased numbers of P.A. graduates. The impetus for this growth relates to federal and state efforts aimed at health care reform, particularly that portion aimed at providing universal "coverage." These early attempts at health care reform have been augmented by a substantial increase in the number of people in the United States that subscribe to a managed care plan to provide their health care. These factors have created an increased demand for more primary care providers, and hence the education of larger numbers of these providers, including physician assistants.

**P.A. Programs that Have Closed**

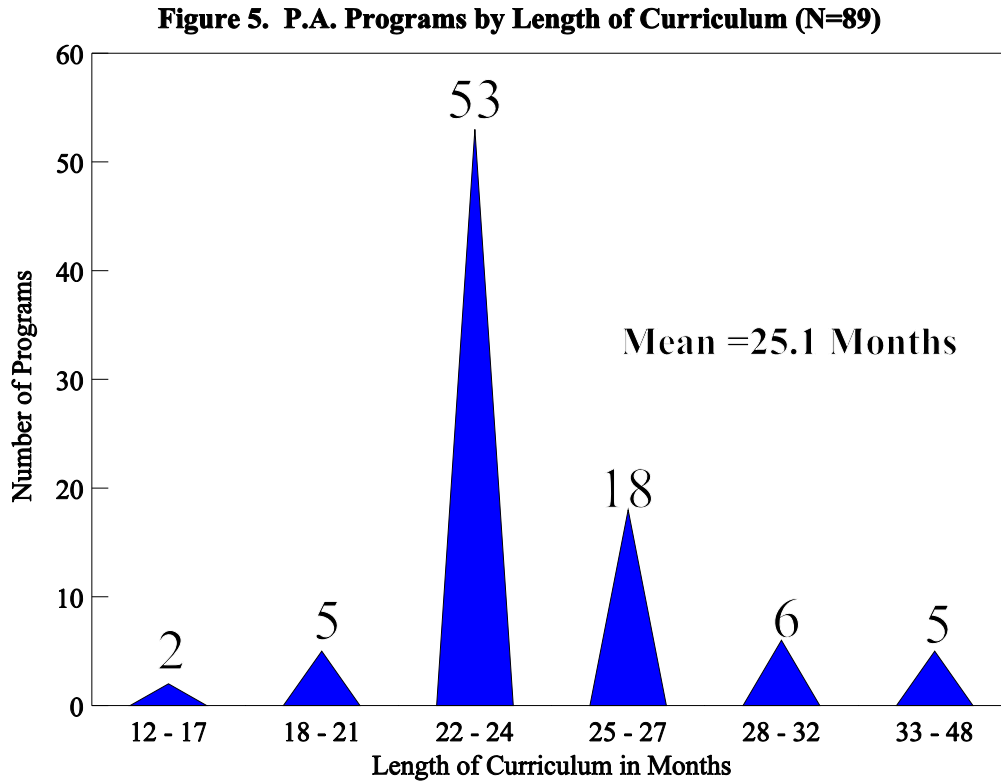
This year, 1996, saw two unusual events that relate to the numbers of programs that have closed. One previously accredited program withdrew from the accreditation process, but reapplied with a redesigned curriculum. This year also saw the consolidation of the Air Force, Army and Navy P.A. programs into the Interservice P.A. Program.

**Current P.A. Programs by Length of Curriculum**

Historically, the length of the professional P.A. curriculum has varied across programs. For example, at some institutions, the P.A. program is a 4-year baccalaureate curriculum that admits students as freshmen. The first two years of this curriculum involves liberal arts and preparatory science courses followed by two years of professional P.A. studies. In some cases, these programs admit students with advanced standing at the beginning of the professional curriculum, typically two years in length. At the other extreme, graduate-level programs admit students who have

completed all liberal arts and preparatory science courses and have earned a baccalaureate degree prior to admission. The graduate or master's level curriculum typically includes additional courses and/or experiences in research related activities in addition to the professional curriculum.

Figure 5 illustrates the diversity across programs relative to the length of the curriculum. The mean length of the curriculum for the "typical" program was 25.1 months (N=89) with a range of 12 to 48 months. For convenience, the



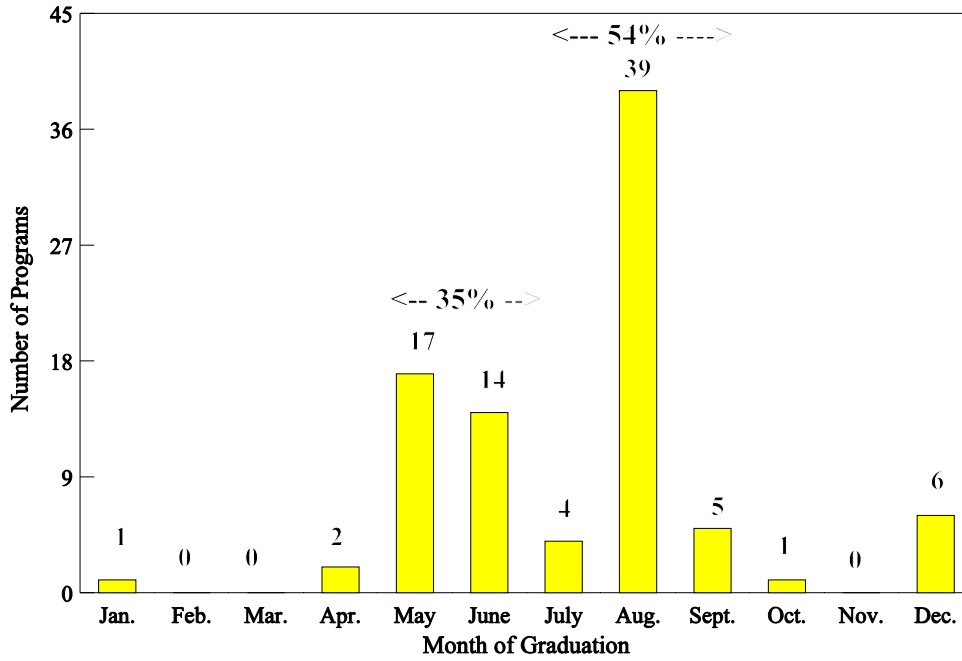
programs were organized into six groups. The majority of programs were between 22-24 months (53) and 25 to 27 months (18) in length. The length of the curriculum of P.A. programs has increased in the past several years, for example, in 1986 and 1990, the average length of the curriculum was reported as 23.7 and 24.0 months, respectively. Non-respondent information was obtained from the APAP Program Directory.

**Current P.A. Programs by Month of Graduation**

The distribution of P.A. programs by month of graduation is shown in Figure 6 (next page). Data for nonrespondent programs and those that have been newly established were supplemented by information from the 1996 P.A. Program Directory as well as information from the AAPA and APAP Physician Assistant Program Accreditation Status Report, May, 1996.<sup>2</sup>



**Figure 6. P.A. Programs By Months of Graduation (N=89)**



Currently, a majority (N=79; 88.8%) of programs graduate students over two periods, (a) between May and June (N=31; 35%) and (b) July, August and September (N=48; 54%). It should be noted that two programs graduate two classes per year and one program graduates three classes per year.

**National Health Service Corps (N.H.S.C.) Support**

The number and proportion of students receiving support from the National Health Service is shown in Table 11. Of the four types of support available, Loan Repayment accounted for 126/323 (39%), followed by N.H.S.C. scholarships (36.5%). In total, 139 scholarships were reported among the first year class and 160 among the second year class.

Table 11. Students: Public Health Service Scholarships

Class	N.H.S. Corps		COSTEP		Loan Repay.		Comm. School		Total
	N	%	N	%	N	%	N	%	N
1st Year	52	37.4%	3	2.2%	62	44.6%	22	15.8%	139
2nd Year	46	28.8%	10	6.2%	61	38.1%	43	26.9%	160
3rd Year	20	83.3%	1	4.2%	3	12.5%	0	0.0%	24
<b>Total</b>	<b>118</b>		<b>14</b>		<b>126</b>		<b>65</b>		<b>323</b>

**SECTION II. PROGRAM PERSONNEL**

**Classification of Physician Assistant Program Personnel**

In 1984, the first APAP survey yielded information on the "core" personnel employed by P.A. programs. Core personnel were defined as those who devoted at least 50% of their time directly to program-related activities. These findings indicated that a total of 258 individuals were employed by the 36 programs responding (7.2 individuals/program and 6.0 FTE's/program). At that time, the personnel were classified into four categories based on their position: administrative (106; 41%), clerical (45; 18%), educational (96; 37%), and research (11; 4%). The total number of employees per program ranged from 3 to 13 with an average of one employee for every 7.7 students enrolled in the typical program.

Program personnel (excluding clerical persons) were further classified into two groups, those that were credentialed as a P.A. and those that were not (herein referred to as non-P.A.'s). The reader is referred to previous Annual Reports for a more detailed description of these personnel for each year. Based on the personnel data over the past thirteen years, it has been shown that there are an average of 3.5 to 3.9 physician assistants (P.A.'s) employed per program. This figure excludes program directors, many of whom were P.A.'s.

For purposes of our present personnel analysis, program staff and faculty were divided into three groups: (a) program directors, (b) medical directors, (c) "program personnel" which included P.A.'s (excluding program directors) and non-P.A.'s (excluding program directors). The P.A. and non-P.A. groups were further subdivided into four categories (I, II, III, and IV) on the basis of their position titles as summarized in Table 12. Category I includes program personnel whose responsibilities were generally associated with the first-year curriculum, typically including courses

Table 12. Classification of Program Personnel by Category

Category	Typical Position Titles	
I	Lecturer/Instructor Educ./Acad. Coordinator	Educational Specialist Course Coordinator
II	Clinical Coordinator Clinical Instructor	Clinical Skills Coordinator
III	Assoc. or Assist. Director Program Assistant	Executive Assistant Co-Director
IV	Admin. Secretary Admin. Assistant Office Supervisor	Secretary Data Manager

in the basic and behavioral sciences and/or the curriculum associated with history/physical examination skills as well as components of introduction to clinical medicine courses. Category II personnel were those involved in the second year or clinical rotation phase of the educational program. These individuals generally assumed clinical teaching or evaluation responsibilities and/or coordinated the students clinical training assignments. Category III describes those individuals who had primarily administrative-level positions, but excluded those that were program or medical directors. Category IV included personnel who were mainly classified as support staff. Category IV personnel were not considered faculty.

It should be appreciated that program faculty and staff often share responsibilities across teaching, administrative and research activities. Despite this limitation, this classification is a useful way to describe and analyze core program personnel. The majority of the tables that follow in this section list Category IV personnel information, however it is not included in the total/mean columns. Please refer to each individual table to determine if it is included or not.

**Number of P.A. and Non-P.A. Program Personnel by Category**

The number of P.A. and non-P.A. program personnel by category is shown in Table 13. It should be noted that program directors are not included in Tables 13 through 32, unless specifically indicated. Across all four categories, there were 514 (142 Category IV) personnel reported by survey respondents (N=77; 6.7 per program), 306 P.A.'s and

Table 13. P.A. and Non-P.A. Program Personnel by Category

<u>Characteristic</u>	<u>Personnel Category</u>				<u>Categories I - III</u>	
	I	II	III	IV		
<u>Physician Assistants</u>						
<b>Total Number</b>	161	117	27	1	305	305
# of Programs*	64	65	23	1	75	77
Mean #/Program	2.5	1.8	1.2	1.0	4.1**	4.0***
<u>Non-Physician Assistants</u>						
<b>Total Number</b>	37	9	21	141	67	67
# of Programs*	20	7	18	60	34	77
Mean #/Program	1.9	1.3	1.2	2.4	2.0**	0.9***

\* Number of programs reporting at least one P.A. or non-P.A. in a category.

\*\* Mean is based on number of programs reporting personnel in a category.

\*\*\* Mean based on all (N=77) programs.

208 non-P.A.'s. Seventy-five programs indicated that they had at least one Category I - III P.A. (mean of 4.1/program) and 34 programs indicated that individuals without a P.A. credential were employed in at least one of the I - III categories (mean of 2.0/program).

The majority of program personnel in Categories I - III were credentialed as P.A.'s (82%) as compared to non-P.A.'s (18%). Proportionately, there were relatively few non-P.A.'s in Category II positions (7%). Across all programs (N=77), the mean per program is 4.0 P.A.'s and 0.9 non-P.A.'s.

**Number of P.A. Program Personnel by Region**

The total number of personnel (P.A. and non-P.A. personnel) associated with P.A. programs by geographic region and category is shown in Table 14 (next page). Physician assistant programs located in the Heartland region of the United States employed the greatest number of Category I - III P.A.'s and non-P.A.'s per program, whereas programs located in the Midwestern region had the fewest P.A.'s associated with the program (mean of 2.6/program). Programs in the Eastern and Northeastern regions employed the least number of Category I-III non-P.A.'s (0.2/ program). Programs in the Northeastern region employed the greatest number of Category IV personnel per program (2.0/program), while programs in the Eastern region employed the least (1.2/program).

**General Characteristics of P.A.'s and Non-P.A.'s Employed by Programs**

The general characteristics of physician assistant personnel employed by P.A. programs, by category, excluding non-P.A. program personnel, are shown in Table 15 (next page). Please note that the "total" column includes information

Table 14. P.A. and Non-P.A. Program Personnel by Category and Region

Geographic Region	Personnel Category						Mean per Program (Cat I-III)
	N	I	II	III	IV	Total	
Northeastern	17	20 ( 2)	34 (0)	7 (2)	0 (34)	61 (38)	3.6/(0.2)
Eastern	12	36 ( 0)	21 (1)	2 (1)	1 (13)	60 (15)	4.9/(0.2)
Southeastern	12	34 ( 5)	9 (3)	3 (3)	0 (22)	46 (33)	3.8/(0.9)
Heartland	7	23 (15)	11 (0)	3 (1)	0 (25)	37 (41)	5.3/(2.3)
Midwestern	17	20 ( 5)	21 (0)	4 (7)	0 (26)	45 (38)	2.6/(0.7)
Western	<u>12</u>	<u>28 (10)</u>	<u>21 (5)</u>	<u>8 (7)</u>	<u>0 (21)</u>	<u>57 (43)</u>	<u>4.8/(1.8)</u>
<b>Total</b>	<b>77</b>	<b>161 (37)</b>	<b>117 (9)</b>	<b>27 (21)</b>	<b>1 (141)</b>	<b>306 (208)</b>	<b>3.9/(0.8)</b>

\* # of non-P.A. personnel are in parentheses, mean/program is based on N=77.

on the one physician assistant person listed as a Category IV. Across all categories, P.A.'s devoted an average of 91%

Table 15. General Characteristics of Physician Assistant Personnel

Characteristic	Personnel Category			Total***
	I	II	III	
<u>Mean % Time</u>	<u>N = 161*</u> 93%	<u>N = 117</u> 87.4%	<u>N = 27</u> 95.4%	<u>N = 306</u> 91.1%
<u>Annual Salary</u>	<u>N = 146</u>	<u>N = 111</u>	<u>N = 23</u>	<u>N = 281</u>
Mean**	\$51,662	\$51,906	\$60,973	\$52,550
Range	\$25,000-\$70,000	\$25,500 - \$74,579	\$48,800-\$68,589	\$25,000-\$74,579
<u>Months in Position</u>	<u>N = 161</u>	<u>N = 116</u>	<u>N = 27</u>	<u>N = 305</u>
Mean	32.6	43.9	85.9	41.7
Range	1-216	1-265	2-360	1-360

- \* Number of P.A.'s in category.
- \*\* Salaries adjusted to 1 FTE
- \*\*\* Includes one employee listed as a Category IV

of their time to the program; the majority were classified as full-time employees. There were some differences between categories in the percent of time the P.A. worked. Twenty-four of the 27 P.A.'s in category III were employed on a full-time basis, whereas P.A.'s in categories I and II averaged 0.91 FTE. The mean annual salary across all categories was \$52,550 with a range from \$25,000 to \$74,579. On average, individuals had been in their position for 41.7 months (range 1-360 months). There was some difference in mean salary across categories, ranging from \$51,667 for category I to \$60,973 for category III, a 18% increase. P.A.'s in category III had held their positions for the longest period of time, averaging 85.9 months, while P.A.'s in category I had been associated with the program for the least amount of time (33 months).

**Clinical Activity of Physician Assistant Personnel**

General characteristics of the clinical activity of P.A. personnel are shown in Table 16 (next page). Note, P.A. credentialed program directors were **also** included in this analysis, however, medical directors **were not**. The following information was requested of respondents: the number of personnel that were clinically active, mean number of hours worked per week, number that were reimbursed for their clinical services, the amount paid for said

services (mean hourly wage) and whether their clinical earnings were included in the salary reported in the personnel table. Based on the data reported, the amount and percent of annual salary derived from clinical service was calculated. Lastly, for those personnel who received earnings through their clinical service in addition to their regular salary, a gross salary (combining program and clinical sources) was calculated. Less than half (46%) of the program personnel that were credentialed as P.A.'s had clinical responsibilities in addition to their program activities. This proportion varied across the three categories and was greatest for those in category II (53%). Twenty-seven percent of program directors (P.A.'s) also had clinical responsibilities.

Table 16. General Characteristics of Clinically Active Physician Assistant Personnel

<u>Characteristic</u>	<u>P.A. Personnel Category</u>			<u>Program</u>	<u>Total</u>
	<u>I</u> N=161	<u>II</u> N=117	<u>III</u> N=27	<u>Directors</u> N=77	
Clinical P.A.'s	80(50%)	62(53%)	12(44%)	21(27%)	175(46%)
<u>Hrs Worked/Week</u>					
Mean	9.8	14.3	9.9	10.0	11.4
(N)	(80)	(62)	(12)	(21)	175
Range	4-40	2-40	5-20	2-50	2-50
<u>Number (%) Paid for Services</u>	76(95%)	53(85%)	11(92%)	19(90%)	159(91%)
<u>Mean Wage/Hour</u>	\$31.43	\$29.49	\$37.03	\$33.47	\$31.47
(N)	(60)	(44)	(10)	(17)	(131)
<u>Annual Amount*</u>	\$14,785	\$20,242	\$17,597	\$17,190	\$17,145
<u>Adjust. Salary**</u>	\$58,801	\$53,372	\$56,169	\$71,147	\$58,379
<u>% Salary From Clinical Earnings</u>	25.1%	37.9%	31.3%	24.2%	29.8%

\* Estimated at 48 weeks per year.

\*\* Base Salary + Clinical Earnings for those clinically active.

On average, P.A.'s in categories I-III spent 11.4 hours per week providing patient care; program directors who were P.A.'s spent an average of 10 hours per week. The range in time spent was very broad, from 2 hours per week to 50 hours per week. Ninety-one percent of P.A. personnel received additional compensation for their clinical services. Category I P.A.'s were the most likely to receive compensation and Category II the least likely. The mean hourly wage averaged \$31.47/hour and varied from \$29.49 for category II to \$37.03 per hour for category III.

Given the mean number of hours worked per week, the average hourly wage, and, assuming an average of 48 weeks were worked per year, the annual earnings from patient care services of the P.A.'s with clinical responsibility was estimated. On average, these individuals earned \$17,145 from their clinical activity. Category I P.A.'s had the lowest additional income (\$14,785) and those in category II had the highest (\$20,242). In comparison, P.A. credentialed program directors earned an average of \$17,190 or 24.2% of their total salary from clinical service.

An "adjusted" annual income (base salary + clinical earnings) was determined for those indicating they received earnings from both sources. On average, there was a 10.8% increase over base salary for those personnel that were

clinically active. And, clinical earnings accounted for over one-fourth of the personnel salary. It would appear that the base salary for clinically active personnel is lower than those not in practice. In subsequent tables, salary figures will not include clinical earnings.

General characteristics of non-P.A. credentialed personnel by category is shown in Table 17. Across categories, the typical non-P.A. in Categories I - III devoted 89% of their time to the program; the majority were classified as full-time employees.

Table 17. General Characteristics of Non-P.A. Personnel  
Personnel Category

	I	II	III	IV	Total (Cat. I - III)
<u>Characteristic</u>	<u>N = 37</u>	<u>N = 9</u>	<u>N = 21</u>	<u>N = 141</u>	<u>N = 67</u>
Mean % Time	88.9%	86.0%	90.5%	94.5%	89.0%
<u>Annual Salary*</u>	<u>N = 27</u>	<u>N = 9</u>	<u>N = 20</u>	<u>N = 127</u>	<u>N = 56</u>
Mean	\$43,577	\$41,272	\$44,194	\$24,208	\$43,427
Range	\$18,208- \$85,000	\$20,800- \$62,679	\$16,555- \$94,000	\$11,000 - \$44,190	\$16,555- \$94,000
<u>Months in Position</u>	<u>N = 37</u>	<u>N = 9</u>	<u>N = 21</u>	<u>N = 141</u>	<u>N = 67</u>
Mean	63.7	36.7	108.5	60.5	74.1
Range	2-338	4-97	1-372	1 - 385	1-372
* Salaries adjusted to 1 FTE					

The mean salary for non-P.A.'s across categories I - III was \$43,427, ranging from \$16,555 to \$94,000. On average, these individuals had been employed 74.1 months (range of 1-372 months). Non-P.A.'s in category III earned the highest salary (\$44,194) while non-P.A.'s in category II had the lowest average salary (\$41,272). Category II non-P.A.'s had been associated with the program for the shortest period of time, while category III non-P.A.'s had been employed almost three times as long. Overall, non-P.A.'s had a lower average annual salary than did personnel who were P.A.'s. Category IV personnel had a mean salary of \$24,208 with abroad range of \$11,000 to \$44,190. Category IV personnel had been in their position an average of 60.5 months.

Characteristics of program personnel in Categories I - III, by ethnicity and gender, are shown in Table 18. It should

Table 18. Salary and Months in Position of Category I - III P.A. and Non-P.A. Personnel  
by Ethnicity and Sex

<u>Ethnicity</u>	<u>Number of Personnel</u>			<u>Mean Annual Salary</u>		<u>Mean Months in Position</u>	
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
White/Non-Hisp.	123	191	314	\$55,639	\$48,698	53.4	45.8
Black/African-Amer.	13	24	37	\$53,104	\$50,509	56.9	40.1
Latin/Hisp.	5	7	12	\$52,839	\$50,304	30.6	38.0
Asian/Pac. Isl.	2	6	8	\$55,358	\$44,811	17.0	33.0
Nat. Amer./Esk.	0	2	2	-----	\$40,150	-----	27.0
Other	<u>0</u>	<u>1</u>	<u>1</u>	-----	-----	-----	<u>6.0</u>
<b>Total</b>	<b>143</b>	<b>231</b>	<b>374</b>	<b>\$55,307</b>	<b>\$52,664</b>	<b>52.4</b>	<b>44.3</b>

be noted that data on P.A. and non-P.A. program personnel were combined for the analyses in Tables 18 and 22. Proportionately, there were more women (62%) among the P.A. and non-P.A. personnel; 61% of the white (191/314)

and 67% of the non-white personnel (40/60) were women. In total, 60 P.A. program staff and/or faculty from 27 programs were identified as members of an ethnic minority (37 Black/African-American, 12 Latino/Hispanic, eight Asian, two Native American/Alaskan Native, and one Other). This constitutes 16% (60/374) of the total number of faculty and staff and 35% of the programs responding. In all categories, males earned higher annual salaries than their female counterparts. Males were employed longer in their current position than females, 52.4 and 44.3 months, respectively.

Characteristics of program personnel in Category IV, by ethnicity and gender, are shown in Table 19. Category IV personnel consisted mainly of females (92.7%). Forty-two (30.7%) Category IV P.A. program staff from 20 programs were identified as members of an ethnic minority. In categories where comparisons were available, males earned higher annual salaries than their female counterparts. Females were employed longer in their current position than males, 64.8 and 26.7 months, respectively.

Table 19. Salary and Months in Position of Category IV Personnel by Ethnicity and Sex

Ethnicity	Number of Personnel			Mean Annual Salary		Mean Months in Position	
	Male	Female	Total	Male	Female	Male	Female
White/Non-Hisp.	5	90	95	\$27,869	\$23,124	27.4	60.5
Black/African-Amer.	3	22	25	\$29,126	\$27,129	9.0	67.5
Latin/Hisp.	1	10	11	-----	\$24,327	3.0	82.9
Asian/Pac. Isl.	1	3	4	-----	\$22,091	100.0	15.3
Nat. Amer./Esk.	<u>0</u>	<u>2</u>	<u>2</u>	-----	<u>\$33,450</u>	-----	<u>62.0</u>
<b>Total</b>	<b>10</b>	<b>127</b>	<b>137</b>	<b>\$29,912</b>	<b>\$24,051</b>	<b>26.7</b>	<b>64.8</b>

The relationship between salary, percent time, and months in position for P.A. and non-P.A. personnel by sex is shown in Table 20. Overall, male personnel earned higher annual salaries than female personnel. In one category, P.A. category III, the women personnel earned more than the men. On average for Categories I - III, non-P.A. personnel had been in their positions substantially longer than P.A. personnel, and they devoted a slightly larger

Table 20. Analysis of Salary, Percent Time and Months in Position of P.A. and Non-P.A. Personnel by Sex

Categories	Mean Annual Salary				Mean % Time				Mean Months in Position			
	Male	N	Female	N	Male	N	Female	N	Male	N	Female	N
<u>Cat. I</u>												
P.A.	\$53,994	54	\$50,293	92	91.5	63	93.9	98	36.4	63	30.1	98
Non-P.A.	\$55,225	8	\$38,673	19	85.0	15	91.6	22	62.1	15	64.9	22
<u>Cat. II</u>												
P.A.	\$53,696	39	\$50,773	71	91.7	42	84.9	74	46.9	42	42.3	74
Non-P.A.	-----	1	\$38,438	8	100	1	82.5	8	6.0	1	39.0	8
<u>Cat. III</u>												
P.A.	\$59,351	13	\$63,081	10	100	14	90.4	13	79.6	14	92.6	13
Non-P.A.	\$62,336	7	\$34,425	13	92.9	7	89.3	14	162	7	81.6	14
<u>Cat. IV</u>												
Non-P.A.	\$30,775	5	\$23,954	117	100	10	94.2	126	26.7	10	63.6	126
<u>Cat. I - III</u>												
P.A.	\$54,450	106	\$51,229	173	92.6	119	90.1	185	45.2	119	39.4	185
Non-P.A.	\$57,594	16	\$37,245	40	92.4	23	89.2	44	90.2	23	65.5	44

percent of their time to the program.

**Personnel by Region: Salary, Months in Position and Ethnicity**

Data regarding salary and time in position for P.A. and non-P.A. personnel by geographic region is presented in Table 21. P.A.'s associated with programs located in the Northeastern region reported the highest annual salary. The lowest mean P.A. salary was in the Midwestern region. Non-P.A.'s in the Western region had the highest salaries, while those in the Northeastern and Southeastern regions had the lowest salaries. In five of the six regions, non-P.A.'s had

Table 21. Program Personnel: Salary and Time in Position by Region

Geographic Region	Mean Salary: Categories I - III				Months in Position	
	<u>P.A.</u>	<u>N</u>	<u>Non-P.A.</u>	<u>N</u>	<u>P.A.</u>	<u>Non-P.A.</u>
Northeastern	\$55,907	50	\$35,793	3	38.3	71.3
Eastern	\$50,896	57	\$36,173	2	48.9	15.0
Southeastern	\$53,522	46	\$35,420	11	43.5	61.1
Midwestern	\$49,885	45	\$45,532	12	29.9	63.6
Heartland	\$53,139	27	\$41,935	6	38.9	83.6
Western	<u>\$52,156</u>	<u>55</u>	<u>\$47,453</u>	<u>22</u>	<u>47.2</u>	<u>76.3</u>
<b>Total</b>	\$52,524	280	\$43,059	56	41.6	70.4

been in their positions for a good deal longer than had P.A.'s. There was not a statistically significant correlation ( $r = 0.19$ ;  $p > .01$ ) between time in position and salary.

