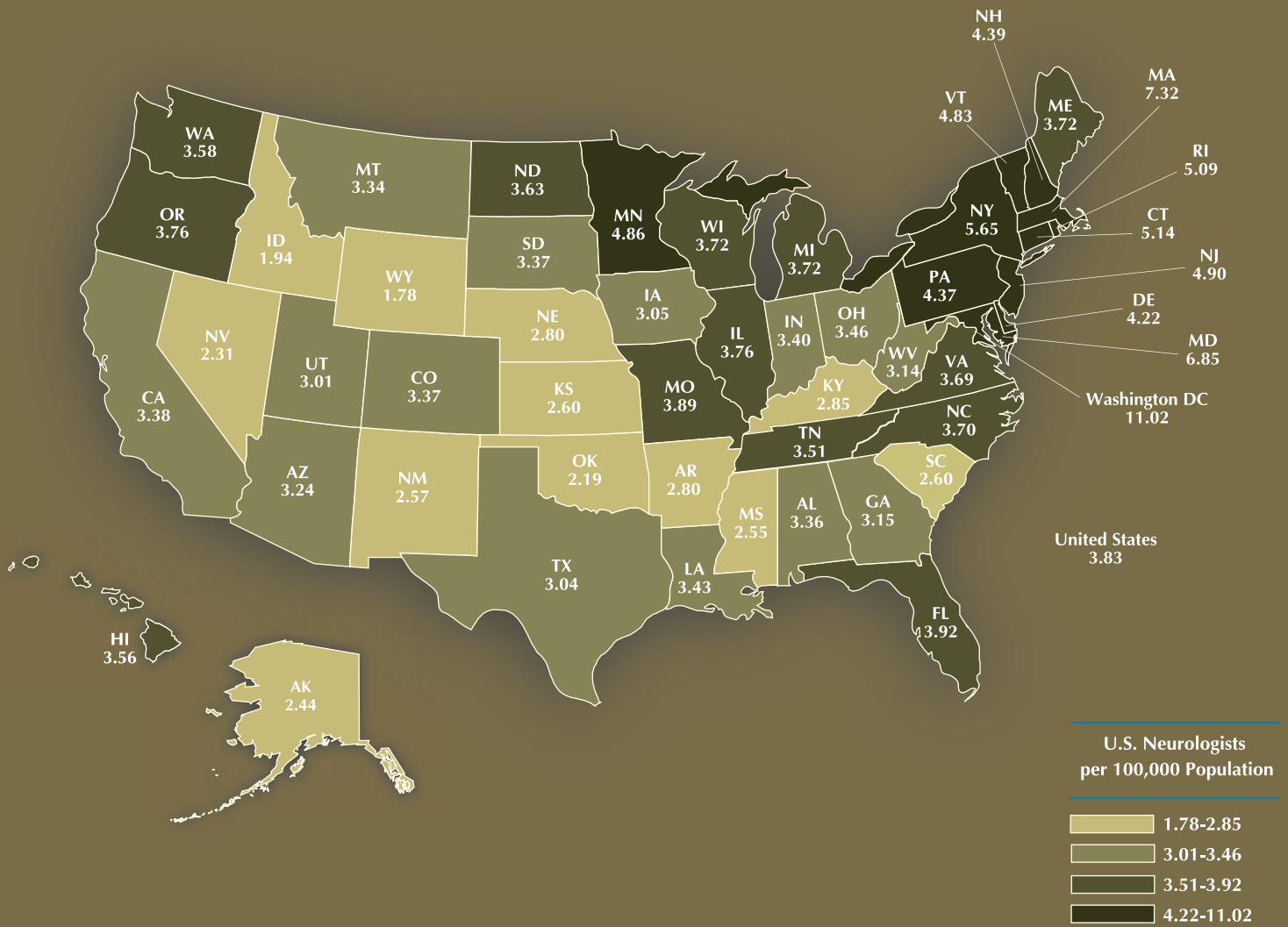


NEUROLOGISTS 2004

AAN MEMBER DEMOGRAPHIC AND PRACTICE CHARACTERISTICS



Neurologists 2004

AAN Member Demographic and Practice Characteristics

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Introduction

Since 1991 the American Academy of Neurology (AAN) has been conducting surveys of membership for the purpose of developing a census database that would allow the AAN to characterize members and track trends in membership characteristics over time. Originally called the *Demographic Information Form*, this instrument was distributed to all AAN members in 1991 and 1993. In 1996 the instrument was further enhanced and renamed the *Member Census*. It has since been distributed to all members in 1998, 2000, and now in 2003.

While the purpose of the Census is to track characteristics and trends over time, new items are added periodically as issues arise in the field that warrant further delineation in our membership, such as additional areas for practice focus and occupational status. This practice allows the data to remain fresh while staying true to the original goal of the Census.

In addition to the Census, the *Practice Profile Form (PPF)* has been distributed to a sample of the membership concurrently with the Census. The PPF specifically addresses practice issues relevant to the neurologist and has allowed for trending of these important issues through the years such as thrombolysis in stroke care and quality improvement. As with the Census, new items are added as the field has changed, allowing for a timely snapshot of practice patterns and trends. The results of the Census and PPF are published as the *Neurologists* report in the year following data collection. Since 2000 all members have been sent a copy of this report.

The *Neurologists* report has become a frequently cited tool among clinicians and researchers and data from the Census and PPF have been the data source of several seminal papers on the characteristics of practicing neurologists.^{1,2} The report has been divided into sections with the first one addressing general demographics, occupational title, clinical practice and employment status. The next section focuses on US Neurologists and their training and board certification, practice settings, patients, research and practice focus, and time spent in the various professional activities. The US Neurologist section is followed by a section covering these same topics (except for training and board certification) for International Members. Specific practice variables are covered in the next section, including professional activities by practice setting, visit types, use of physician extenders, and procedures, as well as reimbursement and insurance and provision of primary care services and long term care.

In 1998 several items were added on the care of the stroke patient including thrombolytic therapy. In addition, new items on the tracking of medical errors in office practice were added in 2000. These items are repeated in this report. In 2003 new data on computerized systems and personal digital assistants were collected and included in this report.

The current report also has two new features that we believe will enhance the report's utility for many users. First, we have included a section on International Members that affords a broader view of our membership and allows for rapid comparisons between US and International Members. Next, we have included a brief summary of the data following each section. This will allow the reader to quickly and easily obtain a meaningful snapshot of the data.

These data are critical in understanding the demographics of the AAN membership and the trends in neurological practice both in the US and abroad. Without the participation of membership in completing the Census and PPF this report would not exist. Becky Lawyer also deserves special thanks for her tireless efforts and countless hours spent on survey distribution, data collection, and drafting of the final report.

Katherine Henry, MD, MEd, FAAN
Chair, Member Demographics Subcommittee
May 2005

¹ Ringel SP and Rogstad TL. *Neurologists--1991 to 1992. Human Resources in Neurology Subcommittee of the American Academy of Neurology*. Neurology 1993; 43:1666 - 1672.

² Holloway RG, Vickrey BG, Keran CM, Lesser E, Iverson D, Larson W, and Swarztrauber K. *US neurologists in the 1990s: Trends in practice characteristics*. Neurology 1999; 52: 1353 - 1361.

Methods

Purpose

The *Neurologists* reports provide demographic and practice information about the members of the American Academy of Neurology. *Neurologists 2004* provides an update to the five prior versions of this report, *Neurologists 1991-1992*¹, *U.S. Neurologists 1993-1994*², *U.S. Neurologists 1996-1997*³, *Neurologists 1998*⁴ and *Neurologists 2000*⁵.

The reports serve two major objectives:

- 1) To profile the demographic and practice characteristics of AAN members, and
- 2) To track changes in certain characteristics over time.

These reports are based on data from two surveys. One is the **Member Census** which is administered to the entire AAN membership, and the other is the **Practice Profile Form (PPF)**, which is administered to a random sample of US based neurologist members.

Questionnaires

Questionnaires for the 2003 **Member Census** and **Practice Profile Form (PPF)** were modified from the 2000 version by the Member Demographics Subcommittee. Questions on ACGME accreditation of fellowships, age of patients treated, interventional procedures performed, and the use of personal digital assistants were added to the 2003 Census and Practice Profile Form. Additional choices were also added to several of the questions. The 2003 Census and PPF instruments are included as Appendices A and B of this report. The Census asks for demographic and general practice information such as: gender and age; practice setting; professional activities; training and certification; and practice focus. The PPF asks for more specific practice-related information such as: hours per week spent in different professional activities, patient visits per week, procedures performed, participation in managed care, capitation, and principal care, use of physician extenders, stroke care, patient safety and usage of personal digital assistants / handheld devices.

Sampling

The Census was sent to all 17,872 AAN members.

The PPF was sent to a 20.1 percent random sample (2,000/9,974) of practicing, US AAN neurologists. Prior to selection of the eligible 2003 PPF sample, members were excluded who were retired or still in neurology residency, resided outside of the US, or could not be located.

Data Collection

Data collection for the 2003 Census and PPF gave members the option of either completing an online or paper version of the survey. Online data collection began on July 1, 2003. On July 8, 2003 an email was sent to all AAN members who have email addresses announcing the opening of online data collection. A reminder broadcast fax was sent to all members on August 8, 2003. All members who completed their Census online by August 18, 2003 were entered into a drawing for 25 AAN 2004 Annual Meeting Syllabus on CD-ROM. The Census and PPF were then mailed on September 1, 2003 to all non-respondents. A reminder postcard was then sent to all non-respondents on September 22, 2003. This was followed by a reminder email sent on October 7, 2003. Two follow-up mailings were sent to non-respondents 5 weeks and 9 weeks after the initial mailing. Reminder postcards and emails were sent at the midpoint between follow-up mailings. One last follow-up mailing was sent to all non-respondents of the PPF on July 6, 2004. Although the Census and Practice Profile Form were

¹ Ringel SP, Rogstad TL, Human Resources in Neurology Subcommittee of AAN. *Neurologists 1991-1992*. Minneapolis: American Academy of Neurology, 1993.

² Vickrey BG, Rogstad TL, Albright CL, Practice Characteristics Subcommittee of AAN. *U.S. Neurologists 1993-1994*. Minneapolis: American Academy of Neurology, 1996.

³ Holloway RG, Keran CM, Vickrey BG, Practice Characteristics Subcommittee of AAN. *U.S. Neurologists 1996-1997*. St. Paul: American Academy of Neurology, 1998.

⁴ Swarztrauber K, Keran CM, Practice Characteristics Subcommittee of AAN. *Neurologists 1998*. St. Paul: American Academy of Neurology, 1999.

⁵ Swarztrauber K, Lawyer BL, Practice Characteristics Subcommittee of AAN. *Neurologists 2000*. St. Paul: American Academy of Neurology, 2001.

called the 2003 Member Census and the 2003 Practice Profile Form, approximately 50 percent of the data was collected in 2004. Therefore, the report is called *Neurologists 2004*.

A response rate of 57.9 percent (10,346/17,872) was achieved for the Census and 48.0 percent (960/2000) for the PPF. The majority of respondents (Census: 70% and PPF: 69%) submitted their response via a paper form.

Response rates for previous surveys were as follows:

<u>Year</u>	<u>Member Census</u>	<u>PPF</u>
2000	66%	43%
1998	72%	69%
1996 / 1997	87%	56%
1993	91%	76%
1991	75%	70%

The data collection activities for both the Census and the PPF were conducted by Survey & Ballot Systems, Inc. (SBS), 7653 Anagram Drive, Eden Prairie, MN 55344-7311. SBS designed the paper form layout, mailed the questionnaires, and scanned in the completed questionnaires. Staff at the American Academy of Neurology designed and managed online data collection.

Analysis and Reporting

Analyses were performed with SPSS for Windows, a PC-based statistical package. The number of respondents for any particular table or graph that is less than 10,346 for the Census and 960 for the PPF is due to unanswered questions.

The mean response is given for continuous response questions (such as age). In some cases, where the response distribution was skewed, the mean misrepresented the "average" response, and thus the median is given.

This report primarily focuses on providing detailed information on practice characteristics in 2003 and 2004 based on data collected with the 2003 Census and PPF. However, selected trends are shown throughout the report for characteristics for which similar data were collected in the past on earlier Census and PPF surveys. In some cases source data were recalculated to match 2004 data guidelines. The references for these data are listed below.

