

## PI - Extrapolating Error Rate from Statistical Sampling To Larger Populations\*

### Purpose:

I. Describe the method used to extrapolate or project the calculated error rate from a statistical sample to the larger population.

### Identification of Roles:

<b>RACI Definitions</b>	
<b>RACI</b> - RACI charts are a type of responsibility assignment matrices in project management. These simple spreadsheets or tables highlight the different states of responsibility a stakeholder has over a particular task or deliverable and denotes it with the letters R, A, C, or I.	
<b>(R)</b>	Responsible
<b>(A)</b>	Accountable
<b>(C)</b>	Consulted
<b>(I)</b>	Informed

Iowa Medicaid PI Financial Analyst – extrapolates or projects the calculated error rate to the larger population when a provider review or other review project has been based on a statistically valid sampling process. **(R)**

### Path of Business Procedure:

When a provider review or other review project has been based on a statistically valid sampling process, the PI Financial Analyst and/or the Data Team Manager may extrapolate or project the calculated error rate to the larger population. (Refer to procedure, “Statistical Sampling for Provider Reviews.”)

1. When a statistical extrapolation is to be made, if more than one type of error has been discovered, during the review of a statistically valid random (SVR) sample, calculate an aggregate error rate reflecting all errors of any type found during the review.
2. The aggregate error rate is defined by dividing the total dollar value of the identified errors by the total Medicaid reimbursements included in the SVR sample.

3. All statistical sampling and extrapolation performed by the Iowa Medicaid PI Unit is done in a manner that assures a 95% confidence level and where the margin for error does not exceed +/- 5%. At the recommendation of the HHS Chief, Bureau of Research and Statistics, Program Integrity uses the lower or conservative side of the error range. This range is estimated to be actually about +/- 4.18%. In other words, subtract 4.18% from the percentage error rate obtained in Item #2 above.
4. Project the resulting error rate in #3 to the Medicaid reimbursements for the entire population to determine an aggregate overpayment for the issues identified.
5. The calculation of an aggregate error rate is performed to ensure the reimbursements paid in error are counted only once for purposes of the rate.
6. Perform this calculation after identifying each type of error during the review, so that an aggregate error rate is calculated.

Example: Calculating an error rate based on a sample drawn and applying it to the entire population:

Number of claims in population:	20,000
Medicaid payments for these 20,000 claims:	\$1,700,000
Number of claims in sample:	372
Medicaid payments for these 372 claims:	\$29,750
Number of claims with a particular error type identified:	15
Inappropriate Medicaid payments for the errors identified:	\$4,460
Percentage of the claims in the sample with errors (15/372)	4.03%
Percentage of the dollar payments in error (\$4,460/\$29,750)	15.00%
Adjust error rate to lower end of error margin (15.00% - 4.18% = 10.82%)	10.82%

Applied to population:

Aggregate \$ value of error(s) by applying rate: 10.82% of \$1,700,000      \$183,940

7. A template labeled “Systematic Random Sampling Worksheet” is attached at the end of this procedure and can be used to select a starting point in picking items to sample, the interval

to be followed, and the number of units to be selected. The formula in this worksheet is set to a 95% statistical confidence level and a margin of error at +/- 5%.

\*Extrapolation of the results of a statistically valid sample of claims may be used either for purposes of recoupment from an individual provider or as part of the process for projection of future savings from cost avoidance recommendations. Refer to the procedures, “Cost Avoidance Proposals and Projects”

**Forms/Reports:**

None

**Interfaces:**

None

**Attachments:**

Systematic Random Sampling Worksheet



Systematic Random  
Sampling Workshee

**File Path:**

<\\dhsime\PI\SURS\Recoupment and Recovery\Financial Analyst Draft SOPs>