Anesthesiology Business Group QCDR Validation Strategy – CY2016

1. **Summary:** This report outlines the data validation procures the Anesthesia Business Group (ABG) will perform for CY2016 data. ABG QCDR will report on behalf of approximately 5-10 unique anesthesia groups practicing at over 100 hospital locations and consisting of approximately 5,000 total providers in 2016. ABG estimates a total of 2.25 million cases will be logged in 2016, resulting in approximately 500 cases per provider.
2. **Program Year:** This validation plan is applicable to CY2016 data.
3. **Vendor Type:** ABG is a qualified clinical data registry.
4. **Data Submission:** ABG members collect data using either paper or electronic methods. ABG provides two methods for uploading data to its database: spreadsheet submission and a hand held electronic application that submits data directly to the database. Both methods require identical data elements with specific data formats for submission in order to ensure data integrity, and to allow for matching of data from two sources on the same case. ABG will validate two types of data:
    a. PSO observations, which are used to calculate non-PQRS measures that have been pre-approved by CMS.
    b. Demographic variables, including:
        i. Place of service – inpatient, outpatient, ambulatory center
        ii. Age
        iii. Gender
        iv. Anesthesia Type – general anesthesia and not general anesthesia
        v. ASA Physical Status
5. **TIN/NPI Verification**: All groups are required to enter their TINs at the time that they register on the ABG reporting web site. Each TIN is confirmed at the end of each calendar year. A National Provider ID number is required at the time each eligible practitioner registers on the ABG reporting web site. Every NPI is screened against the National NPI database at the time of registration to ensure that NPI and name match. Any time case data is uploaded to the ABG database, only NPIs that already exist in the provider database are accepted.
6. **Reporting:** ABG requires all members to report on a minimum of 9 QCDR measures.
7. **Data Completeness:** ABG will perform an annual audit to ensure that the total number of CY2016 cases in its database equals the total number of cases

submitted to ABG. To do so, ABG will increment a counter whenever a new unique case ID is entered into the database. This counter will then be compared with the total number of cases in the database to ensure all submitted records have been retained throughout the year.

8. **Reporting and Error Rates:**

   a. ABG maintains statistics on reporting rates for each provider. Reporting rates for a provider, the provider's group, and for ABG as a whole are displayed for members on the ABG website. To produce reporting rates, ABG cross-references billing records with submitted provider records.

   b. Because the audited data elements are binary in nature, there are 2 ways in which errors will be defined: errors of omission, in which the clinician failed to record a data element, or errors of commission, in which an adverse event is recorded on the Process Improvement Tracking Tool when, in fact, it is not found in the medical record.

   c. The error rates will be computed in 2 different ways: overall and on a per-item basis. To compute the overall error rate, the denominator will be the number of patient records sampled multiplied by the number of items audited, and the numerator will be the total number of errors identified. To compute the per-item error rate, the denominator will be the total number of patient records and the numerator will be the number or errors for the item examined.

   d. The variables audited will be divided into 2 categories: Non-PQRS Quality Indicators, and Administrative Data Variables. Accordingly, the 2 types of error rates described will be calculated separately.

9. **Randomized Audit Strategy:**

   a. ABG will use a stratified sampling strategy to perform data validation. Using a stratified random sampling method reduces sampling errors and ensures a more representative sample is chosen for validation.

   b. Chart abstractors will be trained at each ABG site. Each site will utilize a common spreadsheet and/or web-based tool to record the non-PQRS measures and the administrative data set variables. The data elements are identical and definitions standardized at all sites. The individual patient data from the chart abstraction at the ABG Anesthesia Data Safety Group, LLC member hospital will be compared to the electronic data from the ABG Anesthesia Data Safety QCDR registry. During this process a unique patient indicator will be used to identify each patient record. This indicator contains no patient data and is compliant with HIPAA de-identification standards.

   c. Each group (5-10) in ABG will be considered as a unique stratum. Within each group, 10 locations will be chosen (or all locations, if there are less than 10 total locations in the group). At each location, 5 providers will be chosen at random. Thus, ABG estimates a minimum of 250 providers will be audited.

d. For each chosen provider, ABG will audit 10 randomly chosen cases. This will result in a minimum of 2,500 cases being sampled. If ABG consists of 10 groups during 2016, 5,000 cases will be sampled.

e. This sampling methodology was designed with consideration for published CMS data validation guidance. CMS recommends sampling a maximum of 50 providers; ABG expects to exceed this by sampling a minimum of 250. CMS recommends sampling 25% of a provider's patients, with a minimum of 5 and a maximum of 50. Since ABG estimates each provider has 500 patients on average, it is burdensome to ask providers to audit 25% of their respective patients. Thus, ABG caps the number of patients a provider will audit to 10. ABG will compensate for this by sampling several hundred providers instead of the recommended maximum of 50 providers. Furthermore, this sampling methodology produces small margins of error at high levels of confidence, as detailed in part f) below.

f. Using ABG 2016 estimates for the total population size (2,500,000 cases), a median estimate of the sample size (3,750 cases), and a conservative a-priori estimate for the error rate on any one measure (10%), an estimate of the margin of error resulting from this sampling methodology can be calculated. Using a confidence level of 95%, we can estimate that whatever per-item error rate this methodology yields lies within 1% of the actual ABG error rate. For example, if the methodology yields a 1% item error rate we can conclude with 95% confidence that the actual ABG error rate on that item is not greater than 2%. Furthermore, since stratified sampling is employed, this represents an upper bound estimate for the error rate.

10. **Detailed Audit:** If any data inconsistencies are found, ABG will perform detailed audits on the relevant cohorts. If more than 3 of the cases sampled for each provider contain any error, ABG will audit an additional 5 cases for that provider to ensure the error is ubiquitous. If so, ABG will conduct a thorough investigation of that provider, the results of which will be submitted to CMS. Additionally, ABG will sample an additional 2 providers at that location to ensure the data inconsistency doesn't exist within the location as a whole.

11. **Data Access:** Per CMS guidelines, ABG has the ability to request and receive documentation from providers and can provide CMS with relevant data upon request.