Swarztrauber K, Lawyer BL, Practice Characteristics Subcommittee of AAN. *Neurologists 2000*. St. Paul: American Academy of Neurology, 2001

Swarztrauber K, Keran CM, Practice Characteristics Subcommittee of AAN. *Neurologists 1998*. St. Paul: American Academy of Neurology, 1999.

Holloway RG, Keran CM, Vickrey BG, Practice Characteristics Subcommittee of AAN. *U.S. Neurologists 1996-1997*. St. Paul: American Academy of Neurology, 1998.

Vickrey BG, Rogstad TL, Albright CL, Practice Characteristics Subcommittee of AAN. *U.S. Neurologists 1993-1994*. Minneapolis: American Academy of Neurology, 1996.

Ringel SP, Rogstad TL, Human Resources in Neurology Subcommittee of AAN. *Neurologists 1991-1992*. Minneapolis: American Academy of Neurology, 1993.

Finally, due to an increased interest in the characteristics of the international membership of the AAN, this report contains a special section on International Members.

US neurologists are defined in this report by having a US mailing address and an AAN membership category of Fellow, Active or Associate. For purposes of this report, Junior members (those in neurology residency or fellowship) are not included as US neurologists. Fellow and Active membership categories include members who are physicians certified in neurology or child neurology by the American Board of Psychiatry and Neurology, the Royal College of Physicians and Surgeons of Canada, or the Professional Corporation of Quebec. The Associate membership includes physicians practicing or engaged in neurology or fields relating to neurology and not board certified. To be classified in this report as a US neurologist, Associate members must have completed a neurology or child neurology residency.

Number of AAN members compared to total number of US Neurologists

An analysis was made in the summer of 2004 of the proportion of US neurologists who are AAN members. The American Medical Association matched the AAN's membership database of 14,267 US neurologists with the AMA's Physician Masterfile of 1,025,324 physicians. Of the 14,267 US AAN neurologists, 13,247 were found in the Physician Masterfile. 12,498 matched physicians had a primary self-designation as a neurologist (includes child neurology and clinical neurophysiology) in the Physician Masterfile. The AMA Physician Masterfile is the most complete listing of licensed US physicians, including non-members of the AMA as well as members. The Physician Masterfile lists 15,831 physicians with a primary self-designation of neurology, child neurology, or clinical neurophysiology. Of all US neurologists 78.9 percent (12,498/15,831) are members of the AAN.

Report Reference

This is a copyrighted publication, any use of data contained within this publication is to be referenced as follows: Henry K, Lawyer BL, Member Demographics Subcommittee of AAN. *Neurologists 2004*. St. Paul: American Academy of Neurology, 2005.

For more information or to order additional copies, contact AAN Member Services at memberservices@aan.com, (800) 879-1960 or (651) 695-2717. The cost for additional copies is \$50.00 for members and \$100.00 for nonmembers. The report is also available to members online at www.aan.com/publications/other/index.com.

Member Census Results

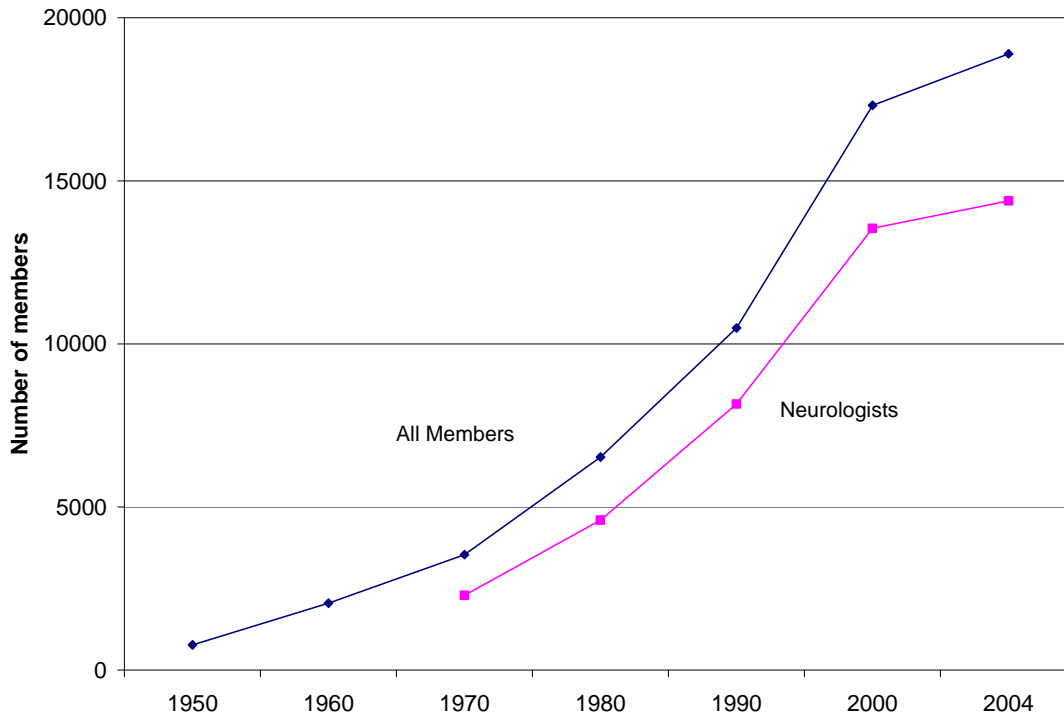
Results For All Members

Table 1. Summary of Member Census Respondents

Respondents	Number of members	Number of respondents	Response rate (%)
All Members	17,872	10,346	57.9
International Members	3,164	1,708	54.0
US Members ^a	14,708	8,638	58.7
US Neurologists	9,974	6,804	68.2

^aExcludes members not residing in the US.

Figure 1. AAN Membership by Year^a



^a Source: AAN membership archives. Membership data prior to 1970 does not differentiate between all members and neurologists. Neurologists are defined in this figure by having an AAN membership category of Fellow, Corresponding Fellow, Active, Corresponding Active, Associate, or Corresponding Associate. These membership categories include those physicians who are board certified in neurology, physicians fully trained in neurology and not yet board certified, and physicians in fields related to neurology. For purposes of this figure, Junior Members (those in a neurology residency or fellowship) are not included as neurologists.

Table 2. Gender, Age, US Citizenship, Ethnicity and Race

Demographics	All Members (n=10,346)	International Members (n=1,708)	US Members^a (n=8,638)	US Neurologists (n=6,804)
Female (%)	23.3	19.5	24.0	22.3
Age: mean (median)	50.8 (50.0)	50.3 (49.4)	51.0 (50.1)	50.6 (50.2)
US Citizen (%)	75.0	8.8	87.9	88.8
Hispanic or Latino (%)	7.5	19.4	5.0	5.3
White (%)	80.0	72.4	81.5	81.1
Asian (%)	18.3	26.3	16.7	17.0
Black or African American (%)	1.4	0.9	1.6	1.5
American Indian or Alaska Native (%)	0.5	0.2	0.5	0.5
Native Hawaiian or Other Pacific Islander (%)	1.0	0.8	1.0	1.0

^a Excludes members not residing in the US.

Table 3. All Members: World Regions

World Regions	Count of respondents^a	Percent of respondents	Count of all members^b	Percent of all members
US	8,638	83.5	15,570	82.4
Europe/United Kingdom	559	5.4	1,000	5.3
Canada	372	3.6	724	3.8
Asia	332	3.2	649	3.4
South America	174	1.7	333	1.8
Middle East	86	0.8	228	1.2
Australia/Oceania	66	0.6	125	0.7
US Possessions ^c	57	0.6	120	0.6
Mexico	24	0.2	61	0.3
Africa	17	0.2	44	0.2
Central America/Caribbean	15	0.1	30	0.2
US Military Overseas	6	0.1	8	0.0
Total Members	10,346	100.0	18,892	100.0

^a Respondents to 2003 Census.

^b All AAN members as of December 31, 2004.

^c Guam, Puerto Rico, and US Virgin Islands.

Table 4. Occupational Title

Occupational Title	All Members		International Members		US Members ^a		US Neurologists ^b	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Adult Neurologist	7,261	73.1	1,319	80.8	5,942	71.6	5,536	83.3
Child Neurologist	768	7.7	76	4.7	692	8.3	622	9.4
Student or Resident	549	5.5	71	4.4	478	5.8	6	0.1
Fellowship	197	2.0	30	1.8	167	2.0	117	1.8
Neuroscientist (no clinical practice)	97	1.0	19	1.2	78	0.9	31	0.5
Neuropsychologist	74	0.7	6	0.4	68	0.8	2	0.0
Neuropathologist	35	0.4	5	0.3	30	0.4	7	0.1
Psychiatrist	33	0.3	7	0.4	26	0.3	13	0.2
Rehabilitation Medicine Physician	19	0.2	7	0.4	12	0.1	11	0.2
Neurosurgeon	14	0.1	2	0.1	12	0.1	5	0.1
Nurse or Nurse Practitioner	47	0.5	4	0.2	43	0.5	0	0.0
Medical Internist	21	0.2	8	0.5	13	0.2	4	0.1
Neuro-ophthalmologist	73	0.7	9	0.6	64	0.8	55	0.8
Emergency Medicine Physician	6	0.1	0	0.0	6	0.1	3	0.0
Neuroradiologist	13	0.1	3	0.2	10	0.1	5	0.1
Physiatrist	10	0.1	1	0.1	9	0.1	3	0.0
Practice Manager	4	0.0	1	0.1	3	0.0	1	0.0
Retired	346	3.5	29	1.8	317	3.8	32	0.5
Other	366	3.7	35	2.1	331	4.0	192	2.9
Total Respondents	9,933	100.0	1,632	100.0	8,301	100.0	6,645	100.0

^a Excludes members not residing in the US.

^b Some findings may be due to respondent, data entry, or analyst errors.

Table 5. Clinical Practice Status

Clinical Practice Status	All Members		International Members		US Members ^a		US Neurologists	
	Count	% of Total	Count	% of Total	Count	% of Total	Count	% of Total
Clinical Practice	8,527	86.5	1,517	93.5	7,010	85.1	6,346	95.1
Solo Practice	1,979	20.1	283	17.4	1,696	20.6	1,571	23.5
Neurology Group	2,158	21.9	200	12.3	1,958	23.8	1,874	28.1
Multispecialty Group	776	7.9	45	2.8	731	8.9	682	10.2
University-Based Group	2,253	22.9	497	30.6	1,756	21.3	1,480	22.2
Government Hospital or Clinic	632	6.4	278	17.1	354	4.3	313	4.7
Staff-Model HMO	102	1.0	4	0.2	98	1.2	90	1.3
Other Public or Private Hospital or Clinic	627	6.4	210	12.9	417	5.1	336	5.0
No Clinical Practice	1,332	13.5	105	6.5	1,227	14.9	330	4.9
Total	9,859	100.0	1,622	100.0	8,237	100.0	6,676	100.0

^a Excludes members not residing in the US.

Table 6. Other Employment Status

Other Employment Status	All Members ^a		International Members ^a		US Members ^{a, b}		US Neurologists ^a	
	Count	% of Total	Count	% of Total	Count	% of Total	Count	% of Total
Faculty Member (non-adjunct)	4,225	41.3	1,070	63.5	3,155	37.0	2,801	41.3
Full Time Faculty Member	2,715	69.1	671	65.7	2,044	70.4	1,870	71.7
Clinical Faculty Member	2,645	73.3	706	77.8	1,939	71.8	1,794	73.9
Research Faculty Member	606	16.8	100	11.0	506	18.7	424	17.5
Education Faculty Member	276	7.6	92	10.1	184	6.8	145	6.0
Administrative Faculty Member	83	2.3	10	1.1	73	2.7	63	2.6
Non-Practice Position	1,739	17.0	426	25.3	1,313	15.4	1,014	15.0
Independent Consultant	1,112	10.9	317	18.8	795	9.3	658	9.7
Non-Profit, Non-Univ.-based Research Org.	242	2.4	61	3.6	181	2.1	132	1.9
Insurance or Pharmaceutical Industry	225	2.2	52	3.1	173	2.0	121	1.8
Other Non-Practice Position	367	3.6	59	3.5	308	3.6	208	3.1
In Training	1,286	12.6	245	14.5	1,041	12.2	272	4.0
Medical School	194	1.9	31	1.8	163	1.9	9	0.1
Residency	625	6.1	100	5.9	525	6.2	24	0.4
Fellowship	420	4.1	75	4.5	345	4.0	232	3.4
Other Training	109	1.1	64	3.8	45	0.5	24	0.4
Military	169	1.7	36	2.1	133	1.6	112	1.7
Total	10,220		1,684		8,536		6,776	

^a The counts do not sum to the total count and the percents do not sum to 100, because the response options are not mutually exclusive (respondents could give multiple responses).

