

Supporting Statement B:

Fee-for-Service Improper Payment Rate Measurement in Medicaid and the Children's Health Insurance Program

(CMS-10166, OMB-0938-0974)

1. Describe potential respondent universe.

The respondent universe for the PERM program is the Medicaid and CHIP programs from the 50 states, the District of Columbia, and Puerto Rico territory. All states¹ must participate in PERM based on regulatory requirements and historically, all states have participated as requested. The sample design for PERM is typically referred to as a two-phase sampling approach, where the first stage refers to the sampling of states and the second stage refers to the sampling of claim line items or payments within a state.

To measure improper payments for PERM, the first stage of the sampling design determined that 17-18 states, depending on the Cycle, from a total of 50 states plus the District of Columbia and Puerto Rico would participate in PERM each year to create a three-year rotation cycle. Both the Medicaid and CHIP programs are reviewed in the same year. The PERM review cycles have been established, as shown in Table 1 below, so states know in which year they are required to participate in PERM.

Table 1. States Selected for Medicaid Improper Payment Measurements

Cycle 1	Arkansas, Connecticut, Delaware, Idaho, Illinois, Kansas, Michigan, Minnesota, Missouri, New Mexico, North Dakota, Ohio, Oklahoma, Pennsylvania, Virginia, Wisconsin, Wyoming
Cycle 2	Alabama, California, Colorado, Georgia, Kentucky, Maryland, Massachusetts, Nebraska, New Hampshire, New Jersey, North Carolina, Rhode Island, South Carolina, Tennessee, Utah, Vermont, West Virginia
Cycle 3	Alaska, Arizona, District of Columbia, Florida, Hawaii, Indiana, Iowa, Louisiana, Maine, Mississippi, Montana, New York, Oregon, Puerto Rico, South Dakota, Texas, Washington

Stage 1: State Cycle Selection

To determine which participate in each cycle, states were ranked by their past Federal fee-for-service

¹ Instances of "state" utilized within this document will represent "state, district, or territory", in related context.

(FFS) expenditures and grouped into the four strata of 17-18 states each for three PERM cycles ($3 \times 17 + 1 = 52$). This distribution of states is shown in Table 2, below, where stratum 1A consists of the largest states in terms of expenditures and stratum 3 consists of the smallest.

Table 2. State Strata Distribution

Stratum	Cycle 1	Cycle 2	Cycle 3
1A	3	3	3
1B	3	3	2
2	6	5	6
3	5	6	7
Total	17	17	18

Stage 1: Sample Size Calculation

The second stage of the PERM sampling approach involves selecting a sample of claim line items or payments from each state in each cycle. Establishing sample sizes is critical to ensuring that the PERM rate measurement meets PIIA statistical requirements. In accordance with PIIA, PERM is focused on establishing a national improper payment rate that meets national level PIIA precision requirements, with state level precision as a secondary goal. Therefore, the focus of the sample size determination is national-level precision. For each cycle, CMS establishes a national annual sample size to meet precision requirements and distributes the sample across states. The state-specific sample sizes are based on state characteristics, which may include expenditures and past state PERM improper payment rates and precision. This approach allows CMS to maintain the reliability of state estimates and to improve national improper payment rate precision. Further, it allows CMS to effectuate more control of the PERM program's budget by establishing a national sample size.

Due to financial and time constraints as well as state burden considerations, there is a state-specific minimum and maximum of claims or payments sampled from both Medicaid and CHIP. Sample sizes are calculated for the FFS, managed care, and eligibility universes within the two programs. State-specific sample sizes are calculated prior to the beginning of each PERM cycle and submitted to states.

The anticipated response rate is 100 percent due to the statutory requirements at section 1902(a)(6) of the Act and Section 2107(b)(1) of the Act that require states to provide information necessary for the Secretary to monitor program performance. As noted above, all states have participated in PERM as requested which is the basis of the anticipated responses rate.

2. Describe procedures for collecting information.

The PERM program seeks to estimate national and state level Medicaid and CHIP improper payment

rates. According to PIIA requirements, the estimated national improper payment rate must be bound by a 95% confidence interval of 3 percentage points in either direction of the estimate. The national improper payment rate is based on the improper payment rates from all 52 states.

Given the number of samples per state required to achieve this precision, not all 52 states can be sampled every year. As a result, each year the PERM program samples 17-18 states, without replacement. This ensures that every state is sampled only once in a span of 3 years. The national improper payment rate takes into account the latest samples from all 52 states across the three years and is calculated in the same way as the individual state rates. In addition to the national rate, a 17-18 state cycle rate is also calculated for the states sampled during that year.

After determining the 17-18 states that are sampled each cycle, a sampling scheme within each state was created. The stratification methodology may change from cycle to cycle to try and improve the precision. The number of claims sampled per state depends on the results from the state, including previous improper payment rate and precision and current expenditures. For eligibility programs that are being reviewed for the first time under new methodologies, the number of claims will be predetermined based on the total cycle eligibility sample size.

Periodic data collection occurs quarterly for each state in each cycle. CMS requests quarterly Medicaid and CHIP FFS and managed care payment universes 15 days after the end of each quarter in the year under review.

