PROVIDER REIMBURSEMENT REVIEW BOARD DECISION

2011-D18

PROVIDER –
George Washington University Hospital

Provider No.: 09-0001

vs.

INTERMEDIARY –
Wisconsin Physicians Service

DATE OF HEARING –
January 6, 2009

Cost Reporting Periods Ended -
December 31, 2001 and
December 31, 2002

CASE NOs.: 05-1032 and 06-1173

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ISSUE:

Whether the Intermediary properly extrapolated the sample error rate to the population in adjusting Medicaid eligible days.

MEDICARE STATUTORY AND REGULATORY BACKGROUND:

This is a dispute over the amount of Medicare reimbursement due a provider of medical services.

The Medicare program was established to provide health insurance to the aged and disabled. *See* 42 U.S.C. § 1395 et seq. The Centers for Medicare & Medicaid Services (CMS), formerly the Health Care Financing Administration (HCFA), is the operating component of the Department of Health and Human Services (DHHS) charged with administering the Medicare program. CMS' payment and audit functions under the Medicare program are contracted to organizations known as fiscal intermediaries (FI) and Medicare administrative contractors (MAC). FIs and MACs[1] determine payment amounts due the providers under Medicare law, regulation and interpretative guidelines published by CMS. *See* 42 U.S.C. §§ 1395h, 1395kk-1; 42 C.F.R. §§ 413.20 and 413.24.

Cost reports are required from providers on an annual basis with reporting periods based on the provider's accounting year. The cost reports show the costs incurred during the fiscal year and the portion of those costs allocated to Medicare. *See* 42 C.F.R. § 413.20. The intermediary reviews the cost report, determines the total amount of Medicare reimbursement due the provider and issues the provider a Notice of Program Reimbursement (NPR). *See* 42 C.F.R. § 405.1803. A provider dissatisfied with the intermediary's final determination of total reimbursement may file an appeal with the Provider Reimbursement Review Board (Board) within 180 days of the issuance of the NPR. *See* 42 U.S.C. § 1395oo(a); 42 C.F.R. § 405.1835.

The Medicare procedures, with respect to audit standards, set forth in the Intermediary Manual (CMS Pub. 13-4) §4112.4(B), provide the following direction to intermediaries:

> Ensure that evidence obtained during the course of the audit is sufficient to enable the auditor to support conclusions, adjustments, and recommendations. Make sure that there is enough factual and convincing evidence so that a prudent person can arrive at the same conclusion of fact as the auditor. In addition, evidence must be competent and relevant. That is, evidence must be valid and reliable and have a logical relationship to the issue/subject under review.

Medicare procedures allow for the use of sampling in conducting audits. CMS Pub. 13-4 §4112.4(B)(1)(e) states in relevant part:

> Sampling is the application of an audit procedure to less than 100 percent of the items within an account balance or class of transactions to evaluate some

[1] FIs and MACs are hereinafter referred to as intermediaries.

> characteristic of the balance or class. On the basis of the facts known to the auditor, decide if all transactions or balances that make up a particular account are reviewed in order to obtain sufficient evidence. In most cases, however, the auditor will test at a level less than 100 percent.
>
> There are two general sampling approaches, nonstatistical and statistical. Either approach, when properly applied, can provide sufficient evidential data related to the design and size of an audit sample, among other factors. A nonstatistical sample may support acceptance of findings, but findings must be scientifically established to support adjustments.
>
> Some degree of uncertainty is inherent in applying audit procedures and is referred to as ultimate risk. Ultimate risk includes uncertainties due both to sampling and other factors. Sampling risk arises from the possibility that when a compliance or a substantive test is restricted to a sample, the auditor's conclusions may be different had the test been applied in the same way to all items in the account balance or class of transactions.

The rules provide further guidance for planning samples, selecting a sample and sampling risk. *Id*.

STATEMENT OF THE CASE AND PROCEDURAL HISTORY:

George Washington University Hospital (Provider) is an acute care hospital located in Washington D.C. Wisconsin Physicians Service (Intermediary) is the Provider's Medicare fiscal intermediary.[2]

The Intermediary reviewed the Provider's Medicare cost reports for fiscal years ended December 31, 2001, and December 31, 2002. It selected a sample of Medicaid days and determined that a number of Medicaid days were non-allowable for inclusion in the numerator of the Medicaid proxy for the disproportionate share hospital (DSH) payment calculation. The Intermediary extrapolated its sample error rate to the universe of Medicaid days and proposed an adjustment for the total days deemed non-allowable. The Provider appealed the issue to the Board and met the jurisdictional requirements of 42 C.F.R. §§405.1835 - 405.1841.