^b Excludes members not residing in the US .

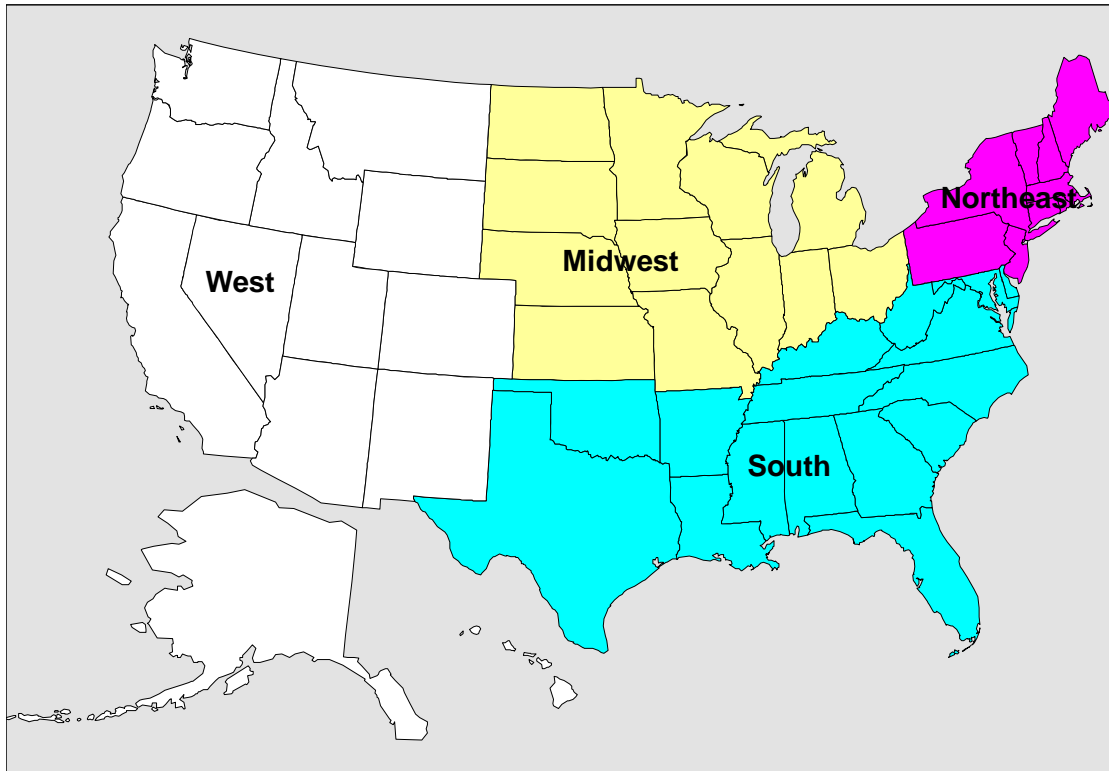
SUMMARY (Tables 1-6)

There were 17,872 eligible respondents to the 2003 Census and 2000 eligible respondents to the Practice Profile Form. The response rate for the Census was 57.9% and 48.0% for the PPF. Most respondents were male (76.7%) and white (80.0%) with a mean age of 50.8 years (median 50 years).

Seventy-three point one percent of respondents had an occupational title of adult neurologist, followed by 7.7% with a title of child neurologist and 7.5% with training titles (medical student, resident, fellow). The majority of respondents (86.5%) were in clinical practice, with the three most common being University-Based Group Practice, Neurology Group and Solo Practice. Thirteen point five percent reported no clinical practice.

Results for US Neurologists

Figure 2. Map of US Census Regions



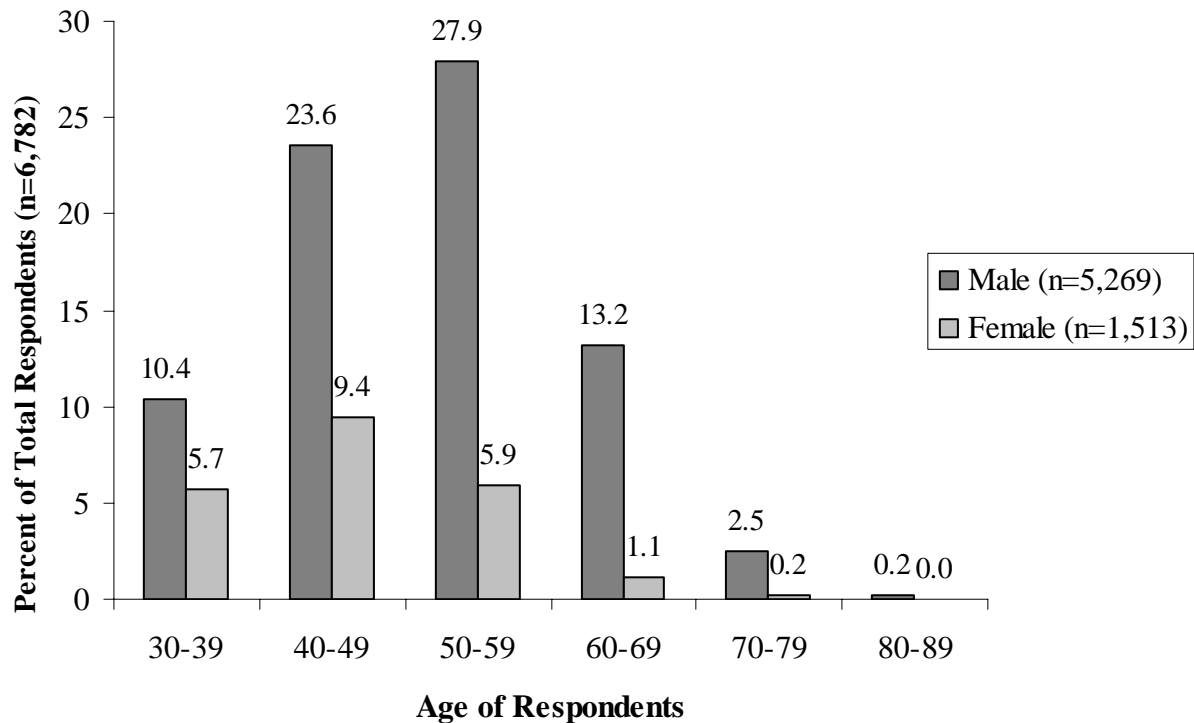
US Census Regions

Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont

Midwest: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin

South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia

West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming

Figure 3. US Neurologists: Age by Gender**Table 7. US Neurologists: Training and Board Certification**

Type of Training	Percent who completed training (n=6,804)	Percent of those who completed training, who are also board certified ^a	Percent of those who completed a ACGME accredited fellowship
Neurology residency	99.4 ^b	70.0	
Child Neurology residency	10.5	72.3	
Combined residency	3.0	59.5	
First fellowship	52.4	79.1 ^c	22.8
Second fellowship	8.5	77.6 ^c	18.6

^a US or Canadian board certified.

^b Does not equal 100 percent due to some respondents not answering the question.

^c US or Canadian board certified in Neurology or Child Neurology.

Table 8. US Neurologists: Practice Setting

Practice Setting	Count	Percent ^a
Solo Practice	1,571	24.8
Neurology Group	1,874	29.5
Multispecialty Group	682	10.7
University-Based Group	1,480	23.3
Government Hospital or Clinic	313	4.9
Staff-Model HMO	90	1.4
Other Public or Private Hospital or Clinic	336	5.3
Total	6,346	100.0

^aThis table is based on the percent of those with a clinical practice (n=6,346) as opposed to those with and without a clinical practice (n=6,676) as in Table 5.

Table 9. US Neurologists: Practice Setting by US Census Region

Practice Setting	Percent of respondents ^a			
	Midwest	Northeast	South	West
Solo Practice (n=1,571)	16.9	22.7	27.1	32.1
Neurology Group (n=1,874)	29.3	30.3	33.2	22.8
Multispecialty Group (n=682)	18.1	6.7	9.3	10.3
University-Based Group (1,480)	25.4	28.8	20.7	18.5
Government Hospital or Clinic (313)	3.5	3.4	6.2	6.3
Staff-Model HMO (n=90)	0.6	0.3	0.4	5.5
Other Public or Private Hospital or Clinic (n=336)	6.3	8.0	3.0	4.5
Mean across Practice Settings (n=6,346)	21.5	25.5	32.7	20.2

^aThis table is based on the percent of those with a clinical practice (n=6,346) as opposed to those with and without a clinical practice (n=6,676) as in Table 5.

Table 10. US Neurologists: Age of Patients

Patient Age	Mean percent of patients in age category		
	Under age 18	18 to 65 years old	More than 65 years old
Solo Practice (n=1,547)	10.9	54.1	35.0
Neurology Group (n=1,842)	10.2	53.0	36.8
Multispecialty Group (n=673)	12.4	51.9	35.7
University-Based Group (n=1,462)	19.7	49.5	30.7
Government Hospital or Clinic (n=307)	7.8	55.7	36.5
Staff-Model HMO (n=90)	11.7	53.2	35.1
Other Public or Private Hospital or Clinic (n=331)	24.0	48.1	27.9
Total (n=6,252)	13.5	52.2	34.3

Table 11. US Neurologists: Practice Size

Practice Setting	Number of neurologists in your practice setting	
	Mean ^a	Median
Neurology Group (n= 1,803)	6.1	4
Multispecialty Group (n=649)	9.8	4
University-Based Group (n=1,309)	21.9	16
Government Hospital or Clinic (n=286)	6.3	4
Staff-Model HMO (n=81)	10.9	6
Other Public or Private Hospital or Clinic (n=300)	10.1	4
Total (n=4,428)	11.7	6
<i>Results from 2000 (n=4,010)</i>	<i>11.2</i>	<i>5</i>
<i>Results from 1998 (n=3,799)</i>	<i>9.7</i>	<i>5</i>
<i>Results from 1996-1997 (n=7,898)</i>	<i>8.6</i>	<i>4</i>

^a If mean does not equal median, non-normal distribution of data exists.

Table 12. US Neurologists: Type of Research

Type of Research	Count ^a	Percent of respondents ^a
Clinical Research	3,169	91.5
Basic Science Research	623	18.0
Health Services Research	155	4.5
Medical Education Research	211	6.1
Other Research	188	5.4
Any Research (n=6,804)	3,462	50.9
<i>Results from 2000 (n=6,331)^b</i>	<i>3,326</i>	<i>52.5</i>
<i>Results from 1998 (n=7,589)^c</i>	<i>3,897</i>	<i>51.4</i>
<i>Results from 1996-1997 (n=7,898)^d</i>	<i>3,271</i>	<i>41.4</i>

^a Due to some respondents choosing more than one response, the counts add to more than 3,326 and the percents add to more than 100 percent.

Table 13. US Neurologists: Practice Focus

Practice Focus	Count ^a	Percent of respondents ^a
General Neurology	3,561	56.5
Headache	2,916	46.3
Epilepsy	2,700	42.9
EMG	2,570	40.8
Cerebrovascular Disease	2,519	40.0
EEG	2,297	36.5
Aging/Dementia	2,281	36.2
Movement Disorders	2,094	33.2
Multiple Sclerosis/Neuroimmunology	2,059	32.7
Neuromuscular Disorders	1,755	27.9
Chronic Pain	1,296	20.6
Spine Related Conditions	1,071	17.0
Sleep Disorders	934	14.8
Behavioral Neurology	877	13.9
Critical Care	732	11.6
Worker's Compensation	704	11.2
CNS Infectious Diseases	649	10.3
Neurorehabilitation	457	7.3
Neuroimaging	454	7.2
Other	392	6.2
Neuro-ophthalmology	322	5.1
Neuro-oncology	283	4.5
Neuropharmacology	223	3.5
Interventional Neurology	114	1.8
Neuroepidemiology	87	1.4
Total Respondents	6,298	

^a Due to most respondents choosing more than one response, the counts add to more than 6,804 and the percents add to more than 100 percent.