The salaries of Category I - III P.A. program personnel (P.A.'s and non-P.A.'s) by ethnicity and geographic region are shown in Table 22. Mean salaries of White personnel were higher than their Black/African-American counterparts in three of the five regions reported where comparison could be made. Latino/Hispanic personnel had salaries higher than Black/African-Americans in the Western region.

The salaries of Category IV P.A. program personnel (P.A.'s and non-P.A.'s) by ethnicity and geographic region are

Table 22. Analysis of Program Personnel by Geographic Region and Ethnicity  
Category I - III

Geographic Region	Mean Annual Salary					
	<u>White</u>	<u>N</u>	<u>Black/African-</u> <u>Amer</u>	<u>N</u>	<u>Lat/Hisp</u>	<u>N</u>
Northeastern	\$55,943	39	\$53,843	7	\$50,806	8
Eastern	\$49,792	50	\$53,757	9	-----	0
Southeastern	\$49,976	53	\$56,687	6	\$55,500	3
Midwestern	\$50,194	50	\$43,280	3	\$37,920	4
Heartland	\$50,505	30	-----	1	\$57,067	3
Western	<u>\$51,881</u>	<u>59</u>	<u>\$46,830</u>	<u>10</u>	<u>\$50,853</u>	<u>7</u>
<b>Total</b>	<b>\$51,267</b>	<b>281</b>	<b>\$51,263</b>	<b>36</b>	<b>\$50,072</b>	<b>25</b>

shown in Table 23 (next page). Mean salaries of Black/African-American personnel were higher than their White counterparts in three of the four regions reported where comparison could be made.



Table 23. Analysis of Program Personnel by Geographic Region and Ethnicity  
Category IV

Geographic Region	Mean Annual Salary					
	White	N	Black/African-American	N	Lat/Hisp	N
Northeastern	\$25,596	16	\$33,148	7	\$20,900	5
Eastern	\$23,187	11	\$27,041	3	-----	0
Southeastern	\$20,571	16	\$24,125	5	-----	1
Midwestern	\$22,908	24	-----	1	-----	0
Heartland	\$22,984	9	\$21,000	3	\$22,854	5
Western	<u>\$24,984</u>	<u>14</u>	-----	<u>1</u>	<u>\$33,015</u>	<u>6</u>
<b>Total</b>	<b>\$23,335</b>	<b>90</b>	<b>\$27,264</b>	<b>20</b>	<b>\$25,845</b>	<b>17</b>

**Trends in P.A. Program Personnel Salaries from 1986 Through 1996**

Trends in P.A. personnel salary from 1986 through 1996 are shown in Table 24. Note, salary data was not available for 1987-88. There has been a 88.5% increase in P.A. salaries (all categories combined) from 1985-86 to 1996-97, an average of 8% per year. Proportionately, the largest annual increase in salary (10.9%) for all categories occurred between 1989 and 1990.

Table 24. Salary and Months in Position for P.A. Personnel, 1986 Through 1996

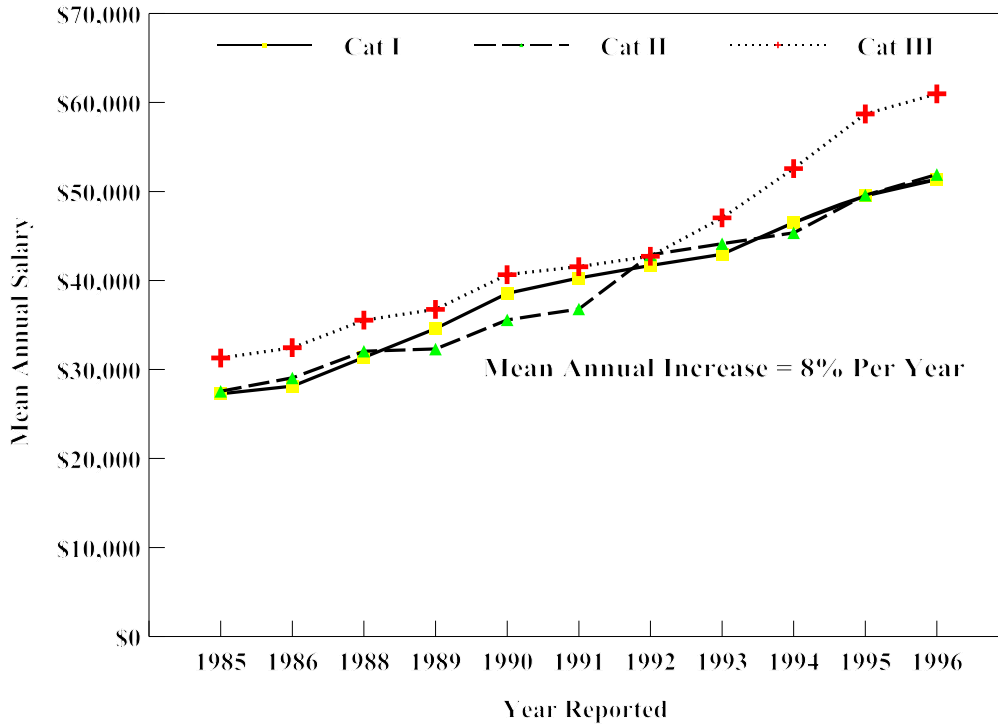
Categories	1985-86	1986-87	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97
Cat. I	\$27,264	\$28,129	\$31,362	\$34,610	\$38,547	\$40,280	\$41,689	\$42,945	\$46,498	\$49,510	\$51,662
Cat. II	\$27,553	\$29,060	\$32,054	\$32,300	\$35,578	\$36,807	\$42,885	\$44,127	\$45,357	\$49,589	\$51,906
Cat. III	<u>\$31,298</u>	<u>\$32,451</u>	<u>\$35,547</u>	<u>\$36,756</u>	<u>\$40,661</u>	<u>\$41,552</u>	<u>\$42,719</u>	<u>\$47,038</u>	<u>\$52,578</u>	<u>\$58,720</u>	<u>\$60,973</u>
<b>All Cat.</b>	<b>\$27,769</b>	<b>\$29,010</b>	<b>\$32,099</b>	<b>\$33,723</b>	<b>\$37,404</b>	<b>\$39,192</b>	<b>\$42,471</b>	<b>\$43,956</b>	<b>\$46,549</b>	<b>\$50,469</b>	<b>\$52,550</b>
<u>Months in Position</u>	36.6	36.3	39.9	43.9	40.1	51.4	42.0	41.6	42.5	39.0	41.6

Months in position did not vary substantially, averaging 41.4 months over the 12-year period (range of 36.3 to 51.4). A thorough discussion of personnel turnover is presented at the end of Section II.

A three-way analysis of variance (ANOVA) of salary was conducted to investigate the effects of the following parameters: personnel category, gender and geographic region. Main effects were found for sex (F=19.24; p<.0001; men higher than women) and geographic region (F=1.97; p<.015; the Northeast had higher salaries than the any other category). The category of personnel demonstrated no significant main effects. No significant interactions were found. Taken together, category, gender and region accounted for 16% of the variance in salaries (R=.36).

Trends in salary for all categories of program personnel (data for P.A.'s and non-P.A.'s were combined) from 1985 through 1996 are illustrated in Figure 7 (next page). Salaries for personnel consistently increased each year with the largest increase occurring in 1990.

Figure 7. Trends in P.A. Program Salaries: 1985 Through 1996



**Program Personnel: Academic Classification**

The number of Category I - III personnel (P.A.'s and non-P.A.'s) classified as faculty and staff, as well as the tenure track status of those in faculty positions, are shown in Table 25.

For all categories combined, more than three fourths (N=316; 83.6%) of personnel were classified as faculty. This

Table 25. Program Personnel: Classification and Tenure Track Status

Classification	Personnel Category						Total	
	I		II		III		Number	(%)
	Number	(%)	Number	(%)	Number	(%)		
Faculty	181	89.6%	102	80.3%	33	67.3%	316	83.6%
Staff	21	10.4%	25	19.7%	16	32.7%	62	16.4%
<b>Tenure Status</b>								
In Tenure Track*	49	27.1%	27	26.5%	6	18.2%	82	25.9%
Faculty Tenured**	14	7.7%	5	4.9%	3	9.1%	22	7.0%

\* Percent of TOTAL faculty in tenure track not tenured.

\*\* Percent of TOTAL faculty tenured (e.g., 14/181 = 7.7%)

distribution of individuals classified as faculty varied greatly between 67.3% for Category III and 89.6% for Category I. Recall, Category III includes typically administrative-type personnel who may be less likely to be appointed to an academic level position.

Overall, over one-fourth (26%) of the faculty were on the tenure track. However, only 7% of the faculty were tenured. Viewed in another way, 27% of those faculty in a tenure track were tenured, with the highest proportion of these tenured faculty in category III (50%).

Table 26 shows the academic classification and tenure status of Category I - III personnel by gender. The proportion of men holding faculty rank was greater than women, 90% and 79%, respectively. A larger proportion of male faculty were on tenure track compared to female faculty, 31% versus 23%, respectively. Although very few faculty were tenured (7%), a much larger proportion of male faculty were tenured (12%) as compared to female faculty (3%).

Table 26. Program Personnel: Classification and Tenure Track Status by Gender

Personnel Classification	Female		Male		Total	
	Number	(%)	Number	(%)	Number	(%)
Faculty Appointment	185	79.4%	130	90.3%	315	83.6%
Staff Appointment	48	20.6%	14	9.7%	62	16.4%
<b>Tenure Status</b>						
Tenure Track Faculty	42	22.7%	40	30.8%	82	26.0%
Tenured Faculty*	6	3.2%	16	12.3%	22	7.0%

\* Percent of TOTAL faculty tenured.

A summary of the highest degree held by each category of program personnel is shown in Table 27. All but 4% of Category I - III program personnel were reported to have earned a bachelors or higher degree. Almost one-half (48.5%) of the P.A. and non-P.A. personnel held a baccalaureate degree as their highest degree and over one-third (N=144; 39%) held a master's degree. Thirty-four individuals (10%) were identified as having earned a doctorate, similar to the distribution reported for the 1995-96 academic year. Proportionately, category I and III personnel tended to have more doctorate degrees than those in category II.

Table 27. Program Personnel: Highest Degree Held

Highest Degree	Program Personnel Categories								Categories I - III	
	I		II		III		IV		#	(%)
	#	(%)	#	(%)	#	(%)	#	(%)		
Doctorate	23	11.6%	3	2.4%	8	16.3%	1	2.2%	34	9.2%
Masters	77	38.7%	48	39.0%	19	38.8%	8	17.8%	144	38.8%
Bachelors	94	47.2%	68	55.3%	18	36.7%	25	55.6%	180	48.5%
Associate	5	2.5%	4	3.3%	4	8.2%	11	24.4%	13	3.5%
<b>Total</b>	<b>199</b>	<b>100.0%</b>	<b>123</b>	<b>100.0%</b>	<b>49</b>	<b>100.0%</b>	<b>45</b>	<b>100.0%</b>	<b>371</b>	<b>100.0%</b>

The number and academic rank of program faculty, by category, are shown in Table 28. Overall, the majority (N=141; 52%) of the P.A. and non-P.A. faculty held the academic rank of instructor or lecturer, while over one-third (N=105; 39%) held professorial rank at the Assistant level. Only category I and III personnel held professorial rank.

Table 28. Program Personnel: Academic Rank of Faculty

Academic Rank	Program Personnel Categories							
	I		II		III		Total	
	<u>N</u>	<u>(%)</u>	<u>N</u>	<u>(%)</u>	<u>N</u>	<u>(%)</u>	<u>N</u>	<u>(%)</u>
Full Professor	1	0.6%	0	0.0%	1	3.3%	2	0.7%
Associate Prof.	12	7.7%	7	8.0%	5	16.7%	24	8.8%
Assistant Prof.	58	37.4%	34	39.1%	13	43.3%	105	38.6%
Instructor/Lect.	<u>84</u>	<u>54.2%</u>	<u>46</u>	<u>52.9%</u>	<u>11</u>	<u>36.7%</u>	<u>141</u>	<u>51.8%</u>
<b>Total</b>	<b>155</b>	<b>100.0%</b>	<b>87</b>	<b>100.0%</b>	<b>30</b>	<b>100.0%</b>	<b>272</b>	<b>100.0%</b>

**P.A. and Non-P.A. Personnel Salary Analysis**

Salaries for Category I - III P.A. and non-P.A. program personnel by academic classification are shown in Table 29. The mean annual salary of faculty-level personnel was \$53,498 (N=284), 36% higher than those appointed to staff positions (\$39,090; N=57). In general, the annual salaries of non-P.A. personnel with faculty rank (\$54,769, N=36) were 2.7% higher than salaries of P.A. personnel with faculty appointments (\$53,313; N=248). Faculty salaries differed substantially between categories with category III faculty earning the highest annual income.

Table 29. Faculty and Staff Salaries by Category

Classification	<u>Program Personnel Categories</u>							
	I		II		III		Categories I - III	
	<u>Mean</u>	<u>N</u>	<u>Mean</u>	<u>N</u>	<u>Mean</u>	<u>N</u>	<u>Mean</u>	<u>N</u>
<u>Faculty</u>								
P.A.	\$51,960	134	\$53,409	93	\$61,527	21	\$53,313	248
Non-P.A.	<u>\$51,299</u>	<u>23</u>	<u>\$55,924</u>	<u>5</u>	<u>\$64,023</u>	<u>8</u>	<u>\$54,769</u>	<u>36</u>
<b>Total</b>	<b>\$51,863</b>	<b>157</b>	<b>\$53,537</b>	<b>98</b>	<b>\$62,215</b>	<b>29</b>	<b>\$53,498</b>	<b>284</b>
<u>Staff</u>								
P.A.	\$48,331	12	\$44,139	18	\$55,157	2	\$46,400	32
Non-P.A.	<u>\$29,818</u>	<u>8</u>	<u>\$26,620</u>	<u>5</u>	<u>\$30,975</u>	<u>12</u>	<u>\$29,734</u>	<u>25</u>
<b>Total</b>	<b>\$40,926</b>	<b>20</b>	<b>\$40,330</b>	<b>23</b>	<b>\$34,429</b>	<b>14</b>	<b>\$39,090</b>	<b>57</b>

Among the personnel classified as staff, those that were P.A.'s earned a substantially higher (56.1%) salary (\$46,400) than non-P.A.'s (\$29,734). In comparison to the previous year (1995-96), there was a 3.6% increase in faculty salaries and 6.5% increase in staff salaries.

The relationship between salary and gender of P.A. and non-P.A. faculty and staff is summarized in Table 30 (next page). Approximately 83% of the program personnel were classified as faculty. Salaries for male faculty were 8% higher than those of female faculty (\$55,871 versus \$51,675, respectively). Male staff earned substantially higher salaries than did female staff, \$46,421 vs. \$37,135, respectively.

Table 30. Program Personnel Salary of Faculty and Staff in Categories I - III by Gender

<u>Classification</u>	<u>Female</u>		<u>Male</u>	
	<u>Mean</u>	<u>N</u>	<u>Mean</u>	<u>N</u>
<u>Faculty</u>				
P.A.	\$51,992	152	\$55,332	95
Non-P.A.	<u>\$48,667</u>	<u>16</u>	<u>\$59,286</u>	<u>15</u>
<b>Total</b>	<b>\$51,675</b>	<b>168</b>	<b>\$55,871</b>	<b>110</b>
<u>Staff</u>				
P.A.	\$45,711	21	\$47,714	11
Non-P.A.	<u>\$29,631</u>	<u>24</u>	-----	<u>1</u>
<b>Total</b>	<b>\$37,135</b>	<b>45</b>	<b>\$46,421</b>	<b>12</b>

Compared to the previous year (1995-96), faculty salaries have increased 1.9% for females and 3.2% for males, while staff salaries increased by 14.9% for females and 17.9% for males.

Annual salary of program personnel by highest degree earned for all categories is shown in Table 31. Doctoral-level personnel (N=30) earn the highest salary (overall for Categories I - III =\$55,300) and associate degree level

Table 31. Salary of Faculty and Staff Personnel by Highest Degree Held  
Program Personnel Categories

<u>Highest Degree</u>	<u>I</u>		<u>II</u>		<u>III</u>		<u>IV</u>		<u>Categories I - III</u>	
	<u>Mean</u>	<u>N</u>	<u>Mean</u>	<u>N</u>	<u>Mean</u>	<u>N</u>	<u>Mean</u>	<u>N</u>	<u>Mean</u>	<u>N</u>
Doctorate	\$52,056	19	\$51,693	3	\$64,357	8	-----	1	\$55,300	30
Masters	\$52,937	66	\$53,307	46	\$61,837	17	\$29,813	7	\$54,242	129
Bachelors	\$49,017	85	\$51,318	64	\$43,526	14	\$26,630	25	\$49,449	163
Associate	\$45,248	4	\$38,135	4	\$30,751	3	\$22,737	10	\$38,708	11
Not Reported	<u>\$46,135</u>	<u>3</u>	<u>\$32,525</u>	<u>4</u>	-----	<u>1</u>	<u>\$23,247</u>	<u>65</u>	<u>\$36,520</u>	<u>8</u>
<b>Total</b>	<b>\$50,671</b>	<b>177</b>	<b>\$51,026</b>	<b>121</b>	<b>\$53,287</b>	<b>43</b>	<b>\$24,424</b>	<b>10</b>	<b>\$51,127</b>	<b>341</b>

individuals the lowest (\$38,708). Category III individuals earned substantially more at the doctorate and master's degree level; category III personnel with doctorates earned the highest salary.

The salary of personnel classified as faculty is shown by academic rank and category in Table 32 (next page). There was a consistent increase in mean salary with higher academic rank. Overall, the range of mean salaries was broad, \$50,609 at the rank of instructor in category I to \$70,616 for those at the associate professor level in category III.

Table 32. Salary of Program Faculty by Academic Rank and Category

<u>Academic Rank</u>	<u>I</u>		<u>II</u>		<u>III</u>		<u>Total</u>	
	<u>Mean</u>	<u>N</u>	<u>Mean</u>	<u>N</u>	<u>Mean</u>	<u>N</u>	<u>Mean</u>	<u>N</u>
Full Professor	-----	1	-----	0	-----	1	-----	2
Associate Prof.	\$54,591	11	\$54,783	6	\$70,616	5	\$58,285	22
Assistant Prof.	\$53,126	57	\$53,999	34	\$59,125	12	\$54,113	103
Instructor/Lect.	\$50,609	82	\$52,066	44	\$58,848	9	\$51,633	135
Not Reported	<u>\$42,898</u>	<u>26</u>	<u>\$46,451</u>	<u>37</u>	<u>\$40,505</u>	<u>17</u>	<u>\$44,053</u>	<u>80</u>
<b>Total</b>	<b>\$50,536</b>	<b>177</b>	<b>\$51,026</b>	<b>121</b>	<b>\$53,378</b>	<b>44</b>	<b>\$51,075</b>	<b>342</b>

**Program Directors of Physician Assistant Programs**

The general characteristics of program directors are shown in Table 33 and include percent of time, annual salary and months in position for P.A. and non-P.A. directors by gender and highest degree held. On average, program directors devoted 95% of their time to program-related activities. While the percentage of time ranged from 50% to 100%, the majority of the directors (N=65; 84%) were working full-time. Almost 80% of the director's were P.A.'s (N=57).

Table 33. Characteristics of Program Directors

<u>Characteristics</u>	<u>Mean</u>	<u>S.D.</u>	<u>Range</u>	<u>N</u>		
Percent Time	94.8%	13.6	50% - 100%	77		
<u>Annual Salary</u>	<u>\$69,808</u>	<u>\$16,542</u>	<u>\$ 41,003 - 162,210</u>	<u>72</u>		
P.A.	\$68,265	\$ 9,592	\$ 47,600 - 99,050	57		
Non-P.A.	\$75,670	\$30,338	\$ 41,003 - 162,210	15		
Male	\$74,476	\$20,239	\$ 47,600 - 162,210	36		
Female	\$65,140	\$ 9,700	\$ 41,003 - 85,000	36		
Doctorate	\$76,539	\$25,975	\$ 41,003 - 162,210	22		
Masters	\$67,167	\$ 8,095	\$ 47,600 - 86,500	42		
Bachelors	\$65,200	\$ 9,585	\$ 53,040 - 84,159	7		
<u>Months in Position</u>	<u>91.73</u>	<u>108.87</u>	<u>1-524</u>	<u>77</u>		
P.A.	91.45	111.36	5-524	60		
Non-P.A.	92.71	100.08	1-306	17		
Male	86.41	112.36	1-524	37		
Female	96.65	105.50	6-484	40		
<u>Highest Degree Held</u>	<u>Female</u>	<u>%</u>	<u>Male</u>	<u>%</u>	<u>Total</u>	<u>%</u>
Doctorate*	12	52.2%	11	47.8%	23	30.3%
Masters	24	53.3%	21	46.7%	45	59.2%
Baccalaureate	3	37.5%	5	62.5%	8	10.5%

\* Includes Ph.D., Ed.D., Pharm.D. and M.D. Degrees

The mean average salary for program directors was \$69,808, ranging from \$41,000 to \$162,210. Program directors

who were non-P.A.'s earned a higher salary than those who were P.A.'s (\$75,670 and \$68,265, respectively). The average months in position was did not vary greatly from physician assistant to non-physician assistant.

Male program directors had higher average salaries (\$74,476) than did female directors (\$65,140). The mean time in position of female directors exceeded that of male directors by approximately 10 months (97.7 versus 86.4 months, respectively).

In comparison to the 1995-96 data, mean salaries increased by 3.5% (\$69,808 versus 67,437) and the percent of directors with a Doctorate degree as the highest degree held increased from 25% to 30%.

**Program Director Salaries: Regional Differences**

A summary of program directors' salary and months in position by geographic region is shown in Table 34. Program directors associated with programs located in the Eastern region had substantially lower mean salaries (\$62,303)

Table 34. Salary and Months in Position of Program Directors by Region

<u>Geographic Region</u>	<u>Program Director Salary</u>			<u>Months in Position</u>		
	<u>N</u>	<u>Mean</u>	<u>Range</u>	<u>N</u>	<u>Mean</u>	<u>Range</u>
Northeastern	14	\$ 70,082	\$44,000- 95,181	17	137.0	6-524
Eastern	11	\$ 62,303	\$41,003- 78,000	12	70.3	1-232
Southeastern	12	\$ 68,922	\$47,600- 99,050	12	83.3	12-288
Midwestern	17	\$ 67,726	\$53,040-123,510	17	56.9	5-302
Heartland	6	\$ 75,147	\$61,000- 87,100	7	120.7	25-318
Western	<u>12</u>	<u>\$ 77,533</u>	<u>\$54,608-162,210</u>	<u>12</u>	<u>89.9</u>	<u>14-288</u>
<b>Total</b>	<b>72</b>	<b>\$ 69,808</b>	<b>\$41,003-162,210</b>	<b>77</b>	<b>91.7</b>	<b>1-524</b>

compared with the rest of the United States. Directors in the Heartland and Western regions had the highest mean salaries (\$75,147 and \$77,533, respectively). The lowest individual salary for a program director was in the Eastern region (\$41,000) and the highest was in the Western region (\$162,210). Program directors in the Northeastern region had been employed in their positions the longest time, over eleven years (137 months), and those in the Midwestern region the shortest period of time (57 months).

**Medical Directors of Physician Assistant Programs**

The characteristics of P.A. program medical directors are shown in Table 35. Percent time data were available for 65 medical directors, of which five were employed as such on a full-time basis, the remainder, on average, devoted less than one-quarter (24%) of their time to program-related activities. The mean annual salary of the medical

Table 35. Characteristics of Program Medical Directors

	<u>Mean</u>	<u>S.D.</u>	<u>Range</u>	<u>N</u>
<u>Percent Time</u>	29.5	26.8	5%-100%	65
<u>Annual Salary</u>	\$89,186	\$36,463	\$25,000-170,000	55
Female	\$90,220	\$33,200	\$30,126-150,000	15
Male	\$88,798	\$37,606	\$25,000-170,000	40
<u>Months in Position</u>	64.6	72.4	2-302	64
Female	61.1	68.8	2-301	16
Male	65.7	73.5	4-302	48

directors reporting (N=55) was \$89,186 but varied extensively, ranging from \$25,000 to \$170,000. Female medical

directors (N=15) earned a slightly higher annual mean salary (\$90,220) than did male medical directors (\$88,798).

Overall, medical director salaries decreased by 13% from the previous year. Respondents which originally had not made corrections for full-time equivalent were contacted in order to clarify figures.

The majority of medical directors were male (40; 73%). The average months in position is slightly lower for females directors (61.1 months).

Data concerning medical director salaries, months in position and geographic region are shown in Table 36. Medical directors of those programs in the Southeastern region had the highest mean salaries. Those directors in the Northeastern and Eastern regions had the lowest salaries. Medical directors in the Western region were in their positions for the longest period of time. It should be noted that the range in both salaries (range of \$25,000 to

Table 36. Salary and Months in Position of Medical Directors by Region

Geographic Region	Medical Director's Salary*			Months in Position		
	N	Mean	Range	N	Mean	Range
Northeastern	11	\$76,710	\$30,126-125,000	14	74.5	4-216
Eastern	7	\$82,594	\$25,000-146,000	8	50.3	2-191
Southeastern	9	\$97,721	\$62,000-150,000	10	68.3	5-266
Midwestern	14	\$92,566	\$25,000-170,000	15	49.6	4-302
Heartland	6	\$92,000	\$50,000-125,000	7	44.1	4-119
Western	8	\$94,481	\$62,000-150,000	10	94.9	16-301
<b>Total</b>	<b>55</b>	<b>\$89,186</b>	<b>\$25,000-170,000</b>	<b>64</b>	<b>64.5</b>	<b>2-302</b>

\* Corrected for full-time equivalent.

\$170,000) and months in position (from 2 to 302 months) was extensive.

The medical specialties of P.A. program medical directors are shown in Table 37. The majority of medical directors (N=53; 81.5%) were practicing in primary care specialties, predominantly family medicine (N=27; 42%) and internal medicine (N=20; 31%). Only twelve medical directors were in non-primary care specialties.

Table 37. Medical Specialties of P.A. Program Medical Directors

Primary Care			Non-Primary Care		
Medical Specialty	N	(%)	Medical Specialty	N	(%)
Family Medicine	27	41.5%	Psychiatry	1	1.5%
Internal Medicine	20	30.8%	Cardiology	2	3.1%
Pediatrics	6	9.2%	Emergency Med.	1	1.5%
Obstetrics/Gyn.	0	0.0%	Other	8	12.3%
<b>Total</b>	<b>53</b>	<b>81.5%</b>		<b>12</b>	<b>18.4%</b>

**Comparisons between Medical and Program Directors**

A comparison between medical and program directors' salaries from 1984-85 through 1996-97 is shown in Table 38 (next page). Note, information concerning the characteristics of medical directors was not available in 1987-88.