CMS employs a stratification approach in both the FFS and managed care universes in order to minimize variance in the improper payment rate and improve precision. The stratification approach is applied by the Federal contractor with minimal additional burden to the states submitting data. Stratification approaches are shared with the HHS Office of Inspector General and other oversight entities, as requested.

As noted above, although the stratification scheme may vary from cycle to cycle, the general procedure for sample selection remains the same. Universe data is received each quarter and claims are sorted into strata. Usually, the claims are sorted by their paid amounts within each stratum so that the sampled claims will be spread out in terms of their payments. A systematic random sample is then taken, where k is the skip factor based on the universe total number of claims and target number of claims to sample, and the k th claim is sampled.

It is important to note that even though the sampling methodology is determined before the sampling begins, universes from individual states may vary in terms of completeness or clarity. As a result, it is not uncommon to encounter challenges in terms of sampling. Sometimes, depending on deadlines and state submissions, it is necessary to do an oversample in the universe or implement specialized sampling

procedures that are still statistically valid in order to address these challenges.

State Level Statistics

Improper payment rates are calculated by dividing the total dollars in improper payments by the total payments. As the entire universe of claims cannot be reviewed for improper payments, the sampled claims are reviewed in order to estimate the true improper payment rate. The following discusses the process for estimating the improper payment rate and variance:

For state level statistics, the estimator is simply a combined ratio estimator. Note all formulas are generalized such that they apply to each of the state's three component rates being computed (FFS, managed care, and eligibility). Note also that population totals referenced are with respect to the universe being estimated. For example, when computing a FFS improper payment rate for the state, the population payments and universe claims volumes refer to the FFS universe.

Let the state level improper payment rate be denoted by:

$$(1) \quad \hat{R}_i = \frac{\hat{t}_{e_i}}{\hat{t}_{p_i}}$$

The estimators in the numerator and denominator follow the general form:

$$(2) \quad \hat{t}_{x_i} = \sum_{j=1}^a \frac{M_{ij}}{m_{ij}} \sum_{k=1}^{m_{ij}} x_{ijk}$$

where

a = number of strata in state i

M_{ij} = total expenditures in the universe for stratum j of state i

m_{ij} = total expenditures in the sample for stratum j of state i

x_{ijk} = improper or total payment of line item k in stratum j of state i

The estimated variance of the estimated state level improper payment rate is given by:

$$(3) \quad \hat{Var}(\hat{R}_i) = \frac{\sum_{j=1}^a \frac{M_{ij}^2}{m_{ij}} \sum_{k=1}^{m_{ij}} \frac{(\theta_{ijk} - \bar{\theta}_{ijk})^2}{m_{ij} - 1}}{\hat{t}_{p_i}^2}$$

where

$\theta_{ijk} = e_{ijk}$ = improper payment of line item k in stratum j of state i

$\bar{\theta}_{ijk} = R_{ij} p_{ijk}$ = improper payment rate for stratum j of state i multiplied by the total payment of line item k in stratum j of state i

National Level Statistics

Similar to the State level calculations, the estimated national improper payment rate is calculated by:

$$(4) \quad \hat{R} = \frac{\sum_{i=1}^{51} t_{p_i} \hat{R}_i}{t_p}$$

where

t_{p_i} = total universe payments for state i

t_p = total universe payments

\hat{R}_i = estimated improper payment rate for state i

The estimated variance of the estimated improper payment rate is calculated by:

$$(5) \quad \hat{Var}(\hat{R}) = \frac{\sum_{i=1}^{51} t_{p_i}^2 \hat{\sigma}_{\hat{R}_i}^2}{t_p^2}$$

where $\hat{\sigma}_{\hat{R}_i}^2$ is the estimated variance of the estimated improper payment rate for state i .

The needed accuracy is provided by the PIIA and should be no more than an anticipated +/- 3 percentage point margin of error at a 95% confidence level for improper payment rates at the national program level. Although state level improper payments are not subject to the same precision requirements, CMS aims to reach PIIA requirements at the state level as well in order to guarantee national level precision.

In order to meet the requirements of PIIA, all selected states must fully participate.

3. Describe methods to maximize response rates.

CMS and its Federal contractors work closely with states to maximize response rates. States are required to provide universe data per Federal regulation and the universe data must be accurate and complete based on PERM requirements given that the quarterly universe submissions support reviews in FFS,

managed care, and eligibility. In order to minimize burden and ensure accuracy of data submitted, CMS and its Federal contractors provide guidance, technical assistance, and ongoing support to states throughout each PERM cycle. State universes are also subject to thorough quality control review in order to support an accurate improper payment rate measurement. CMS and its Federal contractors will depend on states to provide reliable data.

Most states have been quite responsive, so non-response is a minimal issue for PERM. The accuracy and the reliability for PERM are specified by federal regulations and supported by appropriate sample sizes. For these reasons, the information collected should be appropriate for its intended purposes. Reliable data sets are expected because the PERM Statistical Contractor compares the states' data with their CMS 64 and CMS 21 submissions for Medicaid and CHIP, respectively. Further, states are subject to an OIG audit on their PERM submissions.

4. Describe any tests of procedures or methods.

Not applicable.

5. Provide the names and telephone numbers of individuals consulted on the statistical aspects.

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