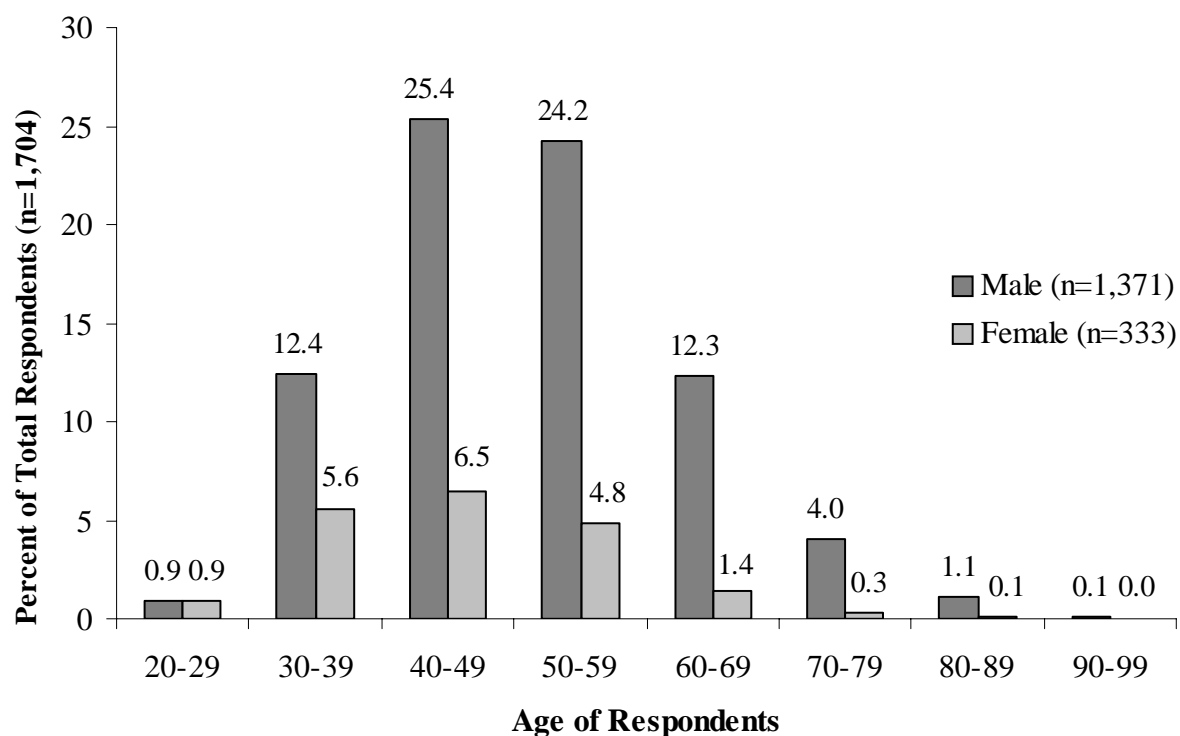
Table 14. US Neurologists: Time Spent in Professional Activities by Practice Setting

Practice Setting	Mean percent of time in professional activities				
	Clinical Practice	Research	Teaching	Administration	Other
Solo Practice (n=1,554)	89.8	1.9	2.8	4.0	1.5
Neurology Group (n=1,854)	88.4	3.4	3.6	4.0	0.6
Multispecialty Group (n=675)	85.7	4.1	4.2	4.8	1.1
University-Based Group (n=1,457)	49.5	27.2	13.1	9.1	1.2
Government Hospital or Clinic (n=308)	55.5	16.2	13.5	12.4	2.4
Staff-Model HMO (n=89)	89.5	1.4	4.0	4.3	0.7
Other Public or Private Hospital or Clinic (n=331)	66.3	13.7	9.8	8.4	1.9
Total (n=6,268)	76.6	9.8	6.5	5.9	1.2
<i>Results from 2000 (n=5,833)</i>	<i>76.2</i>	<i>9.2</i>	<i>6.9</i>	<i>6.4</i>	<i>1.4</i>
<i>Results from 1998 (n=6,904)</i>	<i>75.5</i>	<i>9.3</i>	<i>6.9</i>	<i>6.8</i>	<i>1.5</i>
<i>Results from 1996-1997 (n=7,898)</i>	<i>74.2</i>	<i>10.1</i>	<i>7.7</i>	<i>6.3</i>	<i>1.7</i>

Results for International Members

Figure 4. Map of World Regions



Figure 5. International Members: Age by Gender**Table 15. International Members: Practice Setting**

Practice Setting	Count	Percent ^a
Solo Practice	283	18.7
Neurology Group	200	13.2
Multispecialty Group	45	3.0
University-Based Group	497	32.8
Government Hospital or Clinic	278	18.3
Staff-Model HMO	4	0.3
Other Public or Private Hospital or Clinic	210	13.8
Total	1,517	100.0

^a This table is based on the percent of those with a clinical practice (n=1,517) as opposed to those with and without a clinical practice (n=1,622) as in Table 5.

Table 16. International Members: Practice Size

Practice Setting	Number of neurologists in your practice setting	
	Mean ^a	Median
Neurology Group (n= 179)	9.1	6
Multispecialty Group (n=41)	5.0	4
University-Based Group (n=431)	15.3	12
Government Hospital or Clinic (n=244)	10.4	8
Staff-Model HMO (n=4)	14.5	12
Other Public or Private Hospital or Clinic (n=185)	6.6	5
Total (n=1,084)	11.3	8

^a If mean does not equal median, non-normal distribution of data exists.

Table 17. International Members: Type of Research

Type of Research	Count ^a	Percent of respondents ^a
Clinical Research	1,247	93.8
Basic Science Research	333	25.1
Health Services Research	111	8.4
Medical Education Research	97	7.3
Other Research	60	4.5
Any Research (n=1,708)	1,329	77.8

^a Due to some respondents choosing more than one response, the counts add to more than 1,329 and the percents add to more than 100 percent.

Table 18. International Members: Time Spent in Professional Activities by Practice Setting

Practice Setting	Mean percent of time in professional activities				
	Clinical Practice	Research	Teaching	Administration	Other
Solo Practice (n=279)	79.2	6.7	8.0	4.9	1.2
Neurology Group (n=195)	65.4	14.0	12.3	7.1	1.2
Multispecialty Group (n=44)	74.5	8.8	10.6	4.8	1.3
University-Based Group (n=488)	46.9	25.6	15.8	9.7	2.1
Government Hospital or Clinic (n=272)	60.6	15.1	12.1	11.0	1.1
Staff-Model HMO (n=4)	52.5	13.8	17.5	13.8	2.5
Other Public or Private Hospital or Clinic (n=202)	64.7	13.0	10.8	9.3	2.3
Total (n=1,484)	61.2	16.4	12.4	8.5	1.6

Table 19. International Members: Practice Focus

Practice Focus	Count ^a	Percent of respondents ^a
General Neurology	839	53.8
Cerebrovascular Disease	778	49.9
Movement Disorders	640	41.1
Epilepsy	617	39.6
Aging/Dementia	606	38.9
Headache	584	37.5
Multiple Sclerosis/Neuroimmunology	504	32.3
Neuromuscular Disorders	473	30.3
EEG	456	29.2
EMG	422	27.1
Behavioral Neurology	259	16.6
CNS Infectious Diseases	254	16.3
Chronic Pain	243	15.6
Critical Care	214	13.7
Neuroimaging	209	13.4
Spine Related Conditions	184	11.8
Sleep Disorders	149	9.6
Neurorehabilitation	147	9.4
Neuro-ophthalmology	115	7.4
Neuro-oncology	106	6.8
Neuroepidemiology	90	5.8
Neuropharmacology	78	5.0
Other	65	4.2
Worker's Compensation	46	3.0
Interventional Neurology	34	2.2
Total Respondents	1,559	

^a Due to most respondents choosing more than one response, the counts add to more than 1,559 and the percents add to more than 100 percent.

Table 20. International Members: Age of Patients

Patient Age	Mean percent of patients in age category		
	Under age 18	18 to 65 years old	More than 65 years old
Solo Practice (n=281)	11.8	52.7	35.6
Neurology Group (n=197)	10.2	53.1	36.7
Multispecialty Group (n=44)	17.4	52.9	29.7
University-Based Group (n=492)	12.2	54.4	33.4
Government Hospital or Clinic (n=273)	14.0	50.2	35.7
Staff-Model HMO (n=4)	11.3	65.0	23.8
Other Public or Private Hospital or Clinic (n=208)	11.4	49.9	38.6
Total (n=1,499)	12.2	52.5	35.3

US Neurologists and International Member Summary (Tables 7 – 20)

Twenty-two point three percent of US Neurologists are women. US Neurologists practice primarily in a Neurology Group practice, followed by Solo Practice and University-Based Group Practice. The median number of neurologists in a group practice setting is 6. The largest number practice in the South (32.7%) followed by the Northeast (25.5%), then the Midwest (21.5%) and finally the West (20.2%). Approximately 50.9% of neurologists conduct research. Overall this number has increased gradually over the years. The majority of respondents conduct clinical research (91.5%) with only 18% conducting basic science research.

Most US neurologists are board certified in neurology (70.0%) and of those trained in child neurology, 72.3% are certified in child neurology. Working an average of 58.3 hours per week (Table 21), US neurologists spend 76.6% of their time in patient care.

Forty percent or more of US Neurologists named headache (46.3%), epilepsy (42.9%), EMG (40.8%) and cerebrovascular diseases (40.0%) as one of their practice focuses.

Of International respondents, 19.5% are women and 32.8% of all respondents reported practicing in a University-Based Group. The median number of neurologists in a group practice setting is 8. Seventy-seven point eight percent of International respondents report conducting research with 93.8% conducting clinical research and 25.1% conducting basic science research.

The practice focus of International members are somewhat different from US Neurologists with cerebrovascular diseases most common at 49.9%, followed by movement disorders (41.1%), epilepsy (39.6%), aging/dementia (38.9%), and headache (37.5%). International respondents spend 61.2% of their time in patient care.

Practice Profile Form Results

The following results are from the respondents to the Practice Profile Form

The PPF was sent to a 20.1% random sample (2,000/9,974) of practicing, US AAN neurologists. The sample size was based on estimation of the survey sample size from the base population needed to yield no more than a 3% error in the proportion agreeing or disagreeing with any statement in the survey with a 95% Confidence Interval, assuming a proportion agreeing of 50% and a survey response rate of 48%. Prior to selection of the eligible 2000 PPF sample, members were excluded who were retired or still in neurology residency, resided outside of the US, or could not be located. In addition, neurologists practicing less than 20 hours per week were excluded from the analysis. The response rate for the 2003 PPF was 48.0 percent. Response rates for previous surveys were as follows: PPF (2000=43% 1998=69%, 1997=56%, 1993=76% and 1991=70%).

Practice Characteristics

Table 21. Hours per Week in Professional Activities by Practice Setting

Practice Setting ^a	Mean (median) ^b number of hours per week					
	Patient Care	Administration	Teaching	Medical Research	Other	Total
Solo Practice (n=233)	49.5 (50)	4.1 (1)	1.5 (0)	1.5 (0)	2.1 (0)	58.7 (56)
Neurology Group (n=244)	49.5(50)	4.2 (2)	2.4 (.5)	2.5 (0)	1.4 (0)	59.9 (60)
Multispecialty Group (n=111)	46.7 (50)	3.4 (1)	2.4 (0)	2.4 (0)	1.2 (0)	56.1 (55)
University-Based Group (n=181)	26.6 (25)	7.4 (5)	7.7 (5)	14.8 (10)	2.4 (0)	58.8 (55)
Government Hospital or Clinic (n=45)	24.8 (25)	9.5 (5)	6.1 (5)	9.2 (5)	1.4 (0)	51.1 (50)
Staff-Model HMO (n=8)	43.1 (40)	1.9 (1.5)	2.4 (2)	0.3 (0)	1.3 (0)	48.9 (45.5)
Other Public or Private Hospital or Clinic (n=47)	38.3 (40)	4.7 (3)	5.9 (5)	6.3 (2)	3.7 (0)	59.0 (54)
All Practice Settings (n=869)	42.4 (40)	5.0 (2)	3.7 (1)	5.3 (0)	1.9 (0)	58.3 (55)
Results from 2000 (n=778)	40.6 (40)	5.7 (3)	4.0 (2)	6.2 (0)	1.7 (0)	58.2 (57)
Results from 1998 (n=1,193)	44.7 (45)	5.1 (3)	3.6 (2)	5.6 (0)	2.1 (0)	61.0 (60)
Results from 1996-1997 (n=1,032)	42.1 (40)	5.6 (4)	4.0 (2)	4.7 (0)	2.2 (0)	58.5 (58)
Results from 1993-1994 (n=1,203)	43.3 (45)	3.1 (0)	4.4 (2)	5.4 (0)	2.3 (1)	58.5 (60)
Results from 1991-1992 (n=1,367)	42.3 (45)	1.9 (0)	4.6 (2)	6.1 (0)	2.6 (1)	57.5 (60)

^a Practice settings as determined from response to the 2003 Member Census.

