

The Lewin Group
3130 Fairview Park Drive, Suite 800
Falls Church, VA 22042
phone (703) 269-5500
fax (703) 269-5501
www.lewin.com

CMS – 1413-P Response to Public Comments, Part 2

Radiation Oncology, response to comments

The Association of Freestanding Radiation Oncology Centers (AFROC) has requested that the CMS refrain from using the results of the PPIS for physician practice expense, pending further study. However, if CMS does implement the PPIS into the PE/HR methodology, they request that CMS make certain modifications to the PE/HR data used for radiation oncology. More specifically, AFROC takes issue with Lewin's (1) imputation of practice hours for 21 centers, (2) method for weighting of the freestanding radiation oncology center data and (3) weights used for blending PE/HR for hospital based and freestanding radiation oncology center data. Each of these issues is discussed in turn below.

(1) Imputation of Hours

In an effort to preserve as many FSRO observations as possible, Lewin determined that 21 observations had reported annual full time radiation oncologist hours (S9) for the centers that were not consistent with the number of radiation oncologists reported as providing services at each center (Q7). It is AFROC's position that the 21 observations "*likely reported the number of radiation oncologists in the practice, and not the number of respondents for the particular center whose costs were being reported*".¹ AFROC argues that Lewin's imputation of hours, using the same method that was used to calculate annual practice hours in the AMA PPI survey for these observations, significantly overstates the center's annual hours and that omitting these observations from the analysis is preferred to imputing hours for the observations.

A closer look at the 21 observations for which hours were imputed reveals that 15 of the observations in question are large radiation oncology centers with 6 to 8 physicians. AFROC contends that "*most centers have only one or two treatment units and retain no more than three radiation oncologists to provide professional services at that center*", so they suggest that the responding physician was possibly reporting the number of radiation oncologists in a "practice" and not at the center. With regard to the hours imputed by Lewin being overstated for the number of physicians reported as working at a center (Q7) the imputed weekly average hours per physician for the 21 observations are actually less than the average hours for the remaining 67 observations not in question.

| Observations | Average Hours per Week per radiation oncologist reported in Q7 |
|---------------------|---|
| 88 observations | 35 |
| 67 observations | 38 |
| 21 observations | 31 |

Imputation of hours for these additional 21 observations hinges solely on the assumed accuracy of the values reported in Q7, number of radiation oncologist at the center. Lewin's PE/HR calculations for these 21 observations are 64% lower than drmkynetec's PE/HR calculations for the same 21 observations. There is only an 11% difference between PE/HR calculations between Lewin and dmrkynetec's PE/HR calculations for the remaining 67 observations. There is no way to accurately know the intent of the respondent in reporting the number of radiation oncologists in Q7, thus Lewin is resubmitting a PE/HR calculation for FSRO excluding the 21 observations in question.

¹ AFROC public comments to CMS-1413-P, pg. 8.

(2) Weighting

AFROC argues that weighting the freestanding radiation oncology centers' data by the number of radiation oncologists practicing at the center is not appropriate because even though the survey was a center based survey, the sampling unit was one physician. Thus "*the implied disconnect between the sampling unit and the reporting unit is overcome by measuring the annual expenses for the entire center and dividing those across all physician hours experienced at the center over the same period of time*".² The AFROC survey was conducted as a center based survey, physicians' completing the survey were instructed to provide total values for the center, as opposed to the AMA PPI Survey where physicians' were asked to report "their share" of expense values.

In Lewin's report to CMS, June 2009, freestanding radiation oncology centers were weighted by the number of radiation oncologist reported as providing services at the center (Q7), which was a "*departure from the weighting method used to weight the hospital based radiation oncologists' data collected as part of the AMA - PPI Survey*".³

Lewin has determined that weighting the freestanding radiation oncology centers in the same manner as hospital based radiation oncology (HBRO) using the AMA Master File may be a more appropriate weighting method than weighting by the reported number of radiation oncologist at the freestanding center. The AMA Master File contains the universe of radiation oncologist regardless of setting. We have applied the AMA Master File weights to the FSRO data using the same methodology as the AMA used with the HBRO by calculating cell weights for practice size based on the sample and the estimated universe of physicians contained in the practice size. See *Exhibit 1a* for these weights.

In *Appendix A* of drmkynetec's report submitted with AFROCs comments⁴, a comparison of the FSRO practice expense survey to a 2009 ASTRO Equipment Utilization Survey would suggest that "*weighting is not necessary*" because the FSRO PPIS survey sample respondents reflects the universe. Dmrkynetec, AMA and the radiation oncology sponsoring societies worked together to determine a universe of radiation oncologist who work in a freestanding setting, the number of which are presented in drmkynetec's report *Appendix A*, page 1.

