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 for Claims Applicable to Enrollees Classified with End-Stage Renal Disease (ESRD)

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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 guideline for MA end-stage renal disease (ESRD) allowed costs. This guideline is effective beginning with the contract year (CY) 2024 BPTs, and will apply to the pricing of the (i) ESRD subsidy in the MA BPT and (ii) ESRD allowed costs in the MA BPT for ESRD-only special needs plans (ESRD-SNPs). CMS provides this guidance as a resource to certifying actuaries, not as a requirement. The guideline is summarized in the following table:

Table 1—Guideline for ESRD Full Credibility

Subject Experience	Guideline for Full Credibility Beginning CY2024
MA ESRD Allowed Costs	3,000 member months

Background

CMS has provided claims credibility guidance since CY2006 for MA and PD BPTs. The first year that guidance was developed specifically for MA ESRD experience was in CY2016 (effective April 10, 2015). This guidance has been provided as a resource to certifying actuaries, not as a requirement. The guidelines are reevaluated and updated periodically. The ESRD guidance was warranted because of the unique characteristics of ESRD experience. CMS analyzed both MA and PD but decided to provide a guideline only for MA ESRD experience, making no distinction for PD ESRD experience. The initial guidelines, beginning with the CY2016 BPTs, are shown in *Table 2* below.

Table 2—Historical Guidelines for ESRD Full Credibility

Subject Experience	CY2006–CY2015	CY2016–CY2023
MA ESRD Allowed Costs	N/A	4,000 member months
PD ESRD Allowed Costs	N/A	N/A

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 ESRD enrollees in Medicare Parts A and B combined (as a proxy for MA) is included, and experience for individuals in hospice status is excluded. Allowed costs are reduced to reflect sequestration, beginning on April 1, 2013. The run-out is included through January 2023.

- For PD, experience from ESRD enrollees in Medicare Part D and/or hospice status is included, and experience for ESRD individuals in employer or union-only group waiver plans is excluded. 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 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 2013 does not match the preceding analysis of this guideline (issued in 2015) because of the improvements in identifying enrollees in ESRD status. In the prior credibility guidance, ESRD status relied on the Medicare Status Code (MSC) from the Enrollment Data Base (EDB). CMS determined that this code erroneously excluded some enrollees on dialysis and included others with a functioning graft.

In the current credibility guidance, CMS processed Common Medicare Environment (CME) clinical dialysis, transplant, and graft failure events stored in the Integrated Data Repository (IDR) to identify the cohort of ESRD enrollees. ESRD status is assumed for enrollees (i) on clinical dialysis, (ii) in graft failure status, or (iii) with Medicare entitlement within 36 months of a successful kidney transplant. A summary of the experience is as follows:

Table 3—Experience for Setting the Medicare Advantage ESRD Guideline

Year	σ/μ	Average Monthly Exposure	Full Credibility
2021	0.91	9.9	3,163
2020	0.88	10.1	3,025
2019	0.88	10.2	3,007
2018	0.86	10.1	2,890
2017	0.89	10.1	3,039
2016	0.88	10.1	2,984
2015	0.87	10.1	2,937
2014	0.87	10.1	2,930
2013	0.87	10.1	2,910
2012	0.87	10.1	2,910

The results for MA ESRD experience indicated a decrease in the full credibility limit, as compared to the current guideline. Accordingly, CMS is setting the full credibility guideline for MA ESRD allowed costs at **3,000** base period member months.

Results for PD 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 2013 does not match the preceding analysis of this guideline (issued in 2015) because of (i) improvements in identifying enrollees in ESRD status, (ii) inclusion of PD ESRD enrollees in Prescription Drug Plans (PDPs), rather than only PD ESRD enrollees enrolled in an MA-PD plan, and (iii) inclusion of PD ESRD enrollees in hospice status. In the prior credibility guidance, ESRD status relied on the Medicare Status Code (MSC) from the Enrollment Data Base (EDB). CMS determined that this code erroneously excluded some enrollees on dialysis and included others with a functioning graft.

In the current credibility guidance, CMS processed Common Medicare Environment (CME) clinical dialysis, transplant, and graft failure events stored in the Integrated Data Repository (IDR) to identify the cohort of ESRD enrollees. ESRD status is assumed for enrollees (i) on clinical dialysis, (ii) in graft failure status, or (iii) with Medicare entitlement within 36 months of a successful kidney transplant. A summary of the experience is as follows:

Table 4—Experience for Setting the Prescription Drug ESRD Guideline

Year	σ/μ	Average Monthly Exposure	Full Credibility
2021	2.42	9.7	21,895
2020	2.35	9.9	20,949
2019	2.23	9.9	18,981
2018	2.06	9.9	16,108
2017	1.73	9.9	11,422
2016	1.64	9.9	10,167
2015	1.64	9.9	10,179
2014	1.60	9.9	9,785
2013	1.41	9.9	7,561
2012	1.35	9.9	6,942

CMS is not setting a separate guideline that is specific to Part D ESRD experience. Given the limited need for a separate guideline, we are concerned with the lack of consistency and stability in the results for Part D.

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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