^b The median may be a more accurate measure of responses due to skewed distributions.

Table 22. Number of Patient Events per Week by Practice Setting

Practice Setting ^a	Mean number of patient events per week						Total
	Outpatient evaluation		Inpatient evaluation: Attending		Inpatient evaluation: Consulting		
	New	Follow-up	New	Follow-up	New	Follow-up	
Solo Practice (n=229)	19.9	37.4	1.8	2.7	7.4	9.7	78.9
Neurology Group (n=242)	18.9	41.3	3.2	5.4	9.3	16.0	94.1
Multispecialty Group (n=110)	23.4	37.8	1.9	5.5	5.1	8.1	81.8
University-Based Hospital (n=176)	9.4	15.9	4.1	7.2	4.0	5.0	45.6
Government Hospital or Clinic (n=44)	14.4	19.1	2.6	4.7	4.9	3.2	48.9
Staff-Model HMO (n=8)	24.9	33.8	3.6	2.9	5.6	6.1	76.9
Other Public or Private Hospital or Clinic (n=45)	14.9	16.2	4.0	7.4	5.0	4.8	52.4
All Practice Settings (n=854)	17.4	32.0	2.9	5.1	6.7	9.7	73.8
<i>Results from 2000 (n=759)</i>	16.5	31.7	2.7	5.2	6.0	9.4	71.5
<i>Results from 1998 (n=1,148)</i>	16.2	29.6	4.4	8.3	6.0	9.2	73.7
<i>Results from 1996-1997 (n=1,065)</i>	16.1	28.8	4.5	8.6	6.3	9.7	74.0

^a Practice settings as determined from response to the 2003 Member Census.

Table 23. Number of Office and Hospital Visits by Year

Location of Visit	Mean number of visits ^a per week					
	1991-92 (n=1,359)	1993-94 (n=1,203)	1996-97 (n=1,015)	1998 (n=1,148)	2000 (n=826)	2004 (n=938)
Office visits	37.6	40.0	45.2	44.6	47.2	48.7
Hospital visits	22.4	20.8	28.3	27.7	23.1	24.0
Total visits	59.6	60.7	73.6	72.3	70.2	72.7

^a In 1991-92 and 1993-94, the number of office and hospital visits elicited categorical responses by asking respondents to mark a range for the number of office and hospital visits (0-9, 10-19, 20-29, etc.). In 1996-97, 1998, 2000 and 2003, this question elicited continuous responses by asking respondents to provide a numeric value for new and follow-up visits for inpatient (attending and consulting, separately) and outpatient patient events.

Nurse Practitioners and Physician Assistants**Table 24. Use of Physician Extenders (Physician Assistants or Nurse Practitioners)**

	Percent of respondents		
	1998 (n=1,246)	2000 (n=829)	2004 (n=960)
Does your practice include physician extenders to help in the care of patients? (% Yes)	21.8	28.0	23.6
If yes, what kinds of services do the physician extenders provide? (n=217)			
Patient education/counseling	NA ^a	83.4	78.4
Write or refill prescriptions	NA	71.6	73.7
See follow-up patients independently	NA	48.9	71.4
Dictate patient notes	NA	42.8	51.2
Patient triage	NA	42.4	33.3
Assist with inpatient care patients	NA	NA	33.3
Perform billable procedures	NA	26.2	31.9
See new patients independently	NA	17.0	27.7
Other	NA	14.8	15.5
Assist with intensive care patients	NA	NA	11.7
Assist with emergency care patients	NA	NA	9.9
Conduct group medical appointments	NA	8.3	4.7

^a NA=Not Available.

Table 25. Use of Physician Extenders by Practice Setting

Practice Setting ^a	Percent of respondents
	Currently have physician extender
Solo Practice (n=226)	9.3
Neurology Group (n=237)	21.1
Multispecialty Group (n=111)	22.5
University-Based Group (n=170)	42.4
Government Hospital or Clinic (n=44)	34.1
Staff Model HMO (n=8)	37.5
Other Public or Private Hospital or Clinic (n=42)	35.7
Mean across Practice Settings (n=838)	24.0
<i>Results from 2000 (n=759)</i>	28.7
<i>Results from 1998 (n=1,156)</i>	22.8
<i>Results from 1996-1997 (n=1,036)</i>	23.6

^a Practice settings as determined from response to the 2003 Member Census.

Procedures**Table 26. Procedures Performed by Year: Part I**

Procedure	Percent of respondents who perform/interpret the procedure during the last 12 months					
	1991-92 (n=1,371)	1993-94 (n=1,235)	1997 (n=1,064)	1998 (n=1,230)	2000 (n=832)	2004 (n=947)
Electrodiagnostic Services:						
Electroencephalography (EEG)	68.0	68.0	69.8	65.0	59.9	61.4
Electromyography (EMG/NCS) ^a	54.6	55.1	58.1	55.8	49.4	54.4
Evoked Potentials (EP)	43.5	44.2	46.1	43.7	34.3	32.5
Intraoperative Monitoring	12.5	13.7	14.5	14.5	11.1	9.8
Sleep Studies	12.5	11.2	14.7	12.0	10.2	12.0
Neuroimaging:						
Carotid Duplex Ultrasound	NA ^b	NA	NA	NA	NA	10.7
Computed Tomography (CT)	8.4	9.5	13.1	16.3	11.2	6.5
fMRI	NA	NA	NA	NA	NA	1.6
Magnetic Resonance Imaging (MRI)	7.8	8.1	13.4	17.4	12.4	8.1
Positron Emission Tomography (PET)	0.7	0.6	1.5	1.5	1.3	1.3
Single Photon Emission Computed Tomography (SPECT)	1.2	0.8	2.1	3.6	2.3	1.2
Transcranial Doppler	NA	NA	NA	NA	NA	8.3
Pain Management:						
Nerve Blocks	NA	NA	13.5	12.2	12.0	16.5
Pump Management	NA	NA	NA	NA	NA	3.6
Soft tissue injections of local anesthetic or anti-inflammatory agents	NA	NA	19.8	20.2	19.6	20.0
Interventional Neurology:						
Angioplasty and Stenting	NA	NA	NA	NA	NA	0.1
Coiling	NA	NA	NA	NA	NA	0.0
Diagnostic Angiography	NA	NA	NA	NA	NA	0.5
Embolization	NA	NA	NA	NA	NA	0.1
Intra Arterial Thrombolysis	NA	NA	NA	NA	NA	0.3
tPA Administration	NA	NA	NA	NA	NA	26.9
Other:						
Botulinum Toxin Injections	4.7	8.7	12.8	14.0	18.8	26.7
Lumbar Puncture	75.7	78.2	80.3	75.0	71.2	64.8
Muscle/Nerve Biopsy	3.4	3.9	3.9	4.5	3.1	1.7
Vagus Nerve Stimulation	NA	NA	NA	NA	NA	17.2

^a In 1991-92, the number of procedures was asked per week rather than per month. The data were converted to monthly figures (multiplied by 4.33), however the conversion resulted in overestimation of procedures performed, so the data are not shown.

^b NA=Not Available.

Table 27. Procedures Performed by Year: Part II

Procedure	For those who perform the procedure, median number performed per month				
	1993-94	1997	1998	2000	2004
Electrodiagnostic Services:					
Electroencephalography (EEG)	20	20	20	20	20
Electromyography (EMG/NCS) ^a	20	25	25	25	25
Evoked Potentials (EP)	5	5	5	4	4
Intraoperative Monitoring	2	3	4	1	3
Sleep Studies	5	5	10	5	15
Neuroimaging:					
Carotid Duplex Ultrasound	NA ^b	NA	NA	NA	20
Computed Tomography (CT)	10	10	10	10	15
FMRI	NA	NA	NA	NA	4
Magnetic Resonance Imaging (MRI)	15	20	20	20	22
Positron Emission Tomography (PET)	6	3	2	0	3
Single Photon Emission Computed Tomography (SPECT)	6	2	2	1	3
Transcranial Doppler	NA	NA	NA	NA	10
Pain Management:					
Nerve Blocks	NA	3	5	2	5
Pump Management	NA	NA	NA	NA	4
Soft tissue injections of local anesthetic or anti-inflammatory agents	NA	3	4	4	5
Interventional Neurology:					
Angioplasty and Stenting	NA	NA	NA	NA	4
Coiling	NA	NA	NA	NA	0
Diagnostic Angiography	NA	NA	NA	NA	8
Embolization	NA	NA	NA	NA	1
Intra Arterial Thrombolysis	NA	NA	NA	NA	2
tPA Administration	NA	NA	NA	NA	1
Other:					
Botulinum Toxin Injections	2	3	5	4	5
Lumbar Puncture	2	2	3	2	2
Muscle/Nerve Biopsy	3	1	2	1	3
Vagus Nerve Stimulation	NA	NA	NA	NA	2

^a In 1991-92, the number of procedures was asked per week rather than per month. The data were converted to monthly figures (multiplied by 4.33), however the conversion resulted in overestimation of procedures performed, so the data are not shown.

^b NA=Not Available.

Reimbursements**Table 28. Forms of Insurance**

Practice Setting ^a	Mean percent of patients									
	Traditional Indemnity	Traditional Medicare	Managed Care Medicare	Traditional Medicaid	Managed Care Medicaid	Commercial Insurance Contracts	Worker's Compensation	Medical/Legal Comp	Charity	Self-Pay
Solo Practice (n=221)	12.2	30.7	7.1	6.3	3.2	24.1	6.7	3.4	1.7	4.6
Neurology Group (n=215)	12.2	29.9	9.1	6.3	3.4	25.8	3.9	3.0	2.5	3.9
Multispecialty Group (n=92)	16.0	26.4	9.1	9.1	3.9	26.6	3.4	1.3	1.3	2.9
University-Based Group (n=139)	14.6	25.9	8.8	11.7	6.6	23.5	0.6	0.7	2.3	5.2
Government Hospital or Clinic (n=22)	15.1	20.5	12.1	9.1	10.7	23.4	0.0	0.0	6.1	3.0
Staff-Model HMO (n=6)	0.8	1.7	52.5	0.3	2.0	41.0	0.8	0.0	0.0	0.8
Other Public or Private Hospital or Clinic (n=35)	14.6	18.7	5.5	18.7	12.8	21.6	2.1	1.0	1.3	3.6
Total Respondents (n=730)	13.3	27.9	8.7	8.3	4.7	24.8	3.8	2.3	2.1	4.2
Results from 2000 (n=623)	13.6	25.6	9.1	7.6	4.5	26.3	3.8	2.2	3.6	3.9
Results from 1998 (n=5,595)	14.8	25.4	8.8	7.8	4.5	24.0	5.3	3.0	2.6	3.5

^a Practice settings as determined from response to the 2003 Member Census.

