Physiatric Practice Characteristics: Report of a Membership Survey

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ABSTRACT. Gonzalez EG, Honet JC, LaBan MM: Physiatric practice characteristics: report of membership survey. Arch Phys Med Rehabil 69:52–56, 1988.

• In 1986 the Board of Governors of the American Academy of Physical Medicine and Rehabilitation commissioned a survey of the Academy's membership to determine the practice patterns of physiatrists. Responses were received from 1,115 members (75%). Approximately 65% of respondents are under 43 years Old; 64% are graduates of American medical schools. Fifty-six percent practice in communities with populations of 500,000 or more persons; only 9% practice in communities of less than 50,000 people. Nearly 53% practice in a single setting and the average work week is 50.6 hours, with most of those hours spent in some aspect of patient care. The most frequent diagnosis in all practice settings is pain syndrome; consultation is the primary activity. Survey results show that physiatry is still primarily a hospital-based specialty, although significant time is spent in office-based settings. Data gleaned from this first attempt at an extensive analysis of physiatric practice characteristics Will be utilized in planning how to meet future needs of the specialty, its practitioners and their patients.

KEY WORDS: Manpower; Physical medicine; Physician 's practice patterns; Professional practice; Rehabilitation

There is relatively little published data on the medical practice characteristics of physiatrists. A 1968 study of the specialty by the Commission on Education in Physical Medicine and Rehabilitation [1] and a 1981 survey by Kumar and Redford[6] focused primarily on career development and professional interests. Some useful data on physiatric practice patterns was reported in "Physician Characteristics and Distribution" published by the American Medical Association. [8]

Aware of this lack of information about the specialty, the Board of Governors of the American Academy of Physical Medicine and Rehabilitation (AAPM&R) commissioned a survey of the Academy's membership. Its purpose was to provide the organization with a data base of facts for use in dealings with legislative bodies and residency training programs, for making manpower projections and to track emerging patterns of physiatric practice.

In December 1985, a pilot survey was initiated with the mailing of a four-page questionnaire to 30 randomly selected members of the Academy. This instrument was further refined based upon the criticisms, suggestions, and questions posed by the pilot group. Two months later, 1,558 survey forms were mailed to Fellows and associate members. A second mailing was completed in March 1986. The return rate was 75% as 1,115 members responded. Survey results were processed and only the valid responses were analyzed by the Educational Development Unit of Michael Reese Hospital in Chicago, under the direction of Philip Bashook, EdD, and Sandy Cook, MA.

Table 1: Mean Age and Medical School Graduation

	Age	Graduation Yr
Office-based		
Solo practice	47	1965
PM&R group	42	1969
Multispecialty group	45	1967
Hospital-based		
Salaried/VA	48	1963
Academic medical center	46	1965
Rehabilitation center	44	1968
Average	46	1966

SURVEY FINDINGS

Biographic Data

Sixty-five percent of respondents are less than 43 years old (table 1). These younger physiatrists are most often associated with PM&R group practices and rehabilitation centers. Older physiatrists are more frequently in salaried positions, primarily in Veterans Administration (VA) hospitals.

Sixty-four percent of the respondents are American medical graduates (AMG); 36% are foreign medical graduates (FMG). Findings show more AMGs among those in office-based practice as compared to institutional settings (table 2).

Practice Arrangement

Fifty-six percent of physiatrists practice in communities with populations of 500,000 or more persons, 14% practice in communities with populations of 250,000 to 500,000, 21% practice

Presented in part by Medicine Dr. Gonzalez and Rehabilitation, at the 48th Annual.
Academy of Physical Medicine and Rehabilitation, Baltimore, October 21, 1986
Submitted for publication August l, 1987.

Table 2: Percentage of AMGs and FMGS by Practice Setting

	AMG	FMG
Office-based		
Solo practice	56%	44%
PM&R group	72%	28%
Multispecialty group	74%	26%
Hospital-based		
Salaried/VA	50%	50%
Academic medical center	62%	38%
Rehabilitation center	66%	34%
Average	64%	36%

AMG= American Medical Graduates; EMG = Foreign Medical Graduate

in communities of 50,000 to 250,000 people, and 9% have practices in communities of less than 50,000 persons.

Of 1,043 valid responses to the survey, 551 (52.9%) spend 100% of their practice time in a single setting, while 492 (47.1%) split their time in different work settings. As summarized in table 3, 35.8% of full-time physiatrists are predominantly hospital-based; 17.1% are office-based. Of the 47.2% part-time practitioners, approximately 40% are office-based and 60% are institution-based.

