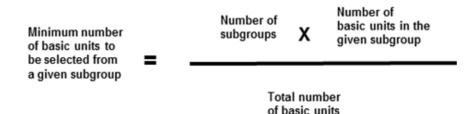# Planning and Reporting Multi-Model Appraisals

Clarifying the content of each constellation

Quality reviews indicate that there may be some confusion regarding planning and reporting multi-model appraisals. In some instances when establishing a representative sample for the organizational unit, lead appraisers have consolidated both constellations in the same sampling formula. As a result, the sampling is insufficient for one or both constellations.

Lead appraisers can avoid confusion by thinking of a multi-model appraisal as two different appraisals for planning and reporting purposes. This requires determining the appraisal scope for each constellation and applying the sampling formula accordingly.

As a reminder this is the published sampling formula.

$$\text{Minimum number of basic units to be selected from a given subgroup} = \frac{\text{Number of subgroups} \times \text{Number of basic units in the given subgroup}}{\text{Total number of basic units}}$$

When planning an appraisal, the presence of multiple models will most likely mean that "Type of Work" becomes a relevant sampling factor. The domain of each model, then—development, services, acquisition, etc.—would be used as sampling factor values, and subgroups would result that each provide coverage specific to one model's Process Areas.   The formula above should then be applied separately to the collections of subgroups covering each model scope. This will ensure sufficient coverage of the organizational unit's processes for each appraised model.

For example: A multi-model appraisal is performed against CMMI-DEV and CMMI-SVC, and the "Type of Work" sampling factor is found to be relevant, among others. For this factor, "Development Work" and "Services Work" values are created. When all factors and factor values have been identified, five separate subgroups are generated—three which perform the full CMMI-DEV model scope, and two which perform the full CMMI-SVC model scope. When applying the sampling formula to the CMMI-DEV subgroups, only Development Work subgroups would be considered. Therefore, for "number of subgroups" the LA would use "3," and for the total number of basic units the LA would use the sum of BUs present in those three subgroups. Likewise, when calculating the formula for the two CMMI-SVC

subgroups, only Services Work subgroups would be considered, and the numbers used for the sampling formula would be adjusted accordingly.

Questions regarding this guidance can be sent to scampi-quality@cmmiinstitute.com.