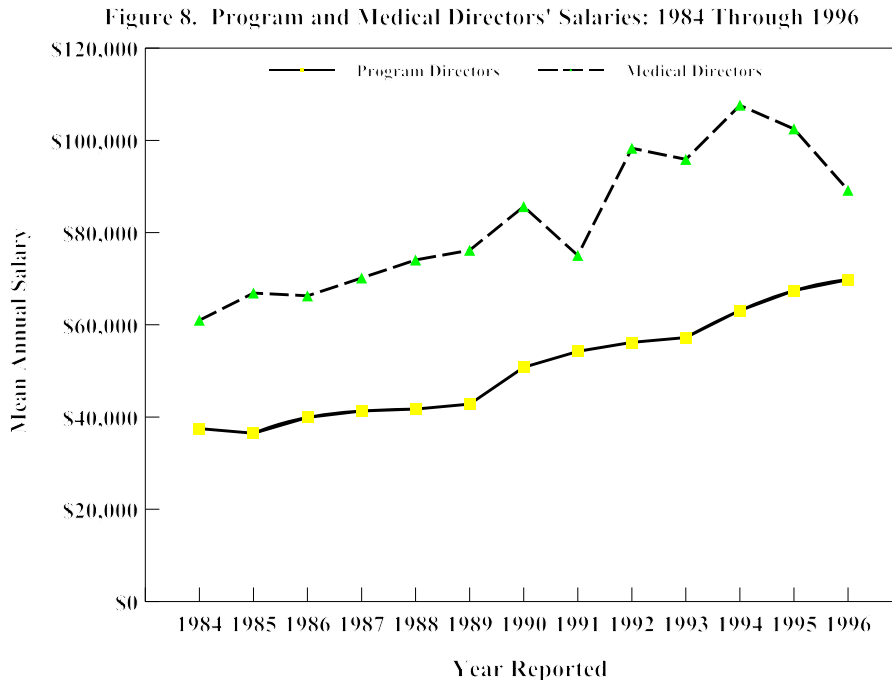


Table 38. Trends in Directors' Salaries and Months in Position from 1984 Through 1996

Academic Year	Program Director			Medical Director		
	Mean	Months	N	Mean	Months	N
1984-85	\$37,499	64.5	31	\$ 61,000	69.1	23
1985-86	\$36,491	69.3	32	\$ 66,900	70.1	21
1986-87	\$39,939	68.8	38	\$ 66,300	63.9	29
1987-88	\$41,324	67.9	38	N/A		
1988-89	\$41,730	90.3	42	\$ 74,056	75.3	36
1989-90	\$42,800	88.8	36	\$ 76,168	78.8	32
1990-91	\$50,824	85.5	41	\$ 85,646	69.1	36
1991-92	\$54,266	98.9	38	\$ 75,071	72.3	39
1992-93	\$56,206	91.4	51	\$ 98,288	69.3	39
1993-94	\$57,241	85.2	50	\$ 95,882	53.8	33
1994-95	\$63,115	89.9	55	\$107,617	67.3	32
1995-96	\$67,437	88.0	67	\$102,509	61.7	55
1996-97	<u>\$69,808</u>	<u>91.7</u>	<u>72</u>	<u>\$ 89,186</u>	<u>64.5</u>	<u>55</u>
<b>13-yr Mean</b>	<b>\$50,668</b>	<b>83.1</b>	<b>45</b>	<b>\$ 83,177</b>	<b>67.9</b>	<b>36</b>

Between 1984 and 1996, there has been a 86% increase in the mean salary for program directors and a 46% increase for medical directors. The mean time in position has increased for program directors over this period (64.5 to 91.7 months), while months in position for medical directors did not vary systematically. The 1996-97 mean annual salary for medical directors decreased by 13% from the preceding year.

On average, in 1996, medical directors earned an annual salary approximately 28% higher than the typical program director (\$89,186 versus \$69,808). Over the thirteen-year period, the medical directors earned an annual salary of approximately 64% higher than the typical program director (\$83,177 versus \$50,668). Trends in salary for the program and medical directors from 1984 through 1996 are in Figure 8 and clearly illustrates the variation in directors' salaries since 1984.



A comparison of academic position and tenure status between the directors is shown in Table 39. The majority of medical and program directors held faculty level positions with less than 16% of these directors classified as staff. More program directors than medical directors in faculty-level positions were on a tenure track and less than one-fourth of the faculty directors were tenured.

Table 39. Program and Medical Directors: Position and Tenure Track Status

<u>Level of Position</u>	<u>Program Director</u>		<u>Medical Director</u>	
	<u>Number</u>	<u>(%)</u>	<u>Number</u>	<u>(%)</u>
Staff Appointment	10	13.0%	12	19.0%
Faculty Appointment	<u>67</u>	<u>87.0%</u>	<u>51</u>	<u>81.0%</u>
<b>Total</b>	<b>77</b>	<b>100.0%</b>	<b>63</b>	<b>100.0%</b>
<u>Tenure Status</u>				
Tenure Track Faculty	32	47.8%	15	29.4%
Faculty Tenured	16	23.9% *	9	17.6%

\* Percent of TOTAL faculty tenured

Since 1985-86, the proportion of program and medical directors classified as faculty has remained relatively constant, averaging 80%; in 1996 around 84% of the directors were faculty. The proportion of faculty directors on the tenure track has averaged about 87% over time, and was 48% and 29%, respectively in 1996. The proportion of directors achieving tenured status in 1996 was slightly lower than mean of 23%.

A comparison between the academic rank of medical and program director faculty is shown in Table 40. A larger proportion of medical directors (94%) held professorial rank (Assistant to Full Professor) as compared to program directors (91%). In both cases, there were relatively few directors classified as instructors or lecturers.

Table 40. Program and Medical Directors: Academic Rank

<u>Academic Rank of Faculty</u>	<u>Program Director</u>		<u>Medical Director</u>	
	<u>Number</u>	<u>(%)</u>	<u>Number</u>	<u>(%)</u>
Full Professor	6	9.4%	14	29.8%
Associate Professor	30	46.9%	13	27.7%
Assistant Professor	22	34.3%	17	36.2%
Instructor/Lecturer	<u>6</u>	<u>9.4%</u>	<u>3</u>	<u>6.3%</u>
<b>Total</b>	<b>64</b>	<b>100.0</b>	<b>47</b>	<b>100.0%</b>

### Regression Analysis of Salaries

Linear regression analysis was used to describe the relationship between salary and months in position for all core program faculty and staff. The resulting regression equations provide a means of determining salary while correcting for months in position. Table 41 (next page) identifies regression equations for each of the four P.A. and non-P.A. personnel categories, and for program and medical directors. Equations from Table 41 will "predict" salary within and across each category using the number of months as the independent variable. For example, one would predict that the salary of a Category I individual who has been in his or her position for 32.6 months would be around \$51,371 (i.e. \$50,968 + \$403), a value similar to that reported in Table 15 for the average Category I individual (i.e. \$51,327) having been employed for a mean of 32.6 months.

Table 41. Regression Equations for Salary and Months in Position for P.A. Program Personnel

<u>Characteristic</u>	<u>Base</u>	<u>±</u>	<u>(Constant</u>	<u>x Months )</u>	<u>N</u>
Category I	\$50,968	+	( \$ 12.37	x _____)	177
Category II	\$49,831	+	( \$ 25.04	x _____)	120
Category III	\$49,147	+	( \$ 42.70	x _____)	44
Category IV	\$22,410	+	( \$ 30.35	x _____)	128
Categories I- III	\$49,617	+	( \$ 26.73	x _____)	341
Program Directors	\$67,663	+	( \$ 23.97	x _____)	72
Medical Directors	\$89,788	+	( \$ 6.63	x _____)	54

**P.A. Program Personnel Turnover**

The 1996 survey requested updated information on personnel turnover for the period between September 1995 through August 1996. Program respondents were asked to provide data on the type, frequency and characteristics of personnel terminating and those employed to fill the position. We report herein the turnover activity for 1995-1996 as well as the cumulative data for the ten-year period (1986-1995) in Table 42. Data are expressed as both total number and mean number of individuals per program for the time period identified. Over the ten year-period examined, respondents reported that 424 personnel left their positions, averaging 7.4/program. As shown in Figure

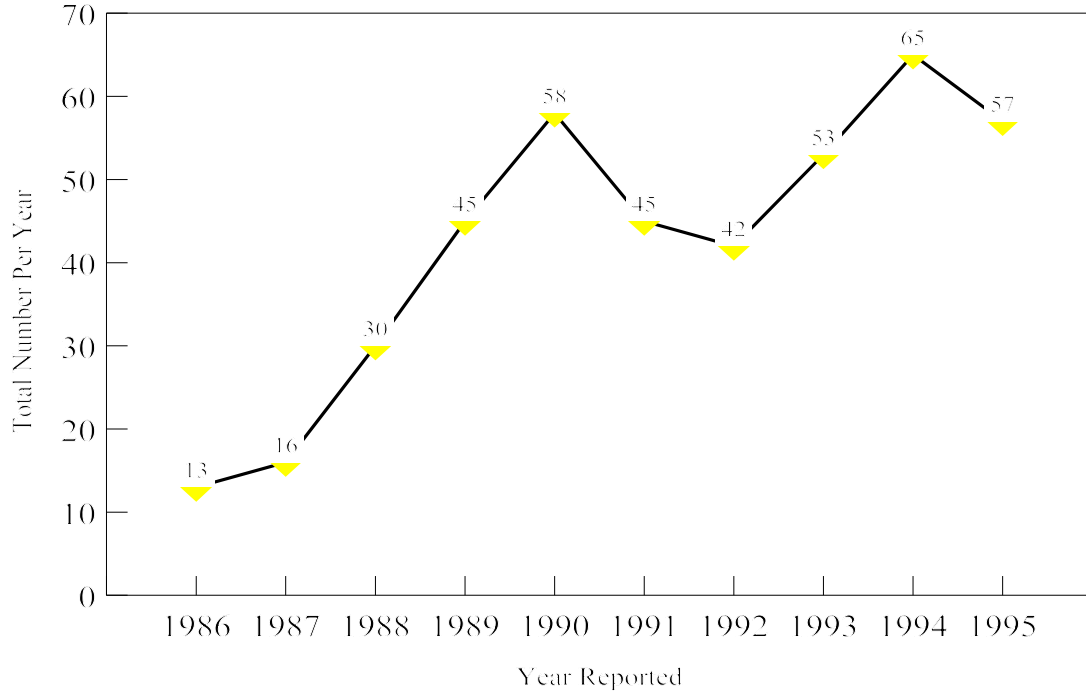
Table 42. Program Personnel Turnover  
1986 Through 1995

<u>Academic Year</u>	<u>Total Number</u>	
	<u>Departing</u>	<u>Mean/Program</u>
1986-1987	13	0.3
1987-1988	16	0.3
1988-1989	30	0.6
1989-1990	45	0.9
1990-1991	58	1.2
1991-1992	45	0.8
1992-1993	42	0.8
1993-1994	53	0.9
1994-1995	65	0.9
1995-1996	<u>57</u>	<u>0.7</u>
10-year Total	424	7.4
<b>10-year Mean</b>	<b>42.4</b>	<b>0.7</b>

9 (next page), there has been a steady increase in turnover from 1986 through 1990 at which time, there has been some fluctuation: a shallow decrease followed by a steady increase, with another slight decrease this year.

During the 1995-96 academic year, 57 P.A. program personnel departed (N=77 programs reported information) for an average of 0.7 per program. In 1995, personnel turnover was comparable to previous years (1989 to the present) and similar to the overall 10-year mean of 42.4 personnel departing per year, an average of 0.7 persons departing/program. Our best estimate of the mean number of core program personnel is 8.6 per program, and includes one program and medical director, 4.0 P.A.'s and 1.0 non-P.A.'s and 1.9 Category IV personnel. Given the average turnover per year we estimate that 8.1% of program personnel departed this year (0.7/8.6), considerably lower than the rate of 12.2% the previous year.

Figure 9. Trends in Personnel Turnover: 1986 Through 1995



The number of personnel (and mean/program) departing over the past ten years and those departing in 1995, by region, is shown in Table 43 and illustrated in Figure 10 (next page). Turnover varied by region. For example, programs in the Southeastern and Heartland regions reported the highest turnover (0.92 and 1.00 per program, respectively) while programs in the Midwestern region had the lowest rate of turnover (0.59).

Table 43. Program Personnel Turnover by Region, 1986 Through 1995

<u>Geographic Region</u>	<u>Number in 10 Years</u>	<u>Number in 1995</u>	<u>1995 Mean/Program</u>	<u>N</u>
Northeastern	82	13	0.76	17
Eastern	55	8	0.67	12
Southeastern	68	11	0.92	12
Midwestern	84	10	0.59	17
Heartland	68	7	1.00	7
Western	<u>67</u>	<u>8</u>	<u>0.67</u>	<u>12</u>
<b>Total</b>	<b>424</b>	<b>57</b>	<b>0.74</b>	<b>77</b>

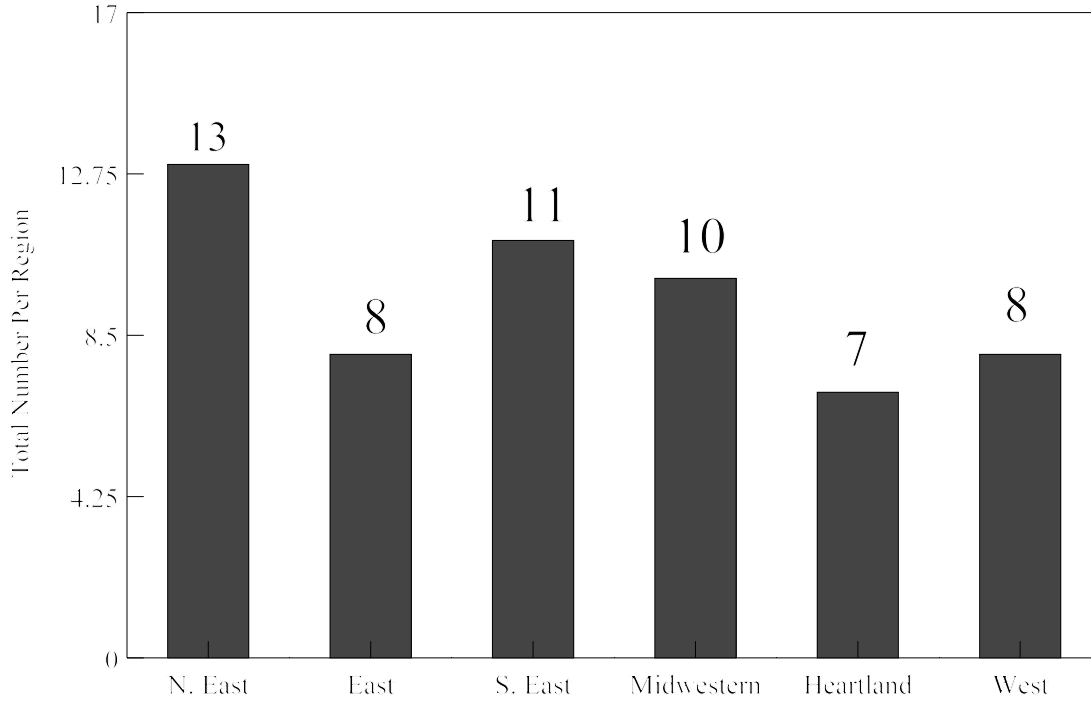
A comparison of the number and category of personnel departing, those employed, percent of positions unfilled and mean number of weeks to fill the position are shown in Table 44 (next page). Overall, 55 program personnel (nine Category IV) departed in 1995 with turnover highest among Category I personnel and least for Category III. On average 10.5 weeks were required to fill a position. Filling Category II positions averaged 13.1 weeks while 2.5 weeks were required to fill Category III positions.

Table 45 shows the characteristics of personnel departing and those employed. On average, personnel departed in 1995 were younger (2.5 years) than those employed. The distribution of male personnel departing was larger than

Table 44. Comparison of Personnel Turnover in 1995 by Category

<u>Category</u>	<u>Number Departed</u>	<u>Number Employed</u>	<u>Percent Unfilled</u>	<u>Weeks to Fill Position</u>
I	23	18	21.7%	11.3
II	13	12	7.7%	13.1
III	2	2	0.0%	2.5
IV	9	8	11.1%	6.5
Program Director	5	5	0.0%	10.4
Medical Director	<u>3</u>	<u>3</u>	<u>0.0%</u>	<u>11.7</u>
<b>Total</b>	<b>55</b>	<b>48</b>	<b>12.7%</b>	<b>10.5</b>

Figure 10. Personnel Turnover By Region: 1995-1996  
(From 9/1/95 Through 8/31/96)



those employed. The female personnel distribution was the opposite. There were two more minorities employed in 1995 than departed.

Table 45. Characteristics of Personnel Departed and Employed in 1995

Characteristic	Program Personnel			
	Departed		Employed	
Mean Age (yrs)	40.9		38.4	
Range	25-62		23-50	
<u>Gender</u>	(%)	<u>N</u>	(%)	<u>N</u>
Male	43.9%	25	34.6%	18
Female	56.1%	32	65.4%	34

Ethnicity

White	80.7%	46	75.0%	39
Non-White	19.3%	11	25.0%	13

Table 46. P.A. Program Personnel Turnover in 1995:

Highest Degree	Program Personnel			
	<u>N</u>	<u>Departed</u>	<u>N</u>	<u>Employed</u>
Associate/Certificate	2	4.0%	4	8.3%
Baccalaureate	26	52.0%	20	41.7%
Masters	16	32.0%	16	33.3%
Doctoral	6	12.0%	8	16.7%
P.A. Credentialed	42	73.7%	39	75.0%

The academic characteristics of personnel departing and those filling the vacated positions are shown in Table 46. Doctorate includes Ph.D., Ed.D., M.D., D.O., and J.D. As indicated in Table 46, the majority of personnel employed held a baccalaureate degree as their highest credential, as did the majority of those departing (42% versus 52%, respectively). In addition, the majority of personnel departing were P.A.'s (74%) and those employed to fill these positions were also P.A.'s (75%).

The reasons cited for personnel turnover during 1995 and the ten-year totals, are shown in Table 47. In 1995, over one-fourth (26%) of the individuals departing did so for career advancement. Two cited job dissatisfaction and three cited salary dissatisfaction as a reason for leaving their position. The "Other" category included positions that were either eliminated by the program or the personnel were asked to resign. Over the ten-year period, career advancement was the primary reason for departing followed by a return to clinical practice and geographic relocation.

A comparison of salaries and months in position between personnel departing and those employed is shown for each year in Table 48. On average, over the ten-year period, there has been a mean salary increase of 3.6% for newly employed individuals as compared to those departing.

Table 48. Salaries of Departing and Newly Employed Personnel, 1986 Through 1995

<u>Academic Year</u>	<u>N</u>	<u>Salary Departing</u>	<u>Months in Position</u>	<u>Salary New Employee</u>	<u>Months Prior Position</u>
1986-1987	13	\$30,868	41.3	\$30,000	35.0
1987-1988	30	\$30,900	41.3	\$30,500	57.4
1988-1989	30	\$39,000	43.3	\$34,000	38.1
1989-1990	45	\$34,000	41.9	\$38,000	55.5
1990-1991	58	\$38,200	42.7	\$40,000	52.3
1991-1992	45	\$38,960	39.4	\$38,250	47.2
1992-1993	40	\$44,748	48.1	\$43,851	54.7
1993-1994	46	\$43,857	31.5	\$44,867	52.3
1994-1995	58	\$44,118	48.4	\$45,236	45.3
1995-1996	48	\$46,771	35.0	\$51,167	39.6
<b>10-Year Mean</b>	<b>394</b>	<b>\$40,005</b>	<b>39.8</b>	<b>\$41,438</b>	<b>48.5</b>
Reasons for Termination					
Career Advancement			22.7	(%)	(%)
Geographic Relocation			15.3	26.3%	27.9%
Return to Clinical Practice			12.1	21.1%	19.3%
Retired			8.5	14.0%	19.3%
Salary Dissatisfaction			5.3	8.6%	4.9%
Job Dissatisfaction			3.5	5.3%	4.9%
Other			2	3.5%	4.2%
<b>Total</b>	<b>57</b>	<b>100%</b>	<b>430</b>	<b>100.0%</b>	

The greatest salary difference between departing and newly employed personnel was in 1989-90 (11.8%) and 1995-96 (9.3%). Overall, personnel departing had been in their positions an average of 40 months, while those employed had been in their previous position nine months longer (48.5 months). Individuals leaving the program in 1995-96 had been in their position for 35 months and had been replaced with individuals who had been in their previous position for 40 months.

**SECTION III. P.A. APPLICANT AND STUDENT CHARACTERISTICS**

**Physician Assistant Student Enrollment**

The maximum capacity and current enrollment of P.A. students in the most recently enrolled classes, 1996-97 (first-year class), 1995-96 (second-year class) and 1994-95 (third-year class) are shown in Table 49. The proportion of maximum capacity that remained unfilled and the resident status of the students is also presented. The dates in parentheses indicate the academic year of admission and the number indicates the programs responding.

Table 49. Maximum Class Capacity and Current Enrollment in Physician Assistant Programs

		<u>Maximum Capacity</u>	<u>Current Enrollment</u>	<u>% Capacity Unfilled</u>	<u>% Residents</u>
<u>First-Year Class</u> (1996-97)	Mean	40.8	39.5	3.6%	69.4%
	Range	(12-180)	(4-171)	(0-18%)	(0-100%)
	Number	77	77	77	69
<u>Second-Year Class</u> (1995-96)	Mean	36.9	36.3	9.3%	68.6%
	Range	(12-130)	(11-123)	(0-37%)	(0-100)
	Number	72	68	68	59
<u>Third-Year Class</u> (1994-95)	Mean	35.2	33.1	22.9%	70.3%
	Range	(11-60)	(11-51)	(0-82%)	(22.9-100%)
	Number	15	11	11	11
<u>All Classes</u>	Mean	83.6	77.3	7.3%	62.3%
	Number	77	77	77	69

\* Includes both full- and part-time students.

The mean maximum capacity for the first-year class decreased from last year (41.6) and is reported as 40.8; the mean maximum capacity for the second-year class decreased slightly from last year (from 37.2 to 36.9); and the mean maximum capacity for the third-year class increased from 33.1 to 35.2 students. It should be noted that some of the programs with students in a “third year” were cases where there was a 1-6 month overlap between the second and third year of the curriculum (i.e., programs that were 25, 28, 30 months in length). It should be noted that six of the newly established programs had not matriculated students to the second-year at the time data was collected.

The percent of capacity unfilled for the first-year class was 3.6% and 9.3% for the senior class (the latter figure likely reflects attrition during the previous year). Maximum capacity of P.A. programs varied extensively for both first- and second-year classes, ranging from 12 to 180 and 12 to 130, respectively. The maximum capacity for all classes averaged 83.6 students and with a mean enrollment of 77.3 students, approximately 7.3% of the maximum capacity (all classes) remained unfilled.

Current enrollment in the first-year class averaged 39.5 students per program (77 programs; range 4 to 171) and 36.3 students/program in the second-year class. In comparison, the number of first- and second-year students in the previous year was 41 and 37, respectively. It should be noted that the enrollment figures include both full-time and part-time students, the latter accounting for only 2.2% of the enrollment. On average, 69% of the students in the first- and second-year class were residents of the state in which the program was located, figures higher than the previous year (i.e., 61% and 63%, respectively).



The current enrollment for all classes by gender and full- and part-time student status is shown in Table 50. The majority of both full-time and part-time students were female, averaging around 65%. Only ten programs reported that a "third-year class" was enrolled. It should be noted that respondents were asked to identify only those classes enrolled in the "professional" component of the curriculum, thus, a 4-year program may only have two years of "P.A.-

Table 50. Current Enrollment by Gender and Class-Year

	<u>1st Year Class (N=77)</u>			<u>2nd Year Class (N=68)</u>			<u>3rd Year Class (N=10)</u>		
<u>Full-Time</u>	<u>Mean</u>	<u>(%)</u>	<u>Range</u>	<u>Mean</u>	<u>(%)</u>	<u>Range</u>	<u>Mean</u>	<u>(%)</u>	<u>Range</u>
Male	14.8	38.6%	1-137	15.1	41.5%	2-105	12.0	36.1%	2-25
Female	<u>23.5</u>	<u>61.4%</u>	3- 64	<u>21.3</u>	<u>58.5%</u>	5- 47	<u>21.2</u>	<u>63.9%</u>	13-35
<b>Total</b>	<b>38.3</b>	<b>100%</b>		<b>36.4</b>	<b>100%</b>		<b>33.2</b>	<b>100%</b>	
	<u>1st Year Class (N=10)</u>			<u>2nd Year Class (N=2)</u>			<u>3rd Year Class (N=1)</u>		
<u>Part-Time</u>	<u>Mean</u>	<u>(%)</u>	<u>Range</u>	<u>Mean</u>	<u>(%)</u>	<u>Range</u>	<u>Mean</u>	<u>(%)</u>	<u>Range</u>
Male	3.1	36.0%	1-14	4.5	28.1%	4- 5	3.0	27.3%	N/A
Female	<u>5.5</u>	<u>64.0%</u>	1-16	<u>11.5</u>	<u>71.9%</u>	7-16	<u>8.0</u>	<u>72.7%</u>	N/A
<b>Total</b>	<b>8.6</b>	<b>100%</b>		<b>16.0</b>	<b>100%</b>		<b>11.0</b>	<b>100%</b>	

specific" curriculum. While ten programs reported they enrolled part-time students in the first year; only two programs indicated they had part-time students in the second year of the program and one program reported part-time students in the third-year. This is intuitively reasonable as the first year of the P.A. curriculum (basic and medical sciences) can be more appropriately organized for a part-time student as compared to the clinical curriculum which essentially demands full-time presence.