However, with the 21 observations with imputed physician practice hours removed from the survey sample respondent mix, the FSRO PPIS survey no longer reflects the universe of radiation oncologists presented in the drmkynetec report because the larger practices are now under represented. Therefore, it is necessary to weight the FSRO PPIS data to bring the sample back in line with the sponsoring societies estimated universe.

² Dmrkynetec "FSRO Post Hoc Practice Expense Analysis", August, 2009, pg. 3.

³ *Ibid*, pg. 4

⁴ For your reference, AFROC's public comments and the drmkynetec report are submitted in conjunction with this report

In *Exhibit 1a* and *Exhibit 1b*, Lewin presents the FSRO PPIS sample expected weights by practice size for each of the weighting methodologies, (1a) AMA Master File radiation oncologists weights and (1b) AFROC/ASTRO estimated radiation oncologists weights.

Exhibit 1a: Distribution of Sample by Number of Radiation Oncologists reported at the FSRO Center, (Freestanding Centers) - AMA Master File Weights

| Number of Radiation Oncologist reported at the FSRO Center | Number of Survey Sample (n=67) | Percent of Survey Sample (n=67) | Number of RO by practice size in AMA Master File | Percent of RO by practice size in AMA Master File | AMA Weight |
|--|--------------------------------|---------------------------------|--|---|------------|
| 1-2 Practitioners | 48 | 72% | 470.3 | 15% | 9.798 |
| Other Settings | 19 | 28% | 2695.6 | 85% | 141.873 |

Exhibit 1b: Distribution of Sample by Number of Radiation Oncologists reported at the FSRO Center, (Freestanding Centers) - AFROC/ASTRO Estimated Weights

| Number of Radiation Oncologist reported at the FSRO Center | Number of Survey Sample (n=67) | Percent of Survey Sample (n=67) | Estimated Number of RO by Practice Size from AFROC/ASTRO | Percent of RO by practice size from AFROC/ASTRO estimates | Estimated AFROC/ASTRO Weight |
|--|--------------------------------|---------------------------------|--|---|------------------------------|
| 1-2 Practitioners | 48 | 72% | 338 | 27% | 7.042 |
| Other Settings | 19 | 28% | 912 | 73% | 48.000 |

Exhibts 2a, 2b, 2c are the FSRO PE/HR calculations for 67 observations, (2a) without weights, with (2b) AMA Master File radiation oncologist weights and (2c) AFROC/ASTRO estimated radiation oncologist weights.

Exhibit 2a: Practice Expenses per Hour (unweighted), Radiation Oncology (Freestanding Centers)

| Expense Category | Estimated Mean (N=67) | Standard Error (N=67) | Precision [1.645 × SE/Mean] (N=67) |
|---------------------------------|----------------------------------|----------------------------------|---|
| <i>Direct PE per hour</i> | | | |
| Clinical Payroll | \$196.47 | 17.49 | 0.15 |
| Medical Equipment | \$160.74 | 18.36 | 0.19 |
| Medical Supplies / ¹ | \$68.64 | 41.24 | 0.99 |
| <i>Indirect PE per hour</i> | | | |
| Office Expense | \$235.25 | 31.42 | 0.22 |
| Clerical Payroll | \$79.52 | 8.54 | 0.18 |
| Other Expense | \$90.23 | 12.74 | 0.23 |
| Total PE per hour | \$830.86 | 92.56 | 0.18 |

¹ The survey for freestanding radiation oncologist did not collect the value for separately billable supplies. Separately billable supplies were calculated as .06 of supplies based on the ratio of separately billable supplies to supplied values as reported by the AMA PPI, 2009 for the combined specialties of radiology, interventional radiology and nuclear medicine. (The ratio was recommended by ASTRO/AFROC as representative of an appropriate ratio for separately billable supplies for freestanding radiation oncology centers).

Exhibit 2b: Practice Expenses per Hour with AMA Master File Weights, Radiation Oncology (Freestanding Centers)

| Expense Category | Estimated Mean (N=67) | Standard Error (N=67) | Precision [1.645 × SE/Mean] (N=67) |
|-----------------------------|----------------------------------|----------------------------------|---|
| <i>Direct PE per hour</i> | | | |
| Clinical Payroll | \$152.25 | 12.47 | 0.135 |
| Medical Equipment | \$101.31 | 11.00 | 0.179 |
| Medical Supplies | \$26.99 | 19.06 | 1.162 |
| <i>Indirect PE per hour</i> | | | |
| Office Expense | \$183.91 | 20.50 | 0.183 |
| Clerical Payroll | \$64.92 | 7.79 | 0.197 |
| Other Expense | \$65.59 | 10.02 | 0.251 |
| Total PE per hour | \$594.97 | 52.62 | 0.145 |

