[#2979 Standardized Transfusion Ratio for Dialysis Facilities]

The risk adjusted facility level transfusion ratio "STrR" is a ratio of the number of eligible red blood cell transfusion events observed in adult patients dialyzing at a facility, to the number of eligible transfusion events that would be expected under a national event rate, after accounting for the patient characteristics within each facility.

Inputs	Activities	Outputs	Outcomes	Impacts
• Dialysis center staff (Nephrologists, dialysis nurses, anemia manager) • Facility specific Policies and Procedures that reflect requirements in CMS' CfC 494 Conditions for Participation in the Medicare ESRD Chronic Dialysis Program • Anemia management protocols and guidelines (KDIGO) • Quality Improvement Team (including Medical Director and, Nurse Manager) • Partnerships with Acute Care Hospitals and inpatient providers to use transfusions judiciously • EHR Systems and Data analytic tools • Appropriate use of non-invasive anemia tracking monitors if available.	• Collect and analyze anemia data from facility (e.g. hemoglobin, iron stores, ESA and IV iron dosing) and transfusions data from hospital • Identification of high-risk patients for intervention. • Assessment of adherence to anemia management protocol. • Root cause analysis for low hemoglobin (iron deficiency, infection, bleeding, etc) • Quality Improvement Team review of: transfusion frequency; proportion of patients with hemoglobin outside of target range; delays in ESA dose changes; development of quality improvement activities • Stakeholder Engagement: Education for patients and providers on transfusion avoidance strategies and reasons transfusion avoidance is important. • Care coordination and provision of appropriate inpatient anemia management to minimize blood transfusion risk, • Assessment of blood draw practices to minimize blood loss.	• Percentage of patients achieving target hemoglobin and ESA requirements. • Percentage of patients receiving RBC transfusion. • Rate of adherence to transfusion protocols • Percentage of patients who received inpatient anemia management with ESA. • Training materials for facility and inpatient staff.	**Short-term** • Improved proportion of patients with achieved hemoglobin that meets the individualized patient target. • Increased awareness of transfusion practices **Intermediate Term** • Improved ESA and iron use to optimize anemia management practice. • Decreased rate of RBC transfusions. **Long-term** • Sustained decrease in transfusion frequency and optimized anemia management. • Decrease in alloimmunization and infection risk • Reduced cost and preserved blood product availability for the entire health system.	• Enhanced quality and safety of dialysis care • Improved access to kidney transplantation • Preservation of National blood supply and reduced healthcare costs. • Reduced burden of kidney disease on healthcare systems and communities.

Feedback Mechanisms
• Monthly performance reports to quality improvement team • Root cause analysis of transfusion events and patients with hemoglobin out of target range. • Learning collaboratives to share best practices among dialysis centers • Benchmarking against other facilities through Dialysis Facility Care Compare (DFCC), and Dialysis Facility Reports (DFR).
Assumptions
• Transfusion avoidance is a shared responsibility between all healthcare providers involved in the care of ESRD chronic dialysis patients. Primary responsibility for prevention of severe anemia rests with the dialysis facility and its Interdisciplinary Care Team (IDT) as specified in CfC494. Since the decision to transfuse blood in non-dialysis situations (e.g. during hospitalization) is dependent, in part, on current hemoglobin, the effectiveness of the dialysis facility's anemia management program contributes significantly to minimization of blood transfusion in most clinical scenarios. • Dialysis facilities can access inpatient transfusion events • Anemia management can be effectively standardized across diverse settings (inpatient and outpatient) and in patients with different comorbidities. • With appropriate education and support, inpatient providers are willing to optimize anemia management and avoid transfusions where appropriate.
External Factors
• Medicare's ESRD chronic dialysis Expanded Prospective Payment System (adopted in 2011) includes anemia management in a capitated payment program for outpatient dialysis. Insofar as the PPS does not reimburse dialysis facilities separately for ESAs used, there are external financial pressures placed on dialysis facilities that might disincentivize aggressive anemia management, particularly in individuals with chronic blood loss or hematologic conditions that make them less responsive to exogenous ESA effects. • New Clinical guidelines or safety alerts related to ESA use. Emergence of novel anemia therapies (e.g. HIF-PH inhibitors). • Public health events affecting blood supply (e.g. pandemics) and threshold for transfusion.