**Trends in Maximum Capacity and Student Enrollment**

The mean maximum class capacity, total student enrollment and percent of capacity unfilled from 1984 through 1996 are shown in Table 51. Maximum capacity over the past thirteen years averaged 68 students for all classes and ranged from 56.1 to 85.4. The percent of capacity that remained unfilled varied around a mean of 12.9% and decreased systematically from 1990 to 1993. Since 1993, there has been a slight increase. The trends in enrollment, maximum

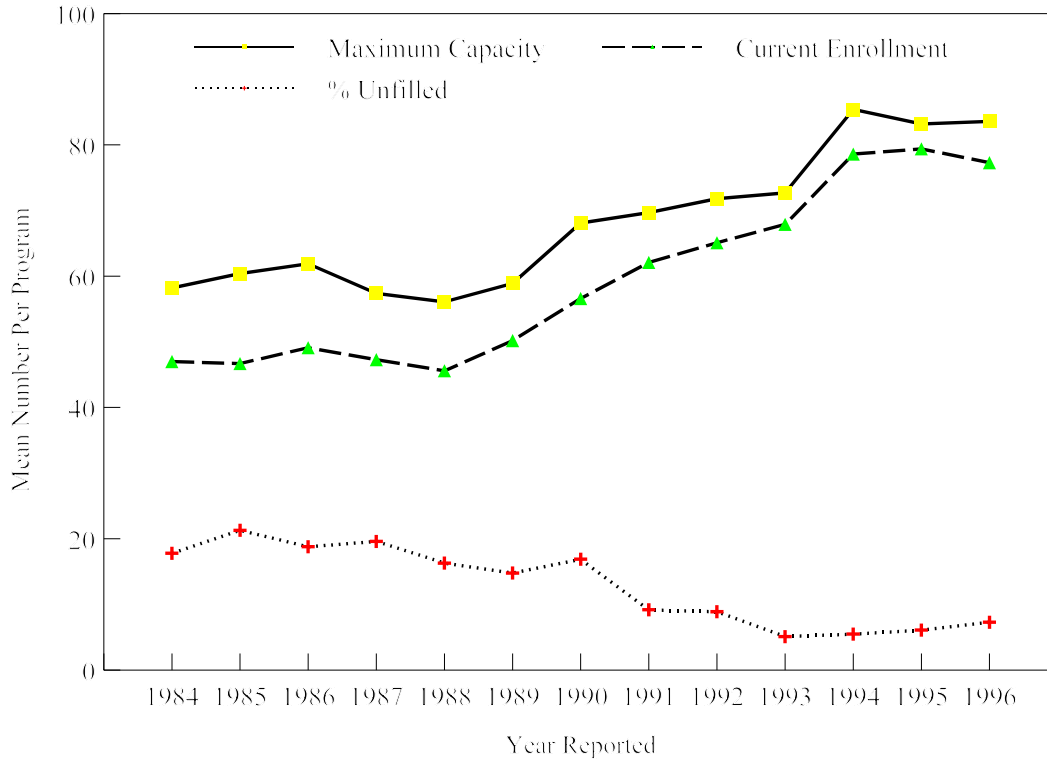
Table 51. Total Student Enrollment of All Classes, 1984 Through 1996

<u>Academic Year</u>	<u>Programs Responding</u>	<u>Maximum Capacity All Classes</u>	<u>Current Enrollment All Classes</u>	<u>Percent Capacity Unfilled</u>
1984-1985	39	58.2	47.0	17.8%
1985-1986	44	60.4	46.7	21.3%
1986-1987	47	61.9	49.1	18.8%
1987-1988	48	57.4	47.3	19.6%
1988-1989	48	56.1	45.6	16.3%
1989-1990	45	58.9	50.2	14.8%
1990-1991	50	68.1	56.6	16.9%
1991-1992	50	69.7	62.1	9.2%
1992-1993	57	71.8	65.1	8.9%
1993-1994	56	72.7	67.9	5.1%
1994-1995	61	85.4	78.6	5.5%
1995-1996	68	83.2	79.4	6.1%
<u>1996-1997</u>	<u>77</u>	<u>83.6</u>	<u>77.3</u>	<u>7.3%</u>
<b>13-Yr. Mean</b>	<b>53.1</b>	<b>68.3</b>	<b>59.5</b>	<b>12.9%</b>

and unfilled capacity are illustrated in Figure 11. Total enrollment from 1984 through 1988 averaged 47.1

students/program and varied little during that period. In the subsequent eight years (1989-96) enrollment averaged 67.2 and showed an overall increase of 54%, from 50.2 students to 77.3 students. As enrollment has increased, the percent of unfilled capacity has decreased proportionately (with a slight increase over the last four years), from an average of 18% from 1984 through 1990 to an average of 7% in the subsequent six years.

Figure 11. Trends in Enrollment: 1984 Through 1996



**P.A. Applicants and Students Enrolled**

The number of applicants and those enrolled in the most recent P.A. class (1996-97) is shown in Table 52. In addition, information on those accepted and the mean number of full- and part-time students is also provided. The typical program received 383 applications for the class entering in 1996-1997, ranging from 15 to 959 applicants. This represented a 9% decrease (36 applicants/program) from the 420 applicants per program the previous year. On average, 45.6 students were accepted and 39.6 students per program were enrolled in the first-year class (76 programs; range from 4-181); only 2% were part-time students (0.8/program). These findings mark a decrease (28%) in first-year enrollment over the 14-year average (i.e., 39.6/program versus an average of 30.9/program). Twelve percent of the

Table 52. Applicant and Student Characteristics, Class of 1996-97

	Mean Number	Mean Number	Mean Number Enrolled		
	<u>Applicants</u>	<u>Accepted</u>	<u>F.T.*</u>	<u>P.T.*</u>	<u>Total</u>
<b>Total</b>	<b>383.3</b>	<b>45.6</b>	<b>38.8</b>	<b>0.8</b>	<b>39.6</b>
Range	15-959	4-181	4-181	0-18	4-181
# Programs	57	71	76	76	76

\* F.T. = Full-Time; P.T. = Part-Time

applicant pool was accepted (45/383) and of these, 87% were enrolled (40/46), thus an average of 13% of those

accepted elected not to enroll in a particular program. Overall, 10% of the applicants were enrolled in 1996 (40/383). The ratio of applicants to enrollees was over 9.7:1, a slightly lower ratio than the 9.8:1 value in the previous year.

**Applicants and Students Enrolled by Geographic Region**

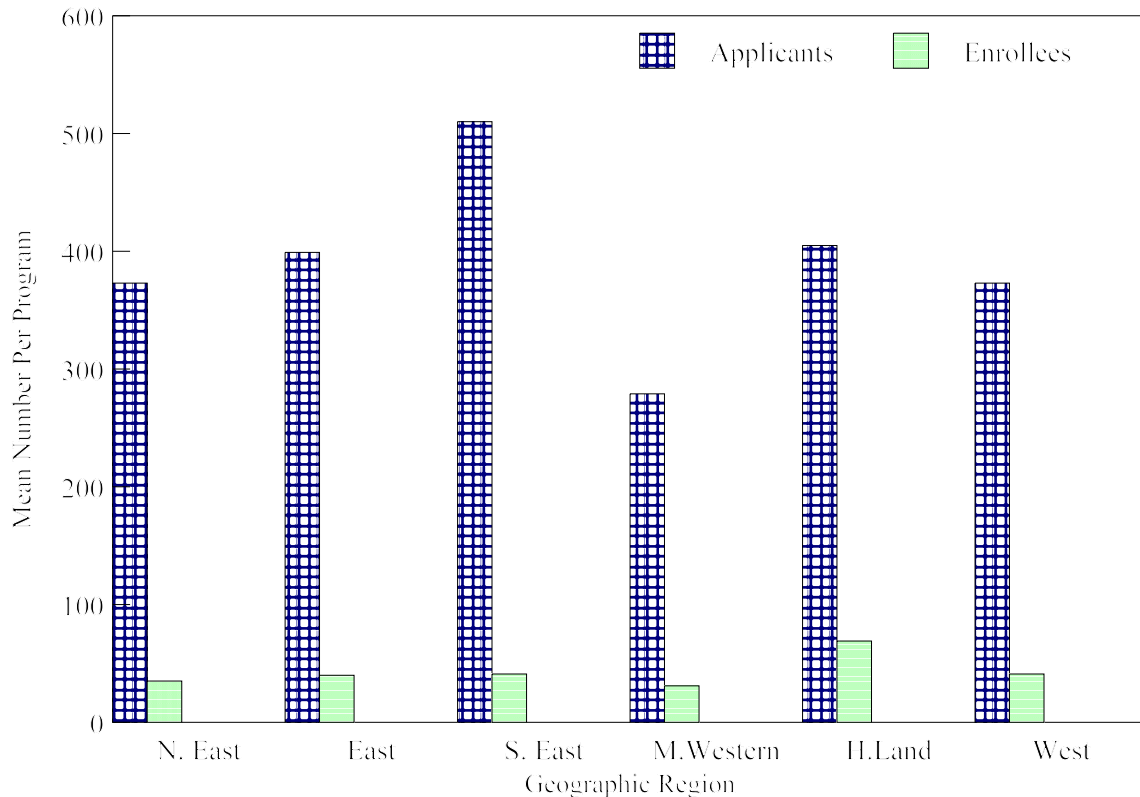
A comparison between the mean number of applicants by geographic region is shown in Table 53 and Figure 12, ‘N’ indicates the number of programs responding. Programs in the Southeastern region averaged 510 applicants per program, while programs in the Midwestern region, 279 per program. Only one geographic region showed an increase in the average number of applicants, the Northeastern region with a 5.0% increase. The main reason for these

Table 53. Number of Applicants and Enrollees by Region

Geographic Region	Applicants			% Change Prev. Year	Enrollees		Ratio
	N	Total			N	Total	
Northeastern	10	372.7		5.0%	17	34.8	10.7:1
Eastern	8	398.8		- 8.1%	11	39.6	10.1:1
Southeastern	11	509.5		- 11.4%	12	41.1	12.4:1
Midwestern	14	279.4		- 8.4%	17	30.5	9.2:1
Heartland	6	404.7		- 19.3%	7	69.0	5.9:1
Western	8	373.3		- 6.8%	12	40.5	9.2:1
<b>Total</b>	<b>57</b>	<b>383.3</b>		<b>- 8.6%</b>	<b>76</b>	<b>39.6</b>	<b>9.7:1</b>

differences is the presence of new programs which have a significantly lower number of applicants. In the Western region, there were three programs with no graduates and in the Eastern region, there were four programs with no graduates. The largest number of enrollees was in the Heartland region (69) and the smallest number in the

Figure 12. Applicants and Students Enrolled by Region, 1996-1997



Midwestern region (30.5).

**Trends in P.A. Student Enrollment, 1983 Through 1996**

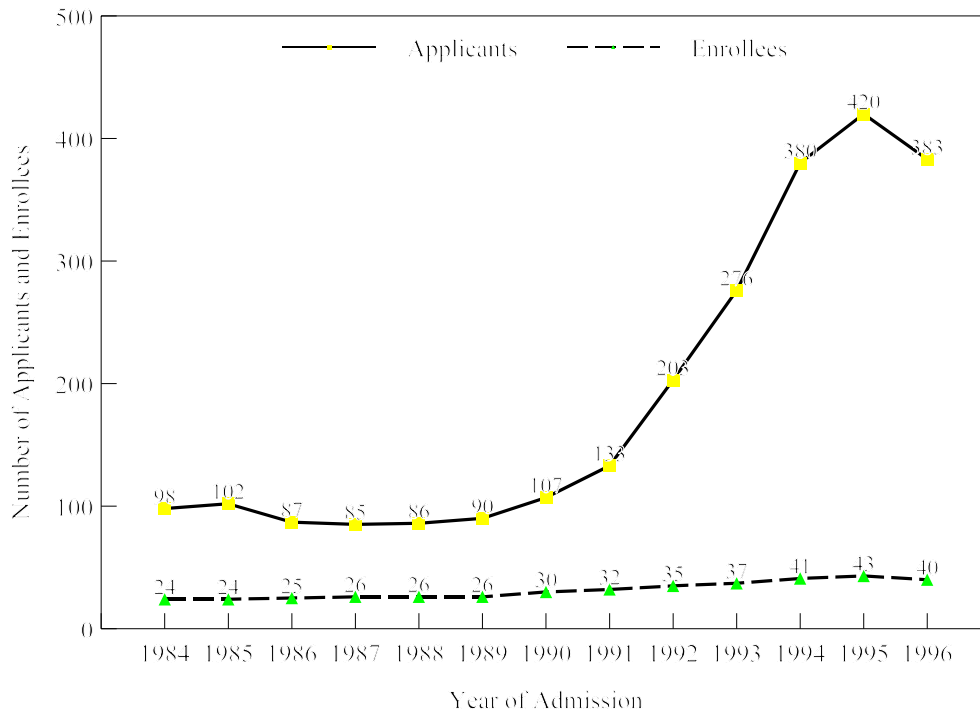
The number of applicants and students enrolled in P.A. programs for the fourteen-year period from 1983 through 1996 are shown in Table 54 and Figure 13 (next page). From 1984 through 1996 the number of the applicants ranged from 84.7 to 419.5 persons, and averaged 179.4 over the fourteen-year period. Figure 13 (next page) illustrates the trends in the number of applicants and students enrolled from 1984 through 1996. The mean number of applicants/program

Table 54. P.A. Applicants and Students Enrolled, 1983 Through 1996

Academic <u>Year</u>	Mean Number <u>Applicants</u>	<u>(N)</u>	Mean Number <u>Accepted</u>	<u>(N)</u>	Mean Number <u>Enrolled</u>	<u>(N)</u>	Mean Ratio <u>Appl./Enroll</u>
1983-84	N/A	--	N/A	--	24.0	43	N/A
1984-85	98.4	32	30.4	35	24.1	43	4.0:1
1985-86	101.8	25	44.5	35	24.3	42	4.0:1
1986-87	86.5	30	31.2	40	24.9	47	3.5:1
1987-88	84.7	31	30.2	42	25.6	47	3.3:1
1988-89	86.1	36	30.2	39	25.9	46	3.3:1
1989-90	90.2	33	33.0	40	26.1	46	3.5:1
1990-91	106.5	37	35.6	45	29.6	49	3.6:1
1991-92	133.2	33	36.8	41	32.2	47	4.1:1
1992-93	203.2	51	40.6	49	35.0	57	5.8:1
1993-94	275.7	52	39.6	46	37.0	55	7.4:1
1994-95	379.6	54	44.9	55	41.4	58	9.2:1
1995-96	419.5	53	44.7	62	42.9	71	9.8:1
<u>1996-97</u>	<u>383.3</u>	<u>57</u>	<u>45.6</u>	<u>71</u>	<u>39.6</u>	<u>76</u>	<u>9.7:1</u>
<b>14-Yr. Mean</b>	<b>179.4</b>	<b>40</b>	<b>37.4</b>	<b>46</b>	<b>30.9</b>	<b>60</b>	<b>5.4:1</b>

remained relatively constant from 1984 through 1989, then increased systematically by over 350% until 1995. In the 1996, the number of applicants/program decreased by 9%. There had also been a systematic increase in enrollees from 1984 through 1995, with an 8% decrease in 1996. The average number of enrollees over the fourteen-year period is 30.9 students/program.

Figure 13. Trends of Applicants and Students Enrolled: 1983 Through 1996

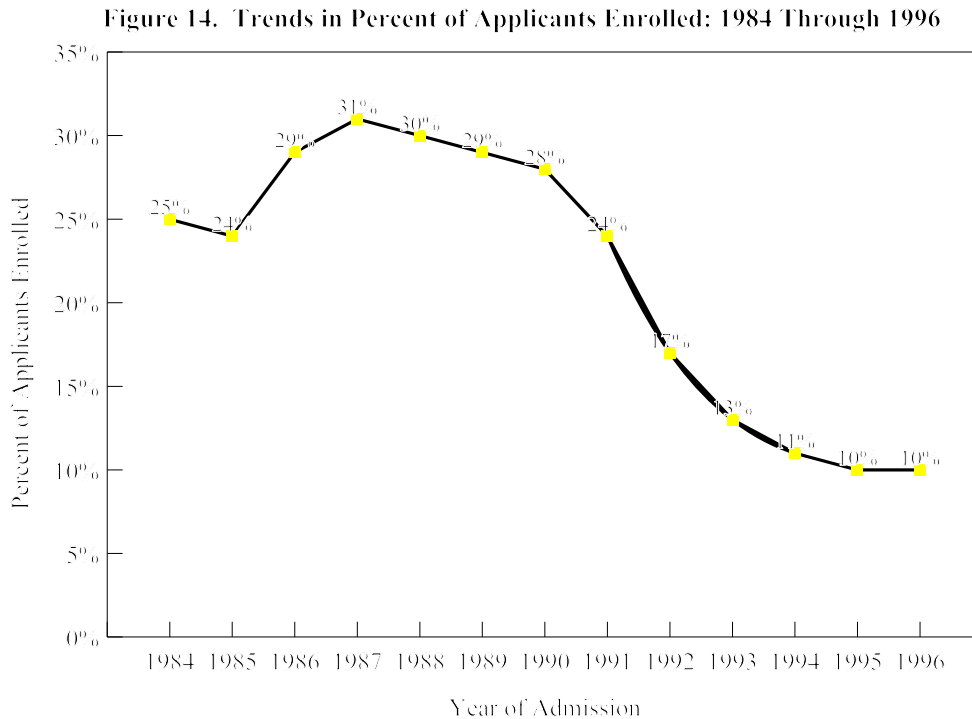


The mean number and relative proportion of male and female students enrolled in P.A. programs over the past fourteen years are shown in Table 55. The proportion of female and male P.A. students enrolled from 1983 through 1996 remained relatively constant, averaging 60.6% and 39.4%, respectively. These figures include part-time students.

Table 55. First-Year Class Enrollment, 1983 Through 1996

Academic Year	Female			Male		Total	
	N	Mean	(%)	Mean	(%)	Mean	N
1983-84	39	13.6	58.4%	9.7	41.6%	24.0	43
1984-85	39	14.6	61.6%	9.1	38.4%	24.1	43
1985-86	42	15.3	63.0%	9.0	37.0%	24.3	41
1986-87	44	15.5	62.2%	9.4	37.8%	24.9	47
1987-88	47	15.7	61.6%	9.9	38.4%	25.6	47
1988-89	46	16.2	62.3%	9.8	37.7%	25.9	46
1989-90	46	16.4	62.8%	9.7	37.2%	26.1	46
1990-91	47	16.3	55.1%	13.3	44.9%	29.6	49
1991-92	47	19.4	60.2%	12.8	39.8%	32.2	47
1992-93	55	20.7	59.8%	13.9	40.2%	35.0	56
1993-94	55	22.2	61.5%	13.9	38.5%	37.0	55
1994-95	60	24.4	60.2%	16.1	39.8%	41.1	55
1995-96	71	22.8	58.2%	16.4	41.8%	39.2	71
<u>1996-97</u>	<u>77</u>	<u>23.5</u>	<u>61.4%</u>	<u>14.8</u>	<u>38.6%</u>	<u>38.3</u>	<u>77</u>
<b>14-Yr Mean</b>	<b>51</b>	<b>18.3</b>	<b>60.6%</b>	<b>12.0</b>	<b>39.4%</b>	<b>30.5</b>	<b>52</b>

Trends in the percent of applicants enrolled is illustrated in Figure 14. Although the number of applicants and students enrolled has increased since 1987-88, they have not done so at an equivalent rate. Thus, the proportion of applicants enrolled has systematically decreased from a high of 31% in 1987 to a low of 10% in 1996.



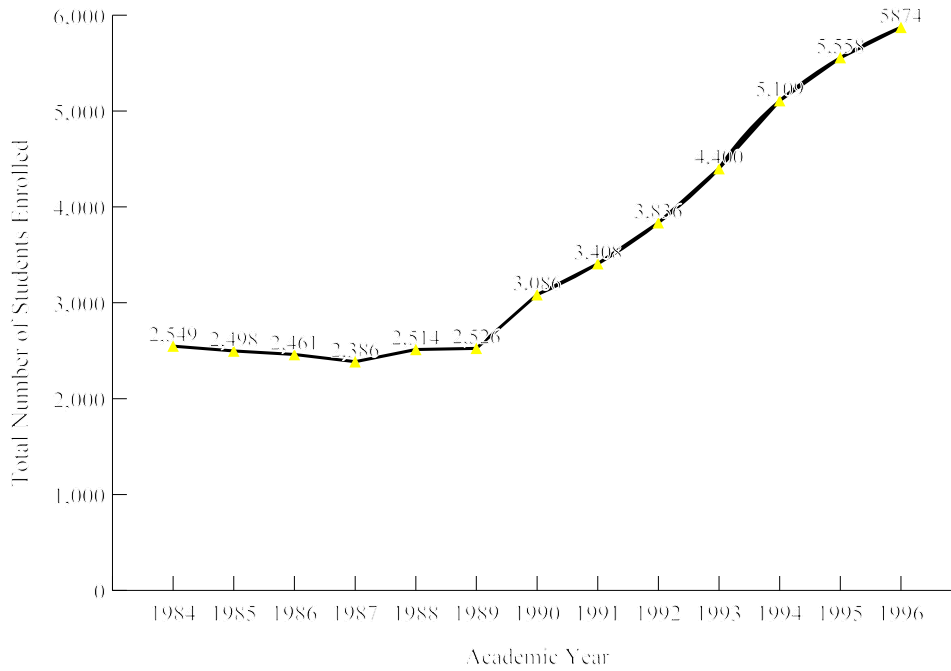
### **Total Enrollment in P.A. Programs**

Figure 15 (next page) illustrates the trends in total student enrollment from 1984 through 1996. Estimates of total enrollment are based on summing mean values for enrollment in the 1st, 2nd and 3rd year classes, then multiplying by the number of programs represented. For the 77 programs we estimate a total enrollment to be 5,874 in 1996. (The calculations were as follows, 1st yr.  $77 \times 39.5 = 3,042$ , 2nd yr.  $68 \times 36.3 = 2,468$  and 3rd yr.  $11 \times 33.1 = 364$ ). As both the mean number of students enrolled and the number of programs increase, the total number of P.A. students enrolled has increased considerably.

Total enrollment remained relatively constant from 1984 through 1989. Subsequently, there has been a linear and relatively steep sustained increase to the present. The two factors influencing the number of P.A. students enrolled have been, (a) a larger number of first-year students enrolled and (b) an increase in the total number of programs.

In addition, since 1984 the number of P.A. programs has changed as follows: 53 (1984); 51 (1985); 49 (1986); 50 (1987); 51 (1988 and 1989); 55 (1990 and 1991) 59 (1992); 63 in 1993; 67 in 1994; 81 in 1995; 89 in 1996.

Figure 15. Trends in Student Enrollment: 1984 Through 1996



**Applicants and Students Enrolled by Age**

The age distribution of applicants, students accepted and those enrolled for the first-year class is shown in Table 56. The data are expressed as the mean number of individuals per program within each of the age categories examined.

Table 56. Applicants and Enrollees by Age, Class of 1996-97

Age	<u>All Applicants</u>		<u>Number Accepted</u>		<u>Number Enrolled</u>	
	<u>Mean</u> (N=52)	<u>(%)</u>	<u>Mean</u> (N=65)	<u>(%)</u>	<u>Mean</u> (N=77)	<u>(%)</u>
Under 20	10.8	2.9%	2.8	6.0%	1.2	3.2%
20-23	82.8	22.4%	8.4	18.0%	7.0	18.5%
24-26	88.1	23.8%	9.7	20.8%	8.0	21.1%
27-29	51.2	13.8%	5.7	12.2%	4.8	12.7%
30-33	47.1	12.7%	7.4	15.9%	6.1	16.1%
Over 33	<u>90.0</u>	<u>24.3%</u>	<u>12.6</u>	<u>27.0%</u>	<u>10.8</u>	<u>28.5%</u>
<b>Total</b>	<b>383.3</b>	<b>100.0%</b>	<b>45.6</b>	<b>100.0%</b>	<b>39.6</b>	<b>100.0%</b>
	(N=57)*		(N=71)		(N=76)	

\* Number of programs reporting.

Approximately one-fourth of the applicants were less than 24 years of age and approximately 40% were between 24-29 years. Nineteen percent of the students enrolled in the first-year class were between 20-23 years old, and almost one-half (45%) were over 30 years of age. Approximately one-half were between the ages of 20 and 29 and only 3% were under 20 years of age.

**Students Enrolled by Age and Geographic Region**

The distribution of students enrolled in the 1996-97 class by age and geographic region is shown in Table 57. The table reports the percentage of students per program (N=71 programs) in each age category. Students enrolled in those

Table 57. P.A. Student Enrollment by Age and Region, Class of 1996-97

Geographic Region	Age at Application					
	< 20 (%)	20-23 (%)	24-26 (%)	27-29 (%)	30-33 (%)	>33 (%)
Northeastern	9.2%	21.5%	20.7%	10.7%	16.4%	21.4%
Eastern	9.0%	29.8%	24.8%	11.6%	7.8%	16.9%
Southeastern	3.3%	17.2%	26.3%	17.1%	16.8%	19.2%
Midwestern	0.4%	16.5%	22.9%	12.8%	12.4%	32.9%
Heartland	0.0%	24.8%	22.0%	10.4%	17.6%	25.2%
Western	<u>0.0%</u>	<u>6.3%</u>	<u>13.5%</u>	<u>14.1%</u>	<u>18.5%</u>	<u>39.2%</u>
<b>Total</b>	<b>3.2%</b>	<b>18.5%</b>	<b>21.1%</b>	<b>12.7%</b>	<b>16.1%</b>	<b>28.5%</b>

programs located in the Eastern region tended to be younger than those in other regions, indeed, 39% were 23 years of age or less. This finding may be due to the presence of more 4-year programs in the region, which in turn, enter younger students. Conversely, students in the Western and Midwestern regions were notably older than P.A. students in other regions, 39.2% and 32.9% were over 33 years of age, respectively.

**Trends in Enrollment by Age**

Trends in the age of enrolled students from 1983 to 1996 are shown in Figure 16 (next page). The data were grouped into the following three age categories, under 24 years of age, those between 24 and 29 years and those over 29 years of age. The proportion of enrollees less than 24 years of age increased slightly (to 21.7%) in 1996, from a pattern of decrease through 1995. Those between the ages of 24 and 29 initially decreased from 1983 to 1989, and then plateaued with values fluctuating between 30% and 35%. The enrollment of students that were over 29 years of age had systematically increased over time beginning at 32% of the enrollees in 1983, peaking in 1992 (56%) and then decreasing to the current level of 45% of enrollees.

**Average Age of Applicants**

This year the survey included questions asking the average age of all of the programs' applicants, accepted applicants and currently enrolled full- and part-time students. As a result of these questions, the average applicant age was 28.7, accepted applicant age was 29.8, full-time student age was 29.7 and the average age for the part-time student was 33.4. Table 58 (next page) lists average ages of these categories by geographic region. The Western region had the highest average age of applicants, accepted applicants and full-time students (32.4, 33.2, and 33.3 respectively). The Eastern region had the lowest average age of applicants, accepted applicants and full-time students (26.6, 27.7, and 27.4 respectively).



Figure 16. Trends in Enrollee Age: 1983 Through 1996

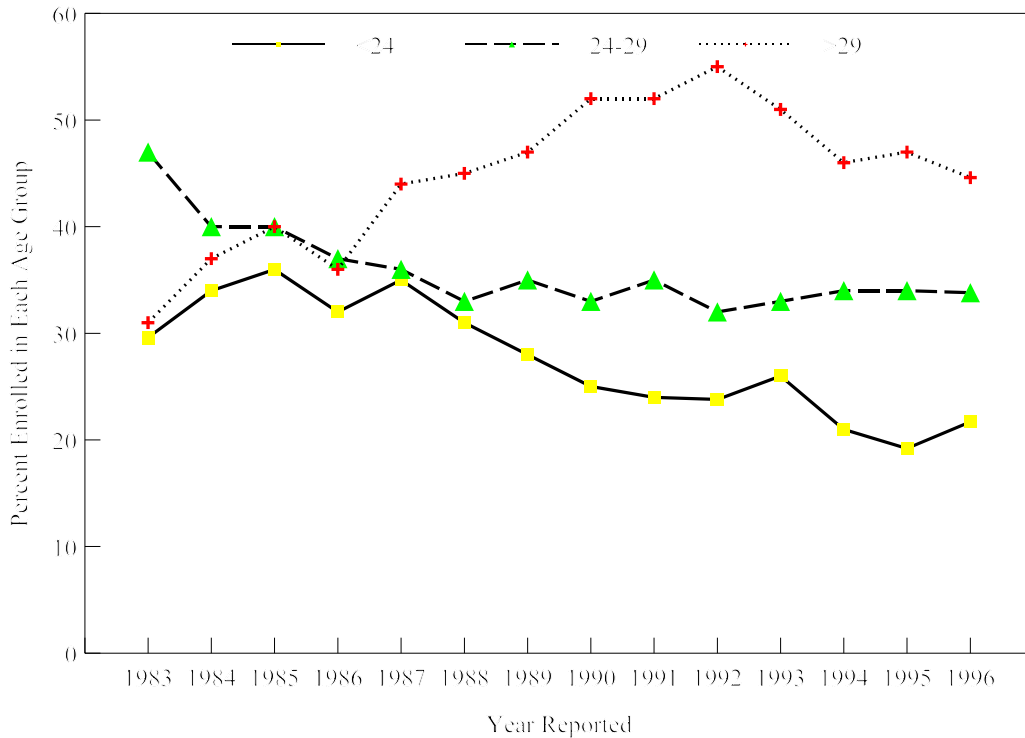


Table 58. Average Age of Applicants, Accepted Applicants and Enrollees by Region

Geographic Region	Applicants		Accepted Applicants		Enrollees Full-Time		Enrollees Part-Time	
	N	Average Age	N	Average Age	N	Average Age	N	Average Age
Northeastern	6	27.0	10	28.3	16	28.3	1	-----
Eastern	7	26.6	9	27.7	10	27.4	5	34.3
Southeastern	11	27.4	12	28.5	12	28.8	1	-----
Midwestern	14	29.6	15	30.7	16	30.8	1	-----
Heartland	4	28.9	6	29.1	7	29.0	1	-----
Western	<u>7</u>	<u>32.4</u>	<u>11</u>	<u>33.2</u>	<u>12</u>	<u>33.3</u>	<u>1</u>	<u>-----</u>
<b>Total</b>	<b>49</b>	<b>28.7</b>	<b>63</b>	<b>29.8</b>	<b>73</b>	<b>29.7</b>	<b>10</b>	<b>33.4</b>

**Applicants and Students Enrolled by Ethnicity**

The ethnicity of applicants and students enrolled in the first-year class is shown in Table 59 (next page). The data are expressed as the mean number and percentage of applicants and enrollees per program from each ethnicity category. The majority of applicants (74%) were White/Non-Hispanic; 7.2% were Black/African-American, 4.7% were Latino/Hispanic, 7.5% and 1% were Asian/Pacific Islander and Native American\Alaskan Native, respectively. Overall, 26% of the applicants were members of an ethnic minority, 27% of whom were Black/African-American. Among those enrolled, 79.6% were White/Non-Hispanic and the remainder (20.4%) were from an ethnic minority. A comparison between the proportion of minority applicants and those enrolled suggests that preference is not given to applicants on the basis of ethnicity (excluding "Other"), for example, 26% of the applicants and 20.4% of those enrolled were described as an ethnic minority. Thirty of the 76 program respondents (39%) did not enroll any

Black/African-American students and thirty-seven programs did not enroll any Hispanic students. Nine programs (12%) did not enroll any type of minority student in 1996.

