

RECOMMENDATIONS REGARDING SUPPLEMENTAL PRACTICE EXPENSE DATA SUBMITTED FOR 2003

Evaluation of Survey Data for:
Physical Therapy
Oncology
Cardiology
Pediatrics

PREPARED FOR:
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Table of Contents

I.	Background.....	1
II.	Evaluation of the Physical Therapy Supplemental PE Survey.....	2
	- Lewin Recommendation on Physical Therapy Survey.....	4
III.	Evaluation of the Oncology Supplemental PE Survey.....	5
	- Lewin Recommendation on Oncology Supplemental PE Survey	7
IV.	Evaluation of the Cardiology Supplemental PE Survey.....	13
	- Lewin Recommendation on Cardiology survey	13
V.	Evaluation of the Pediatrics Survey Data	13
	- Lewin Recommendation on Pediatrics Survey Data	13

Appendix A: The American Physical Therapy Association Practice Expense Survey: Methodology and Results

Appendix B: The American Society of Clinical Oncology Practice Expense Survey: Methodology and Results

This report discusses the supplemental practice expense surveys conducted for the specialties of physical therapy, oncology, cardiology, and pediatrics. Data for each specialty are being formally submitted to the Centers for Medicare and Medicaid Services (CMS) through The Lewin Group for consideration in developing 2003 practice expense relative value units (RVUs) for the Medicare Physician Fee Schedule. In this report, we present a brief background on the criteria presented in the November 1, 2000 Final Rule and the June 28, 2002 Interim Final Rule for acceptance of supplemental data and our analyses and recommendations regarding each survey in terms of these criteria.

I. BACKGROUND

The May 3, 2000 Interim Final Rule published in the *Federal Register* presented the criteria to be used in evaluating supplemental surveys. CMS received a number of comments from the public regarding the criteria and finalized the requirements for supplemental survey data in its November 1, 2000 Final Rule. In its June 28, 2002 Interim Final Rule, CMS revised the standard relating to the level of precision. This report provides an evaluation of supplemental data submitted by the American Physical Therapy Association (APTA), American Society of Clinical Oncology (ASCO), the American College of Cardiologists (ACC), and the American Academy of Pediatrics (AAP) with respect to these criteria. Based on these evaluations and The Lewin Group's independent assessment of the data, we include our recommendations on whether or not CMS should accept the supplemental practice expense data submitted by these specialty groups and use these data in the calculation of practice expense RVUs for 2003.

CMS has specified five criteria for evaluating supplemental survey data:

- 1) **Confidentiality:** Groups conducting surveys must ensure the confidentiality of the sample and not know the names of the individuals selected to be surveyed.
- 2) **Survey Instrument and Protocols:** Groups must conduct the survey based on the SMS survey instruments and protocols, including administrative, follow-up, and definitions of practice expenses and hours worked. Specifically, the supplemental survey data must include data for the six practice expense categories established in the SMS survey – three direct categories (clinical labor, medical supplies, medical equipment), and three indirect categories (administrative labor, office overhead, and other professional expenses).
- 3) **Survey Contractor:** Groups must use a contractor that has experience surveying health care professionals, collecting financial information, and using random samples.
- 4) **Level of Precision:** The Centers for Medicare and Medicaid Services revised its criterion for the measurement of precision applied to supplemental practice expense data in its June 28, 2002 Interim Final Rule published in the *Federal Register*. Previously, the November 2000 Final Rule established a criterion that required the precision level to be at a 90 percent confidence interval with a range of plus or minus 10 percent of the mean. However, the revised criterion for the measurement of precision requires that submitted supplemental practice expense data achieve a sampling error of 0.15 or less at a confidence level of 90

percent. That is, the ratio of the standard error of the mean to the mean multiplied by 1.645 should be equal to or less than 15 percent of the mean.

Nationally Representative Survey of the Target Population of Physicians:

- a) **Random sample from complete nationwide listing-** Groups must draw the sample from AMA’s Masterfile if possible. For non-physician groups not included in the Masterfile, a nationally representative sample of members and non-members must be developed.
- b) **“High” response rate-** CMS has previously used 80 to 90 percent as an example of a high response rate, at which representativeness could be presumed.

In the November 1, 2001 Final Rule, CMS reiterated that it continues to believe that it is impossible and impractical to set rigid response-rate cutoffs for acceptance of supplemental survey data. However, for consideration of survey data, CMS has asked for detailed analyses that indicate that the sample is representative of the physician population surveyed, especially when response rates are low.

II. EVALUATION OF THE PHYSICAL THERAPY SUPPLEMENTAL PE SURVEY

Under the revised precision criteria discussed above, CMS will allow specialties that have submitted supplemental practice expense data that did not meet the precision requirement under the former criteria to resubmit these data to be evaluated under the revised criterion. As a result, the APTA has resubmitted its supplemental practice expense data for reconsideration.

Last year, the APTA submitted data to CMS from 134 respondents for consideration in developing practice expense RVUs for 2002. Sixty-nine responses were obtained from a practice expense survey conducted during the summer of 2000. APTA fielded another survey during the summer of 2001 and collected an additional 65 useable responses. We reported findings from our analysis of the survey data in “Recommendations Regarding Supplemental Practice Expense Data Submitted for 2002.”¹ The results from that analysis are reproduced here and supplemented with new findings, in light of the revised precision requirement. A more detailed analysis of the survey results appears in Appendix A.

- 1) ***Confidentiality***
- 2) ***Survey Instrument and Protocols***
- 3) ***Survey Contractor***

The Lewin team worked closely with APTA to develop the sample frame and draw the sample. The survey instrument was based on the 1999 SMS survey, with only minor modifications, which we approved. APTA provided us with a list of members and former members and Lewin drew the sample from these lists. The sample was provided directly to APTA’s survey

¹ This report is available at <http://cms.hhs.gov/physicians/pfs/default.asp>.

contractor, Baselice & Associates, Inc. It is our view that APTA adhered to the confidentiality requirement in that APTA did not know which physical therapists were included in the final sample, utilized the SMS survey instrument and contracted with a vendor who has successfully completed numerous SMS type surveys.

- The Lewin team is satisfied that the APTA survey meets the requirements for ***Confidentiality, Survey Instrument and Protocols, and Survey Contractor.***

4) ***Level of Precision²***

The Lewin team compiled the results from the APTA surveys and computed measures of the level of precision for total practice expenses per hour and total practice expenses. Under the June 28, 2002 Interim Final Rule, the level of precision is measured by the standard error of the mean divided by the mean multiplied by 1.645. This measure should not exceed 0.15. The relevant APTA survey estimates are:

Level of Precision for Total Practice Expense per Hour = 11.9%

Level of Precision for Total Practice Expenses = 13.6%

- Both measures of the level of precision for the APTA supplemental PE survey meet the ***Level of Precision*** specified in the June 28th Interim Final Rule.