Table 29. Type of Reimbursement

Practice Setting ^a	Mean percent of income received from each of the following types of reimbursement					
	Salary	FFS ^b	DFFS ^c	Capitation	Bonuses or risk pool /without returns	Other
Solo Practice (n=206)	35.8	26.0	31.2	0.6	2.2	4.2
Neurology Group (n=207)	56.6	18.4	15.7	1.1	5.7	2.4
Multispecialty Group (n=97)	66.3	9.4	15.5	3.0	3.3	2.5
University-Based Group (n=160)	87.5	3.7	3.5	0.1	2.1	3.2
Government Hospital or Clinic (n=43)	92.7	1.9	0.4	0.0	0.2	4.8
Staff-Model HMO (n=8)	97.3	0.0	0.0	0.0	2.8	0.0
Other Public or Private Hospital or Clinic (n=45)	81.8	7.8	2.9	0.9	0.7	6.0
Total Respondents (n=766)	62.6	14.5	15.5	0.9	3.1	3.4

^a Practice settings as determined from response to the 2003 Member Census.

^b Fee-for-service.

^c Discounted fee-for-service.

Clinical Care Classifications

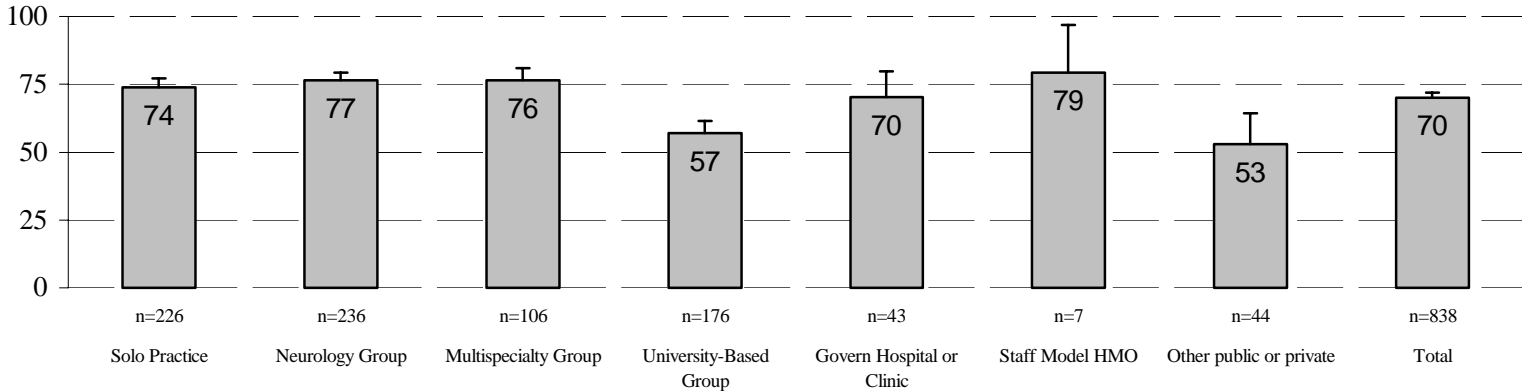
Table 30. Patient Visits from Each Clinical Care Classification by Practice Setting

Practice Setting ^a	Mean percent of respondents		
	Single consultations	Consultations with limited follow-up	Extended or long-term care
Solo Practice (n=226)	28.8	38.3	32.9
Neurology Group (n=233)	19.8	40.6	39.6
Multispecialty Group (n=108)	20.5	39.2	40.3
University-Based Group (n=174)	27.2	30.4	42.4
Government Hospital or Clinic (n=42)	34.2	28.3	37.4
Staff Model HMO (n=8)	25.4	37.5	37.1
Other Public or Private Hospital or Clinic (n=43)	22.3	37.1	40.6
Mean across Practice Settings (n=834)	24.8	36.8	38.4

^a Practice settings as determined from response to the 2003 Member Census.

Figure 6. Patient Referrals

Percent^a of patients referred to you by a general internist, family practitioner, or general pediatrician



^a The vertical line on top of each bar represents a 95% confidence interval.

Table 31. Expectation Regarding Provision of Extended Care

Three years from now, do you expect the proportion of your professional time spent providing extended or long-term care to:	Percent (n=912)
Stay about the same	59.3
Increase	22.5
Decrease	12.6
Do not provide extended or long-term care	5.6

Table 32. Extended or Long-term Care by Patient Type

	Percent of respondents		
	1998 (n=1,265)	2000 (n=731)	2004 (n=960)
Percent providing extended or long-term care to any of these diseases:	88.5	85.4	90.5
	(n=1,119)	(n=624)	(n=869)
For what types of patients, if any, do you provide extended or long-term care?			
Alzheimer's Disease	57.1	68.1	69.5
Amyotrophic Lateral Sclerosis	NA ^a	NA	48.9
Childhood Metabolic Diseases	NA	NA	10.6
Developmental Disabilities	NA	NA	21.4
Epilepsy	78.4	25.6	80.8
Headache	68.6	77.4	80.8
Huntington's Disease	26.3	34.2	35.3
Multiple Sclerosis	70.2	21.5	74.0
Muscular Dystrophy	28.2	33.7	32.6
Myasthenia Gravis	53.9	60.2	61.9
Other	16.1	34.5	20.8
Parkinson's Disease	73.1	75.1	76.2
Peripheral Neuropathy	NA	NA	72.5
Spine and Limb Pain	NA	47.6	51.7
Stroke	52.0	64.0	67.1

^a NA=Not Available.

Table 33. Primary Care Services Provided

	Percent of respondents	
	2000 (n=856)	2004 (n=960)
Percent providing the following primary care services	51.8	59.3
Which of the following primary care services do you provide?		
Alcohol/drug abuse screening	19.2	15.8
Atrial fibrillation management	16.5	12.0
Blood pressure assessment	72.5	71.4
Blood pressure management	26.0	27.6
Breast cancer screening	2.5	2.3
Cholesterol assessment	54.9	54.1
Cholesterol management	26.9	26.7
Depression management	58.2	58.9
Depression screening	65.9	63.6
Diabetic screening	34.8	29.9
Flu shots	5.6	13.9
Hormonal replacement therapy	3.8	4.6
Osteoporosis screening	NA	14.6
Reading EKG	NA	7.0
Smoking cessation	28.7	26.7
Weight control	6.1	22.1

SUMMARY (Tables 21-33)

The analysis of medical practice and all subsequent analysis included only US neurologists working at least 20 hours per week. Work settings are quite divergent, with neurologists working predominantly in Neurology Group practices (28.1%), followed by Solo practices (23.5%) and University-Based Group practices (22.2%). Interestingly, time per week devoted to patient care has remained stable since 1991-92, however time devoted to administration has increased from 1.9 hours per week (mean) to 5.0. Conversely, teaching and research have declined from 4.6 hours to 3.7 hours and 6.1 to 5.3 hours, respectively. More outpatient visits are reported and inpatient visits are up only slightly. Of the inpatient visits, consultations appear to account for much of the increase. An average of 73.8 patient events occur per week.

While the absolute number of practices that include physician extenders to help in the care of patients did not increase substantially, their function has changed from one of patient education and triage, to one of direct patient care and performing billable procedures.

In terms of procedures performed, the trends reveal a decrease in the number of respondents performing EEG and EPs. EMGs remain relatively stable with fluctuations over the intervening years since 1991. CT and MRI are diminishing and Nerve Blocks and Botulinum Toxin Injections are on the rise. For those who perform these procedures and provided responses, the numbers of procedures performed remain stable.

The forms of insurance seen by respondents have changed only slightly over the last three reports. Traditional Indemnity is down to 13.3% from 14.8% in 1998 and Traditional Medicare is slightly up (25.4% to 27.9%) in the same time period. Managed care Medicare and Medicaid, traditional Medicaid, and Commercial Insurance have all remained relatively stable. Worker's Compensation, Medical/legal Compensation and Charity have all shown a slight decline.

Interestingly, respondents indicate they receive the largest portion of their income from a salary (62.6%). Fee-for-Service and Discounted-Fee-for-Service are proportionately much less at 14.5 and 15.5%. Capitation is less than 1%.

Most respondents indicate that 70% of their patients are referred by a general internist, family practitioner, or general pediatrician. Requests are usually for extended or long term care (38.4%), followed by limited follow up and single visits (36.8% and 24.8%, respectively). The majority of respondents expect the amount of time spent on extended or long term care of patients to remain the same over the next three years (59.2%).

Fifty nine point three percent provide some type of primary care services. This is an increase from 51.8% in 2000.

*Stroke Issues***Table 34. Care of Stroke Patients by Practice Setting**

Practice Setting ^a	Do you provide consultation or care for stroke patients?	
	Percent Yes	Percent No
Solo Practice (n=231)	90.0	10.0
Neurology Group (n=242)	90.9	9.1
Multispecialty Group (n=111)	88.3	11.7
University-Based Group (n=180)	64.4	35.6
Government Hospital or Clinic (n=45)	80.0	20.0
Staff Model HMO (n=8)	100.0	0.0
Other Public or Private Hospital or Clinic (n=45)	66.7	33.3
Mean across Practice Settings (n=862)	83.1	16.9
<i>Results from 2000 (n=728)</i>	<i>82.0</i>	<i>18.0</i>
<i>Results from 1998 (n=1,143)</i>	<i>81.2</i>	<i>18.8</i>

^a Practice settings as determined from response to the 2003 Member Census.

Table 35. Consulted for Thrombolytic Therapy

Practice Setting ^a	Are you consulted to give thrombolytic therapy?	
	Percent Yes	Percent No
Solo Practice (n=207)	73.9	26.1
Neurology Group (n=218)	86.2	13.8
Multispecialty Group (n=98)	76.5	23.5
University-Based Group (n=115)	70.4	29.6
Government Hospital or Clinic (n=35)	60.0	40.0
Staff Model HMO (n=8)	100.0	0.0
Other Public or Private Hospital or Clinic (n=30)	56.7	43.3
Mean across Practice Settings (n=711)	76.4	23.6

^a Practice settings as determined from response to the 2003 Member Census.

Table 36. Stroke Care

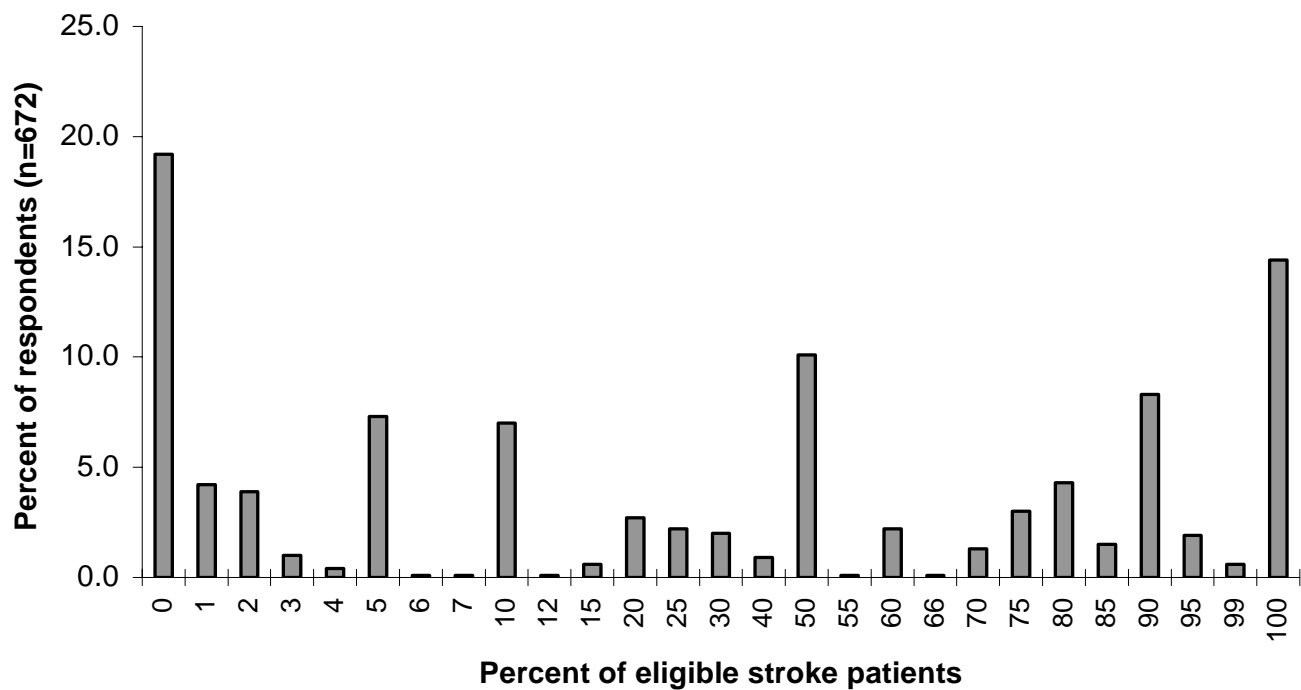
Rate how much you agree or disagree with each statement:	Percent of respondents (of those [n=716] who provide stroke consults)				
	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Don't know
I am consulted too late to give thrombolytic therapy to eligible stroke patients (n=718)	19.4	21.2	30.8	21.6	7.1
<i>Results from 2000 (n=615)</i>	<i>15.3</i>	<i>20.5</i>	<i>32.2</i>	<i>28.0</i>	<i>4.1</i>
<i>Results from 1998 (n=928)</i>	<i>16.5</i>	<i>23.3</i>	<i>39.2</i>	<i>17.8</i>	<i>3.2</i>
The risks of thrombolytic therapy for stroke outweigh the benefits (n=725)	30.2	35.2	20.0	9.5	5.1
<i>Results from 2000 (n=620)</i>	<i>28.4</i>	<i>40.0</i>	<i>22.7</i>	<i>6.6</i>	<i>2.3</i>
<i>Results from 1998 (n=932)</i>	<i>22.4</i>	<i>41.7</i>	<i>23.6</i>	<i>7.9</i>	<i>4.3</i>
I feel comfortable in administering tPA (n=724)	8.7	13.4	26.4	47.4	4.1
<i>Results from 2000 (n=619)</i>	<i>10.8</i>	<i>11.3</i>	<i>27.9</i>	<i>47.0</i>	<i>2.4</i>
<i>Results from 1998 (n=935)</i>	<i>8.7</i>	<i>15.7</i>	<i>33.9</i>	<i>39.1</i>	<i>2.6</i>

