During fiscal year 2015, VBA revised its quality assurance program to reflect industry-standard best practices in statistical sampling and estimation. The following document outlines the sampling methodology, estimation procedures, and assessment criteria for VBA’s quality assurance program, STAR.

**Sample Design**

VBA estimates claims processing accuracy for each Regional Office (RO) and the entire nation. Within each RO, estimates are provided for different types of workload, including compensation rating, compensation authorization, PMC rating, and PMC authorization claim workload. Each RO and workload type combination is treated as a separate population, from which a sample is drawn independently. The sample design is a systematic stratified random sample, where the sample is stratified by RO and time period.

Each sample must meet the objective of providing estimates within a 5% margin of error and 95% confidence limits for every 12 months of reviews. Sample sizes are determined for each RO and workload type combination. Previously, one formula was applied among all ROs and universally assumed an 0.80 proportion (i.e. 80% quality) of correct claims. Thus, each RO, regardless of size or proportion of correct claims, was given the same sample size. Using the formula, a total of 246 cases for each sampling frame were sampled from each RO each year. To distribute the sample size and quality review workload amongst the year, the sample was divided among 12 months equally. This resulted in 21 cases sampled per month.

* The formula that was previously used was :

n = (Z2 pq)/e2

Where n = sample size

p = proportion of correct claims

 q = 1-p

 e = margin of error (i.e., 5%)

Z = 1.96 (since a 95% confidence level is desired, the Z-score corresponding to 2 standard deviations, 1.96, is used)

In January 2015, VBA implemented a new sample size formula that incorporated an average of the prior two fiscal years’ accuracy for each RO, and applied a finite population correction factor. The factor compensates for when the sample is a large portion of the population. For each RO the average of two prior fiscal years’ workload shall be used as the input to this formula.

The formula[[1]](#footnote-1) for the finite population correction factor is as follows:

n2= nN / n +(N-1)

where n2= Sample size adjusted for population

n=sample size in original formula

N=population size (i.e., RO workload size)

By implementing the new formula, each RO has a different sample size, which is dependent upon both historical accuracy and workload. This sample size is divided equally upon 12 months and is rounded up to the highest integer.

VBA will periodically reassess sample sizes to account for accuracy and workload trends that may affect the sample size.

**Estimation Procedures**

From the sample, estimates are calculated for the proportion of claims that were completed accurately. Issue-based accuracy is also determined using the cases sampled in the claim-based sample design.

The results of the samples are combined to create a cumulative 12-month estimate of accuracy for each RO. Each RO estimate is also rolled into a national estimate. Monthly, 3-month, and quarterly results are also reported; however, at the RO-level, only the 12-month cumulative meets the objectives of the sample design for a 95% confidence level and 5% margin of error.

First, sampling weights will be utilized in the final accuracy estimates and estimates of variance. Sampling weights shall be created to account for unequal probabilities of selection and will be derived using the probabilities of selection for each RO and month. Each claim in the sample shall be assigned a sampling weight. Sampling weights are calculated as the inverse of the selection probability. The formula for sampling weights is as follows:

1/ (n2/N)

 Where n2=sample size, adjusted for population

 N=population size

In addition to weighted estimates, the margin of error will be estimated and included in the reports. The margin of error may be derived using one-half of the difference between the upper confidence limit and lower confidence limit. To derive the upper and lower confidence limits, a complex formula is required. Lastly, for the estimates of issue-based accuracy, ratio estimation will be implemented to estimate both the total number of issues and the number of issues that were correct.

**Claim Based and Issue Based Quality Assessment Criteria**

Starting in October 2012, VBA began estimating accuracy of individual medical issues adjudicated within each disability claim. This accuracy estimate offers a holistic review of claims processing quality since one claim could have many issues associated with it. The creation of this new estimate resulted in two categorizations of VBA claim processing quality: Claim Based Accuracy and Issue Based Accuracy.

Claim Based accuracy and Issue Based accuracy have the same “assessment criteria” for determining whether or not an error exists.  The assessment criteria difference between the two is in the classification of the error, either as a benefit entitlement error or a corrective action comment.

For Claim Based accuracy, a benefit entitlement error is called only if the error affects or has the potential to affect the Veteran’s entitlement to benefits (not simply a financial change; this also includes entitlement to Service Connection).  If the error does not affect entitlement to benefits (i.e. an incorrect effective date is within the same month as the correct effective date), it will be recorded as a corrective action comment.

For Issue Based accuracy, a benefit entitlement error is called regardless of whether or not the Veteran’s entitlement to benefits is affected or potentially affected.  In the above example, an effective date error that does not affect payment will be recorded as a benefit entitlement error under issue based accuracy, not a corrective action comment.  It should be noted for issue based accuracy, each individual decision associated with the claim is assessed separately. Every issue claimed by the claimant or inferred would constitute a separate issue for review, as would the award action.

Both review types are conducted on each case for national quality review.  All benefit entitlement errors and corrective action comments require corrective action.

1. This formula is provided in GAO’s *Veteran’s Disability Benefits: Improvements Could Further Enhance Quality Assurance Efforts* (Publication No. GAO-15-50). [↑](#footnote-ref-1)