Table 59. Applicants and Students Enrolled by Ethnicity

<u>Ethnicity</u>	<u>All Applicants</u>		<u>Number Enrolled</u>		<u># of Programs</u>
	<u>Mean</u>	<u>(%)</u>	<u>Mean</u>	<u>(%)</u>	<u>w/o Minorities</u>
	(N=53)		(N=76)		(N=76)
Black/African-American	26.7	7.2%	2.9	7.4%	30
Latino/Hispanic	17.5	4.7%	2.4	6.1%	37
White/Non-Hispanic	274.1	73.8%	31.3	79.6%	0
Asian/Pac. Islander	27.9	7.5%	1.9	4.8%	25
Nat. Amer./Alaskan	2.8	0.8%	0.3	0.8%	61
Other	<u>22.2</u>	<u>6.0%</u>	<u>0.5</u>	<u>1.3%</u>	<u>61</u>
<b>Total (N=57)</b>	<b>383.3</b>	<b>100%</b>	<b>39.6</b>	<b>100%</b>	<b>9</b>

**Ethnic Representation of Applicants and Enrollees by Geographic Region**

The mean number and proportion of P.A. applicants and students enrolled in the first-year class on the basis of both ethnicity and geographic region is in Table 60.

Table 60. Applicants and Enrollees by Ethnicity and Geographic Region

<u>Geographic Region</u>	<u>Applicants</u>				<u>Enrollees</u>			
	<u>White</u>		<u>Non-White</u>		<u>White</u>		<u>Non-White</u>	
	<u>Mean</u>	<u>%</u>	<u>Mean</u>	<u>%</u>	<u>Mean</u>	<u>%</u>	<u>Mean</u>	<u>%</u>
Northeastern	215.9	59.7%	145.9	40.3%	26.7	75.2%	8.8	24.8%
Eastern	266.5	66.8%	132.3	33.2%	31.9	80.6%	7.7	19.4%
Southeastern	388.8	80.1%	96.3	19.9%	34.5	83.9%	6.6	16.1%
Midwestern	237.1	84.9%	42.3	15.1%	28.5	93.8%	1.9	6.2%
Heartland	301.0	81.7%	67.6	18.3%	53.1	77.0%	15.9	23.0%
Western	<u>249.7</u>	<u>63.4%</u>	<u>144.3</u>	<u>36.6%</u>	<u>27.3</u>	<u>67.4%</u>	<u>13.2</u>	<u>32.6%</u>
<b>Total</b>	<b>274.1</b>	<b>73.8%</b>	<b>97.1</b>	<b>26.2%</b>	<b>31.3</b>	<b>79.6%</b>	<b>8.0</b>	<b>20.4%</b>

For purposes of comparing across programs, minorities were grouped into a single category and designated non-white. There was considerable variation in the proportion of minorities applying to, and enrolled in, programs across regions. Programs in the Northeastern region had the largest proportion of non-white applicants at 40% and the Midwestern region the least number, with only 15% being non-white. The Western region enrolled the largest percentage (33%) of non-white students. Programs in the Midwestern region had the fewest number of non-white enrollees (6.2%).

The number and percent of programs reporting no minority students were enrolled in the first-year class is shown in Table 61 (next page). Nine programs, in separate regions, had no minority students enrolled.

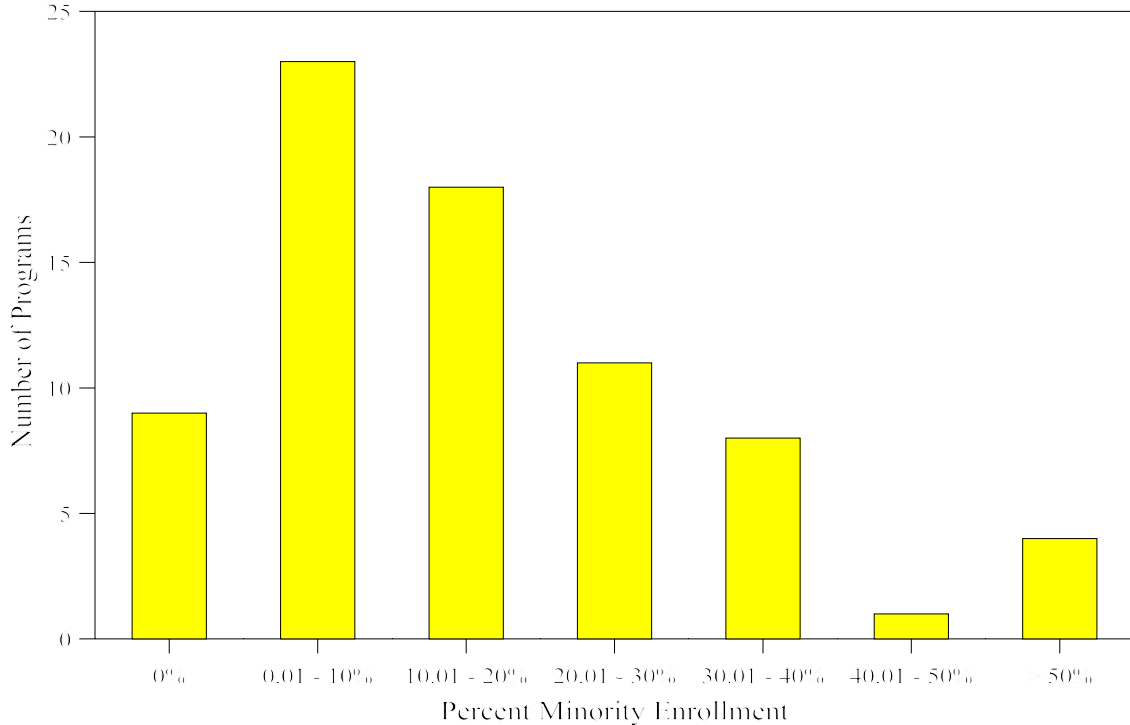
Table 61. Number of Programs with No Minority Enrollment by Geographic Region

<u>Geographic Region</u>	<u>N</u>	<u># of Programs</u>	<u>(%)</u>
Northeastern	17	0	0.0%
Eastern	11	2	18.2%
Southeastern	12	0	0.0%
Midwestern	17	6	35.3%
Heartland	7	0	0.0%
Western	<u>12</u>	<u>1</u>	<u>8.3%</u>
<b>Total</b>	<b>76</b>	<b>9</b>	<b>11.8%</b>

**Number of Programs versus Percent Minority Student Enrollment**

Figure 17 represents the number of programs with certain percentages of minority enrollment. There are 24 programs who have a larger percentage of minority enrollment than the mean of 20.4%; 50 programs have less. The average minority enrollment for programs with greater than 20% is 38.3%; for programs with less than 20% minority enrollment, 7.6%.

Figure 17. Number of Programs vs. Percentage of Minority Enrollment



**Trends in Minority Student Enrollment, 1983 Through 1996**

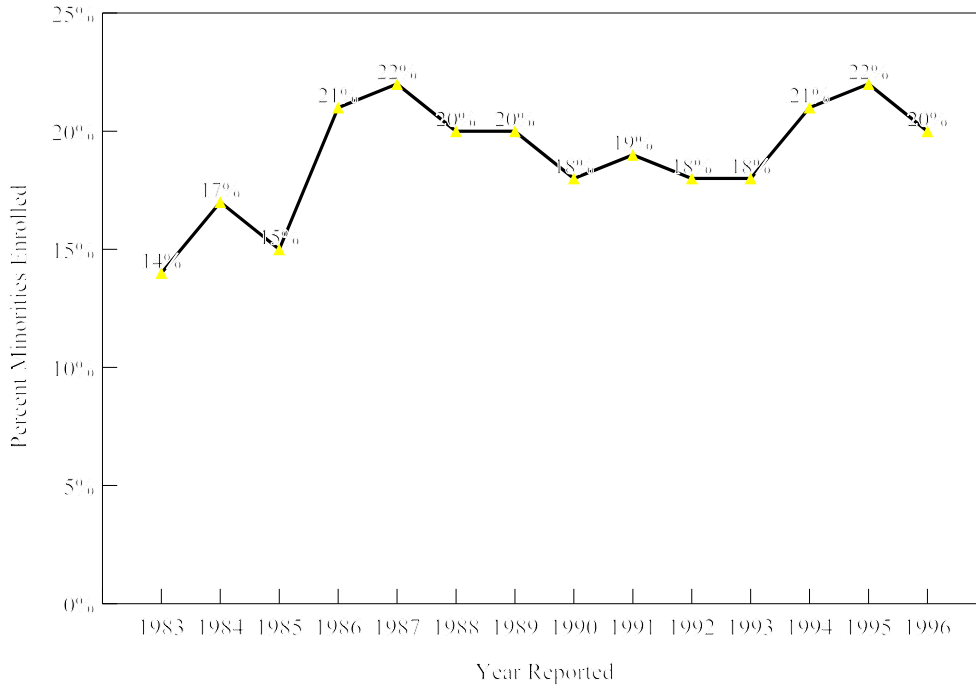
The proportion of minority and non-minority students enrolled in P.A. programs over a fourteen-year period (1983-84 through 1996-97) is shown in Table 62 (next page) and Figure 18 (next page). The proportion of non-white students in the first-year class increased from 14% in 1983 to a peak of 22.3% in 1987-88 and 1995-96. Expressed differently, the number of minority students has doubled from a mean of 4.0/program in 1983 to 9.3/program in 1995. For the 1996-97 academic year, non-white enrollment decreased to 20.4%.

Table 62. Ethnicity of P.A. Students Enrolled from 1983 Through 1996

Academic Year	N	White		Non-white		First Yr. Enrollment
		Mean	%	Mean	%	
1983-84	39	20.7	86.2%	4.0	13.8%	24.0
1984-85	39	20.3	83.4%	4.1	16.6%	24.5
1985-86	41	20.9	85.3%	3.6	14.7%	24.6
1986-87	47	19.6	78.8%	5.3	21.1%	24.9
1987-88	47	19.7	77.7%	5.9	22.3%	25.6
1988-89	46	20.8	79.7%	5.3	20.3%	25.9
1989-90	46	20.9	80.1%	5.2	19.9%	26.1
1990-91	48	24.6	82.3%	5.3	17.7%	29.9
1991-92	47	26.0	81.0%	6.1	19.0%	32.1
1992-93	56	26.9	82.5%	5.7	17.5%	32.6
1993-94	55	29.3	82.3%	6.3	17.7%	35.6
1994-95	58	33.2	77.5%	8.8	20.9%	42.0
1995-96	69	32.4	77.7%	9.3	22.3%	41.5
<u>1996-97</u>	<u>76</u>	<u>31.3</u>	<u>79.6%</u>	<u>8.0</u>	<u>20.4%</u>	<u>39.6</u>
<b>14-yr. Mean</b>	<b>51</b>	<b>24.8</b>	<b>81.0%</b>	<b>6.0</b>	<b>18.9%</b>	<b>30.6</b>

Minority student enrollment over fourteen years has averaged 18.9% per year (mean of 6.0 students/program). It should be noted that values for the 1992-93 and 1993-94 period may be under represented because some programs with large minority enrollments were non-respondents in both years.

Figure 18. Trends in Minority Student Enrollment: 1983 Through 1996



**Academic Characteristics of P.A. Students**

The academic profile and health care experience (H.C.E.) of students at the time of enrollment are shown in Table 63. The academic characteristics evaluated include degree earned and grade point average (GPA) prior to admission. Over one-half (64%) of the students enrolled in 1996 had earned at least a baccalaureate degree (55% as their highest

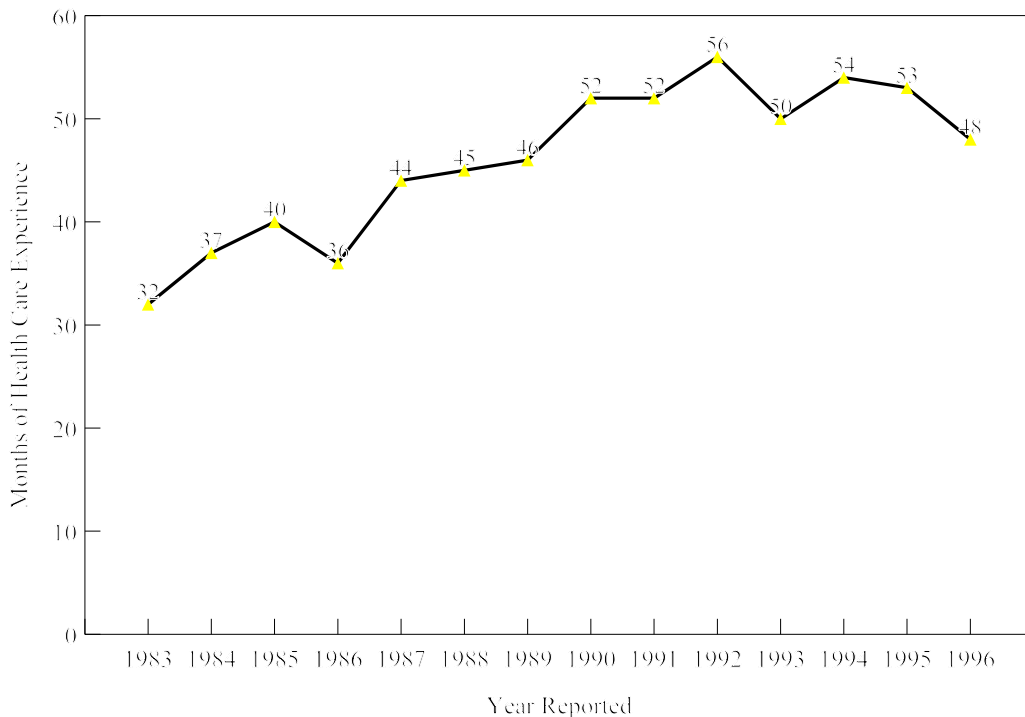
Table 63. Academic Characteristics of P.A. Students Enrolled in 1996

Highest Academic Credential Earned	Full-Time		Part-Time		Total	
	Mean	%	Mean	%	Mean	%
No Academic Degree	8.1	21.7%	0.2	25.0%	8.3	21.8%
Associate Degree	5.4	14.5%	0.1	12.5%	5.5	14.4%
Baccalaureate Degree	20.6	55.2%	0.4	50.0%	21.0	55.1%
Masters Degree	2.7	7.2%	0.1	12.5%	2.8	7.3%
Doctoral Degree	<u>0.5</u>	<u>1.3%</u>	<u>0.0</u>	<u>0.0%</u>	<u>0.5</u>	<u>1.3%</u>
<b>Total</b>	<b>37.3</b>	<b>100.0%</b>	<b>0.8</b>	<b>100.0%</b>	<b>38.1</b>	<b>100.0%</b>

degree) while less than one-fourth (21.8%) entered with no academic degree. Only 14.4% of the enrollees had earned an associate level degree prior to entry. While 8.5% of the full-time students were admitted with a graduate-level degree, predominantly a masters degree (7.2%), a substantially larger proportion (12.5%) of part-time students were enrolled with a graduate degree.

As shown in Figure 19, the months of health care experience has systematically increased from 1983 through 1995, with a slight decrease in 1996. Since 1990, the mean months of health care experience has remained within a narrow range, i.e., 48-56 months.

Figure 19. Trends in Health Care Experience of Enrollees: 1983 Through 1996



**Academic Characteristics of Enrolled P.A. Students by Geographic Region**

A comparison of the academic degrees earned by entering students across regions is shown in Table 64. The data are expressed as the percentage of students per program in each degree category. Each of the regions had more than 50% of students entering with a baccalaureate. The Northeastern region had the largest number of enrollees with no degree (30%). The Western region had 3% of its enrollees with a doctoral degree.

Table 64. Academic Characteristics of Enrollees by Region, Class of 1996-97

Geographic Region	N	Degree Characteristics					Total Mean
		No Degree	Associate Degree	Bacc. Degree	Masters Degree	Doctoral Degree	
Northeastern	17	29.9%	8.9%	54.0%	6.9%	0.3%	35.1
Eastern	12	29.0%	8.6%	53.8%	8.2%	0.4%	38.8
Southeastern	12	15.2%	13.2%	59.6%	10.8%	1.2%	41.1
Midwestern	17	14.8%	16.3%	60.4%	7.1%	1.3%	30.6
Heartland	7	24.9%	15.8%	52.1%	6.4%	0.8%	51.6
Western	<u>12</u>	<u>16.3%</u>	<u>24.3%</u>	<u>51.4%</u>	<u>4.9%</u>	<u>3.1%</u>	<u>38.0</u>
<b>Total</b>	<b>77</b>	<b>21.6%</b>	<b>14.2%</b>	<b>55.6%</b>	<b>7.4%</b>	<b>1.2%</b>	<b>37.7</b>

An analysis of grade point average (GPA) and mean number of months of health care experience by geographic region is shown in Table 65. The cumulative GPA of entering students ranged from 3.3 to 3.5 with a mean of 3.3. Programs

Table 65. Grade Point Average and Mean Number of Months of Health Care Experience by Region, Class of 1996-97

Geographic Region	Grade Point Average			Months of H.C.E.		
	N	Mean	S.D.	N	Mean	S.D.
Northeastern	13	3.3	0.1	9	43.5	18.1
Eastern	12	3.3	0.2	9	32.5	16.1
Southeastern	12	3.3	0.1	12	45.1	19.6
Midwestern	16	3.4	0.1	16	67.8	38.0
Heartland	6	3.5	0.1	6	37.2	14.4
Western	<u>9</u>	<u>3.3</u>	<u>0.3</u>	<u>9</u>	<u>46.1</u>	<u>31.4</u>
<b>Total</b>	<b>68</b>	<b>3.3</b>	<b>0.2</b>	<b>61</b>	<b>48.3</b>	<b>29.3</b>

in the Midwestern and Heartland regions reported the highest GPA for entering students (3.4 and 3.5 respectively). The average number of months of health related experience prior to admission varied extensively across regions. For example, students in programs located in the Eastern region had completed an average of 32.5 months of health-related experience while those entering programs in the Midwestern regions had 67.8 months of health care experience. The average for all programs was slightly over four years (48.3 months).

**Unlicensed Medical Graduates: Applicants and Students Enrolled**

The total number, mean number/program and proportion of unlicensed medical graduates (designated as UMG's) who applied to, and enrolled in, P.A. programs for the 1996-97 class is shown in Table 66 (next page). The total number of UMG applications to P.A. programs increased 76%, from 123 (a mean of 2.1/program) in 1995 to 217 (3.3/program) in 1996. There were 27 programs that received applications from UMG's in 1996. Thirty-nine percent of the applicants were alien UMG's.

Table 66. Admission of Unlicensed Medical Graduates, Class of 1996-97  
Class Entering in 1995-96

Citizenship Status	Applied			Enrolled		
	N(N)*	Mean**	%	N(N)*	Mean	%
U.S. Citizen	133(17)	2.0	60.6%	13( 8)	0.19	65.5%
Alien	84(15)	1.3	39.4%	7( 3)	0.10	34.5%
<b>Total**</b>	<b>217(27)</b>	<b>3.3</b>	<b>100.0%</b>	<b>20(10)</b>	<b>0.29</b>	<b>100.0%</b>

\* N = Number of UMG applicants or enrollees; (N) = Number of programs with at least one UMG applicant or enrollee.

\*\* Mean based on the total number of programs responding, including those with no UMG applicants or enrollees

Only 20 UMG's were enrolled in 1996, a decrease from 24 enrollees in 1995. Only 9% of the UMG applicants were enrolled in a P.A. program in 1996, where 20% were enrolled in 1995. For the sixth year, preference (however slight this year) was given to U.S.-born UMG's during the admissions process, for example, 10% (13/133) of U.S.-born UMG applicants were enrolled, while only 8% (7/84) of alien UMG applicants were admitted. Prior to 1991, alien UMG's comprised a majority of the UMG's enrolled.

### Unlicensed Medical Graduates: Regional Analysis

The mean number of UMG applicants and enrollees by geographic region is shown in Table 67. Programs located in the Northeastern region received the largest number of UMG applications (mean of 6.2/program) while programs

Table 67. Unlicensed Medical Graduate Applicants and Enrollees by Region, 1996-97

Geographic Region	Applied		Enrolled	
	Mean	N	Mean	N
Northeastern	6.2	13	0.2	17
Eastern	1.3	12	0.0	12
Southeastern	3.9	12	0.4	12
Midwestern	2.4	14	0.1	17
Heartland	0.3	6	0.0	6
Western	3.8	10	0.8	12
<b>Total</b>	<b>3.2</b>	<b>67</b>	<b>0.3</b>	<b>76</b>

in the Eastern and Heartland regions had the lowest number of UMG applicants, 1.3 and 0.3/program, respectively. Programs in the Western region enrolled the largest proportion of UMG's (0.8/program) and those in the Eastern and Heartland regions had no UMG's enrolled. With respect to the total applicant pool/program UMG's accounted for only 0.8% (3.2/383) of all applicants and 0.8% (0.3/39.6) of all first-year enrollees in 1996.

The number and location of programs, by region, reporting no UMG applicants and/or enrollees for the most recently enrolled class are shown in Table 68 (next page). In total, there was a slight majority of programs that did not receive an application from an UMG (40/67; 60%) and a majority did not enroll an UMG (66/76; 86.8%) in the 1996-1997 class.

Table 68. Number of Programs Reporting No Applications and/or Enrollment of Unlicensed Medical Graduates by Region, 1996-97

Geographic Region	Applied		Enrolled	
	N/N*	%	N/N*	%
Northeastern	8/13	61.5%	14/17	82.4%
Eastern	6/12	50.0%	12/12	100.0%
Southeastern	8/12	66.7%	11/12	91.7%
Midwestern	10/14	71.4%	16/17	94.1%
Heartland	4/ 6	66.7%	6/ 6	100.0%
Western	<u>4/10</u>	<u>40.0%</u>	<u>7/12</u>	<u>58.3%</u>
<b>Total</b>	<b>40/67</b>	<b>59.7%</b>	<b>66/76</b>	<b>86.8%</b>

\* N/N = number of programs with no UMG's/total number of programs reporting.

### Trends in UMG Applications and Enrollment, 1987 Through 1996

Data concerning UMG applicants and UMG students enrolled from 1987 through 1996 is shown in Table 69. The total number and mean number per program of UMG applicants and UMG students enrolled, as well as the proportion of UMG's relative to the total pool of UMG applicants and enrollees is presented for each year examined. In addition, the proportion of UMG applicants that were enrolled is also included. These data are also illustrated in Figures 20

Table 69. Unlicensed Medical Graduates: Applicants and Enrollees, 1987 Through 1996

Academic Year	UMG Applications			UMG's Enrolled			% of UMG Applicants Enrolled
	Total N	Mean/ Program	%*	Total N	Mean/ Program	%*	
1987-88	55	1.4	1.3%	17	0.40	1.4%	30.9%
1988-89	142	3.6	3.4%	23	0.51	1.9%	16.2%
1989-90	121	3.1	3.4%	18	0.39	1.5%	14.9%
1990-91	73	1.6	1.5%	26	0.51	1.7%	35.6%
1991-92	167	4.1	3.1%	18	0.40	1.2%	10.7%
1992-93	161	2.9	1.4%	13	0.20	0.6%	8.1%
1993-94	109	2.0	1.2%	12	0.20	1.5%	11.0%
1994-95	143	3.0	0.8%	22	0.39	1.0%	15.4%
1995-96	123	2.1	0.7%	24	0.33	0.9%	19.5%
1996-97	<u>217</u>	<u>3.3</u>	<u>1.0%</u>	<u>20</u>	<u>0.29</u>	<u>0.7%</u>	<u>9.2%</u>
<b>10-Yr. Mean</b>	<b>131</b>	<b>2.7</b>	<b>1.8%</b>	<b>19</b>	<b>0.36</b>	<b>1.2%</b>	<b>17.1%</b>

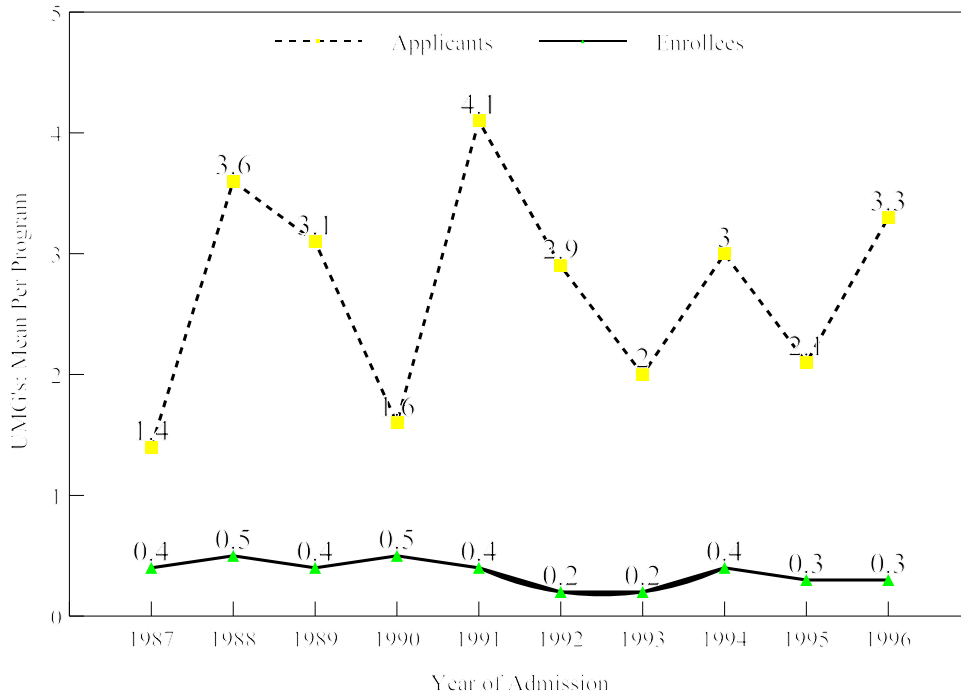
\* Proportion of UMG's to total applicants and enrollees, respectively.

and 21 (next page). Overall there has been a total of 1311 UMG applicants (averaging 131/year) over the ten-year period examined. UMG applicants accounted for an average of 1.8% of the total applicant pool. Over the same period of time, there were 193 UMG's enrolled (19/year) which accounted for 1.2% of the total number of students enrolled. On average, only 17% of the UMG applicants were enrolled. Although there has been considerable variation in the number of UMG applicants (55-217) over the past ten years, the number of UMG's enrolled has remained within fairly narrow limits (12-26).



