Enhancing Quality of Care: Global Quality Index

Indicators to measure clinical outcomes across patients’ care journey

We are committed to providing safe and high-quality care across diverse patient populations across the world. To help us meet our commitment across our patients’ care journey, we define and track indicators that allow us to identify opportunities for the improvement of clinical performance. The framework we have developed helps us to understand factors affecting quality performance, and take action to even further improve.

We measure and assess the quality of care provided worldwide. With our patient-centric approach, we establish company-wide safety and quality systems in line with industry-recognized quality standards and international guidelines for kidney care. These include KDIGO (Kidney Disease: Improving Global Outcomes), KDOQI (Kidney Disease Outcomes Quality Initiative) and ERBP (European Renal Best Practice).

The medical indicators we track globally are influenced by various factors such as disparities in resources and maturity of health care systems and related infrastructure. When managing the quality performance, we consider the local differences and their impact on achieving our medical performance targets.

Global key performance indicators

As a leading global healthcare provider, setting global standards is fundamental to providing safe and high-quality care. For this purpose, we have defined and measure two key indicators: the Global Hospitalization Rate and the Global Quality Index, which we focus on in this document.

Global Hospitalization Rate: The hospitalization rate measures the length of time patients spend in hospital. This is an important indicator as hospitalization reflects patient medical complexity, health care payment systems, medical infrastructure and medical practice culture. It is also one of the variables that impact patient experience. Changes in hospitalization rate should initiate an evaluation of contributing factors and opportunities to improve.

Global Quality Index: We have developed a Global Quality Index in 2022. It provides a harmonized overview of different key quality indicators that we have reported individually in previous years. The index contributes to continuously improving our quality of care. It is composed of three equally weighted quality indicators:

- dialysis effectiveness,
- anemia management,
- vascular access.

In the following we describe the Global Quality Index in more detail.
Calculation method

Each of the three indicators that make up the Global Quality Index is calculated as a percentage value that ranges between 0 and 100. The indicators represent the proportion of dialyzed patients that fulfill specific quality criteria. The Global Quality Index combines all three indicators into one percentage value ranging between 0 and 100. It is calculated as the average of the three indicator values.

**Dialysis effectiveness**
Measures how sufficiently the body is cleansed of waste substances

**Vascular access**
Measures the share of patients who do not receive dialysis via a dialysis catheter but rather via safer vascular access alternatives that reduce risk of infection and improve outcomes

**Anemia management**
Measures hemoglobin levels and specific medications given during dialysis to achieve optimum clinical outcomes, such as overall health and well-being

Global Quality Index
Global indicator for patient well-being and treatment success

Coverage

Included in the scope of our global quality assessment are patients aged 18 and above who have been actively treated in our clinics for more than 90 days. The minimum of 90-days has been set to accurately reflect the patients’ status as a result of the care provided from our center. The age of patients in scope reflects the fact the vast majority of our dialyzed patients are people over 18 years of age. It represents approximately 99% of our dialysis patient base.

Management of the quality index

Clinical data which is base for our quality index is continuously tracked in our clinics. The data is sourced from laboratory results, medical records, and documentation in patient files where electronically available. Anonymized quarterly reports are compiled and fully complying with applicable data privacy rules. Data quality and quality index performance are reviewed across different management levels on a regular basis. We continuously monitor clinical performance and do various kinds of outlier analyses. This way achievements and opportunities for improvement related to global patient care can be identified and managed in a timely manner. The Company’s Global Medical Office oversees these efforts and manages related improvement plans and trainings.
<table>
<thead>
<tr>
<th>KPI</th>
<th>Description and quantification</th>
<th>Drivers and measures</th>
</tr>
</thead>
</table>
| **Dialysis effectiveness**   | Dialysis effectiveness measures how well the body is cleansed of waste substances during each treatment. This is tracked by the share of patients (0-100%) that meet a specific Kt/V target range (at or above 1.2 per treatment for HD patients and at or above 1.7 per week for PD patients). The Kt/V variables stand for:  
  - K: clearance determined by urea concentration in the blood before and after the dialysis treatment  
  - t: effective treatment time  
  - V: distribution volume determined by L of water/kg of body mass | Performance is influenced by multiple clinical measures such as the type of dialyzer selected, the type of vascular access, the speed of dialysis flow and the treatment time. It is managed through continuous development of treatment standards such as schedules, product innovations, individualization of therapy, and patient and staff education. |
| **Anemia management**        | Anemia management is associated with patient well-being and overall health. Anemia management measures hemoglobin levels and specific medications such as erythropoiesis-stimulating agents (ESA) therapy given during dialysis to achieve optimal clinical outcomes. It is tracked by the share of patients (0-100%) that meet a specified hemoglobin target range (≥ 10.0 d/dl) considering their ESA therapy status. | Anemia management is driven by dialysis effectiveness, the availability of specific medications, different payment models, patients’ adherence to therapy and patients’ lifestyles. On clinic level, regular laboratory blood tests are conducted to monitor anemia. To treat anemia, ESA therapy is used to increase the biomarker called hemoglobin. On global level, additional measures can include increasing access to ESA therapy, patient education, nutritional therapy, fluid management and iron substitution. |
| **Vascular access**          | The optimal vascular access to receive dialysis is through a surgically created fistula. A fistula needs to be created several weeks before it can be used for dialysis treatment. The vascular access metric is intended to minimize use of dialysis catheters. It is associated with lower risk of infection and hospitalizations among the dialysis population. This indicator is calculated by tracking the share of patients (0-100%) by type of vascular access. All patients with fistulas and grafts are included in the calculation. | Vascular access is driven by availability of vascular access surgery services as well as follow up care. It is also influenced by patient characteristics (e.g., atherosclerosis, diabetes, hypertension) that affect whether a patient is a good or poor candidate for surgery. Measures can include optimization of diabetes and hypertension compensation, regular vascular access follow-up or innovations in vascular access care (e.g., tissue engineered blood vessels). |