Sampling and Extrapolation Methodology

Sampling process

Fallon Health (Fallon) may undertake statistical sampling to assess whether there has been a sustained, high-level amount of overpayment to a provider. When conducting sampling, Fallon will follow the guidelines regarding Statistically Valid Random Samples (SVRS) according to the process outlined by the Centers for Medicare and Medicaid Services (CMS) in Chapter 8 of the CMS Program Integrity Manual. Generally, the target population will consist of all claims for an audit and a sample draws a set number of sample units from that target population to estimate the total target population overpayment. Fallon Special Investigation Unit (SIU) investigators may use industry standard software, called RAT STATS, to aid in sample creation and overpayment extrapolation. RAT STATS was created by Office of the Inspector General for the US Department of Health and Human Services and information about the program can be found here: https://oig.hhs.gov/compliance/rat-stats/index.asp

The typical steps for a SVRS are the following:
1. Define the target population for overpayment extrapolation.
2. Select a sample unit, which typically will be a claim.
3. Select a simple random sample or a stratified sample design.
4. Create a sample frame – the listing of sample units.
5. Calculate a sample size with a minimum 90% confidence level and 25% sample precision.
6. Generate random numbers to select claims for the audit.
7. Evaluate the sample units for overpayment.
8. Extrapolate the sample overpayment amount to the target population.

Extrapolation process

Once all the sample units have been evaluated for overpayments, the investigator may choose to extrapolate the sample overpayment to the target population. Investigators typically use RAT STATS software to calculate extrapolated overpayments. RAT STATS assesses the overpayment values in the sample and expands those to the size of the target population. Because sampling relies on a relatively small number of observations to estimate a larger target population, RAT STATS calculates a confidence interval for the extrapolated overpayment. A confidence interval shows the range of values that the true target population overpayment could be, based on the estimated population variance and a specified confidence level.

As a benefit to providers and in accordance with CMS SVRS policy, Fallon will utilize the lower limit of a one-sided 90% confidence interval as the overpayment demand in cases. At the lower limit of that confidence interval, one can be 90% confident that the true target population overpayment is at least that amount or greater. However, in some circumstances the investigation may use the point estimate, based on the sample average, as the overpayment demand for an audit.