5) ***Nationally Representative Survey of the Target Population of Practitioners***

a) **Random sample from complete nationwide listing**

Samples for the APTA surveys were derived from member and former member lists provided to us by APTA. The former member list was used to represent non-members. The lists are national and a random sample was extracted from them. In total, the samples from both surveys (i.e., the surveys conducted in 2000 and 2001) included 1,546 members and non-members (n=704 for 2000 survey, n=842 for 2001 survey). The sample sizes for each survey were developed based on estimates of the number of responses needed to meet CMS' level of precision requirement given previous experience with response rates and to ensure an appropriate mix of members and non-members.

- While we recognize that using former members to represent non-APTA members has its limitations, we believe that the APTA survey makes use of the best available data for developing a nationally representative survey.

b) **“High” response rate**

The APTA surveys achieved a low response rate. In total, we calculated that approximately 14% (N=134) of potentially eligible respondents completed the survey questions on practice expenses and hours worked; 109 APTA members and 25 non-members. Such a low response rate raises

² Please see Appendix A of this report for a more detailed explanation of the Level of Precision, Random Sample and “High” Response Rate calculations.

questions regarding the representativeness of the results. The key issue is do non-responders have different practice expenses per hour than responders? To address this issue, we did the following: 1) developed weights for members and non-members; 2) examined how PE per hour varied by size of practice; and 3) examined the geographic dispersion of respondents.

The outcomes of the analyses are shown in Appendix A of this report. We summarize the findings below:

- Total PE per hour for members and non-members differed by less than 12 percent.
- The variation in mean total practice expense per hour based on the number of physical therapists in the practice was modest and ranged from \$43 (for 1 physical therapy practice) to \$50.5 (for a practice with 4 or more physical therapists).
- Respondents appear to be geographically diverse. The overall average practice expense GPCI for all 134 respondents was 0.984, or relatively close to 1.0, the national average.

Without information about the population of physical therapists or information about non-responders, assessing the national representativeness of the survey results is difficult. Our best efforts to examine the sample selected *do not suggest the existence of strong non-response bias*.

Lewin recommendation on APTA practice expense survey

The ATPA survey satisfies all of the requirements for supplemental surveys established by CMS, including the new precision requirement. We examined the geographical representation of the respondents and calculated practice expense per hour values for subgroups of the sample. Respondents appear to be geographically diverse, with an overall average practice expense GPCI for all 134 respondents of 0.984. Practice expenses per hour varied modestly across practices of different sizes and among respondents with varying years in practice. Furthermore, total mean practice expense per hour values for the original respondents to the 2000 survey, the follow-up cohort, and the respondents to the 2001 survey showed little variation. Based on these factors, we believe that the data submitted by APTA are valid and the best available information on practice expenses for physical therapy practices and should be used in developing practice expense RVUs for 2003.

III. EVALUATION OF THE ONCOLOGY SUPPLEMENTAL PE SURVEY

- 1) *Confidentiality*
- 2) *Survey Instrument and Protocols*
- 3) *Survey Contractor*

The Lewin team worked with the American Society for Clinical Oncology (ASCO) to develop the survey instrument, which was based on the 1999 SMS survey and was very similar to the one used by other specialty groups that have submitted supplemental practice expense data to CMS for consideration. A few questions were added to the questionnaire and questions were modified as needed to customize the survey to oncology. Although the basic practice expense and hours-worked questions in the SMS survey were essentially unchanged, the instrument was modified to separately identify the cost of drugs administered in the office from other supply expenses. The cost of drugs, which are significant for oncology practices, has traditionally been incorporated into the cost of supplies in the SMS survey. However, these expenses are separately paid for under Medicare and therefore should not be included in measures of Medicare practice expenses. As a result, CMS has applied the all-physician average for reimbursement of expenses for oncology supplies. Even considering the effect of the exclusion of drugs in the cost of supplies, ASCO feels that the all-physician average underestimates the true cost of supplies for oncologists. This survey marks the first time that supply expenses are collected for oncologists exclusive of drug expenses.

ASCO used the Gallup Organization (Gallup) as its survey contractor to collect practice expense information from oncologists. Gallup used protocols similar to those used by AMA contractors in conducting the SMS. A letter and practice expense worksheet were sent prior to attempting to contact the potential respondents by phone. Gallup conducted follow-up phone calls and had a toll-free number for respondents to call so that they could complete the survey at their convenience.

ASCO had Gallup select the sample. It is our belief that ASCO adhered to the confidentiality requirements and that ASCO staff were not aware which oncologists were included in the sample.

- The Lewin team is satisfied that the ASCO survey meets the requirements for *Confidentiality, Survey Instrument and Protocols, and Survey Contractor.*

4) *Level of Precision*³

The Lewin team compiled the results from the ASCO survey and computed measures of level of precision for total practice expenses per hour and total practice expenses. As described in the June 28, 2002 Interim Final Rule, the level of precision is measured by the standard error of the

³ Please see Appendix B of this report for a more detailed explanation of the Level of Precision and “High” Response Rate calculations.

mean divided by the mean multiplied by 1.645. This measure should not exceed 0.15. The relevant ASCO survey estimates are:

Level of Precision for Total Practice Expense per Hour for 2001 = 9.8%

Level of Precision for Total Practice Expenses for 2001 = 10.1%

- We believe that the level of precision for Total Practice Expense per Hour and Total Practice Expense satisfy the *Level of Precision* requirement specified in the June 28, 2002 Interim Final Rule.

5) ***Nationally Representative Survey of the Target Population of Practitioners***

a) **Random sample from complete nationwide listing**

A random sample of oncologists was drawn from the AMA's Physician Masterfile.

The total population of oncologists in the Physician Masterfile was 5,574. Gallup attempted to contact 2,356 of these oncologists. The final sample consisted of 245 useable responses.

