DEPARTMENT OF HEALTH AND HUMAN SERVICES
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Guidelines for Full Credibility for use in the Medicare Advantage and Prescription Drug Bid Pricing Tools

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The Centers for Medicare & Medicaid Services (CMS) provides guidelines for full credibility to be used in the Medicare Advantage (MA) and Prescription Drug (PD) Bid Pricing Tools (BPTs). This report applies specifically to the guidelines for MA non-ESRD allowed costs and PD allowed costs. These guidelines are effective beginning with the contract year (CY) 2024 BPTs, as applicable to the projected base period experience. CMS provides this guidance as a resource to certifying actuaries, not as a requirement. The guidelines are summarized in the following table:

Table 1—Guidelines for Full Credibility

Subject Experience	Guidelines for Full Credibility Beginning CY2024
MA Non-ESRD Allowed Costs	24,000 member months
PD Allowed Costs	60,000 member months

Background

CMS has provided claims credibility guidance since CY2006 for MA and PD BPTs. This guidance has been provided as a resource to certifying actuaries, not as a requirement. The guidelines are reevaluated and updated periodically. The last updates were for CY2014 and CY2019. A complete history of the updates is shown in *Table 2* below.

A separate guideline that is applicable to MA ESRD experience, which is not part of this report, was implemented beginning CY2016 (effective April 10, 2015).

Table 2—Historical Guidelines for Full Credibility

Subject Experience	CY2006–CY2013	CY2014–CY2018	CY2019–CY2023
MA Non-ESRD Allowed Costs	24,000 member months		
PD Allowed Costs	12,000 member months	18,000 member months	56,000 member months

Synopsis of the Methodology

Based on an application of classical credibility theory, the determination of full credibility depends on the assumed variation in the claim experience. Our goal is to determine the number of individuals in a group that are needed to have a probability, P, of being within a percentage, k, relative to the expected claim amount. CMS has chosen values of P = 95% and k = 10%, to be consistent with the assumptions used to set the historical guidelines above. The reasonableness of these assumptions would require a substantial amount of additional work beyond the scope of this assignment and has not been determined.

We model the distribution of claim amounts using the following statistical formula and the Central Limit Theorem:

$$\text{Aggregate claims for a group of } n \text{ individuals} = \sum_{i=1}^{n} X_i \xrightarrow{d} \mathrm{N}(n \times \mu, n \times \sigma^2), \text{ where}$$

- $\boldsymbol{X_i}$ is the annual claim amount with mean (μ) and variance (σ^2) for an individual, calculated on a per capita basis. X_i is assumed to be independently and identically distributed for each individual. The statistics are calculated using calendar year experience as described below. Claim amounts are tabulated as follows:
    - For MA, experience from enrollees in Medicare Parts A and B combined (as a proxy for MA) is included, and experience for individuals in ESRD and/or in hospice status is excluded. Allowed costs are reduced to reflect sequestration, beginning on April 1, 2013. The run-out is included through October 2022.

- For PD, experience from enrollees in Medicare Part D is included, and experience for individuals in employer or union-only group waiver plans is excluded. Experience for individuals in ESRD and/or in hospice status is included. Allowed costs for the drug Sensipar (when covered under Medicare Part D program) are included. Allowed costs are not reduced to reflect sequestration. The run-out is included through January 2023.

- $\boldsymbol{n}$ is the number of individuals in the group, and

- $\mathbf{N}(\boldsymbol{n} \times \mu, \boldsymbol{n} \times \boldsymbol{\sigma^2})$ denotes the Normal distribution with mean, $n \times \mu$, and variance, $n \times \sigma^2$.

Given our definitions and assumptions above, we solve for the following probability:

$$\text{Probability}\left[(1-\text{k}) \times n \times \mu \;\leq\; \sum_{i=1}^{n} X_i \;\leq\; (1+\text{k}) \times n \times \mu\right] = 95\%$$

By symmetry of both the Normal distribution and our probability statement, we can write the following relationship:

$$n \times \mu \times \text{k} = \sqrt{n} \times \sigma \times z_{0.975}, \text{ where}$$

$z_{0.975}$ is the z-score for the 97.5th percentile of the standard Normal distribution ($z_{0.975} \approx 1.960$).

Substituting for the known variables and solving for n produces the following equation:

$$n = \left(\frac{1.96 \times \sigma}{0.1 \times \mu}\right)^2$$

Since *n* is defined on a per capita basis (per enrollee regardless of the number of months enrolled during the year), we convert the final result to member months by multiplying *n* by an assumed average number of months of exposure per enrollee per year, as follows:

$$\text{Full Credibility in Member Months} = \text{Average Monthly Exposure} \times \left(\frac{1.96 \times \sigma}{0.1 \times \mu}\right)^2$$

Results for MA Non-ESRD Allowed Costs

Ten calendar years of experience from 2012 through 2021 were reviewed for consistency and trends over time. The experience for 2012 through 2016 does not match the preceding analysis of this guideline (issued in 2018) because of improvements in identifying enrollees and using 100% of the FFS data instead of a 5% sample. A summary of the experience is as follows:

Table 3—Experience for Setting the Medicare Advantage Non-ESRD Guideline

Year	σ/μ	Average Monthly Exposure	Full Credibility
2021	2.39	10.9	23,919
2020	2.47	11.0	25,781
2019	2.36	11.0	23,536
2018	2.32	11.0	22,745
2017	2.35	11.0	23,337
2016	2.33	11.1	23,150
2015	2.35	11.0	23,337
2014	2.40	11.0	24,340
2013	2.37	11.1	23,951
2012	2.36	11.1	23,750

The results for MA non-ESRD experience do not demonstrate enough support to change the current guideline for full credibility. For instance, the results for full credibility have fluctuated around the current guideline from 22,745 to 25,781 without a discernable trend. CMS is setting the full credibility guideline of **24,000** base period member months for MA non-ESRD allowed costs.

Results for PD Allowed Costs

Eleven calendar years of experience from 2012 through 2022 were reviewed for consistency and trends over time. The experience for 2012 through 2017 does not match the preceding analysis of this guideline (issued in 2018) because of using 100% of the Part D data instead of a 5% sample. Experience is included for 2022 because this experience is sufficiently (greater than 99%) complete for the analysis. A summary of the experience is as follows:

Table 4—Experience for Setting the Prescription Drug Guideline

Year	σ/μ	Average Monthly Exposure	Full Credibility
2022	3.83	11.4	64,241
2021	3.86	11.3	64,679
2020	3.86	11.3	64,679
2019	3.69	11.3	59,108
2018	3.71	11.3	59,750
2017	3.59	11.3	55,947
2016	3.50	11.3	53,177
2015	3.33	11.3	48,137
2014	3.09	11.3	41,448
2013	2.58	11.3	28,895
2012	2.31	11.3	23,164

As can be observed from the experience in *Table 4*, the full credibility values have historically been increasing. Since 2018, the results appear to have stabilized. In order to minimize the risk of overestimating the full credibility guideline for PD BPTs and to minimize the degree of change from the current guideline, CMS is setting the full credibility guideline of **60,000** base period member months for PD allowed costs.

Disclosures

The analyses in this report are intended only for use in the Medicare Advantage and Prescription Drug BPTs and should not be relied upon for any other purpose. The certifying actuary is responsible for the proper use and understanding of the results and must determine whether or not the guidelines are appropriate for each BPT.

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