Calculating State Error Rates For PERM FY 2008 – FY 2010

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Calculating the State Error Rates

- Sampling: The universe of payments are divided into ten strata based on the dollar size of the payments.

  - Each stratum represents about 10% of the universe, by dollars.

  - There are fewer claims in the larger dollars-per-claim strata than the smaller dollars-per-claim strata.

  - The sample of payments is drawn from each of the strata.

  - These sampled items are reviewed for payment errors.

- The State error rate is estimated as the projected dollars in error from all of the strata divided by the projected payments from all of the strata.

Calculating the State Error Rates – Continued

- Computing the overall State rate consists of the following steps:
  - Creating weights for sampled units (line items or single record header or fixed payments – all called 'claims') within each of the strata;
  - Multiplying payments and errors by the weights for sampled claims to create projected payments and errors;
  - Adding up all projected errors and projected payments; and
  - Dividing total projected errors by total projected payments.
- More details are provided on the following slides.

PERM FY 2008 – FY 2010 Error Rate Calculations

■ For each State, error rates can be estimated for Medicaid and for CHIP in this manner.

  □ Payment error rates are based on a sample of program payments, and eligibility errors are based on a sample of program recipients or applicants.

■ If the State has both Managed Care (MC) and Fee-For-Service (FFS) in its Medicaid or CHIP program, separate payment error rates are estimated for each.

PERM FY 2008 – FY 2010 Error Rate Calculations - Continued

■ State and national eligibility error rates are estimated.

■ A combined error rate is estimated that aggregates the FFS and MC payment rates with the eligibility error rate for the program.

Steps in Calculating State Payment Error Rates: Paid Amounts and Error Amounts for the Sample

- ■ Records are sampled in each of ten strata for each quarter.

  - □ Each sampled unit has a paid amount (may equal zero).

  - □ The sampled unit has been reviewed and any dollars in error are recorded.

  - □ Sampling weights are determined by stratum

- ■ The above information is used to estimate the total dollars paid and the total dollars in error, from which the error rate is calculated.

Steps in Calculating State Payment Error Rates: Sampling Frequency and Weights

■ Records are sampled from a known universe of 'claims'.

■ For each stratum in the universe, there is a sampling frequency that indicates the proportion of records in the universe that are sampled.

  □ For example, in the first stratum, perhaps 1 in 500 items are sampled.

  □ This ratio, 1/500, is the sampling frequency.

  □ The weight for all sampled claims in that stratum is 500, the inverse of the sampling frequency.

Steps in Calculating State Error Rates: Projecting Dollars in Error by Stratum

■ Projected dollars in error for a given stratum are equal to the total dollars in error for that stratum times the sampling weight.

□ If there are $100 dollars in error in the sample for stratum 1 and the sampling weight is 500, then $50,000 dollars is projected to be in error.

□ If there are $10,000 of payments in the sample for the stratum, with the same sampling weight of 500, the projected payments for the universe in the stratum is $5,000,000.

State Rates: An Example

- The PERM FY 2008 – FY 2010 payment error rates each cover four quarters of data.

- Within each quarter, there are ten strata.

  □ For Medicaid FFS, there is an additional Medicare Premium Payment stratum.

- Thus, for Medicaid FFS, there are 44 total strata in each State. For all the other applicable programs and types (Medicaid MC, CHIP FFS and CHIP MC), there are 40 total strata in each State.

- The number of strata could increase if there is a need for one or more supplemental samples for a state program.

State Rates: An Example

■ Computing the overall State payment error rate consists of the following steps:

  ☐ Creating weights for sampled units within each of the (generally) ten strata;

  ☐ Multiplying payments and errors by the weights for sampled units, creating projected total payments and total errors, by stratum and quarter;

  ☐ Adding up all projected errors and projected payments; and

  ☐ Dividing total projected errors by total projected payments.

State Rates: 'Example' State – Universe Size

■ For 'Example' State, the number of universe line items within each stratum and quarter are shown below for 10 strata.

Number of Line Items by Quarter and Stratum				
Stratum	**Quarter**			
	1	**2**	**3**	**4**
1	7,728	7,156	7,322	6,769
2	27,591	24,693	25,271	27,946
3	46,016	44,642	45,035	41,627
4	53,382	52,934	52,974	48,067
5	62,605	63,270	62,668	61,991
6	116,943	123,325	109,242	167,162
7	513,419	569,720	510,115	636,740
8	1,459,207	1,521,230	1,462,579	1,436,812
9	2,734,612	2,813,631	2,746,078	2,624,908
10	24,459,438	25,848,892	26,102,800	26,970,484

State Rates: An Example - Weights

■ Next, weights are determined by dividing the number of units within each quarter and stratum that are available to be sampled by the number of units that are selected for the sample.