- The Lewin Team is satisfied that the survey by the ASCO meets the requirement for a *random sample from a complete nationwide listing* of oncologists.

b) **“High” response rate**

Approximately 18% (N=245) of potentially eligible respondents (1,375⁴) completed the survey questions on practice expenses and hours worked. This low response rate may indicate that the responses are not representative of the population of oncologists. We accounted for this issue by weighting responses based on AMA membership and years since graduation from medical school. We also explored whether practice expense per hour varied by AMA membership, gender, number of oncologists in practice and geographic dispersion of the respondents. The outcomes of our analyses for assessing the representativeness of the sample are shown in Appendix B of this report. We summarize the findings below:

- The percentage of AMA members in the population was 66% and the percentage in the final sample was 52%.
- Weighted mean total PE per hour for AMA members and non-members differ by about 20 percent.
- Weighted mean total PE per hour for males and females differ by 17 percent.
- Oncology practices with 16 or more oncologists have weighted mean practice expenses 68 percent higher than practices with one or two oncologists.

⁴ Please see Appendix B of this report for response rate calculations.

- Respondents appear to be geographically diverse. The overall average practice expense GPCI for all 245 respondents was 0.968.
- Without direct information about non-responders, assessing the national representativeness of the survey results is difficult. Our best efforts to examine the sample selected *do not suggest the existence of strong non-response bias*.

Lewin recommendation on ASCO practice expense survey

Our review of the ASCO survey indicates that it meets the criteria established by CMS for acceptance of supplemental practice expense data. To assess the quality of the ASCO data, we evaluated the geographical representation of the respondents and calculated practice expense per hour values for subgroups of the sample, such as members and non-members. Respondents are geographically diverse, with an overall average practice expense GPCI for all 245 respondents of 0.968. Weighted mean total practice expenses per hour for AMA members and non-members were \$188.49 and \$228.43, respectively. Weighted mean total practice expenses per hour also varied depending on the number of oncologists in the practice. Practices with one or two oncologists had values of \$185.50 and practices with 16 or more oncologists had values of \$312.00. Practices of intermediate size (between 3 and 15 oncologists) had total practice expense per hour between \$177 and \$253. We did not weigh our results by practice size because information on practice size was not available for the entire population of oncologists. Furthermore, results were not weighed by practice size for other specialty groups. Overall, we found that average total practice expense per hour was \$214.87, based on the 245 useable survey responses. This dollar amount was not sensitive to practice size or AMA membership.

We believe that such high practice expense per hour values require further consideration. The table below presents (weighted) average practice expense variables per hour calculated from the ASCO survey (N=245) and the oncology-specific practice expense values currently used for oncology (N=30). Values for all practice expense categories are higher from the ASCO survey compared with the current values, particularly for clinical payroll, supplies and other expenses.

**Table 1
Comparison of ASCO Practice Expense Values to Federal Register Oncology Practice Expense Values**

PRACTICE EXPENSE VARIABLES	ASCO SURVEY VALUES (IN \$ 2001)	ASCO SURVEY VALUES (IN \$1995)	CURRENT ONCOLOGY PE/HR VALUES (IN \$ 1995)	DOLLAR DIFFERENCE	PERCENT DIFFERENCE
Clinical payroll/hr	\$60.71	\$52.92	\$27.40	\$25.52	93%
Clerical payroll/hr	\$39.44	\$34.38	\$24.10	\$10.28	43%

Office expense/hr	\$39.12	\$34.10	\$26.50	\$7.60	29%
Supplies expense/hr	\$19.20	\$16.74	\$7.40	\$9.34	126%
Equipment expense/hr	\$8.46	\$7.37	\$4.60	\$2.77	60%
Other expense/hr	\$47.95	\$41.79	\$9.30	\$32.49	349%
Total expense/hr	\$214.87	\$187.29	\$99.30	\$87.99	89%

Source: ASCO Survey; Federal Register, August 2, 2002

These differences are very striking, especially given that the costs of drugs are not included in either supply expense category. Furthermore, the percent contribution of “other expenses” to the total practice expense per hour for the ASCO value is over double the contribution for the currently used values.

Table 2
Percent Contribution of Practice Expense Variables to Total Practice Expense per Hour: ASCO and Federal Register Values

PRACTICE EXPENSE VARIABLES	ASCO SURVEY	CURRENT ONCOLOGY VALUES
Office expenses	28.3%	27.6%
Non-physician (administrative, secretarial and clerical) payroll expenses	18.4%	24.3%
Clinical payroll expenses	18.2%	26.7%
Expenses for clinical materials and supplies	8.9%	7.5%
Expenses for clinical equipment	3.9%	4.6%
Other professional expenses	22.3%	9.4%
Total Practice Expenses Per Hour	100%	100%

Source: ASCO Survey; AMA 1995 SMS Survey, Federal Register, August 2, 2002

Clinical and Clerical Practice Expenses

We examined clinical and clerical expenses to determine if the responses from the ASCO survey were reasonable. The following table presents weighted means for yearly clinical and clerical salaries taken from the 2001 ASCO survey.

Table 3
Average Yearly Salaries and Benefits in Oncology Practices:
Clinical and Clerical Staff in 2001

STAFF TYPE	YEARLY SALARY
Clinical Staff	\$71,014
Clerical Staff	\$87,253
Clinical and Clerical	\$63,356

Source: ASCO Survey

It is unlikely that the average yearly salary of a clerical staff person employed in an oncology practice would be higher than the average yearly salary of a clinical staff person. Also, an average yearly salary of \$87,000 for clerical staff seems implausible given that, according to the Bureau of Labor Statistics, the average yearly salary for “office clerks, general” in health services industry in 2000 was \$21,690.

Outlier Analysis

To understand the impact that observations with high practice expense per hour values have on the total practice expense per hour calculation, we first removed any observations with total practice expense per hour values equal to or above the 90th percentile. This resulted in the elimination of 25 responses. We also examined the median values for the practice expense variables (deflated to 1995 dollars) and compared those values to the weighted mean values for the practice expense variables.

Table 4
Outlier Analysis

PRACTICE EXPENSE VARIABLES	2001 ASCO SURVEY MEANS (DEFLATED TO 1995)	2001 ASCO SURVEY VALUES W/O OUTLIERS (VALUES >90 TH PERCENTILE) (DEFLATED TO 1995)	2001 ASCO SURVEY MEDIANS (DEFLATED TO 1995)
Clinical payroll/hr	\$52.92	\$43.63	\$43.51
Clerical payroll/hr	\$34.38	\$29.84	\$28.29
Office expense/hr	\$34.10	\$25.75	\$22.01

Supplies expense/hr	\$16.74	\$11.88	\$8.96
Equipment expense/hr	\$7.37	\$4.16	\$2.15
Other expense/hr	\$41.79	\$24.27	\$15.13
Total expense/hr	\$187.29	\$139.52	\$132.64

Source: ASCO Survey

From this analysis we conclude that while outliers affect the results, they do not entirely explain the relatively large magnitude of the practice expense per hour values from the ASCO survey, and we suspect that all other specialty data are comparably affected by outlier and distributional effects.