Table 37. Thrombolytic Therapy for Stroke: Number of Patients

In the last year, for how many stroke patients did you order thrombolytic therapy?	Count	Percent of respondents
0 patients	196	27.8
1-2 patients	139	19.7
3-4 patients	76	10.8
5-6 patients	106	15.0
7-8 patients	36	5.1
9-10 patients	63	8.9
More than 10 patients	89	12.6
Total Respondents	705	100.0

Figure 7. Thrombolytic Therapy for Stroke: Percent of Eligibles that Received Thrombolytics

Percent of eligible stroke patients that actually received thrombolytics



Patient Safety Issues**Table 38. Tracking Medical Errors by Practice Setting**

Practice Setting ^a	Do you systematically track medical errors?	
	Percent Yes	Percent No
Solo Practice (n=225)	46.2	53.8
Neurology Group (n=236)	31.4	68.6
Multispecialty Group (n=111)	36.9	63.1
University-Based Group (n=176)	33.5	66.5
Government Hospital or Clinic (n=43)	46.5	53.5
Staff Model HMO (n=8)	62.5	37.5
Other Public or Private Hospital or Clinic (n=34)	48.8	51.2
Mean across Practice Settings (n=842)	38.5	61.5
<i>Results from 2000 (n=716)</i>	<i>31.3</i>	<i>68.7</i>

^a Practice settings as determined from response to the 2003 Member Census.

Table 39. Willingness to Track Medical Errors by Practice Setting

Practice Setting ^a	Would you be willing to keep track of the errors that occur in your practice in order to minimize them?		
	Percent Yes	Percent No	Percent Unsure
Solo Practice (n=227)	59.0	9.3	31.7
Neurology Group (n=239)	54.0	9.2	36.8
Multispecialty Group (n=110)	61.8	2.7	35.5
University-Based Group (n=175)	70.3	4.6	25.1
Government Hospital or Clinic (n=44)	75.0	2.3	22.7
Staff Model HMO (n=8)	75.0	0.0	25.0
Other Public or Private Hospital or Clinic (n=45)	86.7	0.0	13.3
Mean across Practice Settings (n=848)	62.7	6.5	30.8
<i>Results from 2000 (n=717)</i>	<i>75.0</i>	<i>2.5</i>	<i>22.5</i>

^a Practice settings as determined from response to the 2003 Member Census.

Table 40. Use of Computerized Systems

	Percent of respondents (n=960)
Do you use computerized systems (including electronic mail) for any of the following? (% Yes)	83.5
Prescription medication	23.7
Medical claims/billing	75.9
Patient medical records	46.3
Tracking medical errors	9.5
Communication with patients	25.6
Communication with other physicians	49.9

Personal Digital Assistant / Handheld Device**Table 41. Use of a Personal Digital Assistant (PDA) /Handheld Device**

Practice Setting ^a	Do you use a Personal Digital Assistant (PDA) / handheld device?	
	Percent Yes	Percent No
Solo Practice (n=230)	34.3	65.7
Neurology Group (n=242)	45.5	54.5
Multispecialty Group (n=111)	39.6	60.4
University-Based Group (n=178)	55.1	44.9
Government Hospital or Clinic (n=45)	42.2	57.8
Staff Model HMO (n=8)	50.0	50.0
Other Public or Private Hospital or Clinic (n=45)	51.1	48.9
Mean across Practice Settings (n=859)	43.9	56.1

^a Practice settings as determined from response to the 2003 Member Census.

Table 42. Primary Use of Personal Digital Assistant (PDA) /Handheld Device

	Percent of respondents
Bibliographic database searches	12.5
Billing and coding	14.0
Drug resources	71.3
Medical formulas / calculators / conversion tables	42.9
Medical reference material	37.0
Note-taking / word processing	31.4
Patient tracking	14.2
Prescription ordering	4.7
Procedure tracking	4.9
Self-testing tools	3.2
Other	28.2

SUMMARY (Tables 34-42)

Over 80% of respondents provide consultation or care for the stroke patient. There is a trend away from these neurologists feeling that they are being consulted too late to give tPA and a definite trend towards them disagreeing with the notion that the risks of tPA outweigh the benefits. The reported comfort level with administering tPA has also increased overall since 1998, although there has been some fluctuation in responses since 2000.

In response to items pertaining to tracking of medical errors, it was noted that more respondents are tracking errors in their practice (38.5% up from 31.3% in 2000). However, more respondents chose “unsure” in response to the item “Would you be willing to keep track of the errors that occur in your practice in order to minimize them” (up 8.3% from 22.5% in 2000 to 30.8%).

Of those respondents that use a computerized system, 46% indicated they use electronic medical records. Approximately 44% use a PDA or other handheld device. Uses of the device were varied but consisted primarily of accessing drug resources (71.3%), medical formulas/calculators/conversion tables (42.9%), and medical reference material (37.0%).



**AMERICAN ACADEMY OF
NEUROLOGY**

2003 MEMBER CENSUS

This survey is being processed using scanners and software that read your hand-printed characters. Please mark your answers in the GREEN SHADED areas only or mark an "X" in the CENTER of the black boxes. See example below.

Example: or

Please note: In questions 1, 2, & 3, the information that is provided is what we currently have on file for you. If the information is blank or incorrect, please update your information in the boxes provided to the right.

1. Date of Birth If your Date of Birth is blank or incorrect, please enter below. Sample:

<input type="text"/>	<input type="text"/>	/	<input type="text"/>	<input type="text"/>	/	<input type="text" value="1"/>	<input type="text" value="9"/>	<input type="text"/>	<input type="text"/>
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2. Gender If your Gender is blank or incorrect, please enter below. Sample:

Male Female

3. U.S. Citizen If your U.S. Citizenship is blank or incorrect, please enter below. Sample:

Are you a U.S. Citizen? No Yes

4. Please mark your Ethnicity. Sample:

Hispanic or Latino Not Hispanic or Latino

5. Please mark your Race. (Mark ALL that apply) Sample:

American Indian or Alaska Native Asian Black or African American
 Native Hawaiian or Other Pacific Islander White

6. Training (Mark ALL that apply) Sample:

	Mark if completed	Mark if U.S. or Canadian Board Certified	Mark if ACGME Accredited
Neurology residency	<input type="checkbox"/>	<input type="checkbox"/>	
Child Neurology residency	<input type="checkbox"/>	<input type="checkbox"/>	
Combined residency (Please list type) _____	<input type="checkbox"/>	<input type="checkbox"/>	
Fellowship (Please list type) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fellowship (Please list type) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Are you currently in training? Sample:

No Yes If yes, what type of training? (Mark ALL that apply)
 Medical School Residency Fellowship Other training

8. Indicate your most appropriate occupational title. (Mark ONE only) Sample:

- | | | |
|---|--|--|
| <input type="checkbox"/> Adult Neurologist | <input type="checkbox"/> Neuropsychologist | <input type="checkbox"/> Physiatrist |
| <input type="checkbox"/> Child Neurologist | <input type="checkbox"/> Neuroradiologist | <input type="checkbox"/> Practice Manager |
| <input type="checkbox"/> Emergency Medicine Physician | <input type="checkbox"/> Neuroscientist (no clinical practice) | <input type="checkbox"/> Rehabilitation Medicine Physician |
| <input type="checkbox"/> Fellowship | <input type="checkbox"/> Neurosurgeon | <input type="checkbox"/> Retired |
| <input type="checkbox"/> Medical Internist | <input type="checkbox"/> Nurse or Nurse practitioner | <input type="checkbox"/> Student or Resident |
| <input type="checkbox"/> Neuro-ophthalmologist | <input type="checkbox"/> Psychiatrist | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Neuropathologist | | |

9. Occupational Status Sample: X

9a.) Are you a faculty member in a medical school or neurology department? (If adjunct clinical faculty only, please mark "No")

- No Yes **→** If yes, are you primarily: Full time Not full time
 If yes, are you primarily: Clinical Research Education Administrative

9b.) Are you in active military service? Yes No

9c.) Are you employed full or part-time in one of the following non-practice positions?

- No Yes If, yes **(Mark ALL that apply)**
- | | |
|---|---|
| <input type="checkbox"/> Independent consultant | <input type="checkbox"/> Position in a non-profit, non-university-based research organization |
| <input type="checkbox"/> Position in the insurance or pharmaceutical industry | <input type="checkbox"/> Other non-practice position |

9d.) Indicate in which practice arrangement you spend the majority of your clinical time: (Mark ONE only)

- | | | |
|---|--|---|
| <input type="checkbox"/> Solo practice | <input type="checkbox"/> University based group | <input type="checkbox"/> Other public or private hospital or clinic setting |
| <input type="checkbox"/> Neurology group | <input type="checkbox"/> Staff-model HMO | <input type="checkbox"/> I do not have a clinical practice (SKIP TO QUESTION #12) |
| <input type="checkbox"/> Multispecialty group | <input type="checkbox"/> Government hospital or clinic | |

9e.) Please enter the number of neurologists (including yourself) in the practice arrangement you selected above:

Neurologists

10. Practice Focus Indicate which areas you focus or concentrate on in your practice. Sample: X
 (Mark ALL that apply)

- | | | | |
|--|---|--|---|
| <input type="checkbox"/> Aging/Dementia | <input type="checkbox"/> EMG | <input type="checkbox"/> Neuroepidemiology | <input type="checkbox"/> Sleep disorders |
| <input type="checkbox"/> Behavioral neurology | <input type="checkbox"/> Epilepsy | <input type="checkbox"/> Neuroimaging | <input type="checkbox"/> Spine related conditions |
| <input type="checkbox"/> Cerebrovascular disease | <input type="checkbox"/> General neurology | <input type="checkbox"/> Neuromuscular disorders | <input type="checkbox"/> Worker's compensation |
| <input type="checkbox"/> Chronic pain | <input type="checkbox"/> Headache | <input type="checkbox"/> Neuro-oncology | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> CNS infectious diseases | <input type="checkbox"/> Interventional neurology | <input type="checkbox"/> Neuro-ophthalmology | |
| <input type="checkbox"/> Critical care | <input type="checkbox"/> Movement disorders | <input type="checkbox"/> Neuropharmacology | |
| <input type="checkbox"/> EEG | <input type="checkbox"/> Multiple Sclerosis/
Neuroimmunology | <input type="checkbox"/> Neurorehabilitation | |

11. Indicate the percentage of your patients that are: Sample: 0 7 5
 (Total 100%)

Under age 18: % 18 to 65 years old % More than 65 years old %

12. Indicate the percentage of your professional time devoted to each of the following activities: Sample: 0 7 5
 (Total 100%)

Clinical Practice	Research	Teaching	Administration	Other
<input type="text"/> %	<input type="text"/> %	<input type="text"/> %	<input type="text"/> %	<input type="text"/> %

13. Do you perform research in any of the following areas? (Mark ALL that apply) Sample: X

- | | | |
|---|--|---|
| <input type="checkbox"/> Basic Science Research | <input type="checkbox"/> Clinical Research | <input type="checkbox"/> Health Services Research |
| <input type="checkbox"/> Medical Education Research | <input type="checkbox"/> Other Research | |



2003
PRACTICE PROFILE FORM

This survey is being processed using scanners and software that read your hand-printed characters. Please mark your answers in the text boxes (avoiding contact with the box edges) or mark an "X" in the CENTER of the black boxes. See example below.