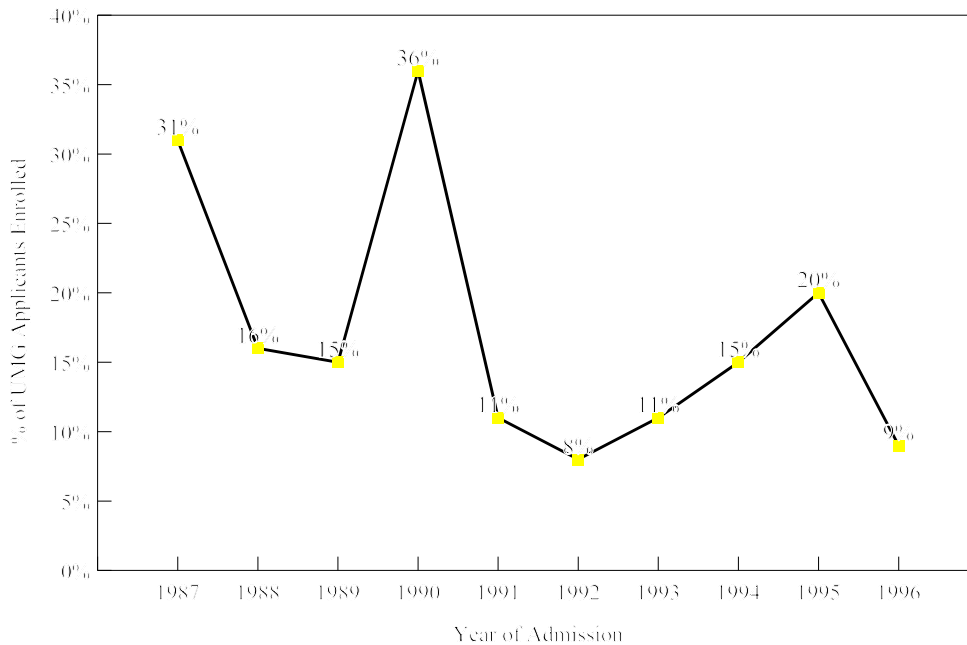
Figure 20 shows the mean number of UMG applicants and enrollees per program since 1987. Although the mean number of applicants has varied substantially over time, the mean number of UMG's enrolled per program has not fluctuated to the same extent. As shown in Figure 21, 1996 saw a sharp decrease in the percent of UMG applicants

Figure 20. Trends in U.M.G. Applicants and Enrollees: 1987 Through 1996



enrolled, almost to the ten-year low of 8% in 1992.

Figure 21. Percent of U.M.G. Applicants Enrolled: 1987 Through 1996



**Disabled Students Enrolled in P.A. Programs**

The number and proportion of students with a disability that were enrolled in the 1996-97 class is presented in Table 70. The number and proportion of enrollees who were classified as disabled was very small for the entering class (approximately 1% of the total number of students enrolled). There was an even amount of disabled male and female

Table 70. Enrollment of Disabled Students by Gender, 1996-97

<u>Gender</u>	<u>1st Year Enrolled</u>		<u>Disabled</u>		<u>Number of Programs</u>
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Male	1173	38.5%	14	50.0%	76
Female	<u>1872</u>	<u>61.5%</u>	<u>14</u>	<u>50.0%</u>	<u>76</u>
<b>Total</b>	<b>3045</b>	<b>100.0%</b>	<b>28</b>	<b>100.0%</b>	<b>76</b>

students. It should be noted that some students may have had an undetectable disability, thus, the figures reported herein may under-represent the actual number of disabled individuals. This may be particularly true for less visible disabilities and conditions, e.g., drug addiction or alcoholism, epilepsy, emotional illness, and dyslexia to name a few.

**SECTION IV. GRADUATE INFORMATION**

**Number and Attrition of Students by Gender**

The number and gender of students graduating during the 1996-97 academic year, and those withdrawing and decelerating prior to graduation, are shown in Table 71. The mean number of 1996 graduates was 35.7/program and represented 90% of the students originally enrolled in this class. We estimate that there were a total of 2,356 P.A.'s graduated from all programs graduating class in 1996 (66 programs x 35.7/program). It should be noted that eighteen

Table 71. Number of Graduates and Students Withdrawn or Decelerated in 1996-97 by Gender

<u>Gender</u>	<u>Number Graduated</u>		<u>Attrition of Students</u>		<u>Students Decelerated</u>	
	<u>Mean</u>	<u>%</u>	<u>Mean</u>	<u>%</u>	<u>Mean</u>	<u>%</u>
Female	21.5	90.7%	1.1	4.6%	1.1	4.6%
Male	14.2	89.3%	1.0	6.3%	0.7	4.4%
<b>Total/Program</b>	<b>35.7</b>	<b>90.2%</b>	<b>2.1</b>	<b>5.3%</b>	<b>1.8</b>	<b>4.5%</b>

\* Proportion withdrawing or decelerating was calculated as:

$$\left( \sum_{p=1}^N W_p \text{ or } D_p \right) / \left( \sum_{p=1}^N G_p + W_p + D_p \right)$$

where:  $G_p$  = number graduated from program "p".  
 $W_p$  = number withdrew from program "p".  
 $D_p$  = number decelerated from program "p".

of the new programs did not graduate students in 1996. Our estimated value for 1996 graduates was similar to the number reported as first takers on the 1996 National Certifying Examination (i.e., N=2,210). As in previous years, the majority (60%) of 1996 graduates were women.

The mean number of students withdrawing prior to graduation was 2.1 students/program for an overall attrition rate of 5.3%. Males had a higher rate (6.3%) than did females (4.6%) and the attrition rate was slightly higher than in 1995 (4.3%) and considerably lower than the average of 9.5% over the previous eleven years.

On average, the rate of deceleration was 4.5%. A decelerated student was defined as one who was enrolled, experienced academic, personal, and/or financial difficulty, but remained a student in the program on a part-time basis and/or was on a temporary leave of absence. The reasons cited for withdrawal are presented in Table 72. There were a total of 122 students withdrawing from the 1996 graduating class (as reported by 60 programs). The most common reasons for withdrawal were academic (43%) and personal (33%). It should be noted that the reasons cited for withdrawal were provided by program staff, rather than the students involved, therefore, these results may not

Table 72. Reasons for Student Withdrawal from the Program

<u>Reason Given</u>	<u>N</u>	<u>(%)</u>	<u>Reason Given</u>	<u>N</u>	<u>(%)</u>
Academic	52	42.5%	Career Change	8	6.6%
Personal	40	32.8%	Medical	6	4.9%
Financial	8	6.6%	Other	8	6.6%
	<b>Total</b>	<b>122</b>		<b>122</b>	<b>100.0%</b>

accurately reflect the true cause(s) of withdrawal.

**Attrition Rates of Students by Geographic Region**

The mean number of graduates, attrition rates, and students decelerated by geographic region are shown in Table 73. Programs in the Heartland and Western regions had the largest graduating classes with means of 42.4 and 40.8 students per program, respectively, while programs in the Midwestern region had smaller graduating classes

Table 73. Number Graduated, Withdrawn and Decelerated by Geographic Region

<u>Geographic Region</u>	<u>N</u>	<u>Mean # Graduated</u>	<u>Mean and Rate of Attrition</u>		<u>Mean and Rate of Deceleration</u>	
Northeastern	13	30.2	1.5	4.6%	1.1	3.4%
Eastern	7	36.6	3.7	8.6%	2.7	6.3%
Southeastern	11	36.7	2.5	6.2%	1.4	3.4%
Midwestern	12	29.5	1.4	4.5%	0.3	1.0%
Heartland	7	42.4	2.3	4.9%	1.9	4.1%
Western	<u>10</u>	<u>40.8</u>	<u>1.7</u>	<u>3.8%</u>	<u>1.7</u>	<u>3.8%</u>
<b>Total</b>	<b>60</b>	<b>35.7</b>	<b>2.1</b>	<b>5.3%</b>	<b>1.8</b>	<b>4.5%</b>

(29.5/program). The highest attrition rates occurred in those programs located in the Eastern region (8.6%) while programs in the Western region had the lowest attrition rates (3.8%). In comparison to the previous year, the number graduated/program in 1996 was increased (3.8%). The rate of attrition increased in all but the Heartland and Western regions; whereas deceleration increased in half of the regions (Northeastern, Southeastern and Heartland). Programs in the Eastern region reported the largest rate of deceleration (6.3%), while programs in the Midwestern region had the lowest rate of deceleration.

The reasons for withdrawal by region are shown in Table 74. Programs in the Eastern region had the highest percentage of students to withdraw for academic reasons (53.6%) while programs in the Western region cited academic reasons for withdrawal 29.4% of the time. In the Northeastern region 42.1% of the programs cited personal reasons for student withdrawal as compared with 29.4% in the Western region.

Table 74. Reasons for Withdrawal by Geographic Region

<u>Geographic Region</u>	<u>Reasons for Withdrawal from Program</u>						<u>Total</u>
	<u>Academic</u>		<u>Personal</u>		<u>Other</u>		
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	
Northeastern	9	47.4%	8	42.1%	2	10.5%	19
Eastern	15	53.6%	8	28.6%	5	17.9%	28
Southeastern	10	45.5%	7	31.8%	5	22.7%	22
Midwestern	6	31.6%	6	31.6%	7	36.8%	19
Heartland	7	41.2%	6	35.3%	4	23.5%	17
Western	<u>5</u>	<u>29.4%</u>	<u>5</u>	<u>29.4%</u>	<u>7</u>	<u>41.2%</u>	<u>17</u>
<b>Total</b>	<b>52</b>	<b>42.6%</b>	<b>40</b>	<b>32.8%</b>	<b>30</b>	<b>24.6%</b>	<b>122</b>

**Graduation, Attrition, and Deceleration of Students by Age**

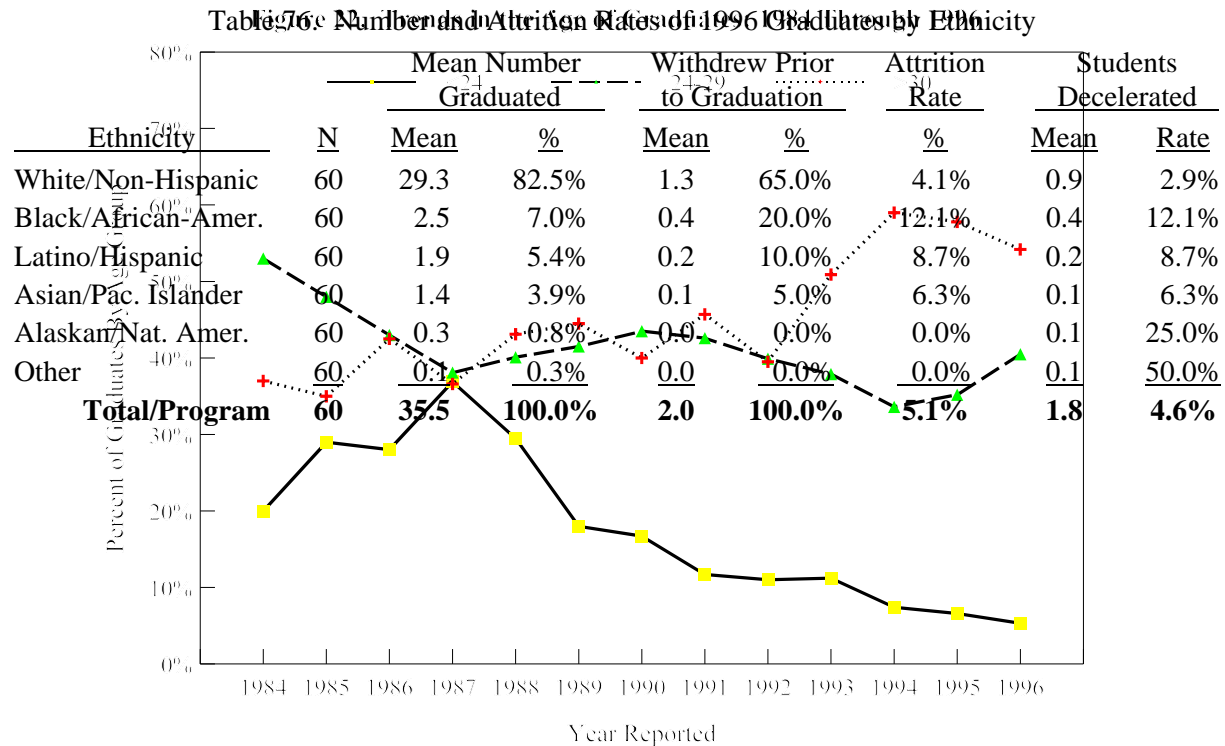
The mean number of graduates, attrition rates, and students decelerated for each age category is shown in Table 75. Approximately one-fourth (26.1%) of the graduates were between the ages of 20 and 26 upon graduation; 54% were 30 years of age or older and none were under the age of 20. Attrition was highest for those between 20 and 23; lowest for those between 27 and 29. Deceleration rates were highest for students >30 years and least for those between 27 and 29 years.

Table 75. Number Graduated, Decelerated and Attrition Rates of 1996 Graduates by Age

Age at Graduation	N	Number Graduated		Withdrew Prior to Graduation		Attrition Rate	Students Decelerated	
		Mean	%	Mean	%	%	Mean	%
Under 20	57	0.0	0.0%	0.0	0.0%	0.0%	0.0	0.0%
20-23	57	1.9	5.3%	0.3	14.3%	12.5%	0.2	8.3%
24-26	57	7.5	20.8%	0.5	23.8%	6.0%	0.3	3.6%
27-29	57	7.1	19.7%	0.2	9.5%	2.7%	0.1	1.4%
30-33	57	6.9	19.2%	0.4	19.0%	5.2%	0.4	5.2%
Over 33	57	12.6	35.0%	0.7	33.3%	5.0%	0.7	5.0%
<b>Total/Program</b>	<b>57</b>	<b>36.0</b>	<b>90.2%</b>	<b>2.1</b>	<b>100.0%</b>	<b>5.3%</b>	<b>1.8</b>	<b>5.0%</b>

Figure 22 shows the trends in age from 1984 through 1996. The proportion of recent graduates in the youngest age group (<24) has generally decreased over time, while the graduates in the older age group (>30) has decreased 8% since 1994. Conversely, the middle age group (24 - 29) has increased 20.5% since 1994.

The mean number of graduates, withdrawals, decelerated students and attrition rates for the 1996 graduating class by



ethnicity is shown in Table 76. The majority of the recent graduates were White/Non-Hispanic (82.5%) and nearly one-fifth (17.5%) were minorities. Within the minority groups graduating, 40% were Black/African-American, 30.6% were Latino/Hispanics, 22.6% were Asian/Pacific Islander, 4.8% were Alaskan/Native American and the remainder were classified as Other. Sixty-two percent (N=37; 62%) of the 60 programs reported at least one Black/African-American among their 1996 graduates and 36 (60%) programs graduated at least one Latino/Hispanic.

The Black/African-American students had the highest rate of attrition (12%), followed by Latino/Hispanic students (8.7%). The White/Non-Hispanics had an attrition rate of 4.1%. Proportionately, minority students were more likely to be decelerated, particularly the Alaskan/Native American (25%) and the Other group (50.0%) as compared to White students (2.9%).

**Trends in Student Attrition: 1984 Through 1996**

Figure 23 (next page) shows the relative attrition rates from 1984 through 1996 for all students and for white and non-white students. Attrition rates have averaged 9.3% over the past thirteen years, ranging from a high of 14% in 1988 to a low of 4.7% in 1994. The 1996 attrition rate for white students was 4.1% and 9.7% for non-white students, the latter represents a decrease from 1995. Before 1990, decelerated students were included in the attrition rates. If decelerated students were included this year, the adjusted attrition rate would be 9.7%. Since 1984, the rate of attrition has been over twice as high for non-white students, averaging 11.3% as compared to 5.1% for white students.

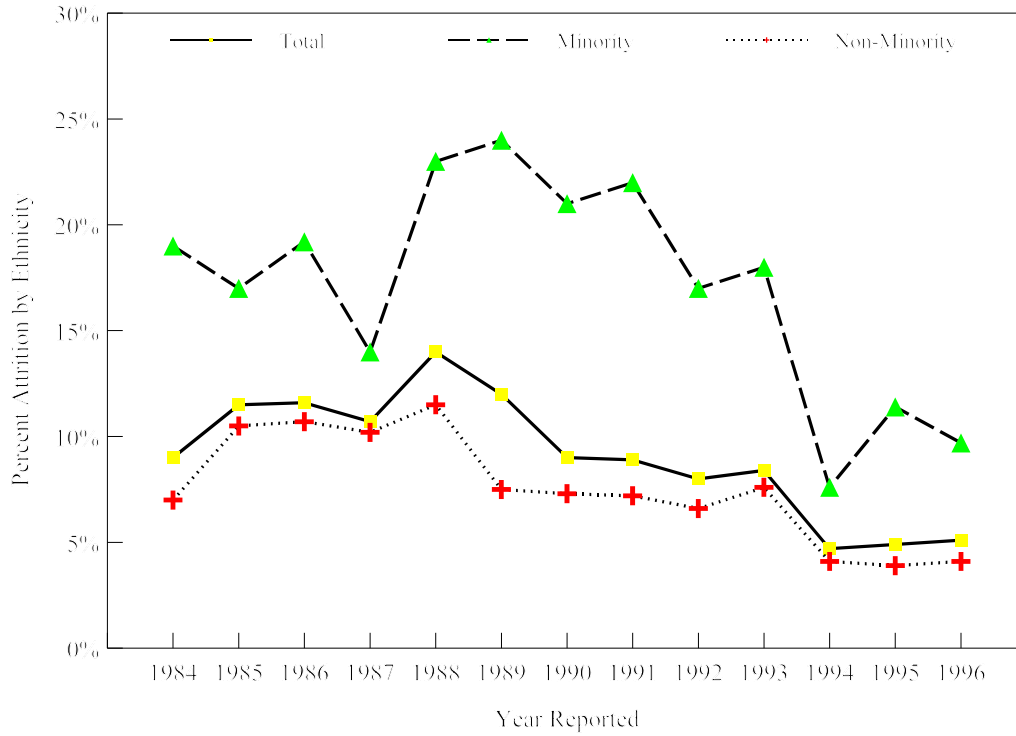
**Sex and Ethnicity of 1996 P.A. Graduates by Geographic Region**

The mean number and proportion of 1996 graduates by gender, ethnicity, and geographic region are shown in Table 77. Proportionately, more minority students graduated from programs in the Western region (33%) than from programs located in the Midwestern region (11.9%). The Heartland region had the highest proportion of male graduates (45%) and the Midwestern region the highest proportion of female graduates (63.6%).

Table 77. 1996 Graduates by Sex, Ethnicity, and Geographic Region

<u>Geographic Region</u>	<u>N</u>	<u>Mean # of Graduates</u>	<u>Gender</u>		<u>Ethnicity</u>				
			<u>Male</u>	<u>Female</u>	<u>Black</u>	<u>Hispanic</u>	<u>White</u>	<u>Asian</u>	<u>Other</u>
Northeastern	13	30.2	39.0%	61.0%	9.2%	4.3%	80.4%	5.9%	0.2%
Eastern	7	36.6	37.6%	62.4%	8.0%	1.2%	86.2%	2.8%	1.8%
Southeastern	11	36.7	38.6%	61.4%	4.2%	5.0%	87.4%	2.7%	0.7%
Midwestern	12	29.5	36.4%	63.6%	4.2%	3.4%	88.1%	3.1%	1.2%
Heartland	7	42.4	44.9%	55.6%	3.4%	6.1%	84.2%	3.7%	2.6%
Western	<u>10</u>	<u>40.8</u>	<u>43.3%</u>	<u>56.7%</u>	<u>12.3%</u>	<u>11.7%</u>	<u>67.5%</u>	<u>5.7%</u>	<u>2.8%</u>
<b>Total</b>	<b>60</b>	<b>35.5</b>	<b>39.6%</b>	<b>60.4%</b>	<b>7.0%</b>	<b>5.4%</b>	<b>82.5%</b>	<b>3.9%</b>	<b>1.2%</b>

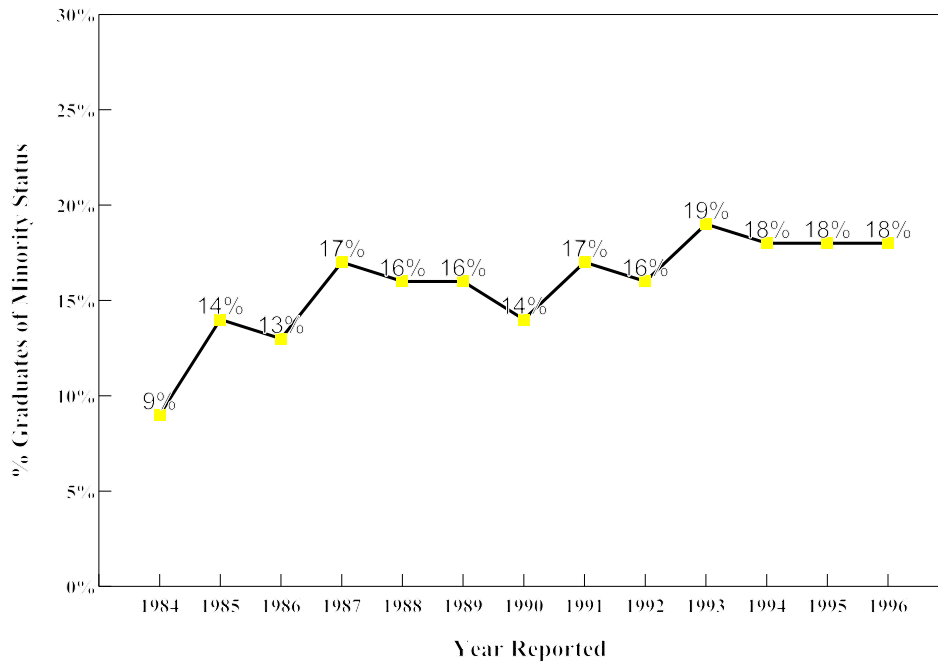
Figure 23. Trends in Student Attrition: 1984 Through 1996



**Trends in the Graduation of Minorities**

The graduation of minority P.A.'s has been monitored since 1984. Figure 24 shows the proportion of non-white P.A. graduates over the past thirteen years. During the thirteen-year period for which data was available, the graduation

Figure 24. Trends in Minority P.A. Graduates: 1984 Through 1996



of non-white students averaged 15.8%, ranging from a high of 18.7% in 1993 to a low of 9.0% in 1984. The reader is referred to Figure 18 concerning enrollment of minority students which, over the past fourteen years, has averaged 18.9% (Table 62). The relatively high attrition rates for minority students likely accounts for the difference between the number enrolled shown in Figure 14 and the number graduating shown in Figure 24.

**Employment Status of 1996 P.A. Graduates**

A summary of the employment status of the recent graduates, as reported by 59 programs, is shown in Table 78. It should be noted that the time elapsed between a program's graduation date and the date the survey was completed varied.

Table 78. Employment Characteristics of 1996 P.A. Graduates

<u>Employment Status</u>	<u>Mean Number Per Program</u>	<u>S.D.</u>	<u>Relative Frequency</u>
Employed:			
As a P.A.	28.3	13.0	79.7%
Not as a P.A.	0.3	1.0	0.8%
Unemployed	3.2	4.8	9.0%
Continued with Education	0.1	0.4	0.3%
Unknown	<u>3.6</u>	<u>6.2</u>	<u>10.1%</u>
<b>Total (N=59)</b>	<b>35.5</b>	<b>14.4</b>	<b>100.0%</b>

The majority (79.7%) of recent graduates were employed as a physician assistant. Nineteen percent of the graduates were either unemployed or their employment status was unknown. It is likely that the unemployed graduates were in the process of negotiating for a position and/or not engaged in seeking a position at the time of the survey.

**Number of Recent Graduates by State**

The number of 1996 graduates, by state, is shown in Table 79 and includes the number of programs reporting from each state. Those states with the largest number of programs are those with the largest number of graduates, e.g., CA, NY, PA, TX. A total of 2050 students from 56 programs completed their training in 1996. However, if we consider all programs that graduated P.A.'s in 1996 (i.e., 66 programs) we estimate that the total number of graduates would be approximately 2,356 (66 x 35.7).

Table 79. Number of 1996 Graduates by State

<u>State</u>	<u>Number Prog.</u>	<u>Number Grads</u>	<u>State</u>	<u>Number Prog.</u>	<u>Number Grads</u>	<u>State</u>	<u>Number Prog.</u>	<u>Number Grads</u>
AL	1	18	KS	1	43	NJ	1	33
CA	6	241	KY	1	35	NY	8	256
CO	1	19	MA	2	73	OH	2	50
CT	2	51	MD	1	44	OK	1	45
DC	2	65	MI	2	79	PA	5	219
FL	2	99	MO	1	28	SD	1	12
GA	2	74	NC	2	85	TX	4	175
IA	2	53	ND	1	80	UT	1	32
IL	2	47	NE	1	37	WA	<u>1</u>	<u>57</u>
						<b>Total</b>	<b>56</b>	<b>2050</b>

**1996 Program Graduates: Employment Status by Geographic Region**



The employment of recent graduates varied depending on the region where their program was located. Employment data are shown in Table 80. Programs located in two of the six regions reported that over 80% of their 1996 graduates had secured employment at the time the program reported. Programs in the Northeastern region had the lowest proportion of graduates employed (76.7%). The overall proportion of recent graduates who were unemployed, including the "Other" category, averaged 20% across the regions.