Professional Activities

Physiatrists work an average of 50.6 hours a week. Table 4 summarizes the average hours worked in full-time and part-time work settings. Physiatrists in part-time positions work slightly longer hours.

An average of 17 working days per year are taken for vacation, and Il days for activities associated with continuing medical education. No major differences exist among practice settings.

In a typical work week, 82% of physiatric time involves patient care (fig I). The direct provision of physical medicine services accounts for 48% of that care; rehabilitation medicine accounts for another 22% and performance of diagnostic procedures and other types of treatments adds another 12% to patient care activities. Seven percent of the physiatrists' activity is reported to be spent in teaching and research and 11% in administration.

Table 3: Practice Settings (*n* = 1043)

	n	%
Office-based		
Solo practice	92	8.8
PM&R group	51	4.9
Multispecialty group	35	3.4
Subtotal	**178**	**17.1**
Hospital-based		
Salaried/VA	144	13.8
Academic medical center	151	14.5
Rehabilitation center	72	6.9
Other	6	0.6
Subtotal	**373**	**35.8**
Grand total	**551**	**52.9**
Time split among different settings*	492	47.1

*Of the 492 respondents who spend time in different settings, 60% are hospital-based 40% are office-based.

Table 4: Average Hours in a Typical Work Week

	Full-time		Part-time	
	Hrs/week	*n*	Hrs/week	*n*
Office-based				
Solo practice	47.1	109	52.5	153
PM&R group	50.9	49	54.9	70
Multispecialty group	52.2	37	51.5	25
Hospital-based				
Salaried/VA	46.1	155	49.5	109
Academic medical center	52.6	159	51.6	47
Rehabilitation center	51.3	79	53.7	122

Table5 differentiates physiatric practice characteristics between full-time and part-time office-based, salaried/VA hospital, academic, and rehabilitation center settings. A significant portion of office-based physiatrists' time is spent in physical medicine, representing 51% to 66% of the work week; only 17% to 18% of work week hours is spent in rehabilitation medicine. Teaching, research, and administrative tasks occupy only a small portion of their time. Physiatrists in the VA spend 50% or less time in physical medicine, but slightly higher percentages of time than their office-based colleagues in rehabilitation medicine, teaching, research, and administration.

Respondents in academic medical centers reported a lesser percentage of total time in patient care activities than the two previous groups, but a greater involvement in teaching, research, and administration. The time allocated to physical medicine and administration by academic center physiatrists closely approximates that reported by physiatrists in rehabilitation centers, although the latter group reported a higher percentage of time spent in rehabilitation medicine (36% to 37%), and much less in teaching and research (5%).

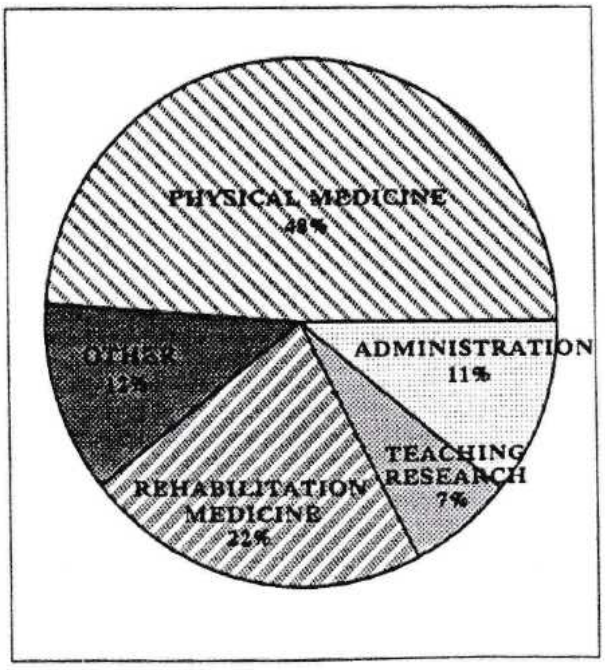


Fig 1—Professional activities in all settings.