Example:

3	0
---	---

 or

Practice Characteristics

1. Please indicate the number of hours you spend in a typical week performing each of the following activities:

	TOTAL HOURS PER WEEK		TOTAL HOURS PER WEEK						
A) Patient care	<table border="1" style="display: inline-table;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>				D) Medical research	<table border="1" style="display: inline-table;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>			
B) Administration	<table border="1" style="display: inline-table;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>				E) Other medical activities	<table border="1" style="display: inline-table;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>			
C) Teaching	<table border="1" style="display: inline-table;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>								

2. Estimate the number of patient events you have per week:

	NEW EVALUATION		FOLLOW-UP						
A) Inpatient attending	<table border="1" style="display: inline-table;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>				<table border="1" style="display: inline-table;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>			
B) Inpatient consulting	<table border="1" style="display: inline-table;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>				<table border="1" style="display: inline-table;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>			
C) Outpatient	<table border="1" style="display: inline-table;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>				<table border="1" style="display: inline-table;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>			

Nurse Practitioners and Physician Assistants

3a. Does your practice include nurse practitioners and/or physician assistants to help in the care of patients?

- Yes No If no, please go to Question #4

3b. If you answered yes to question 3a, what kinds of services do the nurse practitioners and/or physician assistants perform? (Mark all that apply)

- | | | |
|---|---|--|
| <input type="checkbox"/> See new patients independently | <input type="checkbox"/> Patient triage | <input type="checkbox"/> Assist with inpatient care patients |
| <input type="checkbox"/> See follow-up patients independently | <input type="checkbox"/> Conduct group medical appointments | <input type="checkbox"/> Assist with intensive care patients |
| <input type="checkbox"/> Patient education/counseling | <input type="checkbox"/> Write or refill prescriptions | <input type="checkbox"/> Assist with emergency care patients |
| <input type="checkbox"/> Dictate patient notes | <input type="checkbox"/> Perform billable procedures | <input type="checkbox"/> Other _____ |

Procedures

4. Indicate if you have personally performed or interpreted for reimbursement (either to yourself or to your institution) any of the following procedures during the last 12 months. Do not include tests merely ordered. For each procedure, mark yes or no and indicate how many you perform in a typical month.

Electrodiagnostic Services:

- A) EEG No Yes.....How many do you perform in a typical month?

--	--	--	--
- B) EMG/NCS No Yes.....How many do you perform in a typical month?

--	--	--	--
- C) Evoked Potentials No Yes.....How many do you perform in a typical month?

--	--	--	--
- D) Intraoperative Monitoring No Yes.....How many do you perform in a typical month?

--	--	--	--
- E) Sleep Studies No Yes.....How many do you perform in a typical month?

--	--	--	--

Neuroimaging:

- F) Carotid Duplex Ultrasound No Yes.....How many do you perform in a typical month?

--	--	--	--
- G) CT No Yes.....How many do you perform in a typical month?

--	--	--	--
- H) fMRI No Yes.....How many do you perform in a typical month?

--	--	--	--
- I) MRI No Yes.....How many do you perform in a typical month?

--	--	--	--
- J) PET No Yes.....How many do you perform in a typical month?

--	--	--	--
- K) SPECT No Yes.....How many do you perform in a typical month?

--	--	--	--
- L) Transcranial Doppler No Yes.....How many do you perform in a typical month?

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Pain Management:

- M) Nerve Blocks No Yes.....How many do you perform in a typical month?

--	--	--	--
- N) Pump Management No Yes.....How many do you perform in a typical month?

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- O) Soft tissue injections of local anesthetic or anti-inflammatory agents No Yes.....How many do you perform in a typical month?

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Procedures (continued)

4. Indicate if you have personally performed or interpreted for reimbursement (either to yourself or to your institution) any of the following procedures during the last 12 months. Do not include tests merely ordered. For each procedure, mark yes or no and indicate how many you perform in a typical month.

Interventional Neurology:

P) Angioplasty and Stenting	<input type="checkbox"/> No	<input type="checkbox"/> Yes.....How many do you perform in a typical month?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Q) Coiling	<input type="checkbox"/> No	<input type="checkbox"/> Yes.....How many do you perform in a typical month?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
R) Diagnostic Angiography	<input type="checkbox"/> No	<input type="checkbox"/> Yes.....How many do you perform in a typical month?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
S) Embolization	<input type="checkbox"/> No	<input type="checkbox"/> Yes.....How many do you perform in a typical month?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
T) Intra-arterial Thrombolysis	<input type="checkbox"/> No	<input type="checkbox"/> Yes.....How many do you perform in a typical month?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
U) tPA Administration	<input type="checkbox"/> No	<input type="checkbox"/> Yes.....How many do you perform in a typical month?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Other:

V) Botulinum Toxin Injections.....	<input type="checkbox"/> No	<input type="checkbox"/> Yes.....How many do you perform in a typical month?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
W) Lumbar Puncture	<input type="checkbox"/> No	<input type="checkbox"/> Yes.....How many do you perform in a typical month?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
X) Muscle/Nerve Biopsy	<input type="checkbox"/> No	<input type="checkbox"/> Yes.....How many do you perform in a typical month?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Y) Vagus Nerve Stimulation.....	<input type="checkbox"/> No	<input type="checkbox"/> Yes.....How many do you perform in a typical month?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Reimbursements

5. Please estimate the percent of your patients who reimburse you or your group with the following forms of Insurance:

(Total 100%)

We encourage you to consult with appropriate office personnel to answer this question.

Traditional Indemnity Insurance	<input type="text"/>	%	Traditional Medicaid ..	<input type="text"/>	%	Worker's Compensation	<input type="text"/>	%
Traditional Medicare ..	<input type="text"/>	%	Managed Care Medicaid	<input type="text"/>	%	Medical/Legal Compensation	<input type="text"/>	%
Managed Care Medicare	<input type="text"/>	%	Commercial Insurance Contracts	<input type="text"/>	%	Charity	<input type="text"/>	%
			(PPO, IPA, HMO, etc)			Self-pay	<input type="text"/>	%

Reimbursements (continued)

6. Please estimate the percent of personal income from the following sources:

(Total 100%)

We encourage you to consult with appropriate office personnel to answer this question.

Salary	<input type="text"/> <input type="text"/> <input type="text"/>	%	Discounted Fee-for-Service payments	<input type="text"/> <input type="text"/> <input type="text"/>	%	Capitation	<input type="text"/> <input type="text"/> <input type="text"/>	%
Bonuses or risk pool/withhold returns ..	<input type="text"/> <input type="text"/> <input type="text"/>	%	Fee-for-Service payments	<input type="text"/> <input type="text"/> <input type="text"/>	%	Other	<input type="text"/> <input type="text"/> <input type="text"/>	%

Clinical Care Classification

7. For what percent of your patients do you provide the following types of neurologic care?

(Total 100%)

Single consultations	<input type="text"/> <input type="text"/> <input type="text"/>	%	Consultations with limited follow-up	<input type="text"/> <input type="text"/> <input type="text"/>	%	Extended or long-term care	<input type="text"/> <input type="text"/> <input type="text"/>	%
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8. Three years from now, do you expect the proportion of your professional time spent providing extended or long term care to:

Increase
 Decrease
 Stay about the same
 Do not provide extended or long-term care

9. What percent of your patients are referred to you by a general internist, family practitioner, or general pediatrician?

%

10. Which of the following primary care services do you provide? (Mark all that apply)

- | | | |
|---|---|---|
| <input type="checkbox"/> Alcohol/drug abuse screening | <input type="checkbox"/> Cholesterol management | <input type="checkbox"/> Osteoporosis screening |
| <input type="checkbox"/> Atrial fibrillation management | <input type="checkbox"/> Depression screening | <input type="checkbox"/> Reading EKG |
| <input type="checkbox"/> Blood pressure assessment | <input type="checkbox"/> Depression management | <input type="checkbox"/> Smoking cessation |
| <input type="checkbox"/> Blood pressure management | <input type="checkbox"/> Diabetic screening | <input type="checkbox"/> Weight control |
| <input type="checkbox"/> Breast cancer screening | <input type="checkbox"/> Flu shots | |
| <input type="checkbox"/> Cholesterol assessment | <input type="checkbox"/> Hormonal replacement therapy | |

11. For what types of patients, if any, do you provide extended or long-term care? (Mark all that apply)

- | | | |
|--|---|--|
| <input type="checkbox"/> Amyotrophic Lateral Sclerosis | <input type="checkbox"/> Headache | <input type="checkbox"/> Parkinson's Disease |
| <input type="checkbox"/> Alzheimer's Disease | <input type="checkbox"/> Huntington's Disease | <input type="checkbox"/> Peripheral Neuropathy |
| <input type="checkbox"/> Childhood Metabolic Diseases | <input type="checkbox"/> Multiple Sclerosis | <input type="checkbox"/> Spine and Limb Pain |
| <input type="checkbox"/> Developmental Disabilities | <input type="checkbox"/> Muscular Dystrophy | <input type="checkbox"/> Stroke |
| <input type="checkbox"/> Epilepsy | <input type="checkbox"/> Myasthenia Gravis | <input type="checkbox"/> Other |

Stroke Issues

12. Do you provide consultation or care for stroke patients? Yes No If no, please go to question #17
13. Are you consulted to give thrombolytic therapy? Yes No
14. Please rate how much you agree or disagree with each statement:
- | | Strongly
Disagree | Somewhat
Disagree | Somewhat
Agree | Strongly
Agree | Don't
Know |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| A) I am consulted too late to give thrombolytic therapy to eligible stroke patients | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| B) The risks of thrombolytic therapy for stroke outweigh the benefits | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| C) I feel comfortable in administering tPA | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
15. In the last year, what percent of your stroke patients that were eligible for thrombolytic therapy actually received thrombolytic therapy?
 %
16. In the last year, for how many stroke patients did you order thrombolytic therapy?

Patient Safety Issues

17. Do you keep a complete list of your patients' medications?
 Yes, all patients Yes, some patients No
- Please use the following definition when answering questions 18 - 20:
Error: Failure to choose an appropriate plan or to carry it out correctly.
18. Do you systematically track medical errors?
 Yes No
19. Would you be willing to report the errors that occur in your practice in order to minimize them?
 Yes No Unsure
20. Do you use computerized systems (including electronic mail) for any of the following: (Mark all that apply)
- | | | |
|--|--|--|
| <input type="checkbox"/> Prescription medication | <input type="checkbox"/> Patient medical records | <input type="checkbox"/> Communication with patients |
| <input type="checkbox"/> Medical claims/billing | <input type="checkbox"/> Tracking medical errors | <input type="checkbox"/> Communication with other physicians |

Personal Digital Assistant / Handheld Device

21. Do you use a Personal Digital Assistant (PDA) / handheld device? Yes No
22. What are the primary uses of your Personal Digital Assistant (PDA) / handheld device? (Mark all that apply)
- | | |
|---|--|
| <input type="checkbox"/> Bibliographic database searches | <input type="checkbox"/> Patient tracking |
| <input type="checkbox"/> Billing and coding | <input type="checkbox"/> Prescription ordering |
| <input type="checkbox"/> Drug resources | <input type="checkbox"/> Procedure tracking |
| <input type="checkbox"/> Medical formulas/calculators/conversion tables | <input type="checkbox"/> Self-testing tools |
| <input type="checkbox"/> Medical reference material | <input type="checkbox"/> Other (please list) _____ |
| <input type="checkbox"/> Note-taking/Word processing | |



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