Table 80. Employment Characteristics of 1996 Graduates by Geographic Region

Geographic Region	N	<u>Employed</u>		<u>Unemployed</u>		<u>Other</u>		<u>Total Mean</u>
		Mean	%	Mean	%	Mean	%	
Northeastern	13	24.4	76.7%	3.7	11.6%	3.7	11.6%	31.8
Eastern	7	31.7	77.3%	2.7	6.6%	6.6	16.1%	41.0
Southeastern	11	32.0	87.2%	2.7	7.4%	2.0	5.4%	36.7
Midwestern	12	23.2	77.9%	2.3	7.7%	4.3	14.4%	29.8
Heartland	6	35.5	82.8%	5.2	12.1%	2.2	5.1%	42.9
Western	<u>8</u>	<u>31.0</u>	<u>79.9%</u>	<u>3.1</u>	<u>8.0%</u>	<u>4.7</u>	<u>12.1%</u>	<u>38.8</u>
<b>Total</b>	<b>57</b>	<b>28.6</b>	<b>79.9%</b>	<b>3.2</b>	<b>8.9%</b>	<b>4.0</b>	<b>11.2%</b>	<b>35.8</b>

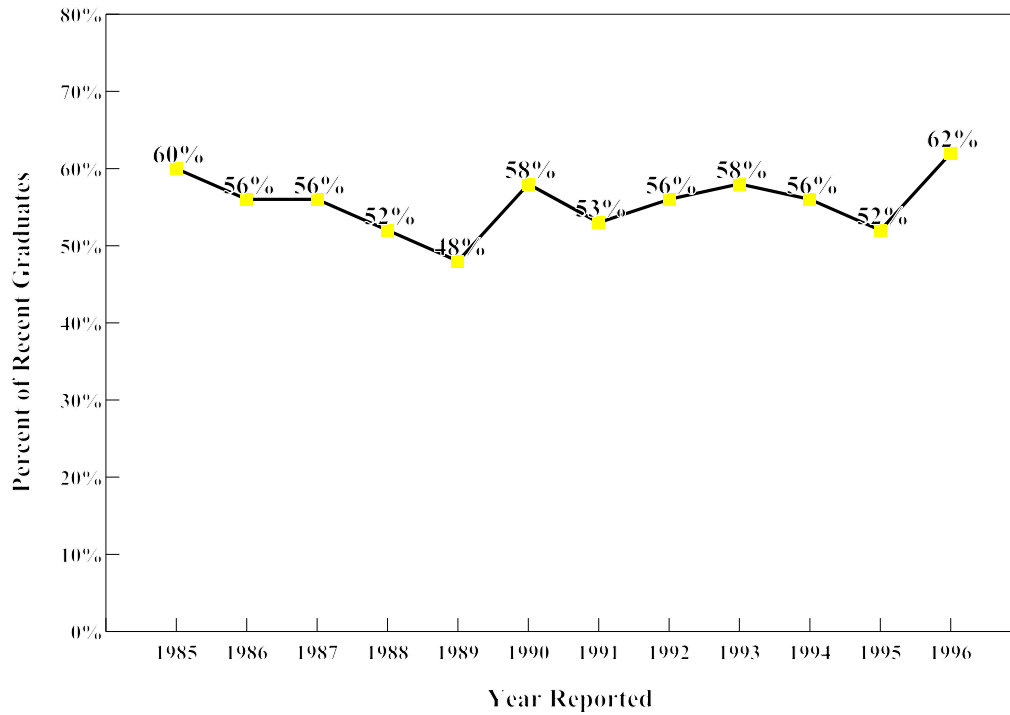
**Trends in Medical Specialty Selection of Recent Graduates, 1985 Through 1996**

A comparison of the employment of recent graduates in primary and non-primary care medicine from 1985 through 1996 is shown in Table 81 and illustrated in Figure 25 (primary care includes F.M., G.I.M., Ob/Gyn, Peds)(next page). From 1985 through 1989 there was an overall decrease in the proportion of graduates entering primary care practice, from 60% in 1985 to a low of 48% in 1989, a decline averaging 3.8% per year. In the past seven years an average of 56.5 of the graduates have selected primary care medical specialties and the over-all twelve-year mean is 55.8%.

Table 81. Employment of Recent Graduates in Primary and Non-Primary Care Medicine, 1985 Through 1996

Academic Year	<u>Primary Care</u>		<u>Non-Primary Care</u>		<u>Total</u>	
	N	%	N	%	N	%
1985-86	399	59.9%	278	41.1%	677	100%
1986-87	404	55.6%	322	44.4%	726	100%
1987-88	418	56.4%	323	43.6%	741	100%
1988-89	422	52.2%	387	47.8%	809	100%
1989-90	398	48.2%	427	51.8%	825	100%
1990-91	508	58.1%	367	41.9%	875	100%
1991-92	511	53.5%	444	46.5%	955	100%
1992-93	674	55.7%	537	44.3%	1211	100%
1993-94	826	58.0%	597	42.0%	1423	100%
1994-95	852	55.5%	684	44.5%	1536	100%
1995-96	817	52.2%	702	44.8%	1566	100%
<u>1996-97</u>	<u>970</u>	<u>62.3%</u>	<u>588</u>	<u>37.7%</u>	<u>1558</u>	<u>100%</u>
<b>12-Yr. Mean</b>	<b>580</b>	<b>56.3%</b>	<b>451</b>	<b>43.7%</b>	<b>1031</b>	<b>100%</b>

Figure 25. Recent Graduate Employment in Primary Care: 1985 Through 1996



**Employment of Recent Graduates in Primary and Non-Primary Care by Geographic Region**

The relative proportion of 1996 graduates entering primary and non-primary care medical specialties by region is shown in Table 82. Graduates from programs in the Western region had the highest level of employment in primary care medical specialties (77.8%). Graduates from the Northeastern region had the highest level of employment in non-primary care specialties.

Table 82. Employment of 1996 Graduates in Primary and Non-Primary Care Medicine by Geographic Region

<u>Geographic Region</u>	<u>N</u>	<u>Primary Care</u>		<u>Non-Primary Care</u>	
		<u>Mean</u>	<u>%</u>	<u>Mean</u>	<u>%</u>
Northeastern	13	9.5	42.6%	12.8	57.4%
Eastern	7	19.6	63.8%	11.1	36.2%
Southeastern	11	17.9	58.7%	12.6	41.3%
Midwestern	12	14.3	65.6%	7.5	34.4%
Heartland	6	25.2	71.6%	10.0	28.4%
Western	<u>8</u>	<u>23.8</u>	<u>77.8%</u>	<u>6.8</u>	<u>22.2%</u>
<b>Total</b>	<b>57</b>	<b>17.0</b>	<b>62.3%</b>	<b>10.3</b>	<b>37.7%</b>

The distribution of recent graduates selecting primary care medical specialties from 1986 through 1996 is shown in Table 83 (next page). Over the period analyzed, family medicine and general internal medicine remained the primary care specialties of choice, with family medicine increasing and general internal medicine decreasing, over time. The twelve-year average was 67.5% for family medicine and 18.6% for general internal medicine. The selection of both obstetrics and gynecology and pediatrics also varied over time, ranging from 3.1% to 12.6% and 4.6% to 8.8%, respectively.

Table 83. Trends in the Primary Care Medical Specialty Selection of Recent Graduates, 1985 Through 1996

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Clinical	(40)*	(44)	(45)	(45)	(47)	(48)	(47)	(51)	(53)	(48)	(56)	(57)
<u>Specialty</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
Fam Md	60.4	57.7	63.6	63.5	57.5	68.5	72.2	71.1	71.0	76.0	75.4	73.1
Int Med	22.3	26.7	19.1	22.2	22.4	16.6	14.3	16.3	15.1	16.0	15.4	16.9
Gen Ped	8.8	8.7	8.1	5.9	7.5	6.1	5.9	5.9	8.4	4.6	5.2	6.4
Ob/Gyn	8.5	6.9	9.1	8.4	12.6	8.9	7.6	6.7	5.5	3.4	3.1	3.6

\* Number of Programs responding

Trends in the graduates' selection of non-primary care medicine over the past decade are shown in Table 84. Surgery (plus sub-specialties) and medicine specialties accounted for the majority of positions (64.7%) selected by recent graduates in non-primary care. Selection of psychiatry by recent graduates has declined since 1987.

A list of the specific internal medicine subspecialties selected by 1996 graduates is shown in Table 85, along with the

Table 84. Trends in the Non-Primary Care Medical Specialty Selection of Recent Graduates, 1985 Through 1996

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Clinical	(40)	(44)	(45)	(45)	(47)	(48)	(47)	(51)	(53)	(48)	(56)	(57)
<u>Specialty</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
Surgery	55.4	59.6	49.8	53.3	50.7	50.1	57.7	47.4	36.2	35.5	33.0	34.1
Med	23.4	15.2	24.1	23.4	23.0	25.3	20.4	22.6	35.4	25.1	29.4	30.6
Em Med	12.2	16.1	17.3	17.4	20.9	19.3	19.4	25.6	23.1	37.0	33.2	28.7
Psych.	4.3	4.7	5.3	3.0	2.4	1.9	1.2	1.6	0.9	1.1	0.8	1.0
Ind Med	4.7	4.3	3.4	2.8	3.0	3.3	1.5	2.8	4.4	1.3	3.6	5.6

number of graduates and programs represented. A total of 164 recent graduates from fifty-seven programs were employed among fourteen subspecialties. It should be noted that one of the armed services programs defined their graduate employment as "military medicine". Otherwise, the largest number of recent graduates selected cardiology (n=32; 22 programs), gastroenterology (n=17; 10 programs) and dermatology (n=14; 9 programs).

Table 85. Internal Medicine Subspecialties Selected by 1996 Graduates

<u>Medical Area</u>	<u># of Graduates</u>	<u># of Programs</u>	<u>Medical Area</u>	<u># of Graduates</u>	<u># of Programs</u>
Military Medicine	44	1	AIDS/Inf. Diseases	8	6
Cardiology	32	22	Rehabilitation	6	2
Gastroenterology	17	10	Critical Care	5	3
Dermatology	14	9	Hem/Onc	5	3
Oncology	13	9	Nephrology	4	2
Chem. Dependency	9	4	Other	<u>7</u>	<u>3</u>
			<b>Total</b>	<b>164</b>	<b>57</b>

A list of surgical subspecialties selected by the recent graduates is in Table 86. A total of 104 recent graduates from fifty-eight P.A. programs selected surgical sub-specialty areas as their first position. Proportionately, these graduates were employed most commonly in cardiovascular/cardiothoracic surgery (n=64; 62%), neurosurgery (n=16; 15%)

and ENT (n=9; 9%).

Table 86. Surgical Subspecialties Selected by 1996 Graduates

<u>Surgical Area</u>	<u>Number of Graduates</u>	<u>Number of Programs</u>	<u>Surgical Area</u>	<u>Number of Graduates</u>	<u>Number of Programs</u>
CV/CT	64	27	Urology	5	3
Neurosurgery	16	13	Plastic	4	3
ENT	9	8	Other Surg. Spec.	6	4
			<b>Total</b>	<b>104</b>	<b>58</b>

**Medical Specialty Selection of Recent Graduates by Geographic Region**

A comparison of medical specialty selection of recent graduates by geographic region is shown in Table 87. The data are presented as the mean number of recent graduates per program employed in each area. Medical specialties in which the largest proportion of recent graduates were employed is shown and include, family medicine, internal medicine (including subspecialties), and surgery (including subspecialties). Note, the "other" category is not included in the table. Graduates from the Western region selected family medicine preferentially (84.2%) and those from the

Table 87. Medical Specialties Selected by 1996 Graduates by Geographic Region

<u>Geographic Region</u>	<u>N</u>	<u>Family Medicine</u>		<u>Internal Medicine*</u>		<u>Surgery*</u>	
		<u>Mean</u>	<u>%</u>	<u>Mean</u>	<u>%</u>	<u>Mean</u>	<u>%</u>
Northeastern	12	5.8	32.4%	5.3	29.6%	6.8	38.0%
Eastern	8	12.9	47.3%	9.4	34.4%	5.0	18.3%
Southeastern	11	11.4	46.7%	6.7	27.5%	6.3	25.8%
Midwestern	12	12.0	74.1%	2.6	16.0%	1.6	9.9%
Heartland	7	18.3	59.0%	10.0	32.3%	2.7	8.7%
Western	9	18.1	84.2%	2.2	10.2%	1.2	5.6%
<b>Total</b>	<b>59</b>	<b>12.4</b>	<b>53.0%</b>	<b>5.7</b>	<b>24.4%</b>	<b>5.3</b>	<b>22.6%</b>

\* Includes the sub-specialties

Northeastern region had the least percentage entering family medicine (32.4%). Conversely, graduates from programs in the Northeast selected surgical subspecialties more frequently (38%) than did graduates from other regions. Programs located in the Eastern region selected internal medicine more frequently than other regions.

There was substantial variation across regions in the proportion of recent graduates entering family medicine. This deployment may be related to the clinical orientation, of the program, i.e., a primary versus non-primary care emphasis. Regional variation in the clinical curriculum was discussed in the 11th Annual Report.

**Employment Characteristics of All Program Graduates, 1967 Through 1996**

The following section presents information concerning "ALL" graduates (including recent graduates). For example, Duke University reported graduate data spanning 30 years (n=1041 graduates) while the University of Iowa reported data over 23 years (n=438). The employment characteristics of program graduates is shown in Table 88; 56 programs provided data within categories, 54 programs provided a total number of graduates. The mean number of graduates per program was reported as 456.1 (n=54 programs) with a mean of 19 classes that had graduated since inception (range of 1 to 31 classes). Thus, over this period, the average size of the graduating class has been approximately 24 students/program, a figure consistent with the graduate data presented in previous reports.

Data reported in Table 88 indicates that the majority of the graduates (69.5%) were employed as P.A.'s in either clinical practice (66.8%) or in administration, teaching or research positions (2.7%). Approximately 18.8 graduates/program were employed in a health field other than as a P.A., of these, 11 were physicians, 2 were nurses, and the remainder (5.8) were classified as "other". A small proportion (1.1%) were employed in a non-health related field. Approximately 1.0% of the graduates were currently enrolled as full-time students and of these, 39.1% were

Table 88. Employment Characteristics of All Program Graduates, 1967 Through 1996

<u>Employment Classification</u>	<u>Mean Number Per Program</u>	<u>Relative Frequency</u>
<u>Employed as a P.A.</u>		
Clinical Practice	304.8	66.8%
Admin./Teach./Research	12.4	2.7%
<u>Not Employed as a P.A.</u>		
Health Field (not P.A.)	18.8	4.1%
Non-Health Field	5.1	1.1%
Full-Time Student	4.6	1.0%
Unemployed	14.2	3.1%
Unknown/Other	90.8	19.9%
Retired/Deceased	<u>5.4</u>	<u>1.2%</u>
<b>Total</b>	<b>456.1</b>	<b>100.0%</b>

enrolled in medical or osteopathic school, 31.2% were in graduate school, and 29.7% were in baccalaureate level or other academic study.

The P.A. profession enjoys a relatively low, 3.1%, unemployment level. The majority (46.5%) of the unemployed P.A.'s were unemployed by personal choice, with 34.5% being recent graduates in the process of seeking a position. Thus, the actual unemployment level is probably less than 1%. On average, programs reported that they were unable to provide information on 19.9% of their graduates, while 1.2% of the graduates were retired or deceased.

**Correcting for the unknown**

In an effort to estimate the percentage of total graduates that were employed, given the relatively large (19.9%) "unknown" category, status, we performed the following analysis. The programs were divided into two groups, A and B. Group A, reporting <9% and group B, reporting >9%, in the "Unknown" category. Table 89 shows the results from this analysis. Over one-half (58.2%) of the programs were able to account for the employment status of ninety-

Table 89. Proportion of P.A.'s Working Clinically After Correcting for Missing Data

<u>Group</u>	<u>Criteria</u>	<u>N</u>	<u>%</u>	<u>"Unknown"</u> <u>Mean %</u>	<u>P.A.'s Working Clinically</u>		
					<u>Mean %</u>	<u>S.D.</u>	<u>Range</u>
A	<9% Unknown	32	58.2%	3.3%	79.4	9.4	58-100
B	>9% Unknown	23	41.8%	37.9%	44.6	24.7	16-100

eight percent of their graduates, reporting a mean "Unknown" category of 3.33% (group A) and, in turn, indicating that 79.4% of their graduates were employed clinically. Conversely, group B programs, with a mean "Unknown" category of 37.9%, reported that only 44.6% of their graduates were known to be clinically employed. On the basis of this information, it seems reasonable to conclude that most of the graduates included in the "Unknown" category

were, in fact, employed clinically. Therefore, the proportion of P.A. graduates in clinical positions was probably more in the range of 80%-85%, rather than the 66.8% value reported in Table 88.

**Employment Characteristics of All Graduates by Geographic Region**

Table 90 shows the employment characteristics of all P.A. graduates by geographic region. The data shown includes those graduates employed or unemployed, as well as the "Other/Unknown" category (which averages 24% of all graduates). Graduates of programs in the Heartland region were more likely to be in clinical practice (80%) than were those from other regions. The highest unemployment figures were for graduates from the Western region (5.2%) and the lowest reported in the Northeastern region (1.7%). Programs in the Midwestern and Northeastern regions could

Table 90. Employment Characteristics of P.A. Graduates by Geographic Region, 1967 Through 1996

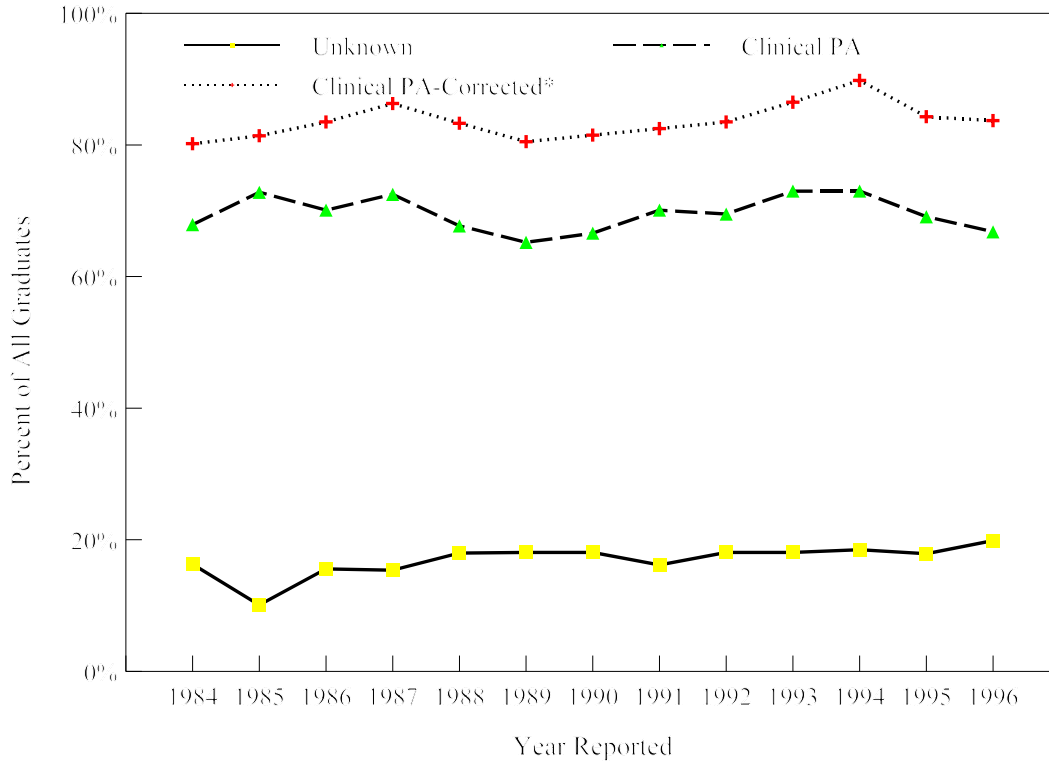
Geographic Region	N	Employed						Unemployed		Unknown/Other	
		Clinical P.A.		Admin/Res/Teaching		Not as P.A.					
N.Eeastern	13	231.6	59.4%	11.5	2.9%	18.8	4.8%	6.8	1.7%	121.4	31.1%
Eastern	8	302.7	68.1%	13.4	3.0%	22.8	5.1%	9.4	2.1%	96.1	21.6%
S.Eastern	11	415.5	73.1%	14.0	2.5%	44.5	7.8%	19.5	3.4%	74.6	13.1%
Midwestern	12	237.5	63.2%	5.1	1.4%	20.4	5.4%	10.7	2.9%	101.8	27.1%
Heartland	5	434.0	79.5%	11.8	2.2%	42.2	7.7%	18.2	3.3%	39.9	7.3%
Western	9	<u>299.7</u>	<u>62.2%</u>	<u>20.8</u>	<u>4.3%</u>	<u>30.6</u>	<u>6.4%</u>	<u>24.9</u>	<u>5.2%</u>	<u>105.6</u>	<u>21.9%</u>
<b>Total</b>	<b>58</b>	<b>304.8</b>	<b>64.8%</b>	<b>12.4</b>	<b>2.6%</b>	<b>28.5</b>	<b>6.1%</b>	<b>14.2</b>	<b>3.0%</b>	<b>110.4</b>	<b>23.5%</b>

not account for over a fourth of their graduates while programs in the Heartland region had less than 8% of their graduates classified as "Unknown".

**Trends In the Employment of All Graduates, 1984 Through 1996**

Figure 26 illustrates the proportion of graduates employed in clinical practice and those reported as "Unknown". In addition, a corrected value for P.A.'s in clinical practice has been calculated by taking 85% of the value reported as "Unknown" and adding this to the reported value for P.A.'s in clinical practice. Although noted as being employed as a P.A., those in the administration/teaching and research category were not included as clinical P.A.'s. The proportion (uncorrected values) of graduates who were employed clinically ranged from 65.2% (1989) to 72.8% (1985) while the corrected values for these years were 81.4% and 80.5%, respectively. Both sets of values are plotted in Figure 26 (next page).

Figure 26. Employment Status of All Graduates: 1984 Through 1996



**Employment Characteristics: Medical Specialty Selection of All Graduates**

The distribution of 305 graduates/program that were employed in clinical practice is shown in Table 91 by primary care medical specialty. The mean number per program and relative frequency are reported. It should be noted that the relative frequency includes the distribution across both primary (Table 91) and non-primary care (Table 92)

Table 91. Primary Care Specialties of P.A.'s in Clinical Practice, 1967 Through 1996

<u>Clinical Specialty</u>	<u>Mean Number Per Program</u>	<u>Relative Frequency</u>
Family Medicine	112.2	38.0%
General Internal Medicine	29.5	10.0%
Obstetrics/Gynecology	9.2	3.1%
General Pediatrics	10.6	3.6%
Geriatric Medicine	<u>3.3</u>	<u>1.1%</u>
<b>Sub-Total Primary Care</b>	<b>164.8</b>	<b>55.8%</b>

specialties. Also, both geriatric medicine and obstetrics and gynecology were classified as primary care specialties. As indicated, the typical program has a mean of 164.8 graduates (55.8% of the total) employed in a primary care specialty, predominantly family medicine (38%) and general internal medicine (10%).

The distribution of clinically active graduates in the non-primary care specialties is in Table 92 (next page). In total, 44.2% of the graduates were employed in non-primary care areas predominantly in surgical subspecialties (9.4%) and emergency medicine (8.6%).

Table 92. Non-Primary Care Specialties of P.A.s in Clinical Practice, 1967 through 1996

<u>Clinical Specialty</u>	<u>Mean Number Per Program</u>	<u>Relative Frequency</u>
Surgical Subspecialties	27.7	9.4%
Emergency Medicine	25.5	8.6%
General Surgery	16.6	5.6%
Int. Med. Subspecialties	16.1	5.4%
Orthopaedics	14.3	4.8%
Correctional Medicine	7.3	2.5%
Industrial Medicine	6.1	2.1%
Psychiatry	3.1	1.0%
Pediatric Subspecialties	3.1	1.0%
Neurology	1.7	0.9%
Other	<u>9.3</u>	<u>3.1%</u>
<b>Sub-Total Non-Primary Care</b>	<b>130.8</b>	<b>44.2%</b>
<b>Grand Total (56 Programs)</b>	<b>295.6</b>	<b>100.0%</b>

A comparison between the mean number and proportion of graduates per program by medical specialty and region is shown in Table 93. The largest proportion of P.A.'s entering primary care medicine were graduates of programs located in the Western (73.8%) and Heartland (66%) regions. The majority of graduates from programs located in

Table 93. Medical Specialty Selection of P.A.'s in Clinical Practice by Geographic Region, 1967 Through 1996

<u>Geographic Region</u>	<u>N</u>	<u>Primary Care</u>		<u>Non-Primary Care</u>	
		<u>Mean</u>	<u>%</u>	<u>Mean</u>	<u>%</u>
Northeastern	13	97.2	45.1%	118.4	54.9%
Eastern	7	147.7	51.0%	141.7	49.0%
Southeastern	10	199.9	46.3%	232.1	53.7%
Midwestern	11	138.0	60.4%	90.5	39.6%
Heartland	6	271.2	66.0%	140.0	34.0%
Western	<u>9</u>	<u>198.6</u>	<u>73.8%</u>	<u>70.6</u>	<u>26.2%</u>
<b>Total</b>	<b>56</b>	<b>164.8</b>	<b>55.8%</b>	<b>130.8</b>	<b>44.2%</b>

the Northeastern region (54.9%) were employed in non-primary care specialties. Only 46.9% of graduates from programs in the "East" (Northeast, East, Southeast regions) were employed in primary care versus 66.3% of the graduates from the "West" (Midwestern, Heartland, and Western regions).

**Trends in Medical Specialty Selection of Graduates, 1984 Through 1996**

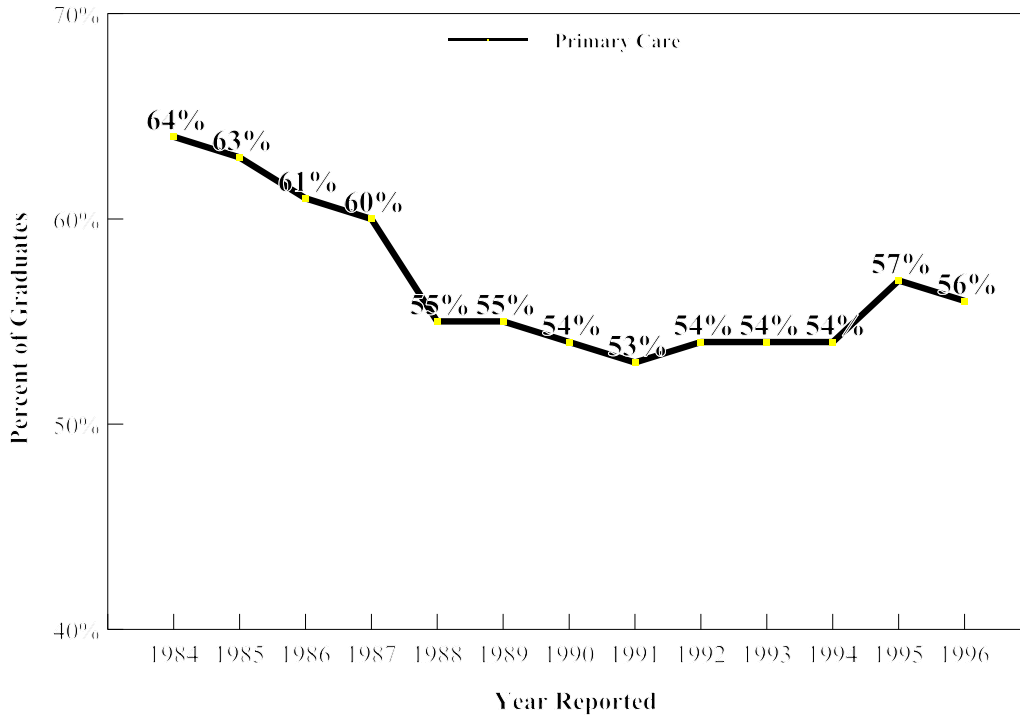
The employment of P.A.'s by primary care specialty, (including geriatrics), over the past thirteen years, is shown in Table 94 (next page) and illustrated in Figure 27 (next page). The proportion of P.A.'s employed in primary care medicine decreased from 63.9% (1984) plateauing around 53%-54% from 1990 to 1994, with a slight increase to 57% in 1995. At the present, over half of all P.A.'s remain practicing in primary care medicine. Between 1984 and 1988, there was a systematic decrease, averaging 2% per year, in the proportion of graduates practicing in primary care medicine. From 1988 to the present, the proportion has remained relatively unchanged, ranging from 53% to 57%.