Table 5: Professional Activities: Full-time (FT) vs Part-time (PT)

Activity	Office-based FT $n=195$ %	Office-based PT $n=248$ %	Salaried/VA FT $n=155$ %	Salaried/VA PT $n=109$ %	Academic Center FT $n=159$ %	Academic Center PT $n=47$ %	Rehab Ctr FT $n=79$ %	Rehab Ctr PT $n=12$ %
Physical medicine	66	51	48	50	32	38	31	37
Rehabilitation	17	18	22	19	21	18	36	37
Teaching/research	3	3	5	6	19	18	5	5
Administration	5.5	7	12	12	13	12	15	14
Other	8.8	21	13	13	15	14	13	7

Above percentages are averages. "Other" activity includes unspecified direct and indirect patient care activities, performance of tests and procedures, etc.

Diagnostic Categories

Respondents were asked to indicate the average number of patients seen per week for specified diagnostic categories. Results are shown in figure 2.

Further analyses were done to determine whether differences exist in types of diagnoses seen in various work settings. Pain syndrome was listed as the number one diagnosis in all settings, with stroke as second highest (except in rehabilitation centers, where stroke ranked first). Ninety percent of office-based physiatrists see an average of 26 patients per week with pain syndromes, while 100% of those in rehabilitation centers reported an average of 16 stroke patients per week. Spinal cord injury ranks third and fourth as a major diagnostic category in academic and rehabilitation centers, respectively.

Patient Population

Figure 3 shows age distribution of patients seen. As expected, the highest number of patients over the age of 65 years are treated in rehabilitation centers and VA hospitals, while the largest number of pediatric patients are seen in academic

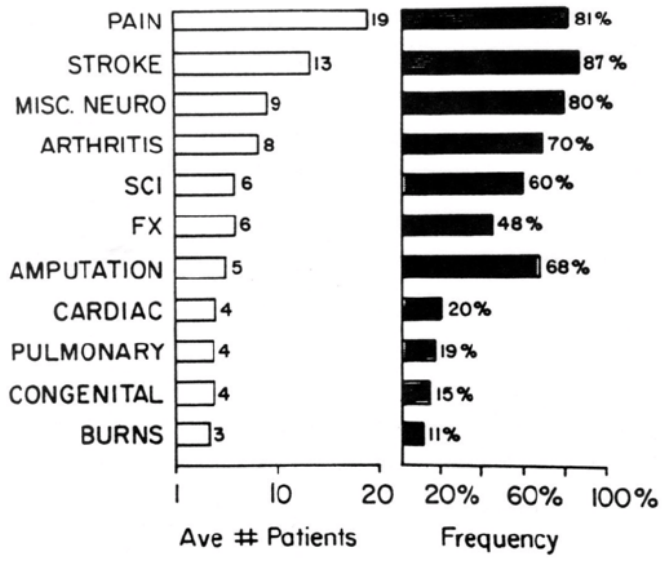
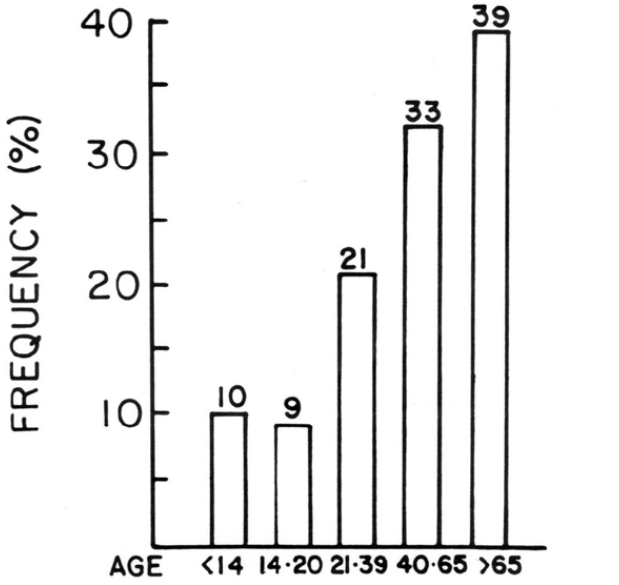


Fig 2— The average number of patients seen per week in each of 11 diagnostic categories (left) and the percentage of respondent physiatrists who reported seeing patients with those diagnoses.



N.B.- ACADEMIC = Highest # <14

REHAB and VA = Highest # >65

Fig 3—Patient age distribution.

medical centers. Fifty-four percent of patients seen are men and 46% are women. At the VA, 64% are men.

Patient Visits

The number of patients seen in a typical work week is shown in table 6. In general, office-based physiatrists see an average of 20 to 22 new outpatients, as compared to 10 to 13 patients seen by hospital-based physicians. Office-based physiatrists see approximately twice as many outpatients for follow-up visits as do hospital-based physicians. The number of new inpatients does not differ among practice settings, nor does the number of follow-up in-patient visits (20 to 27), except for those in rehabilitation centers (average = 37).

