

**Guide to the New Measures Table in the  
Quarterly Dialysis Facility Care Compare  
– Preview Report  
for January 2023 Release**

*Overview, Methodology, and Interpretation*

*January 2023*

## Table of Contents

<b><i>I. PURPOSE AND OVERVIEW</i></b> .....	<b>3</b>
<b><i>II. NEW MEASURES</i></b> .....	<b>3</b>
<b><i>Standardized Emergency Department Encounter Ratio (SEDR) (1.1- 1.7)</i></b> .....	<b>3</b>
<b><i>Standardized Ratio of Emergency Department Encounters Occurring Within 30 Days of Hospital Discharge (ED30) (2.1-2.6)</i></b> .....	<b>6</b>

## ***I. Purpose and Overview***

The *Guide to the New Measures Table in the Quarterly Dialysis Facility Care Compare (QDFCC) – Preview Report* is a supplemental document to the *Guide to the Quarterly Dialysis Facility Care Compare (QDFCC) Report*. Together, these guides explain in detail the contents of the QDFCC on Medicare.gov preview reports that were prepared for each dialysis facility under contract to the Centers for Medicare & Medicaid Services (CMS). The guides include the reports' objectives, discussions of methodological issues relevant to particular sections of each report, and descriptions of each data summary. For more information about the purpose and overview of these guides and the reports, please refer to the *Guide to the Quarterly Dialysis Facility Care Compare (QDFCC) Report* found on the DFCC Methods tab of DialysisData.org.

## ***II. New Measures***

The table “*Upcoming New Measures*” in the report provides information about the Standardized Emergency Department Encounter Ratio (SEDR) and the Standardized Ratio of Emergency Department Encounters Occurring within 30 Days of Hospital Discharge (ED30). The information in this table will not be released publicly on the DFCC website or included in the star rating at this time.

### **Standardized Emergency Department Encounter Ratio (SEDR) (1.1-1.7)**

The Standardized Emergency Department Encounter Ratio is defined to be the ratio of the observed number of emergency department (ED) encounters that occur for adult Medicare ESRD dialysis patients treated at a particular facility to the number of encounters that would be expected given the characteristics of the dialysis facility's patients and the national norm for dialysis facilities. Note that in this document an “emergency department encounter” always refers to an outpatient encounter that does not end in a hospital admission. It enables a comparison of your facility's experience to the national average. A value of less than 1.00 indicates that your facility's total number of ED visits was less than expected, based on national ratios; whereas a value of greater than 1.00 indicates that your facility had a ratio of total ED visits higher than the national average. Note that this measure is adjusted for the actual patient characteristics of age, sex, diabetes, nursing home status, comorbidities at incidence, BMI at onset of ESRD, calendar year, and prevalent comorbidities. Additionally, the estimate is compared to the US ratios of ED visits for adult Medicare ESRD dialysis patients for the same year.

#### Eligible patients (1.1)

The number of Medicare dialysis patients included in the ED visit summaries is based on dialysis patients who received treatment in your facility according to the conventions described in Section

III “*Assigning Patients to Facilities*” in the *Guide to QDFCC Report*. We also require that patients reach a certain level of Medicare-paid dialysis bills or that patients have Medicare inpatient claims during the period. Specifically, a patient-month within a given dialysis patient-period is included in the SEDR calculation if that month in the period is considered “eligible”; a month is deemed eligible if it is within two months of a month having at least \$1,200 of Medicare-paid dialysis claims or at least one Medicare inpatient claim. Patient-months are excluded if patients are enrolled in Medicare Advantage coverage at the same month.

#### Patient-years at risk (1.2)

The number of patient years at risk indicates the total amount of time we followed patients in this table’s analyses. For all patients, time at risk began at the start of the facility treatment period (see Section III “*Assigning Patients to Facilities*” in the *Guide to QDFCC Report*.) and continued until the earliest occurrence of the following: three days prior to a transplant; date of death; end of facility treatment; or December 31 of the year. Since a facility may have treated a patient for multiple periods during the same year, patient years at risk includes time at risk for all periods of treatment at your facility. Please note that the SEDR is not reported if the facility has less than five patient years at risk.