Next, we compared the mean total practice expense per hour from the ASCO survey to the mean for all specialties from The AMA's publication: *Detailed Information on Specialty Practice Expenses from the AMA's Socioeconomic Monitoring System, 1995-1997*. The mean practice expense for all specialties (not including oncology) was \$72.87 and the standard deviation among these specialty groups was 32.1. We found that the average total practice expense per hour from the ASCO survey is greater than three standard deviations from the all specialty (not including oncology) mean.

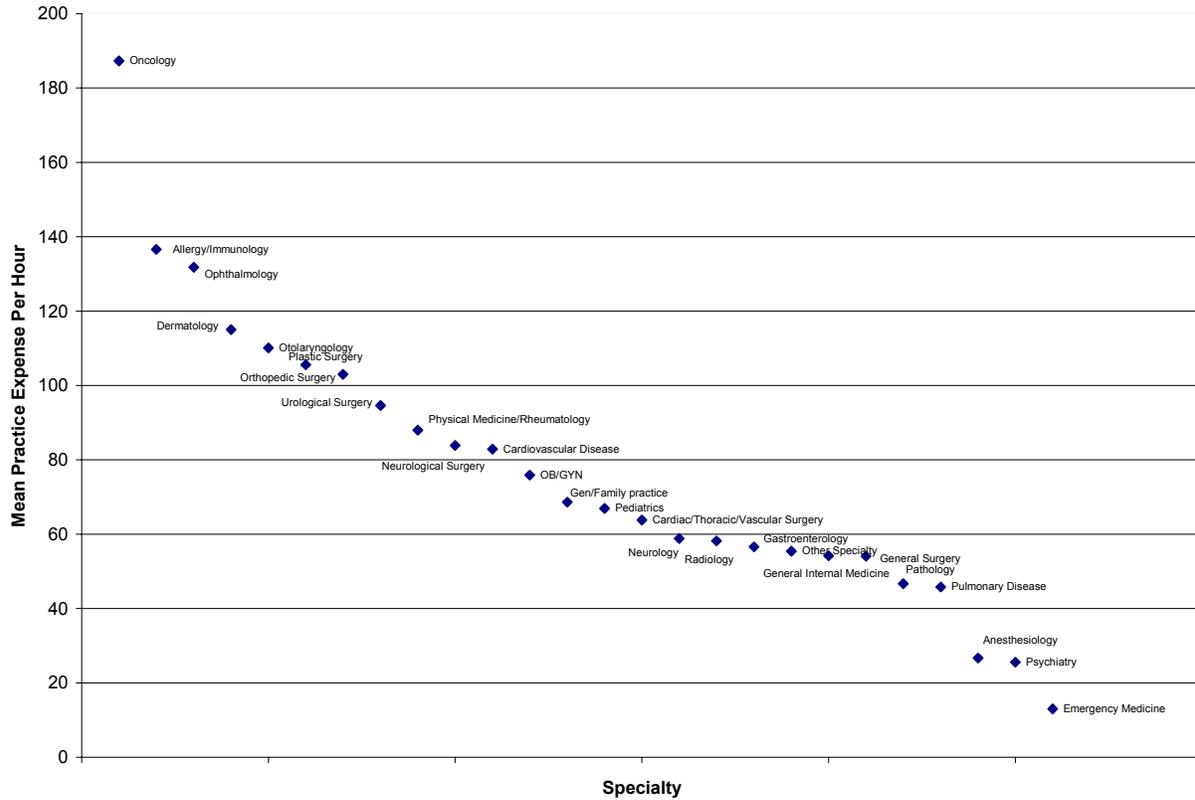
Table 5
Comparison of Total PE/ Hr:
All Physician Average and ASCO Average
of Standard Deviations from Mean

VARIABLES	VALUES
All Specialty Average (not including oncology)	\$72.87
Standard Deviation of All Specialty Average (not including oncology)	32.14
Three Standard Deviations from All Specialty Average	\$169.30
ASCO Average (Deflated to 1995 dollars)	\$187.29

Source: ASCO 2001 Survey; AMA SMS Survey, 1995-1997

Below, we present graphically practice expense per hour values for various specialty groups based on the AMA's *Detailed Information on Specialty Practice Expenses from the AMA's Socioeconomic Monitoring System, 1995-1997*. The 2001 ASCO survey value, deflated to 1995 dollars, is also included in the chart. We see that the ASCO practice expense per hour value is the largest of all the specialties, followed by allergy/immunology and ophthalmology.

Chart 1: Mean Practice Expense per Hour: Specialty Group Analysis



Source: AMA SMS Survey, 1995-1997

Last, we present selected specialty specific practice expenses per hour. These values are taken from the August 2, 2001 Federal Register. Allergy/Immunology and Ophthalmology have the highest practice expense per hour. The Federal Register values for oncology as well as the 2001 ASCO survey means are presented for comparison purposes. We can see that the 2001 ASCO total practice expense per hour survey value of \$187.29 is well above all of these three total practice expense per hour values.

Table 6
Specialty Specific Practice Expenses per Hour
(1995 Dollars)

PRACTICE EXPENSE VARIABLES	ONCOLOGY (ASCO SURVEY)	ALLERGY / IMMUNOLOGY	OPHTHAMALOGY
Clinical payroll/hr	\$52.92	\$36.30	\$25.10
Clerical payroll/hr	\$34.38	\$25.30	\$25.80
Office expense/hr	\$34.10	\$31.40	\$34.10
Supplies expense/hr	\$16.74	\$16.00	\$10.80
Equipment expense/hr	\$7.37	\$2.00	\$8.40
Other expense/hr	\$41.79	\$15.80	\$21.10
Total expense/hr	\$187.29	\$128.80	\$125.30

Source: AMA SMS Survey

We present the above analyses for CMS to bear in mind when evaluating the data submitted by ASCO. We have not scrutinized the data submitted by other specialties in such a manner and therefore cannot compare the analyses to other specialties.

Three main points should be considered when examining the data: 1) the clerical payroll expense per hour is high; 2) the percent contribution of the other expense category to the total practice expense per hour in the ASCO survey is double the contribution of this category to the current oncology total practice expense per hour; and 3) the clinical payroll expense per hour is high. The high clinical payroll expense may be explained in part by recent changes in the labor market for clinical staff. Overall, the high clinical and other expense per hour drive the total practice expense per hour calculation.