Table 6: Number of Patient Visits: Typical Work Week

	New		Follow-up	
	Outpatient	Inpatient	Outpatient	Inpatient
Office-based				
Solo practice	20	9	27	26
PM&R group	20	9	22	27
Multispecialty group	22	14	29	20
Hospital-based				
Salaried/VA	13	11	13	22
Academic medical center	10	9	12	22
Rehabilitation center	10	9	13	37

Clinical Services

Table 7 describes the rank order and frequency of clinical services. Further study of rank order showed consultation as the primary activity of all work settings. Electrodiagnosis ranked second among those in solo and PM&R group practice, while prosthetic and orthotic prescription ranked second in multispecialty group and salaried/VA positions. Inpatient rehabilitation is the second most common service in academic and rehabilitation centers.

Special Interest

The participants were asked to indicate one area of special interest. Results showed the following (in descending order): electrodiagnosis, neurologic diseases, spinal cord injury, prosthetics and orthotics, pediatric rehabilitation, and musculoskeletal and sports medicine (table 8).

DISCUSSION

This survey is the first attempt at an extensive analysis of physiatric practice characteristics. The study showed that physiatry is still primarily a hospital-based specialty, although a significant amount of time is spent in office-based settings. Full-time, office-based physiatrists comprise 17% of the 1,043 respondents while 36% practice in academic medical centers, rehabilitation centers, and the VA. The remaining 47% split their time among different work settings. Of these, 60% are hospital-based. This contradicts the AMA physician characteristics and distribution reports,[s] in which 60% of physiatrists were reported to be primarily office-based.

These figures only underscore the complexity of practice arrangements among physiatrists. A cloudy distinction remains as to what can be considered the primary practice setting. Our survey findings may mirror the true life situation. Instead of a simple choice between office and hospital base, respondents were asked to give estimates of actual time spent in various office-based and hospital-based settings. A work setting was considered "primary" if 20 hours or more were spent there. What the conflicting data may indicate is that while physiatrist have not as yet fully explored independent private practice, most are in fact engaged in office-based practice, but are directly or indirectly affiliated with an institution.

It is evident that as a specialty, physiatry is composed largely of younger physicians. Approximately 65% are under 43 years. The average age will continue to drop as greater numbers of students enter residency programs immediately after medical school graduation (in contrast to the seven-year lapse reported by Kumar and Redford.[6] The number of physiatrists certified by the American Board of PM&R will continue to increase. A total of 1,400 certificates were issued by the Board between 1977 and 1987 and approximately 225 certificates are expected to be given annually in the future. [1]

Graduates of American medical schools comprise 64% of practicing physiatrists whereas 35% are FMGs. This proportion lags slightly behind the current ratio of residents in training. According to the American Board of PM&R, 51% of PM&R residents in 1981 were AMGs. [1] This number continued to increase so that by 1987, 84% of all residents were AMGs. It is expected, therefore, that the proportion of AMGs to FMGs will continue to change.

The Delphi panel estimated that physiatrists work 46 hours/week. This nearly matches the survey's finding of 50.6 hours/week. There does not appear to be any major differences between office and hospital-based practice, although physiatrists who split their time tend to have slightly longer work hours. Travel time and the degree of personal motivation may partially account for this finding. The panel predicted a reduction of total hours worked as the number of physiatrists increases.' The time allocation in different activities reveals special insights into what physiatrists do in practice. The largest portion of time (82%) is spent in patient care. It is noteworthy that more than half of the time devoted to patients is spent in physical medicine, while less than a third is allocated to rehabilitation medicine.

In contract to the AMA survey,[8] in which physiatrists reported only 2% of time spent in teaching and research and 4% in administration, the Academy's survey found higher figures of 7% and 11% respectively. The lowest percentages (3% to 5.5%) were among full-time, office-based practitioners. The fact that most of those responding to the

Table 7. Rank Order and Frequency of Clinical Services by Practice Settings

			Services			
	Consult	P&O	Inpt Rehab	EMG	Wcb	Inject
All settings (n = 1155)						
Rank	1	2	3	4	5	6
Number	1095	947	917	908	765	732
	95%	82%	80%	79%	66%	63%
Office-based						
Solo practice (n = 276)	1	3	6	2	4	5
PM&R group (n = 30)	5	2	3	6		
Multispecialty (n = 63)	1	2	6	4	5	3
Hospital-based						
Salaried/VA (n = 277)	1	2	3	4	6	5
Academic medical center (n = 214)	1	3	2	4	5	6
Rehabilitation center (n = 215)	1	3	2	4	5	6

Other activities by rank order: (7) Joint injection (n = 408), 35%; (8) Nerve/motor injection (n = 396), 34%; (9) Manipulation (n = 174), 15%; (10) Evolked potentials (n = 155), 13%.
P&O Rx = prosthetic/orthotic presciption; Inpt Rehab = inpatient rehabilitation; EMG = Electromyography/nerve conduction; Wcb = Worker's compensation disability evaluation; Inject-Soft tissue injection.