#### Emergency department events (1.3)

This is the total number of ED encounters among the Medicare dialysis patients assigned to this facility. Emergency department (ED) encounters are identified from Medicare outpatient claims using revenue center codes that indicate an ED visit (0450, 0451, 0452, 0453, 0454, 0455, 0456, 0457, 0458, 0459, and 0981). Note that this means that we include both outpatient ED visits and those that result in an observational stay, but not those that result in a hospital admission. The total number of emergency department encounters includes multiple encounters (i.e., second, third, etc.) for the same patient during the reporting period.

#### Expected number of emergency department events (1.4)

We calculated the expected number of ED visits among Medicare dialysis patients in a facility based on national rates for ED visits in the same year. The expected number of ED visits is calculated from a Cox model, adjusting for patient age, sex, diabetes, nursing home status, patient comorbidities at incidence, BMI at incidence, calendar year, and prevalent comorbidities. For each patient, the expected number is adjusted for the characteristics of that patient and summing over all patients gives the result.

#### Standardized Emergency Department Ratio (1.5)

The SEDR is calculated by dividing the observed total ED visits in 1.3 by the expected total ED visits in 1.4. It enables a comparison of your facility’s experience to the national average. A value

of less than 1.00 indicates that your facility's total number of ED visits was less than expected, based on national ratios; whereas a value of greater than 1.00 indicates that your facility had a ratio of total ED visits higher than the national average. Additionally, the estimate is compared to the US ED visit ratios for adult Medicare ESRD dialysis patients the same year.

### Confidence Limit (1.5)

The 95% confidence interval (or range of uncertainty) gives a range of plausible values for the true ratio of facility-to-national ED visits, in light of the observed SEDR. The upper and lower confidence limits enclose the true ratio approximately 95% of the time if this procedure were to be repeated on multiple samples. Statistically significant confidence intervals do not contain the ratio value 1.00.

### P-value (1.6)

The p-value measures the statistical significance of (or evidence against) the hypothesis that the true ED visit ratio for your facility is the same as (neither higher nor lower than) what would be predicted from the overall national ratio of ED visits. The p-value is the probability that the observed SEDR would deviate from 1.00 as much as it does under the null hypothesis that this ratio is truly equal to 1.00. A small p-value (often taken as  $<0.05$ ) indicates that the observed ratio would be highly unlikely under the null hypothesis, and the observed SEDR suggests that the ratio between the observed and expected ED visits differs significantly from 1.00. The smaller the p-value, the lower the probability that a facility's ratio of ED visits is equal to the national ratio. Note that the p-value is less than 0.05 whenever the confidence interval does not include the value 1.00. Because the p-value depends on the facility size, a small p-value in a large facility does not necessarily indicate that the difference between this facility's ratio and the national ratio is of clinical importance.

The SEDR's actual value can be used to assess the clinical importance of the difference between your facility's and the national ratios of ED visits. An SEDR of 1.25, for example, indicates that your facility's ratio is 25% higher than the national average, which may well be judged to be clinically important. On the other hand, SEDR values in the range of 0.95 to 1.05 would generally not be considered to be of clinical interest. With very large facilities, however, even relatively small differences in the SEDR can lead to significant results, so both aspects (the actual value of the SEDR and the p-value) are important.

### Classification Category (1.7)

If the facility SEDR is less than 1.00 and statistically significant ( $p < 0.05$ ), the classification is "Better than Expected". If the ratio is greater than 1.00 and statistically significant ( $p < 0.05$ ), the classification is "Worse than Expected". Otherwise, the classification is "As Expected" on DFCC.

### **Standardized Ratio of Emergency Department Encounters Occurring within 30 Days of Hospital Discharge (ED30) (2.1-2.6)**

The Standardized Ratio of Emergency Department Encounters Occurring within 30 Days of Hospital Discharge for Dialysis Facilities (ED30) is defined to be the ratio of observed over expected events. This report includes summaries of ED30 ratios among adult Medicare ESRD dialysis patients in your facility, along with regional and national ED30 ratios for comparison. The numerator is the number of index discharges from acute care hospitals that are followed by an outpatient emergency department encounter within 4-30 days after discharge. This numerator is counted over a two-year period among eligible adult Medicare dialysis patients treated at a particular dialysis facility.