Exhibit 2c: Practice Expenses per Hour with AFROC/ASTRO Physician Weights, Radiation Oncology (Freestanding Centers)

| Expense Category | Estimated Mean (N=67) | Standard Error (N=67) | Precision [1.645 × SE/Mean] (N=67) |
|-----------------------------|----------------------------------|----------------------------------|---|
| <i>Direct PE per hour</i> | | | |
| Clinical Payroll | \$161.74 | 13.88 | 0.141 |
| Medical Equipment | \$114.06 | 13.28 | 0.191 |
| Medical Supplies | \$35.93 | 25.58 | 1.171 |
| <i>Indirect PE per hour</i> | | | |
| Office Expense | \$194.92 | 23.43 | 0.197 |
| Clerical Payroll | \$68.05 | 7.99 | 0.193 |
| Other Expense | \$70.87 | 10.73 | 0.249 |
| Total PE per hour | \$645.58 | 64.42 | 0.164 |

The two methods for weighting result in a PE/HR that is within \$50 of each other with a slightly better precision at 0.145 for the PE/HR using the AMA Master File weighting of the FSRO PPIS sample data. Applying the AMA Master File weight is consistent with the other physician specialty PE/HR calculations in the AMA-PPIS. However, a critique of use of the AMA Master File weights for FSRO PPIS sample is that the AMA Master File contains both freestanding and hospital based radiation oncologist with no ability to identify the portion of radiation oncologist that work exclusively in a freestanding center or a hospital based practice.

(3) Blending FSRO and HBRO

Lewin agrees with analysis by Christopher Hogan, PhD which shows that the use of more recent 2008 data makes a difference when blending the FSRO and HBRO PE/HR for radiation oncology. These findings were submitted by the radiation oncology societies which they included in their comments to the NPRM. Lewin replicated the Hogan⁵ analysis and has corrected the blend rate between FSRO PE/HR and HSRO PE/HR to reflect more current radiation oncologist physician time using 2008 data. The resulting blend is applied as 43% FSRO and 57% HBRO. The resulting blend is presented in Exhibit 3a -- blend with AMA weighted FSRO PE/HR and Exhibit 3b-- blend with ASTRO physician weighted FSRO PE/HR.

Exhibit 3a: Practice Expenses per Hour Weighted Physician Time by Setting, Radiation Oncology, Hospital Based to Freestanding Centers
(AMA Master File weights for FSRO)

| Expense Category | Freestanding RO Center Estimated Mean PE/HR (AMA Master File weights) (N=67) | Hospital Based RO Estimated Mean PE/HR (N=71) | Physician Time Weighted Radiation Oncology PE/HR |
|-----------------------------|--|---|--|
| <i>Direct PE per hour</i> | | | |
| Clinical Payroll | \$152.25 | \$ 6.24 | \$69.02 |
| Medical Equipment | \$101.31 | \$ 2.55 | \$45.02 |
| Medical Supplies | \$26.99 | \$ 0.98 | \$12.16 |
| <i>Indirect PE per hour</i> | | | |
| Office Expense | \$183.91 | \$ 20.84 | \$90.96 |
| Clerical Payroll | \$64.92 | \$ 13.77 | \$35.76 |
| Other Expense | \$65.59 | \$ 17.86 | \$38.38 |
| Total PE per hour | \$594.97 | \$ 62.25 | \$291.32 |

⁵ Lewin replicated Chris Hogan's analysis of physician time for 2006, 2007 and 2008 and obtained the same results.

**Exhibit 3b: Practice Expenses per Hour Weighted Physician Time by
Setting, Radiation Oncology, Hospital Based to Freestanding Centers**
(AFROC/ASTRO estimated physician weights for FSRO)

| Expense Category | Freestanding RO Center Estimated Mean PE/HR (ASTRO Physician weights) (N=67) | Hospital Based RO Estimated Mean PE/HR (N=71) | Physician Time Weighted Radiation Oncology PE/HR |
|---------------------------------|---|--|---|
| <i>Direct PE per hour</i> | | | |
| Clinical Payroll | \$161.74 | \$ 6.24 | \$ 73.11 |
| Medical Equipment | \$114.06 | \$ 2.55 | \$ 50.50 |
| Medical Supplies | \$35.93 | \$ 0.98 | \$ 16.01 |
| <i>Indirect PE per hour</i> | | | |
| Office Expense | \$194.92 | \$ 20.84 | \$ 95.70 |
| Clerical Payroll | \$68.05 | \$ 13.77 | \$ 37.11 |
| Other Expense | \$70.87 | \$ 17.86 | \$ 40.66 |
| <i>Total PE per hour</i> | \$645.58 | \$ 62.25 | \$ 313.90 |

For radiation oncologist, using the AMA master file weighting results in a total PE/hr of \$291.32 when hospital based and freestanding surveys are blend. The AMA master file weight method is consistent with the weighting method applied to all other specialties represented on the AMA master file for the 2006 PPIS effort.