The ASCO survey meets the five requirements for supplemental survey established by CMS. Based on our analyses, however, we believe that CMS should confer with ASCO and request them to either provide a rationale for the high values found in the survey results (particularly for clinical, clerical and other expenses) or to validate the data in some other fashion.

IV. EVALUATION OF THE CARDIOLOGY SUPPLEMENTAL PE SURVEY

Lewin recommendation on ACC practice expense survey

The ACC used the AMA survey instrument that was implemented in 2002 and effectively replaced the SMS survey. The 2002 AMA survey does not collect information on the six SMS/CMS practice expense categories—clinical labor, medical supplies, medical equipment, administrative labor, office overhead, and other—required for supplemental survey data. As a result, the ACC survey data do not meet the survey requirement as specified by CMS in its Interim Final Rules regarding supplemental practice expense surveys. It would require a redesign of the CMS PE RBRVS protocol to incorporate the ACC data. In addition, the usefulness of the 2002 AMA survey data need to be considered as a whole, and not with respect to any single specialty.

V. EVALUATION OF THE PEDIATRICIAN SURVEY DATA

The American Academy of Pediatrics (AAP) resubmitted practice expense data from the Medical Group Management Association's (MGMA) annual Cost Survey in response to the June 28, 2002 Interim Final Rule, which indicates that specialties are allowed to resubmit previously rejected surveys due to the revision in the precision criteria. In its cover letter, the AAP expressed concern about apparent inconsistencies identified in their analysis of the 1999 SMS survey data and indicated that these inconsistencies were the primary reason for submitting the MGMA data to CMS. Additionally, using information reported in the *Physician Socioeconomic Statistics: 1999-2000 Edition* (American Medical Association, 1999), the AAP calculated a 1997⁵ total practice expense per hour value for pediatricians (\$83.66) and found that it differed significantly from the 1998 average total practice expense per hour value obtained from the SMS survey and provided to CMS (\$65.23).⁶ As we stated in our report last year, such a comparison is not informative because of specific features of the practice expense per hour calculation used by CMS. For example, for CMS, the AMA first calculates practice expense per hour values at the practice level and then averages these values across practices. In addition, edits are applied to the data that result in a different sample being used for CMS than is used in the analysis presented in *Physician Socioeconomic Statistics*. These features of the methodology can account for some of the differences found by AAP. In fact, a Lewin comparison of the mean total practice expense per hour value for pediatricians from the 1995-1997 SMS surveys (\$66.9, n=249) and the 1999 SMS survey (\$65.2, n=55) revealed only a small difference.

In addition, the AAP indicated in its cover letter that the data submitted were comparable to data compiled from the 2002 MGMA Physician Compensation and Production Survey, and therefore, were not aberrant. However, the comparison between these data do not address the important differences between the MGMA Cost Survey and the SMS survey. Therefore, AAP's comparison of resubmitted MGMA Cost Survey data to MGMA's most current survey data does

⁵ The results presented in the *Physician Socioeconomic Statistics* correspond to data collected in the previous year. In addition, practice expense data are collected for the year prior to the year in which the data are collected. Hence, the 1999-2000 edition of the *Physician Socioeconomic Statistics* reports practice expense information for 1997.

⁶ The 1999 practice expense per hour values were reported to CMS in an April 5, 2001 letter from the American Medical Association.

not address CMS' requirement, restated in the June 28, 2002 Interim Final Rule, that specialty groups conduct supplemental practice expense surveys based on the SMS survey instruments and protocols. As a result, we do not believe that the results from the AAP data are comparable to the practice expense data collected by the SMS survey and thus recommend CMS not use the AAP data in developing practice expense relative value units.

Appendix A

THE AMERICAN PHYSICAL THERAPY ASSOCIATION PRACTICE EXPENSE SURVEY: METHODOLOGY AND RESULTS⁷

Sample

Because physical therapists are not included in the AMA's Masterfile, the sample was drawn from APTA's membership and former-membership lists. The APTA was able to identify practice owners from each of these lists.

- Out of 48,000 members, 5,217 (11%) were identified as owners using a member list provided to us for the practice expense survey conducted last year (2000 survey).
- Out of 15,800 former members, 393 (2.5%) were identified as owners using the former-member list provided to us for the 2000 practice expense survey.

For the 2000 survey, a sample of 327 members was randomly selected from the list provided to us by APTA. All former members who were identified as owners were selected to be surveyed, excluding a small number of former-member owners without any contact information (16) for a total sample of 704. In developing the sample for the 2001 survey, we used updated member and former member lists to select the sample of 842 individuals which excluded individuals selected to complete last year's survey. In total, the samples from both surveys included 1,546 members and former members (n=704 for 2000 survey, n=842 for 2001 survey). The sample sizes for each survey were developed based on estimates of the number of responses needed to meet CMS' level of precision requirement and to ensure an appropriate mix of members and former members.

Response Rates

In calculating response rates, we excluded cases with any individual practice expense items missing (38 records eliminated), cases with missing data on hours (12 records eliminated), and cases where physical therapists were practicing fewer than 26 weeks in 1999 (2 records eliminated). These edits are in accordance with the final regulations prescribed by CMS. These steps reduced the number of observations to 134 (69 from the 2000 survey, of which 23 were from the follow-up effort; and 65 from the 2001 survey). Of these observations, 109 were from members and 25 were from non-members.

The response rate calculated for the AMA's SMS survey includes incomplete records. We have calculated response rates based on the number of complete responses (134). Consequently, they are lower and not directly comparable to the SMS response rates by the AMA.

We calculated response rates in three different ways. In each case, we excluded from the sample pool 114 observations screened out on eligibility grounds. These screened out cases included

⁷ Reprinted from *Recommendations Regarding Supplemental Practice Expense Data Submitted for 2002* (Dobson et al., 2001). This report is available at <http://cms.hhs.gov/physicians/pfs/default.asp>.

those who were not a practicing physical therapist, working full-time as an owner or part-owner of their practice for the entire year for which the practice expense data were being collected.

We first calculated the response rate by taking the ratio of complete observations in our sample (134) to the total sample (1,546), excluding screened out cases (114) or 1,432 cases.

Unadjusted Response Rate: $134 / 1,432 = 9.4\%$
(all observations)

We believe, however, that this calculation of the response rate may be misleading because it includes all cases where a potential respondent did not complete the screener section of the survey. These non-contacted cases included individuals who were not available, individuals who were no longer involved with the practice, individuals with disconnected or incorrect telephone numbers, and individuals who refused to participate in the survey. Presumably, a proportion of these individuals would have been screened out had they completed the screener section of the survey. By taking the ratio of the screened out cases (114) to all contacted cases (304), we estimated that 466 of the 1242 cases would have been screened out had they been contacted. As a result, only 966 cases should be included in the total sample, thereby increasing the response rate.

