Provider Bulletin # 16-03
The Philadelphia Department of Behavioral Health and Intellectual disAbility Services (DBHIDS)
Community Behavioral Health

Use of Statistically Significant Random Sampling & Extrapolation of Variance Rates in Compliance Audits
May 2, 2016

Effective June 6, 2016, Community Behavioral Health (CBH) will utilize Statistically Significant Random Sampling (SSRS) and Extrapolation of Variance Rates (Extrapolation) for a defined group of targeted audits.

History and Context

Extrapolation of audit results has been used in Medicare audits conducted by the Centers for Medicare and Medicaid Services (CMS) since the 1970's. Extrapolation is also regularly utilized by the Commonwealth of Pennsylvania and other Managed Care Organizations (MCOs) and Behavioral Health Managed Care Organizations (BH-MCOs).

Extrapolation is a method of estimating, beyond the observed sample of paid claims, the total overpayment within the specified time period for a given population.

Implementation

Based on provider feedback, and in an effort to implement the process gradually, CBH has determined to move forward with the use of SSRS and Extrapolation for larger targeted audits only. Targeted audits are audits completed as a result of the identification of a potential billing irregularity. The identified concern may originate from tips to the CBH Compliance hotline, referrals from other CBH and Department of Behavioral Health & Intellectual disAbility Services (DBHIDS) departments, data mining demonstrating billing anomalies, and routine audits revealing potential problems, among others. At this time, extrapolation of audit results will not be used for routine audits.

Methodology

CBH's planned methodology and processes have been reviewed and approved by the PA Department of Human Services. Recommendations for targeted audits will be reviewed by Compliance Senior staff to determine scope of a potential billing/documentation problem(s). A preliminary data run of paid claims, based on the identified scope, will be completed to determine the number of claim lines involved. When the preliminary data run returns 500 or fewer claim lines, all claim lines involved will be reviewed. As a result, no extrapolation will be necessary.

When the preliminary data run returns 501 or more claim lines, an audit utilizing a SSRS and extrapolation will be scheduled. The audit will be conducted in such a way that the provider will be able to replicate the sample selected and conduct their own audit in order to confirm or dispute findings. The process for sample selection and extrapolation is provided in more detail later in this bulletin.

In order to obtain a truly representative sample, when multiple levels of care (medication management, individual therapy, group therapy for example) and/or payment rates (adult vs. child/adolescent rate distinctions for example) are involved, CBH Compliance will utilize stratification to pull representative samples for each level of care and/or rate.

Providers will continue to have the opportunity to dispute any compliance finding. For audits resulting in extrapolation, this will include not only challenges to the auditor's interpretation of clinical documentation but also in the methodology used. For clinically based challenges, providers will continue to submit copies of documentation in question for review by a Compliance staff person not involved with the original audit. For challenges to methodology, CBH will forward provider concerns to an outside corporation for a third party review.

A step-by-step guide for sample selection is as follows:

1. The Compliance Analyst will gather paid claims data for the population and time frame identified. The claims data, when appropriate, will be divided by levels of care.
2. The total population will be identified by the sample, in addition to the population for each strata.
3. Each claim line in each strata will be assigned a number beginning with one and increasing sequentially.
4. The Compliance Analyst will utilize Epi Info 7 (a public domain statistical software developed by Centers for Disease Control and Prevention) to determine the sample size needed to satisfy a 95% confidence level, with a confidence interval of 2%. This will be based on the total population. CBH selected Epi Info 7 based on the ease in which the sample size drawn can be replicated by providers.
5. Based on the sample size needed, the Compliance Analyst will then determine the number of claim lines that need to be reviewed for each strata. This will done by using the following formula:

   Strata Sample Size Needed = Strata Population x (Necessary Total Sample Size/Total Population)

6. Upon determination of the appropriate sample size to represent the total paid claims, the Compliance Analyst will use a random number generator located in Microsoft Excel (Data Analysis Add-In).
7. From within the Data Analysis Add-In on the Data tab of an Excel workbook, the analyst will select "Random Number Generation" from the list of options.
8. A new window should appear that will request the parameters for the random data set. The Analyst should enter:
   - The number of columns in which the data should be reported (Number of Variables). Analysts should have all numbers returned into a single column in order to ease the process of pulling the specific claim lines using "v look-up".
   - The number of random numbers to be returned. This should reflect the number needed for the strata in order to be a statistically significant sample.
   - The Analyst should then select "Uniform" for the distribution panel. This will allow the analyst to enter the parameters for the numbers to be returned. The minimum should always be 1 with the largest being the last line number for the strata.
   - A Random Seed number should be entered and the Analyst should record the number in order to allow providers to recreate the sample if so desired.
   - Finally, the Compliance Analyst should define the area to which the random numbers will be generated. This is done in "Output Range".
9. The Compliance Analyst will repeat the above steps until all strata have been represented appropriately.
10. The Analyst will then remove claim lines not selected in order to create the sample for each strata.
11. The total number of claim lines for all strata should now equal the total needed for a Statistically Valid sample of the entire population to be investigated.