Table 94. Trends in Primary Care Medical Specialty Selection of All P.A.'s in Clinical Practice, 1984 Through 1996

<u>Years</u>	<u>Family Medicine</u>	<u>General Int. Med.</u>	<u>Peds.</u>	<u>Ob/Gyn</u>	<u>Primary Care</u>
1967-84	40.2%	15.2%	5.0%	3.5%	63.9%
1967-85	37.5%	15.5%	5.4%	4.1%	62.5%
1967-86	37.3%	13.5%	5.8%	4.2%	60.8%
1967-87	37.8%	14.3%	3.6%	4.2%	59.9%
1967-88	35.0%	12.9%	2.8%	4.3%	55.0%
1967-89	33.7%	12.5%	4.1%	4.7%	55.0%
1967-90	31.8%	13.1%	4.3%	4.7%	53.8%
1967-91	32.2%	11.0%	4.6%	4.3%	53.2%
1967-92	34.5%	11.0%	4.3%	4.3%	53.9%
1967-93	33.9%	10.6%	4.0%	4.0%	53.9%
1967-94	36.2%	10.1%	4.0%	4.0%	54.2%
1967-95	38.5%	9.6%	4.0%	3.5%	56.9%
<u>1967-96</u>	<u>38.0%</u>	<u>10.0%</u>	<u>3.6%</u>	<u>3.1%</u>	<u>55.8%</u>
<b>13-yr. Mean</b>	<b>36.1%</b>	<b>12.4%</b>	<b>4.3%</b>	<b>4.1%</b>	<b>57.2%</b>

Figure 27. Proportion of P.A.s in Primary Care Medicine: 1984 Through 1996



The distribution of P.A.'s employed in non-primary care medicine for each of the past thirteen years and the average over that period is shown in Table 95 (next page). Surgical (15%), medical (5.4%) and emergency medicine (8.6%) specialties accounted for about one-third of the recent graduates' employment. The proportion of P.A.'s practicing in non-primary care specialties has changed less than 2% since 1988.

Table 95. Trends in Non-Primary Care Medical Specialty Selection of All P.A.'s in Clinical Practice, 1984 Through 1996

Year	Surg Spec	Gen Surgery	Med Spec	Psych	Emer Med	Indus Med	Other	Non-Prim Care
1967-84	11.6%	7.4%	5.0%	1.6%	N/A	N/A	10.4%	36.1%
1967-85	11.8%	8.2%	8.2%	1.5%	4.1%	1.5%	2.2%	37.5%
1967-86	11.5%	7.7%	5.4%	1.3%	4.3%	1.9%	7.1%	39.2%
1967-87	11.1%	9.4%	5.0%	1.5%	4.8%	1.8%	6.6%	40.2%
1967-88	11.2%	8.3%	4.6%	1.5%	5.1%	1.9%	12.4%	45.0%
1967-89	11.1%	7.6%	4.7%	1.6%	4.5%	2.0%	13.5%	45.0%
1967-90	12.8%	7.5%	5.0%	1.5%	5.3%	2.0%	12.1%	46.2%
1967-91	10.7%	7.5%	4.2%	1.4%	6.3%	1.9%	14.8%	46.8%
1967-92	10.8%	7.6%	4.8%	1.3%	6.8%	2.0%	12.8%	46.1%
1967-93	9.8%	7.2%	5.6%	1.5%	7.2%	2.1%	12.7%	46.1%
1967-94	10.9%	5.6%	5.9%	1.1%	8.2%	1.9%	12.3%	45.8%
1967-95	9.0%	5.1%	5.6%	1.2%	8.1%	1.9%	12.3%	43.1%
1967-96	<u>9.4%</u>	<u>5.6%</u>	<u>5.4%</u>	<u>1.0%</u>	<u>8.6%</u>	<u>2.1%</u>	<u>12.3%</u>	<u>44.2%</u>
<b>13-Year Mean</b>	<b>10.9%</b>	<b>7.4%</b>	<b>5.3%</b>	<b>1.5%</b>	<b>6.6%</b>	<b>1.9%</b>	<b>10.2%</b>	<b>43.2%</b>

**Employment Characteristics of All Graduates: Type of Practice Setting**

The practice setting of P.A.'s actively involved in clinical practice is shown in Table 96, representing data from 57 programs. The classification of practice setting was based on the American Medical Association's Application for Program Accreditation for the Assistant to the Primary Care Physician. Using this system, an H.M.O., a drug and

Table 96. Practice Setting of P.A. Graduates, 1967 Through 1996

Practice Setting	Mean Number Per Program.	S.D.	Relative Frequency
Office	116.0	96.5	38.0%
Hospital/Institution	76.1	62.4	25.0%
Amb Care Clinic	71.7	74.9	23.5%
Other	<u>41.1</u>	<u>41.3</u>	<u>13.5%</u>
<b>Total</b>	<b>304.9</b>	<b>209.9</b>	<b>100.0%</b>

alcohol rehabilitation clinic or an urgent care clinic would fall under the heading of Ambulatory Care Clinic, whereas, a correctional facility or mental health institute would be classified as an Institutional setting. Almost two-thirds of the graduates were located in either an office-based (38%) or hospital-based (25%) practice and 23.5% percent were practicing in an ambulatory care clinic.

**Employment Characteristics of All Graduates by Geographic Region**

The distribution of clinically active graduates by practice setting and region is shown in Table 97. There was a regional difference relative to the proportion of graduates located in office and hospital practice. That is, graduates

Table 97. Type of Practice Setting of All Graduates by Geographic Region

Geographic <u>Region</u>	<u>N</u>	<u>Office</u>		<u>Hosp./Instit.</u>		<u>Ambul. Clinic</u>		<u>Other/Unknown</u>	
		<u>Mean</u>	<u>%</u>	<u>Mean</u>	<u>%</u>	<u>Mean</u>	<u>%</u>	<u>Mean</u>	<u>%</u>
Northeastern	13	52.1	22.5%	91.0	39.4%	66.5	28.8%	21.6	9.3%
Eastern	7	119.9	39.6%	87.3	28.8%	48.6	16.1%	47.0	15.5%
Southeastern	11	184.3	44.4%	108.7	26.2%	81.7	19.7%	40.6	9.8%
Midwestern	12	101.8	43.4%	54.4	23.2%	39.5	16.8%	38.8	16.5%
Heartland	5	205.2	47.3%	85.8	19.8%	97.0	22.4%	46.0	10.6%
Western	<u>9</u>	<u>91.4</u>	<u>30.8%</u>	<u>29.8</u>	<u>10.0%</u>	<u>113.9</u>	<u>38.4%</u>	<u>61.7</u>	<u>20.8%</u>
<b>Total</b>	<b>57</b>	<b>116.0</b>	<b>38.0%</b>	<b>76.1</b>	<b>25.0%</b>	<b>71.7</b>	<b>23.5%</b>	<b>41.1</b>	<b>13.5%</b>

from programs located in the Northeast and East were more likely to practice in a hospital setting than were graduates from programs located in the other four regions, while, graduates from the Heartland region were more likely to be employed in an office setting.

**Trends in Practice Setting of Graduates, 1984 Through 1996**

The proportion of graduates in various practice settings, between 1984 and 1996, is shown in Table 98. There has been relatively little change in the distribution of P.A.'s by practice setting over time. Typically, P.A.'s were employed in either an office or hospital/institutional setting.

Table 98. Practice Setting of All Graduates, 1984 Through 1996

<u>Year</u>	<u>Office</u>	<u>Hosp/Inst</u>	<u>Amb Care Clinic</u>	<u>Other/Unknown</u>
1967-1984	40.8%	33.0%	20.2%	6.0%
1967-1985	38.4%	36.1%	19.0%	6.5%
1967-1986	37.5%	37.9%	19.9%	4.7%
1967-1987	36.7%	36.3%	22.5%	4.6%
1967-1988	36.1%	37.0%	19.1%	7.7%
1967-1989	35.7%	35.8%	19.2%	9.3%
1967-1990	38.2%	36.5%	14.9%	10.3%
1967-1991	35.4%	33.1%	20.3%	11.2%
1967-1992	33.9%	34.0%	21.3%	11.2%
1967-1993	36.8%	32.9%	22.3%	8.0%
1967-1994	36.1%	30.5%	24.9%	8.6%
1967-1995	35.4%	27.8%	21.4%	15.4%
1967-1996	<u>38.0%</u>	<u>25.0%</u>	<u>23.5%</u>	<u>13.5%</u>
<b>13-Yr. Mean</b>	<b>36.9%</b>	<b>33.5%</b>	<b>20.6%</b>	<b>9.0%</b>

**Regional Variation and Trends in New Graduate Starting Salaries**

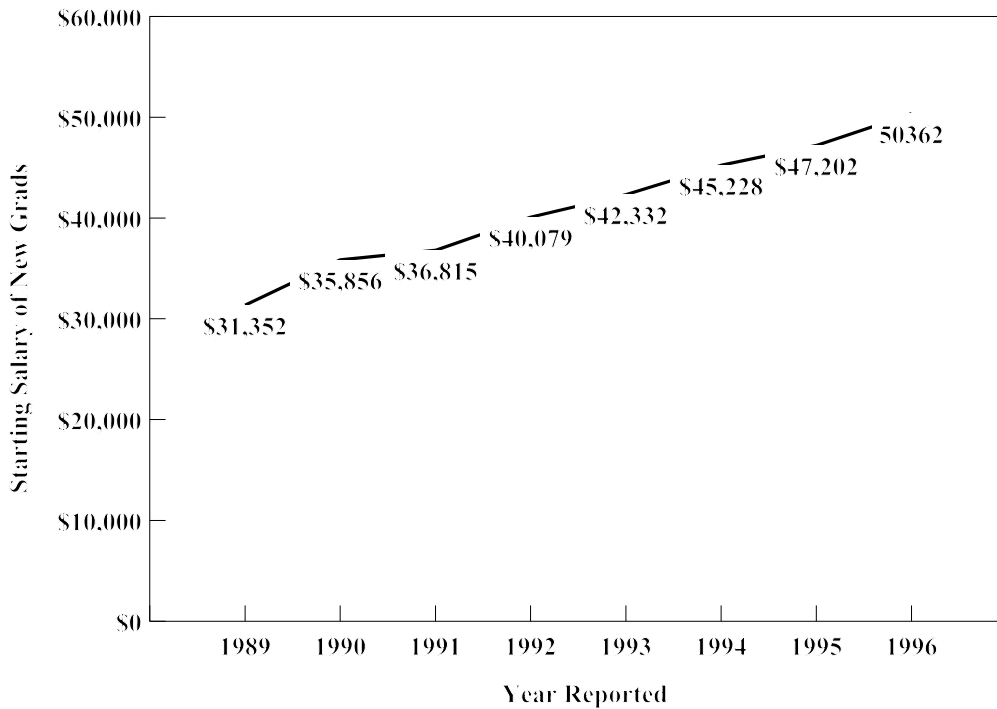
Table 99 shows the estimated starting salary of recent graduates in 1996 by region. The overall average was \$50,362, an increase of 6.7% for the 1996 average of \$47,202. Salaries were highest for those graduates from programs located in the Midwestern and Heartland regions (means of \$52,570 and \$52,000, respectively) and lowest for those in the Eastern region (mean of \$45,943).

Table 99. Program Directors' Perceptions of Starting Salaries for P.A. Graduates by Geographic Region

<u>Geographic Region</u>	<u>N</u>	<u>Starting Salary</u>	<u>Change from 1995</u>
Northeastern	12	\$50,875	+ 5.8%
Eastern	7	\$45,943	+ 3.7%
Southeastern	10	\$50,023	+ 2.1%
Midwestern	12	\$52,570	+ 13.4%
Heartland	6	\$52,000	+ 5.1%
Western	<u>6</u>	<u>\$49,000</u>	<u>+ 6.4%</u>
<b>Total</b>	53	\$50,362	+ 6.5%

Salaries of graduates from programs located in the Midwestern region marked the greatest increase from 1995 (13.4%) while programs in the Southeastern region only reported an increase of 2.1% from 1995. These data are also shown in Figure 28. Thus, starting salaries have increased each year by an average of 7.1% and there has been an overall increase in salaries of 60.6% since 1989.

Figure 28. Trends in Starting Salary for New Graduates: 1989 Through 1996



**SECTION V. ADDITIONAL INFORMATION FOR THE 13<sup>TH</sup> ANNUAL REPORT**

**Managed Care Environment**

Respondents were requested to determine what percentage of recent graduates were working in a managed care environment. There were thirty-four respondents who answered this questions, with a mean percent of 26.8. Table 100 lists the percent of recent graduates who were working in a managed care environment by region. The programs in the Eastern and Heartland regions had the highest percentage of recent graduates working in a managed care environment, 44.8% and 44.7%, respectively. Programs in the Southeastern and Midwestern regions averaged less than 10% of their recent graduates working in a managed care environment.

Table 100. Percent of Recent Graduates Working in a Managed Care Environment

<u>Geographic Region</u>	<u>Percent</u>	<u>N</u>
Northeastern	40.4%	8
Eastern	44.8%	5
Southeastern	8.1%	8
Midwestern	9.0%	6
Heartland	44.7%	3
Western	<u>27.9%</u>	<u>4</u>
<b>Total</b>	26.8%	34

**Clinical Rotations**

Survey respondents were asked to identify the number of clinical rotations gained/lost during 1995-1996. If clinical rotations were lost, respondents were asked to identify how many sites were lost due to certain reasons. Table 101 summarized the average number of clinical rotations gained/lost per program by region. New programs were not included in the respondents due to the extreme numbers they provided. The programs in the Western regions gained the largest number of clinical rotations per program (22.0), while programs in the Northeastern region only gained 5.1/program. Programs in the Western region also lost the largest number of clinical rotations (20.3/program), while those in the Heartland region lost only 1.2/program.

Table 101. Number of Clinical Rotations Gained/Lost During 1995-1996, by Region

<u>Geographic Region</u>	<u>N</u>	<u>Gained</u>	<u>Lost</u>
Northeastern	11	5.1	3.5
Eastern	8	19.1	5.6
Southeastern	10	16.0	3.5
Midwestern	12	12.3	4.0
Heartland	6	20.7	1.2
Western	<u>6</u>	<u>22.0</u>	<u>20.3</u>
<b>Total</b>	53	14.6	5.6

Table 102 list the average number of clinical rotations lost by reasons. These data indicated the primary reason for

the lose of clinical rotations is due to the loss of a preceptor. Medical schools and other P.A. programs taking over slots ranked as the next two most common reasons why programs lost sites. Reasons listed as other include: hospital mergers, re-organization, cutbacks, low census, quality concerns, etc.

Table 102. Average Number of Clinical Rotation Sites  
Lost per Specific Reason, by Region

<u>Geographic Region</u>	<u>Medical School</u>	<u>Other PA Program</u>	<u>Loss of Preceptor</u>	<u>Nurse Pract</u>	<u>Student Problems</u>	<u>Other</u>
Northeastern	0.7	0.8	0.8	0.1	0.1	1.0
Eastern	1.6	2.4	1.3	0.1	0.1	0.1
Southeastern	0.3	0.1	1.5	0.2	0.1	1.1
Midwestern	1.0	0.6	0.8	0.0	0.1	1.1
Heartland	0.0	0.0	1.0	0.0	0.0	0.2
Western	<u>1.8</u>	<u>0.7</u>	<u>11.7</u>	<u>0.0</u>	<u>0.0</u>	<u>6.7</u>
<b>Total</b>	0.9	0.8	2.3	0.1	0.1	1.5

Respondents were also asked if the were currently paying clinical rotations. If they were, they were asked what amount. Five programs (8.5%) were paying clinical rotations an average of \$216/student (range: \$90 - \$500). Fifty-four programs are not paying clinical rotations.

Respondents were ask to identify the number of written affiliation agreements the program had with an Area Health Education Center (AHEC). Eight programs responded that they had written affiliation agreements with federal AHEC's, for a total of 23 written affiliations (average of 2.9/program for those with agreements). Twelve programs responded that they had written affiliation agreements with state AHEC's, for a total of 30 written affiliations (average of 2.5/program for those with agreements).

## **SUMMARY AND CONCLUSIONS**

This report presents an update of physician assistant educational programs in the United States for the 1996-97 academic year. This is the thirteenth annual report to be published since 1984 and is based upon data drawn from the 1996 national survey of P.A. programs and includes APAP member programs and those enrolling students for the first time in 1996. Two surveys were administered. Survey #1 was mailed in October to 100 programs (89 operational programs). The response rate from operational programs for the survey was 86.5% (77 programs). The second survey was mailed in November, with a return of fifty-eight surveys. Highlights of the findings are provided in this summary and includes a description of the "typical" P.A. program. Comparisons were also made across programs by geographic region.

As we have data extending from 1984, we were able to also examine trends which have occurred over the past thirteen years for certain variables. Trends were analyzed relative to program budget and student expenses, personnel salaries and turnover, curriculum and interdisciplinary education, applicant, student and graduate characteristics, and salaries for recent graduates.

### **SECTION I. General Characteristics of P.A. Programs**

The majority of operational programs (N=78; 88%) were associated with either a University or 4-year College and most (N=47; 53%) awarded graduates a baccalaureate degree; twenty-three programs awarded a Master's degree; the remainder awarded either an associate degree or only a certificate of completion. The majority (N=47; 53%) of the current P.A. Programs were established over an eight-year period (1969 through 1976), an average of 5.9 programs/year. From 1977 through 1988 (12 years) only four new programs were developed; from 1989 through 1992, five new programs were developed. Over the past four years (1993-1996), 33 new programs have been established (average=8.3/year). The "typical" P.A. curriculum was 25.1 months in length and ranged from 12 to 48 months. The majority of programs graduated their seniors over two periods, between May-June (N=31) and August-September (N=44).

P.A. programs received the majority of their financial support from the sponsoring institution, averaging \$410,456 (63% of the budget) and federal training grants, averaging \$152,300 (23% of the budget). Thirty-five programs (45%) reported they received federal training grant support in 1996-1997. The average cost per program to educate a P.A. student was estimated to be \$8,394/student/year, a figure derived by dividing the total budget by the total number of students enrolled. This value does not include other costs, for example, clinical preceptors and other educators whose wages are not included in the program's budget; programs located in the Western region had the highest total budget (\$856,212 per program) as well as the highest level of federal training grant support (\$188,955 per program). Programs in the Midwestern region had the lowest total budget, averaging \$470,294 per program. Programs in the Heartland had the lowest level of federal training grant support (\$112,500).

The typical resident student paid an average of \$23,695 for tuition, books, fees, and equipment for their entire professional education in a P.A. program, the non-resident student paid \$28,775. Seventy-nine percent of the students received financial aid averaging \$14,114 per student per year. Students enrolled in programs located in the Eastern region had the highest resident tuition (\$13,062/student/year), while programs in the Heartland region had the lowest resident tuition (\$4,088/student/year).

Eighty-seven percent of the students in programs located in the Southeastern region but only 73% of the students in the Northeastern region received financial aid. For all students enrolled in 1996, only 4.8% (1st year students) and 6.7% (2nd year students) were awarded support from any of the several types of Public Health Service Corps Scholarships.

## **Trends from 1984 Through 1996**

Total program budget increased an average of 12.2% annually from 1984 through 1996, a total increase of 146% over the past thirteen years. During this period, institutional support for the typical program increased an average of 8.6% per year, while federal training grant support remained relatively unchanged (13 year mean=\$133,939) and accounted for an average of 31% of the total program budget (41% in 1985 down to 22% in 1996). Since 1984, both tuition and total student expenses have increased by over 175% while the proportion of students receiving financial assistance has remained between 63% and 79%. Since 1986, the amount of financial aid provided to students has increased by 265%, from \$3,866/student/year to \$14,114/student/year in 1996.

## **SECTION II. Program Personnel**

In order to conduct an analysis of P.A. program personnel, the faculty and staff were divided into three major groups as follows: (1) program directors, (2) medical directors and (3) those faculty and staff associated with the educational and/or administrative aspects of the program (referred herein as program personnel). The latter group was subdivided on the basis of whether they were P.A.'s or non-P.A.'s and organized across four categories (I, II, III, IV) based on job titles and program responsibilities.

The typical P.A. program employed one medical (0.30) and one program director (0.95) and, on average, 3.7 P.A. credentialed and 1.0 non-P.A. faculty, and 1.9 Category IV personnel. Thus, the "core" personnel for the typical program amounted to approximately 7.85 FTE's including clerical and/or other types of support personnel. General characteristics were reported for directors and program faculty and staff, including, percent time working with the program, months in position, annual salary, highest degree held, academic classification and tenure track status, gender, and ethnicity. Annual salary was shown to vary by job category, geographic region, gender, ethnicity, academic classification, and highest degree held.

In comparison to the Category I - III personnel data gathered in 1995-96, salaries for P.A. program personnel increased by 4.1% and 1.3% for non-P.A.'s. Eighty-nine percent of the P.A. and 59% of the non-P.A. personnel were classified as faculty. Twenty-six percent were on a tenure track and 27% of the tenure track faculty were tenured. Over one-third (39%) of the Category I - III program personnel had earned a masters degree and 9% held a doctorate as their highest degree.

On average, 46% of the P.A. credentialed staff and faculty (including program directors) provided 11.4 hours per week of clinical practice in addition to their educational activities. Ninety-one percent were paid for their clinical service which averaged \$31.47 per hour. Clinical earnings accounted for 30% of their salary.

In comparison to the 1995 data, the proportion of program directors who were credentialed as P.A.'s decreased from 81% to 79%, salaries decreased by 3.5% and months in position increased from 83 to 92 months. The majority of program (87%) and medical (81%) directors were classified as faculty and were on a tenure track. Less than one-fourth were tenured. While all medical directors held M.D. or D.O. degrees, thirty-one percent of the program directors had doctoral-level degrees (typically the Ph.D. or Ed.D.). Since 1984, there has been a 86% increase in mean salary for program directors and 46% increase for medical directors. The time in position for both medical and program directors has fluctuated extensively over the thirteen year period.

Respondents also provided data on personnel turnover over the past year. For the period September 1995 through August 1996, turnover averaged 0.7 individuals per program. Turnover across all programs was highest among category I and II personnel (23/year and 13/year, respectively) and lowest among Category III personnel. Five program director positions were filled during this period. Departing personnel had been in their positions an average of 40 months, those filling the position were in their previous position 49 months and were typically 2.5 years younger than their predecessors.

Vacated positions were filled within 10.5 weeks and were filled by individuals with similar academic and personal characteristics as those departing. The three primary reasons cited for the departure of personnel included, in



descending order, career advancement, geographic relocation and return to clinical practice. In this past year, the salary of those filling the vacated position was only 3.6% greater than the salary of the person leaving the position.

### **SECTION III. P.A. Applicant and Student Characteristics**

In 1996, the average size of the entering P.A. class was 39.6 students, 61% of whom were women. The senior class averaged 33.1 students per program with only 9.3% of the maximum capacity of the class unfilled (due largely to attrition from the program). The typical program received 383 applications and reported a ratio of 9.7 applicants to students enrolled. Using the mean values of the responding programs, the total enrollment (all classes) across all 77 programs was estimated to be 5,874 (316 more students than the previous year). Similarly, the estimated first-year enrollment was 3,042 students with only 2% enrolled as part-time students. Programs located in the Southeastern region had the largest number of applicants (510/program) and those in the Heartland region had the largest number of students enrolled (69/program). Programs in the Midwest region had both the smallest number of applicants (279/program) and the fewest number of students enrolled (30.5/program).

The typical entering student was described as a white/non-Hispanic female over 27 years of age, with a grade point average of 3.30 and 48 months of health care experience prior to admission.

The proportion of minority students enrolled in the first-year class has increased from 13.8% in 1983-84 to 20% in the current year, with the majority of these students in the African-American ethnic group. All but nine programs reported that at least one minority student was enrolled in the 1996 class.

Although there was relatively little change in the number of applicants and students enrolled between 1984 and 1989, the number of applicants and students enrolled from 1989 to the present, has increased substantially, 325% and 52%, respectively, during that period. As the applicant pool has increased, the proportion of the class remaining unfilled has decreased. It is anticipated that as the applicant pool increases, the academic quality of entering students will be increased and therefore attrition rates may be expected to decrease proportionately.

Information was also obtained on the number of unlicensed medical graduates (U.S.-born and alien) applying to and enrolling in P.A. programs during 1996. The total number of UMG applicants increased from 123 (2.1/program) in 1995 to 217 (3.3/program) in 1996. UMG enrollment has decreased from 24 (0.3/program) in 1995 to 20 (0.3/program) in 1996. On average, 9.2% of the UMG applicants were admitted in 1996.

For the sixth consecutive year, preference appeared to be given to U.S.-born UMG's during the admissions process, that is, 10% of the U.S.-born UMG applicants were enrolled, while only 8% of the alien UMG applicants were admitted. Almost one-half (47%; 27/57) of the programs received an UMG application while 18% (10/57) of the programs enrolled an UMG in 1996. In a broader perspective and with respect to the total applicant pool, UMG's accounted for only 1.4% of the total number of applicants and 1.0% of all students enrolled in the 1996 class.

Programs located in the Western region accounted for the majority of UMG applicants, averaging 3.8/program, while programs in the Midwestern region received an average of 0.1/program. Programs in the Western region also enrolled the highest proportion (0.8/program) of UMG's, while programs in the Eastern and Heartland regions did not enroll any UMG's in 1996.

### **SECTION IV. Graduate Information**

The average size of the 1996 graduating class was 35.7/program and was highest for programs located in the Heartland region (42/program) and lowest in the Midwestern region (29.5/program). The majority of recent graduates were female (60%) and non-minority (83%). The attrition rates across programs averaged 5.1% (2.0 students per program) and the reasons for withdrawal were most frequently due to academic (43%) and/or personal (33%) problems. The attrition rate reported in 1996 was higher than the previous year (4.3%) and the thirteen-year average of 9.3%. Attrition was highest among minorities and younger students. Students from programs in the Eastern region had the highest attrition rate (8.6%) and those from programs in the Western region the lowest attrition (3.8%).

On average, 1.8 students per program were decelerated for a deceleration rate of 4.6%. These students were not considered "withdrawn" and therefore not included in the attrition figures. Deceleration occurred more frequently among minorities and older students. The highest deceleration rates were reported by programs located in the Eastern region (6.3%) and lowest for programs in the Midwestern region (1.0%).

The proportion of 1996 graduates employed in primary care specialties increased from the previous year (62% versus 52% in 1995) and those so employed remained principally in family medicine or general internal medicine. The most common non-primary care specialties selected by recent graduates were surgery (including subspecialties) and emergency medicine. The most common medicine subspecialties were cardiology and gastroenterology, while cardiothoracic and cardiovascular surgery were the most common surgical specialties selected.

Overall, the typical program has matriculated an average of 19 classes (range=1-31) and a total of 456 students. When adjustments were made for "unreported or unknown employment status", we estimated that between 80%-85% of the graduates were employed as a P.A. with less than 2% unemployed, most by personal choice. A majority (57%) of these graduates were employed in a primary care medical specialty in either an office (38%) or hospital setting (25%). These P.A.'s were typically employed in either family medicine (38%), general internal medicine (10%), or in a surgical subspecialty (9%). Graduates of programs located in the "western" half of the U.S. (Midwestern, Heartland, and Western regions) were more likely to be in clinical practice in primary care medicine and were typically located in either an office or ambulatory clinic as compared to graduates from programs located in the "eastern" half of the country.

Based on responses from program directors, starting salaries continued to increase, averaging \$47,202, 4.4% above that reported for the 1994 academic year (\$45,228). Programs in the Central region had the highest percent of employment (92%) while programs in the Northeastern region had the lowest percent of employment of recent graduates (78%).

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