Adjusted Response Rate 1: $134 / 966 = 13.9\%$
(all observations)

We also did another calculation of the response rate by first eliminating those cases that had bad or incorrect contact information (370). It can be argued that these cases would be more likely than other non-contacted cases to have been screened out. We then recalculated our “Adjusted Response Rate 1”.

Adjusted Response Rate 2: $134 / 735 = 18.2\%$

Because of the follow-up work done for the 2000 survey, the response rate was generally higher for the 2000 survey than for the 2001 survey. The unadjusted response rate from the 2000 survey (including 23 follow-up responses) was 10.6%, while the unadjusted response rate from the 2001 survey was 8.3%.

Methodology

Construction of Weights

According to the APTA, state licensing agencies report that there are approximately 100,000 physical therapists in the U.S. Since 48,000 of those physical therapists are members, we therefore estimate that 52,000 physical therapists are non-members in the population. Using this information, we constructed weights for members and non-members. (No other information is known about the universe. As a result, we could only construct weights based on membership status.)

We estimate that the population of physical therapists consists of 5,217 owners who are APTA members and 1,295 owners who are not members. To estimate the number of non-member owners, we used the percent of former member owners identified from the APTA's former member list (2.5%) and the estimated number of physical therapists who are not members of APTA. We multiplied 52,000 (non-members) by 2.5% to estimate that there are 1,295 non-members who are owners.

In order to partially correct for potential non-response bias, weights were derived to account for the differing level of responsiveness by APTA members and former members. Unit response weights were constructed by taking the ratio of the proportion of APTA members (0.80) in the population to the proportion of APTA members in our completed sample (0.81). As a result, the weight for members in our sample with complete observations was 0.99.

$$\text{Member Weight} = (5,217 / 6,512) / (109 / 134) = 0.99$$

For former members, we took the ratio of proportion of former members in our population (0.20) to former members in our sample (0.19). The weight for former members in our sample with complete observations was 1.05.

$$\text{Former Member Weight} = (1,295 / 6,512) / (25 / 134) = 1.05$$

Edits

To calculate practice expense per hour values, we applied the edits set by CMS, as described in the March 31, 1998 letter from the AMA that accompanied the original practice expense per hour values. These edits were as follows:

- Physical therapists practicing fewer than 26 weeks in 1999 (2 records eliminated);
- Cases with missing data on hours of patient care (12 records eliminated);
- Cases with any of the individual practice expense items missing (38 records eliminated);
- Cases where total expenses were zero (no records eliminated);
- Cases where employee physical therapists worked less than 20 hours a week in direct patient care (no records eliminated).

After these edits, we used the remaining 134 cases to calculate practice expenses per hour.

Results

We followed CMS' methodology to the extent possible as detailed in the June 5, 1998 Federal Register. However, instead of asking employee therapists for their direct patient care hours, practice owners were asked to report average direct patient care hours for their employees. In our previous analysis, we also used information on the average number of weeks worked in a year for practice owners as a proxy for the number of weeks worked in a year for employee physical therapists. However, in the 2001 survey, practice owners were asked for information on the number of weeks worked in a year for employee physical therapists. As a result of this modification to the survey instrument, we were able to directly use the number of weeks worked in a year for employee physical therapists in the calculation of practice expenses in our final analysis.

Below we report weighted (for member/non-member status) and non-weighted overall practice expense per hour values for all responses. The 2001 survey responses, which correspond to practice expenses in 2000, have been deflated by the Medicare Economic Index for 2000 of 2.4% to put them into 1999 dollars.

There is little difference in the mean total practice expenses per hour for weighted (46.19) and unweighted (46.26) observations.

Table A-1
Physical Therapy Practice Expense Survey: 1999 Dollars
Complete observations (n=134)

PRACTICE EXPENSES PER HOUR	WEIGHTED MEAN	UNWEIGHTED MEAN
Office expenses	14.57	14.55
Non-physical therapists (administrative, secretarial and clerical) payroll expenses	7.04	7.06
Clinical payroll expenses	11.31	11.35
Expenses for clinical materials and supplies	2.58	2.58
Expenses for clinical equipment	2.34	2.34
Other professional expenses	8.36	8.39
Total Practice Expenses Per Hour	46.19	46.26

Level of Precision

We calculated the level of precision for the total and individual practice expenses and per hour values using the measure defined in the June 28, 2002 Interim Final Rule published in the *Federal Register* (i.e., $1.645 * (\text{standard error}/\text{mean})$). The level of precision for total practice

expenses per hour (11.9%) and for total practice expenses (13.6%) meet CMS' requirement of 15%.

Table A-2
Mean Practice Expenses and Precision

VARIABLE	MEAN (WEIGHTED)	STANDARD ERROR	PRECISION ($1.645 \times$ STANDARD ERROR / MEAN)
Total Practice Expenses Per Hour for 1999	46.19	3.35	11.9%
Total Practice Expenses for 1999	184.50	15.27	13.6%
PRACTICE EXPENSES PER HOUR FOR 1999			
Office expenses	14.57	1.20	13.5%
Non-physical therapists (administrative, secretarial and clerical) payroll expenses	7.04	0.91	21.26%
Clinical payroll expenses	11.31	1.20	17.5%
Expenses for clinical materials and supplies	2.58	0.37	23.6%
Expenses for clinical equipment	2.34	0.35	24.6%
Other professional expenses	8.36	1.36	26.8%

Evaluating the Representativeness of the Sample

The sample of physical therapy practices selected in this survey may differ systematically from a representative sample of practices, because of potential bias introduced by survey non-response. Without any information about non-respondents, this bias is impossible to correct fully. However, for the APTA survey, we have a number of ways of evaluating the representativeness of the sample.

We first examined the geographical representativeness of the sample by calculating the average practice expense GPCI for respondents. A value equal to or close to one would indicate a geographically representative sample. For the 134 responses in the APTA survey, we calculated an average practice expense GPCI of 0.984.

We next compared the mean practice expense per hour values from the first phase of the 2000 survey, the follow-up to the 2000 survey, and the 2001 survey. The table below presents mean total practice expense per hour from each of the three phases of the APTA survey.⁸ Considering the modest sample sizes, the mean total practice expenses demonstrate stability from sample to sample.