The Provider was represented by Edward A. Moore of Universal Health Services, Inc. The Intermediary was represented by Stacey Hayes and Terry Gouger of Wisconsin Physicians Service.

PARTIES' CONTENTIONS:

The Provider contends that the Intermediary's statistical approach was not valid and does not provide reasonable certainty that the audit sample results are representative of the universe. The Provider argues that the Intermediary did not apply the estimation method consistent with the

[2] The Intermediary was Mutual of Omaha at the time of the audit.

sampling procedure used and did not account for sampling variability (i.e., the fact that the sample mean generally differs from the universe mean). The Provider contends that the Intermediary's statistical approach was not consistent with generally accepted statistical procedures as recommended by CMS and as used by the DHHS Office of the Inspector General (OIG). The Provider also argues that the alternate statistical method presented by the Intermediary at the hearing as a means to interpret the original results is improper because it would apply one statistical estimation technique to a sample designed for another technique. Therefore, the Provider contends that the sample results for each year do not justify any disallowance of patient days beyond those actually identified in the sample.

The Intermediary contends that the Provider should not rely on the instructions provided in the Program Integrity Manual (CMS Pub. 100-08, Chapter 3) because these instructions pertain specifically to Program Safeguard Contractors and Medicare Contractor Benefit Integrity Units and are therefore not applicable to cost report audits. Rather, the Intermediary contends that it followed the instructions in the Medicare Financial Management Manual (CMS Pub. 100-06, Chapter 8) regarding its sample selections and its decision to extrapolate the error rate to the universe. The Intermediary contends it is valid to extrapolate the sample findings in these cases in that the sample had very little variability. The Intermediary also argues that there is no provision in the regulations or manual instructions requiring it to use the most conservative estimate of the error rate in its extrapolation.

FINDINGS OF FACT, CONCLUSIONS OF LAW AND DISCUSSION:

After considering the Medicare law and program instructions, the evidence presented and the parties' contentions, the Board finds and concludes as follows:

Based upon the CMS guidelines for performing provider audits set forth in CMS Pub. 13-4 § 4112.4(B), the Board finds that the Intermediary may utilize a sampling methodology to determine the accuracy of the Medicaid days claimed by the Provider, but must rely on competent evidence sufficient to support its adjustments. The evidence must be relevant, reliable and logically related to the issue under review. Also, the evidence obtained and procedures used to support the audit results should be appropriately documented and should support the auditor's opinions, judgments, conclusions and recommendations. *Id.*

Audits based on statistical analysis are appropriate when time and resources do not permit auditing the full universe and the results of tests on a sufficiently representative sample can reasonably be extrapolated to the entire universe. The Intermediary used a statistical sampling software program developed by the OIG, known as RAT-STATS, which was designed to assist users in selecting representative samples and evaluating audit results.[3]

Within RAT-STATS there are two basic sampling methodologies: variable appraisals and attribute appraisals.[4] A variable appraisal is designed to estimate the total value of a particular

[3] *See* OIG website regarding the Office of Audit Services (OAS) RAT-STATS program at http://oig.hhs.gov/organization/oas/ratstats.asp.

[4] *See* RAT-STATS 2007 User Guide at http://oig.hhs.gov/organization/oas/ratstats/UserGuide2007.pdf.

universe, e.g., to determine the total number of Medicaid patient days for DSH purposes. The input requirements for variable sampling include the confidence level, precision level, mean, standard deviation and size of the universe. Alternatively, an attribute appraisal is used to study a qualitative characteristic that a unit of a population either possesses or does not possess, e.g., to determine if a Medicaid day claimed is either allowable for DSH purposes or not. The input requirements for attribute sampling include the confidence level, precision level, size of the universe, and the anticipated rate of occurrence in the universe.

The Intermediary used a stratified sampling plan in which the universe was divided into multiple, non-overlapping categories (strata) and selected patient files (i.e., entire stays), not individual patient days, as the sampling unit. The Intermediary used the RAT-STATS variable appraisal module to determine the sample size sufficient to obtain 20 percent precision at a 90 percent confidence level, and to generate the random numbers for selecting the specific sample.[5] Precision is a measure of how close an estimator is expected to be to the true value of a parameter, while confidence level refers to the likelihood of the corresponding interval containing the true universe total. The Intermediary's stated sample parameters allow for a 90 percent probability that the Provider's true number of allowable Medicaid eligible days falls somewhere within a confidence interval that is 20 percent higher or lower than the point estimate[6] derived from the sample results; there is a 10 percent risk that the true number may fall outside this range.