Sample Weights by Quarter and Stratum*				
	Quarter			
Stratum	1	2	3	4
1	594	550	563	521
2	2,122	1,899	1,944	2,150
3	3,540	3,434	3,464	3,202
4	4,106	4,072	4,075	3,697
5	4,816	4,867	4,821	4,769
6	8,996	9,487	8,403	12,859
7	39,494	43,825	39,240	48,980
8	112,247	117,018	112,506	110,524
9	210,355	216,433	211,237	201,916
10	1,881,495	1,988,376	2,007,908	2,074,653

* Weights are equal to the number of records in each universe quarter/stratum divided by the number of sampled units in each quarter/stratum (normally divided by 13 for FFS and by 7 for MC).

■ Next, the weights are used to project both universe totals and payment error totals. An abbreviated example is shown. The two rightmost columns show the projected values for Total Payments and for Total Payments in Error, respectively, although they are labeled as they are calculated.

Obs	Payment	Error	Quarter	Strata	Weight	Payment*Weight	Error*Weight
1	45,357.28	0.00	1	1	594.46	26,963,158	0.00
2	3,574.11	55.50	1	2	2,122.38	7,585,636	117,792.35
3	2,565.97	0.00	2	3	3,434.00	8,811,541	0.00
4	1,556.46	0.00	2	4	4,071.85	6,337,666	0.00
5	1,257.10	0.00	2	5	4,866.92	6,118,209	0.00
6	962.85	962.85	3	6	8,403.23	8,091,051	8,091,050.75
7	665.24	0.00	3	7	39,239.62	26,103,762	0.00
8	200.19	0.00	4	8	110,524.00	22,125,800	0.00
9	96.55	0.00	4	9	201,916.00	19,494,990	0.00
10	18.25	2.00	4	10	2,074,652.62	37,862,410	4,149,305.23
					Totals	169,494,222.25	12,358,148.32

State Rates: Calculating the Error Rate

- The previous table showed two totals on the bottom row.

  □ The total for projected payments was $169,494,222.25.

  □ The total for projected error payments was $12,358,148.32.

- Divide the total amount projected in error by the total amount projected for the universe.

- $12,358,148.32 / $169,494,222.25 = 0.0729

- Multiply the result by 100.

- Example State's payment error rate is 7.29% for this program.

Payment Weighted Eligibility Rate

- There are three strata for the payment-weighted eligibility rate:
  - Applicants
  - Redeterminations
  - Continuing eligibility (all other)
- For each stratum, across all months, the error rate consists of the summation of dollars in error associated with the sampled case, weighted by their case sampling weights, divided by total dollars paid for each case, weighted by their sampling weights.
  - Example: if there are 1,000 redetermination cases in the universe, and 10 are sampled, then the sampling weight for all sampled redeterminations is 1,000/10=100.

State's Combined Program Error Rate for Payments

■ The Medicaid (or CHIP) combined FFS &MC payment error rate for a State consists of the weighted average of the FFS error rate for that program and the MC error rate for that program.

■ The weights for this step are the proportionate shares of FFS and MC expenditures in the combined program.

$$R_{FFs+Mc} = S_{FFS}R_{FFS} + (1 - S_{FFS})R_{MC}$$

☐ Where

- ▪ R is rate;
- ▪ FFS and MC are Fee-For-Service and Managed Care, respectively; and
- ▪ S is the proportionate share for FFS.

Combined Program Payment Rate With Eligibility Rate

■ A State's overall error rate is computed as:

$$R = R_{FFs+Mc} + R_E - R_{FFs+Mc} * R_E$$

Combined Payment Eligibility Rate – An Example

■ <u>Continuing the Example:</u>

■ Step 1 – Combine FFS and MC

   □ The Medicaid FFS error rate is 7.29%

      ▪ Expenditures of \$8.6B, or 71.62% of total Medicaid expenditures

   □ The Medicaid MC Rate is 1.08%

      ▪ Expenditures of \$3.4B, or 28.38% of total Medicaid expenditures

   □ Then the combined FFS and MC rate is

      ▪ $(0.0729 * 0.7162) + (0.0108 * 0.2838) = 0.0553 = 5.53\%$

■ Step 2 – Combine Payment and Eligibility Rate

   □ The Eligibility error rate is 1.62%

   □ Then the total error rate is

      ▪ $.0553 + .0162 - (.0553 * .0162) = .0706 = \textbf{7.06\%}$

National Error Rates

■ Using the 17 States as a sample, the program's FFS, MC, and Eligibility rates are projected to the National level in the same way as was just seen but using State programs and federally claimed expenses across all 50 States and the District of Columbia.

■ The separate national program and eligibility error rates are then combined into a single program rate, in the same manner as each State's rates are combined.