Table A-3
Comparison of Total Mean Practice Expenses across Survey Efforts
(in 1999 Dollars)

	ALL OBSERVATIONS	2000 SURVEY	2000 FOLLOW- UP SURVEY	2001 SURVEY
Total Practice Expenses Per Hour (weighted)	46.19	47.89	44.98	44.07
Standard Error	3.35	5.60	6.04	5.24
Number of Observations	134	46	23	65

We examined the potential consequences of a non-representative sample for practice expense measurement by characterizing the expenses of subgroups of practices, as shown below.

Table A-4 presents mean total practice expenses per hour for APTA members and non-members. The Mean total practice expense for members was 11.8 percent more than that for non-members.

Table A-4
Differences by Membership Status

STATUS	MEAN TOTAL PRACTICE EXPENSES PER HOUR (WEIGHTED)	STANDARD ERROR	N = 134	% OF TOTAL
APTA Member	47.19	3.84	109	81%
Non-Member	42.21	6.65	25	19%

Table A-5 presents mean practice expenses per hour by size of practice. Mean practice expenses per hour appear to vary modestly with practice size. However, there is not a steady progression of costs per hour with increasing practice size, as evidenced by lower mean total practice expense per hour for practices with 3 physical therapists compared to practices with two physical therapists.

⁸ We have deflated the 2001 survey responses, which correspond to practice expenses in 2000, by the Medicare Economic Index for 2000 of 2.4%

**Table A-5
Differences by Practice Size**

NUMBER OF PHYSICAL THERAPIST IN PRACTICE	MEAN TOTAL PRACTICE EXPENSES PER HOUR (WEIGHTED)	STANDARD ERROR	N = 134	% OF TOTAL
1	42.99	6.10	51	38%
2	47.62	7.96	28	21%
3	43.98	8.03	17	13%
4+	50.46	5.20	38	28%

In Table A-6, we collapsed the variable for the year in which respondents began practicing physical therapy into four categories: (1) 1960-1970, (2) 1971-1980, (3) 1981-1990, (4) 1991-1998. The AMA bases weights on this information for the SMS survey, although we cannot construct weights along dimensions other than membership status. Practice expense per hour values for these categories are reported in the table below.

**Table A-6
Differences by Years in Practice**

YEAR BEGAN PRACTICING PHYSICAL THERAPY (COMPLETE OBSERVATIONS)	MEAN TOTAL PRACTICE EXPENSES PER HOUR (WEIGHTED)	N = 133	% OF TOTAL
(1) 1960 - 1970	42.41	15	11%
(2) 1971 - 1980	43.04	56	42%
(3) 1981 - 1990	56.34	42	32%
(4) 1991 - 1998	36.52	20	15%

Results for these four categories were quite different from weighted total mean practice expenses per hour for all complete observations (46.19), which suggest that the lack of years-in-practice weights may matter. On the other hand, if the years-in-practice distribution of the sample is close to the distribution of the population, the lack of these weights would be of small consequence. But without reliable independent data on the population distribution by years-in-practice, we cannot know the magnitude of the problem.

Appendix B

THE AMERICAN SOCIETY FOR CLINICAL ONCOLOGY PRACTICE EXPENSE SURVEY: METHODOLOGY AND RESULTS

Sample

A random sample of oncologists was drawn from the AMA's Physician Masterfile.

The total population of oncologists from the Masterfile was 5,574. However, for weighting purposes, we excluded those respondents with missing information on membership status, gender, and the number of years since graduation from medical school. This left a total population size of 5,522.

ASCO's contractor, the Gallup Organization, attempted to contact 2,356 of the 5,552 oncologists. 999 successful responses were recorded. Of the 2,356 attempts to contact oncology practices, 264 were for practices with incorrect contact information listed (either the telephone number was disconnected or incorrect). We received 999 observations from Gallup.

Response Rates

In calculating response rates, we excluded cases where physician owners provided less than 20 hours of direct patient care in an average week (0 records eliminated), cases where the respondents were not owners of the practice in 2001 (395 records eliminated) and cases when they were not owners for the entire year in 2001 (21 records eliminated). 416 cases were screened out based on the eligibility requirements described above. These edits are in accordance with the final regulations prescribed by CMS, and reduce the sample size from 999 to 583 observations.

In addition to the 416 cases screened out, 338 responses were eliminated based on CMS edits. These 338 response eliminations, in addition to the eligibility edits described above, resulted in a final sample size of 245 complete responses. Please see the Edit Section of this Appendix for more detailed information concerning the CMS edits.

The response rate calculated for the AMA's SMS survey includes incomplete records and, therefore, would be based on the 999 responses. We have calculated response rates based on the number of responses where all required data were complete (245). Consequently, our response rates are lower and not directly comparable to the SMS response rates reported by the AMA.

We calculated response rates in three different ways. In each case, we excluded from the sample pool 416 observations screened out on eligibility grounds.

We first calculated the response rate by taking the ratio of complete observations in our sample (245) to the total sample (2,356) excluding screened-out cases (416) or 1,940 cases:

$$\text{Initial Response Rate: } 245 / 1,940 = 12.6\%$$

This calculation of the response rate may be misleading, however, because it includes all cases where a potential respondent failed to complete the screener section of the survey. These non-contacted cases included individuals who were not available, individuals with disconnected or incorrect telephone numbers, and individuals who refused to participate in the survey. Presumably, a proportion of these individuals would have been found to be ineligible had they completed the screener section of the survey.

1,357 (non-contacted cases) of the 2,356 cases (total sample) did not complete the screener questions. By taking the ratio of screened-out cases (416) to all contacted cases (999), or 0.4164, we estimate that 565 of the 1,357 non-contacted cases would have been screened out had they been contacted. As a result, the sample pool would only be 1,375, and the revised response rate is:

$$\text{Adjusted Response Rate 1: } 245 / 1,375 = 17.8\%$$

We made another calculation of the response rate by additionally eliminating those cases that had bad or incorrect contact telephone information (264 responses) and by re-calculating the number of responses that would likely have been screened out had the screening been completed (455 responses). There is reason to expect that these cases would be more likely than other non-contacted cases to be screened out if data had been collected, however we can only estimate the likely screened out cases based on the proportion of probable screened out cases in the 1,357 non-contacted cases. The denominator in this calculation was calculated by taking the original 2,356 responses in the total sample and subtracting a) the cases that had incorrect or bad contact information (264 cases), b) the cases that actually screened out (416 responses), and c) the cases that would have screened out (455 cases). Recalculating our “Adjusted Response Rate 1” with these observations removed gives:

$$\text{Adjusted Response Rate 2: } 245 / 1,221 = 20.1\%$$

Methodology

Weights

In order to partially correct for potential non-response bias, weights were derived to account for the differing level of responsiveness by AMA members and non-members, and for the years since the respondents graduated from medical school. Unit response weights were constructed by taking the ratio of the number of respondents in the population to the number of respondents in the sample for each of ten unique AMA membership – years since graduation categories.