The Intermediary sampled 100 percent of each stratum with less than five patient files and selected a random sample from all other strata. From the stratified samples, the Intermediary identified the patient days deemed non-allowable for various reasons, e.g., lack of Medicaid eligibility, entitlement to Medicare Part A, lack of supporting documentation for eligibility or service dates, etc.[7] Based on these findings, the Intermediary used a simple ratio of non-allowable days to total days to determine the non-allowable days within each stratum and then added these amounts to derive a total adjustment to the number of Medicaid eligible days claimed for the DSH calculation.

The Provider did not dispute the use of the stratified variable sampling process or the specific sample selected by the Intermediary.[8] The Provider also did not dispute the audit findings for the patient days that were directly examined and disallowed in the sample. However, the Provider did dispute the Intermediary's methodology for calculating the sample error rate and extrapolating that error rate to the entire universe.[9]

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[5] *See* Intermediary Ex. I-6 (2001); I-5 (2002).

[6] Point estimate is defined as a single estimate for the universe total based on the sample mean multiplied by the universe size. *See* Variable-Stratified Program Output definitions from RAT-STATS 2007 User Guide, pages 4-31 and 4-32 at http://oig.hhs.gov/organization/oas/ratstats/UserGuide2007.pdf.

[7] In fiscal year 2001, the Intermediary disallowed a total of 24 days from the strata that were reviewed by random sample. *See* Provider Ex. P-4-5-a (2001); P-4-5-h at 40, 41, 42, 46 (2001). The Intermediary also disallowed 422 days from the strata that were tested 100 percent. *See* Provider Ex. P-4-5-h at 43, 47 (2001). In 2002, the Intermediary disallowed a total of 32 days from the random samples and an additional 5 days from the strata that were tested 100 percent. *See* Provider Final Position Paper at 3.1 (2002); Intermediary Ex. I-6 (2002).

[8] Tr. at 98, 125, 136.

[9] Tr. at 58-60, 132.

The Board finds that the Intermediary used an acceptable statistical sampling methodology to select records for review, but finds that the Intermediary did not use appropriate statistical methods to extrapolate the sample error rate to the population. The extrapolation results were invalid because they were not consistent with the sampling procedure used and because they did not account for sampling variability.

First, the Intermediary used the RAT-STATS variable appraisal module to select its sample, and therefore, should have used the output from the same variable appraisal module to analyze the results of the sample. The Intermediary selected patient files (stays) as its sampling unit and properly used the universe means and standard deviations of reported Medicaid days per patient to determine the sample size by strata.[10] However, the variable appraisal technique requires that the *sample* means and standard deviations of allowable Medicaid days per patient stay must then be calculated and used to estimate allowable days in the universe through the determination of a point estimate and confidence interval. During the audit review, the Intermediary did calculate the sample means and standard deviations, but did not follow through with this analysis.[11] The Intermediary's original disallowance based on the ratio of non-allowable days to total days per stratum is both inconsistent with the original sampling unit selected (that is, patient files which encompass a range of days, not individual patient days) as well as incompatible with the variable appraisal method on which the sample was designed.[12]

Second, CMS Pub. 13-4 §4112.4(B)(1)(e) states "[s]ampling risk arises from the possibility that when a compliance or a substantive test is restricted to a sample, the auditor's conclusions may be different had the test been applied in the same way to all items in the account balance or class of transactions." Sampling variability refers to the different values which a given function of the data takes when it is computed for two or more samples drawn from the same population. To address this uncertainty in sampling, the confidence level and precision parameters defined as part of the sample selection process must be used to calculate the upper and lower limits of the confidence interval. The parties agree that this interval would contain the likely true value of the population.[13]

Following through on the Intermediary's method for selecting the sample and using the Intermediary's undisputed audit findings within the sample, the Provider completed the stratified variable appraisal analysis through the RAT-STATS program. The program output identified the

[10] Intermediary Ex. I-6 at 6 (2001); I-5 at 2 (2002).

[11] Provider Ex. P-4-5-h at 40, 41, 42, 46 (2001); Intermediary Ex. I-6 (2002).

[12] At the hearing, the Intermediary proposed an alternative extrapolation methodology based on the RAT-STATS attribute appraisal module in an effort to support the validity of its initial adjustments, but ultimately conceded the use of this analysis as improper in its post-hearing brief. *See* Tr. at 24-26; Intermediary Ex. I-10 (2001) and I-9 (2002); *See also* Intermediary Post-Hearing brief at 16, ["Since the sample was selected using the Variable Sample Size Determination module in RAT-STATS, the Attribute Appraisal function would not apply."].