Following the audit, the variance and error rate calculated from the statistically significant random sample will be extrapolated in order to determine, beyond the original sample size, the variance of the total amount of claims lines per strata. An example, highlighting this process and how the extrapolation amount is calculated, is provided at the conclusion of this bulletin.

All audit results, including extrapolation amounts, will continue to be reviewed and approved by the CBH Compliance Committee. The Committee consists of CBH officers and representatives from the DBHIDS/CBH Board of Directors. Providers will continue to have the right to challenge findings from any compliance audit. Challenges to specific claim-line level determinations will continue to be reviewed by compliance staff not involved with the original audit. Challenges to methodology utilized in sample selection and/or sample size determination will be reviewed by subject matter experts outside of the CBH Compliance Department.

Provider Considerations/Next Steps

A consequence of moving to SSRS will be that many targeted audits will now require a large number of charts to be provided with relatively short notice. CBH Compliance will continue to provide a list of records to be produced upon arrival at the facility (between 830AM and 900AM). In cases where charts must be transported from a secondary location or in cases where an exceptionally large number of charts will be requested, CBH Compliance may provide at least a portion of the chart list 12-16 hours in advance of the audit team's arrival. Providers should review medical records filing and retrieval protocols now to ensure that charts can be produced in a timely manner. Delays in producing charts in a timely manner may result in CBH auditors considering the documentation missing.

While the overall financial impact is believed to be lessened by initially utilizing extrapolation for targeted audits only, there still remains the potential for significant financial impacts for our providers. Providers are urged to develop and/or enhance quality assurance and internal compliance practices to ensure that potential issues are identified and corrected quickly. As a reminder, all CBH providers are required, as part of the Provider Agreement, to "maintain a corporate compliance program in accordance with standards set forth in the CBH Provider Manual to prevent fraudulent billing, embezzlement of funds, waste and abuse (CBH Provider Agreement Section II.A.15)." Providers should review their current compliance program in advance of the implementation of SSRS and extrapolation to ensure that the plan is working as designed.

Please direct any questions regarding the implementation of SSRS and Extrapolation to cbh.compliancecontact@phila.gov. As needed, the CBH Compliance Department will review and consolidate all questions and post answers to the provider network via CBH news and under the Compliance Department on the DBHIDS website.

Case Example
An example can be demonstrated in the following scenario:

A routine compliance audit by CBH suggests that a provider has routinely billed for the day of discharge for their inpatient psychiatric stays. The audit review and discussion with provider staff suggests that this may have been occurring for at least 1 year following a transition to a new electronic billing system.

A targeted audit is scheduled to review documentation for the date of discharge (last paid date of service for a member's stay) for a 1 year period of time. CBH Compliance staff decide on a plan to review the last paid day for each authorization for the provider for the one year period. Paid claims data is requested that shows that the provider appears to have billed for 1902 dates of service that fit this criteria. Further, 246 of these dates were paid at a 'children's rate' that is different than the adult rate. The adult rate had 1656 paid dates of service. The total paid amount for the 1902 dates of service in question is $1,015,500. Of this, $828,000 was paid at the $500/day adult rate and $187,500 was paid at the $750/day children's rate. In this example, $1,015,500 represents the "universe" to be audited.

Using Epi Info 7, the audit team leader determines that 1,061 claim lines must be audited to satisfy the 95% Confidence Level with a confidence interval of 2%. To determine the number of claim lines that must be reviewed for each rate strata (adult and children's) the team leader uses the following equations:

Necessary adult claim lines:
1656 (strata population for adult claim lines) x (1061/1902) = 924 (rounded from 923.77)

Necessary child claim lines:
246 (strata population for children's claim lines) x (1061/1902) = 137 (rounded from 137.23)

The two strata samples equal 1061, which is the number of claim lines identified as being necessary to satisfy the confidence thresholds.

The audit reveals that billing for the date of discharge occurred in 64% of the claim lines reviewed for the adult rate and 97% of the children's claim lines reviewed. This results in a total known financial impact of $395,250 ($99,750 for children's claim lines and $295,500 for adult claim lines.)

The audit team leader, having satisfied the sample size requirements and pulling a random sample, calculates the total extrapolated financial impact by:

Adult Extrapolated Amount = Error rate (.64) x Total amount of paid claims in strata ($828,000) = $529,920;
Child Extrapolated Amount – Error rate (.97) x Total amount of paid claims in strata ($187,500) = $181,875

As a result, the total financial impact for the targeted audit of date of discharge paid claims is $711,795.