In our sample, AMA members accounted for 117 of 245 of our complete responses or 47.8 percent of our sample. Non-AMA members accounted for 128 of 245 of our complete responses or 52.2 percent of our sample.

Edits

In calculating total mean practice expense per hour values, we applied the edits prescribed by CMS in the March 31, 1998 letter from the AMA that accompanied the original practice expense per hour values. These edits were as follows:

- Physicians practicing fewer than 26 weeks in 2001 (3 records eliminated);
- Cases where the hours spent in direct patient care was either missing, less than 20 or greater than 168 (51 records eliminated), of which 7 cases were physicians employees working less than 20 hours per week in direct patient care;
- Cases with missing data on the number of weeks worked in a year (19 records eliminated);
- Cases with any of the individual practice expense items missing (265 records eliminated);
- Cases where total expenses were zero (0 records eliminated);

The above edits resulted in the elimination of 338 records. These edits, taken with the 416 screened out cases, leave us with a final sample size of 245 respondents with complete practice expense data. Practice expense per hour values were calculated based on these 245 responses.

Practice Expenses Per Hour

To the extent possible, our calculation of the practice expenses per hour used the same methodology applied to the SMS data. But a few differences do apply. Rather than asking employee physicians for their direct patient care hours, practice owners were asked to report the average number of direct patient care hours for their employees. We used these owner-reported hours as a substitute for employee physicians hours in the calculations.

Results

In Table B-1, we report total mean practice expense per hour values both weighted (for member/non-member status and years since graduation from medical school) and non-weighted. Overall, the weighted expense variables were generally slightly lower than the weighted expense variables with the exception of clerical and clinical payroll expenses. Overall, this indicates that the final sample was representative of the entire population of oncologists in the AMA Masterfile.

Table B-1
2001 Practice Expenses for Oncology

VARIABLE	MEAN (WEIGHTED) N = 245	MEAN (UNWEIGHTED) N = 245
Total Practice Expenses Per Hour for 2001	\$214.87	\$216.02

Total Practice Expenses for 2001	\$694,930	\$705,595
PRACTICE EXPENSES PER HOUR FOR 2001		
Office Expenses	\$39.12	\$39.39
Clerical (administrative, secretarial and clerical) payroll expenses	\$39.44	\$38.35
Clinical payroll expenses	\$60.71	\$60.70
Expenses for materials and supplies	\$19.20	\$19.35
Expenses for clinical equipment	\$8.46	\$9.46
Other professional expenses	\$47.95	\$48.76

Level of Precision

Using the definition of precision provided by CMS (i.e. 1.645 times the standard error divided by the mean), we calculated the precision measure for the estimates of mean practice expenses and mean practice expenses per hour, in Table B-2. The level of precision for total practice expenses per hour (10%) meets CMS' requirement of 15%. The level of precision for total practice expenses (10%) also meets CMS's 15% requirement.

**Table B-2
Mean Practice Expenses and Precision**

VARIABLE	MEAN (WEIGHTED) N = 245	STANDARD ERROR N = 245	PRECISION (1.645 × STANDARD ERROR / MEAN N = 245
Total Practice Expenses Per Hour for 2001	\$214.87	12.79	0.098
Total Practice Expenses for 2001	\$694,930	42726.03	0.101
PRACTICE EXPENSES PER HOUR FOR 2001			
Office Expenses	\$39.12	3.45	0.15
Non-physician (administrative, secretarial and clerical) payroll expenses	\$39.44	1.91	0.08
Clinical payroll expenses	\$60.71	3.28	0.09

Expenses for materials and supplies	\$19.20	3.082	0.26
Expenses for clinical equipment	\$8.46	3.22	0.63
Other professional expenses	\$47.95	7.40	0.25

Evaluating the Representativeness of the Sample

The sample of oncology practices selected in this survey may differ systematically from a representative sample of practices, because of the bias introduced by survey non-response. Without any information about non-respondents, this bias is impossible to correct fully. But the potential consequences of a non-representative sample for practice expense measurement can be characterized by examining the expenses of subgroups of practices.

We first examined the geographical representativeness of the sample by calculating the average practice expense GPCI for respondents. A value equal to or close to one would indicate a geographically representative sample. For the 245 responses in the ASCO survey, we calculated an average practice expense GPCI of 0.968. Several other analyses were conducted, as shown below.

Table B-3 shows mean practice expenses per hour for AMA members and non-members in order to ensure the representativeness of the sample. The weighted mean total practice expense for non-members is approximately 20 percent higher than the weighted mean total practice expense for AMA members. We also explored the percentage of AMA members in our population to the percentage in the final sample. The percentages were 66% and 52%, respectively. Based on our limited data, there is no evidence that the sample bias is an issue in this case.

**Table B-3
Differences by Membership Status**

STATUS	MEAN TOTAL PRACTICE EXPENSES PER HOUR (WEIGHTED)	STANDARD ERROR	N = 245	% OF TOTAL
AMA Member	\$188.49	8.91	117	47.8
Non-Member	\$228.43	14.30	128	52.2

Likelihood of survey response may also be influenced by the gender of the oncologists or by the size of the practice. Table B-4 presents weighted mean practice expenses per hour by gender. The value for males is about 17 percent higher than the value for females.

**Table B-4
Differences by Gender**

GENDER	MEAN TOTAL PRACTICE EXPENSES PER HOUR (WEIGHTED)	STANDARD ERROR	N = 245	% OF TOTAL
Male	\$218.71	13.28	218	89.0
Female	\$187.15	8.16	27	11.0

Table B-5 presents weighted mean practice expenses per hour by size of practice. Large practices report higher weighted mean total practice expenses than smaller practices. Practices with 16 or more oncologists reported weighted mean total practice expenses 68 percent higher than practices with 1 or 2 oncologists. If large practices are either under-sampled or over-sampled, there would be a biasing consequence on our overall estimates.

**Table B-5
Differences by Practice Size**

NUMBER OF ONCOLOGISTS IN PRACTICE	MEAN TOTAL PRACTICE EXPENSES PER HOUR (WEIGHTED)	STANDARD ERROR	N = 245	% OF TOTAL
1 - 2	\$185.51	10.0	44	18.0

3 - 4	\$177.75	10.2	58	23.7
5 - 7	\$180.38	8.6	62	25.3
8 - 15	\$252.66	20.0	45	18.4
16 +	\$312.02	19.9	36	14.7