Table 8: Rank Order: Special Interest

1. Electrodiagnosis	$n = 375$
2. Neurological diseases	$n = 210$
3. Spinal cord injury	$n = 118$
4. Prosthetics and orthotics	$n = 110$
5. Pediatrics	$n = 75$
6. Orthopedic rehab	$n = 69$
7. Sports medicine	$n = 51$
Total	1008

AMA survey claim to be situated in this setting may partly explain this discrepancy. Hospital-based physiatrists perform more administrative tasks (12% to 15%) and those in academic centers spend the most time in teaching and research (18% to 19%).

The diagnostic categories encountered in practice are as expected. What is revealing, however, is the preeminence of pain syndromes, transcending all work settings. Physiatrists should be expected to be increasingly recognized as the primary physicians for neuromusculoskeletal pain syndromes.

Neurologic disorders are keystones in physiatric practice, as corroborated by the high frequency of patients with stroke, miscellaneous neurologic conditions, and spinal cord injury, and the extent to which electrodiagnosis is performed. These diagnoses also ranked high as areas of special interest, It is therefore of paramount importance that physiatrists continue to assert their expertise and assume responsibility in the rehabilitative management of these disabilities.

The concept of "neurologic rehabilitation" as a subspecialty in another medical discipline will skew physiatric practice patterns and have far-reaching consequences. Because rehabilitation is already entrenched in PM&R, it may be propitious for the specialty to attract other interested specialists to rehabilitation within the context of PM&R.

The types of clinical services provided and their rank frequency offered no surprises. As a specialty, physiatry's prime clinical activity is providing consultation services to other physicians. The physiatrists' skills in prosthetic and orthotic management are recognized by its number two ranking on the list, Inpatient rehabilitation is a major factor in physiatric practice with 80% of physiatrists providing the service.

Electrodiagnosis (nerve conduction and electro−myography) is the single most frequent diagnostic procedure performed by about 80% of all physiatrists. Evoked potential, a relatively new technology, ranked tenth, and may conceivably rise in future years.

The important role physiatrists play in the care of the nation's elderly is demonstrated by the survey findings that about 40% of patients seen by the respondents are 65 or older. This fact should significantly strengthen the specialty's position as a vital provider of care to geriatric patients. By the year 2000, an estimated 33.6 million, or 13.1% of the US population will be 65 or older.

5It is AAPM&R's intention to monitor practice characteristics as they evolve in the future. The pattern is certain to change, depending upon the supply of physiatrists and the demand for their services. Physiatry has been declared a shortage specialty. The projected need for 4,060 physiatrists by the year 1990 is not likely to be met, even with an accelerated number of physiatrists being certified by the American Board of PM&R. By best estimates, 2,554 practicing physicians report physiatry as their self-designated specialty, with 60% certified by the American Board of PM&R.

If approximately 300 residents complete training each year for the next four years, then a total of 3,754 physicians with PM&R training will be available by 1990. If, on the other hand, the count is restricted to fully certified practitioners, then only about 2,500 physiatrists will be in the field by 1990. This estimate is achieved by including approximately 1,600 Board certified physiatrists practicing today and approximately 225 newly-certified physiatrists yearly for the next four years.

The magnitude of the supply/demand problem is compounded by the concentration of physiatrists in large urban areas, leaving areas of the US with few or no physiatrists.[7] As physiatric manpower increases, more specialists will establish practices in rural regions, as attested to by scanning the Academy's membership roster.

Specialists in physical medicine and rehabilitation stress the total care of the patient and in doing so, they gather considerable information concerning that patient's family, environment, vocation, and other facets of his/her life. It is equally important for the specialty of PM&R to know as much about itself as possible, in order that it may meet the demands of today and prepare for the demands of tomorrow. Data gathered from the survey of the Academy's members is an essential tool in that learning endeavor.

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