[13] Tr. at 109-11; Intermediary Post-Hearing brief at 14 ["The Intermediary contends that any value within the upper and lower limits is the likely true value of the population."].

applicable point estimate, precision percentage, and confidence interval for each fiscal year.[14] The Board finds that based on the sampling done, the claimed population of Medicaid eligible days falls within the acceptable confidence interval established by the Intermediary's sample parameters.[15] Therefore, the sample results do not warrant disallowing patient days beyond those actually audited and found to be non-allowable.

The Board notes that although the Intermediary testified that it was its policy to use the point estimate (midpoint of the confidence interval) as the basis for determining the adjustment amount, the Intermediary neither calculated a point estimate, nor adjusted to it in these cases. In addition, there is no documentation in the record to indicate that the use of the point estimate is a sanctioned Medicare policy. The Intermediary cited CMS Pub. 100-08, § 3.10.5.1, that "the [contractor] is not precluded from demanding the point estimate where high precision has been achieved."[16] The Intermediary went on to define any precision below the stated goal of 20 percent as high precision.[17] However, the Board finds this citation to be an exception rather than the rule and wholly unsupported in these cases because a precision percentage below the stated goal would be acceptable, but could hardly be considered "high" precision. The Intermediary had the discretion to increase the sample size, thereby yielding estimates with better estimated precision and a smaller confidence interval, but it chose not to do so.

Based on these findings, the Board concludes that the Intermediary did not properly extrapolate the sample error rate to the population in adjusting Medicaid eligible days because it failed to apply the estimation method that was consistent with its own sampling procedure and did not use generally accepted statistical procedures to evaluate the audit findings. Rather, the Board finds that the Intermediary should have utilized the RAT-STATS variable appraisal results, and further that it was necessary to consider the confidence interval from these results in order to account for

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[14] Provider Ex. P-4-5-b (2001); Provider Final Position Paper at 3.2 (2002). The analysis for fiscal 2001 shows only the strata subject to the random samples and excludes those reviewed 100 percent, while the analysis for fiscal year 2002 utilizes all strata, but this difference is solely a matter of presentation and has no impact on the findings.

[15] An inconsistency was noted in Provider's stratified variable appraisal analysis for fiscal year 2001. The Intermediary initially selected the sample based on universe totals of 536 patients in stratum 1; 289 patients in stratum 2; 125 patients in stratum 3; and 53 patients in stratum 4 (for a total of 1,003 patients, excluding the strata sampled at 100 percent) but the patient listings were subsequently revised based on a Provider disclosure of non-allowable days in the listings. The Intermediary's workpaper included the following note:

> It should be noted, that after testing the selected accounts, the provider brought it to our attention that all accounts with insurance codes D61, D62, and D63, should not be included as they are not federally funded. Therefore, we removed all of the related accounts from the original listing and any that were included in our samples. Since we had already performed all of the testing, we did not select a brand new sample to test. Instead, we tested the same ones we originally selected, excluding those with a D61, D62, or D63 insurance code.

See Intermediary Ex. I-6 at 4 (2001). Therefore, the revised universe numbers should have been reported by strata as 476; 272; 115; and 53 patients, respectively, (for a total of 916 patients) per Provider Ex. P-4-5-h at 10, 19, 24, 26, 34 (2001). This overstatement of the universe would result in a corresponding overstatement of the point estimate and confidence interval in the analysis. Nonetheless, the Provider's population of claimed Medicaid eligible days would still fall within the corrected confidence interval.

[16] Intermediary Ex. I-4 at 14 (2002).

[17] Tr. at 30-32; Intermediary Post-Hearing Brief at 13-14.

the variability inherent in the sampling process. Accordingly, there is no basis to disallow any patient days beyond those actually audited and found to be non-allowable.[18]

DECISION AND ORDER:

The Intermediary improperly extrapolated the sample error to the population in adjusting Medicaid eligible days for purposes of the DSH calculation. The Intermediary is directed to limit the reduction in Medicaid eligible days related to the statistical sampling process to those days actually audited and found to be non-allowable, 446 days in 2001 and 37 days in 2002. Further, the Intermediary is directed to modify the Provider's DSH calculations to reflect the revisions to allowable Medicaid patient days.

BOARD MEMBERS PARTICIPATING:

Suzanne Cochran, Esquire
Yvette C. Hayes
Keith E. Braganza, C.P.A.
John Gary Bowers, C.P.A.

FOR THE BOARD:

Yvette C. Hayes
Board Member

DATE: January 20, 2011

[18] The Board notes that the adjustments to Medicaid eligible days as identified in the Intermediary's adjustment reports exceed the days at issue related to the sampling process. *See* Provider Ex. P-4-2 at 9 (2001) and P-2 at 2 (2002). Any reductions to Medicaid eligible days made for reasons other than the sampling process are not subject to these appeals and have not been addressed by the Board in this decision.