The denominator is the expected number of index discharges followed by an ED encounter within 4-30 days during a two-year period given the discharging hospital's characteristics, characteristics of the dialysis facility's patients, and the national norm for dialysis facilities. Note that in this document, acute care hospital includes critical access hospitals, and "emergency department encounter" always refers to an outpatient encounter that does not end in a hospital admission.

#### Index hospital discharges (2.1)

We use Medicare inpatient hospital claims to identify acute hospital discharges. Among these acute hospital discharges, all live discharges of eligible patients in a calendar year are considered eligible for this measure. Those that do not meet one of the index discharge exclusion criteria described in the next section are considered index discharges. Please note that the ED30 is not reported if the facility has fewer than 11 index discharges.

#### Total ED visits within 30 days of hospital discharge (2.2)

The observed number of index hospital discharges during a two-year period that are followed by an emergency department encounter within 4–30 days of the discharge among eligible patients at a facility.

#### Expected total ED visits within 30 days of hospital discharge (2.3)

The expected number of index hospital discharges during the two-year period that is followed by an emergency department encounter within 4-30 days of the discharge among eligible patients at a facility. The expected value is the result of a risk-adjusted predictive model

adjusted for the characteristics of the patients, the dialysis facility, and the discharging hospitals.

#### Standardized ED visits within 30 days of hospital discharge (2.4)

We calculated the ED30 by dividing the observed total ED visits within 30 days of hospital discharge in 2.2 by the expected total ED visits within 30 days of index discharges in 2.3. This allows a comparison of your facility's experience to what should be expected on the basis of the national norm. A value of less than 1.00 indicates that your facility's total number of ED visits within 30 days of hospital discharge is less than expected, based on national ratios; whereas a value of greater than 1.00 indicates that your facility had a ratio of total ED visits within 30 days of hospital discharge higher than what would be expected given national ratios. In addition, the estimate is compared with the US ED30 ratios for the same year.

#### Confidence Limit (2.4)

The 95% confidence interval (or range of uncertainty) gives a range of plausible values for the true ratio of facility-to-national ED30 discharge, in light of the observed ED30. The upper and lower confidence limits enclose the true ratio approximately 95% of the time if this procedure were to be repeated on multiple samples. Statistically significant confidence intervals do not contain the ratio value 1.00.

#### P-value (2.5)

The p-value measures the statistical significance of (or evidence against) the hypothesis that the true ED30 ratio for a facility is the same as what would be predicted from the overall national ratio. The p-value is the probability that the observed ED30 would deviate from 1.00 as much as it does, under the null hypothesis that the ratio is truly equal to 1.00. A smaller p-value indicates that the observed ED30 is not likely due to chance and occurs when the observed ED30 differs markedly from 1.00. A p-value of less than 0.05 suggests that the ratio between the observed and expected ED30 differs significantly from 1.00. The smaller the p-value, the lower the probability that a facility's ED30 ratio is equal to the national ED30 ratio. A small p-value helps rule out the possibility that an ED30's deviance from 1.00 could have arisen by chance. However, a small p-value does not indicate the degree of importance of the difference between your facility's ED30 ratio and the nation's.

The ED30's actual quantitative value reflects the clinical importance of the difference between your facility's and the national ED30 ratios. An ED30 of 1.25, for example, indicates that your facility's ED30 ratio is 25% higher than the national average, which may well be judged to be clinically important. On the other hand, ED30 values in the range of 0.95 to 1.05 would generally

not be considered to be of clinical interest. With very large facilities, however, even relatively small differences in the ED30 can lead to significant results, so both aspects (the actual value of the ED30 and the p-value) are important.

#### Classification Category (2.6)

If the facility ED30 is less than 1.00 and statistically significant ( $p < 0.05$ ), the classification is "Better than Expected". If the ratio is greater than 1.00 and statistically significant ( $p < 0.05$ ), the classification is "Worse than Expected". Otherwise, the classification is "As Expected" on DFCC.