

## The Role of 30-Day Readmission as a Measure of Quality

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Hospital readmissions among dialysis patients are a significant burden for patients and the healthcare system. In 2010, patients receiving hemodialysis were admitted to the hospital an average of nearly two times per year, 36% of whom were rehospitalized within 30 days (1). As Springel *et al.* demonstrate in this issue of *CJASN* (2), hospital readmissions occur frequently with pediatric patients with ESRD as well as with their adult counterparts. Data from the US Renal Data System show the highest rate of hospital readmissions among patients aged 20–44 years, with readmission rates falling modestly with increasing patient age (1). Similarly to adult patients with ESRD, infection and cardiovascular disease are the most common causes for admission and readmission among pediatric dialysis patients (2). Most of the cardiovascular events requiring admission among the patients reported by Springel *et al.* were related to hypertension, which is likely the pediatric manifestation of fluid overload that often presents as “heart failure” in the adult ESRD population.

Most of the responsibility for preventing readmissions has been placed on the hospitals themselves with Medicare penalties. However, there is compelling evidence that other healthcare providers, including physicians and dialysis facilities, can contribute to decreasing readmissions as well. Chan *et al.* (3) reported a significant decrease in rehospitalization rates among dialysis patients whose hemoglobin levels were monitored and erythropoiesis stimulating agent doses were adjusted within a week of hospital discharge. Administration of vitamin D within 7 days of hospital discharge was also associated with a decreased rehospitalization rate compared with patients receiving no vitamin D. In an editorial accompanying the article by Chan *et al.*, Plantinga and Jaar (4) recommended a more comprehensive process of care by the dialysis provider for prevention of rehospitalization, including monitoring hemoglobin and adjusting erythropoiesis stimulating agent and iron doses accordingly, monitoring serum albumin with early follow-up by the renal dietitian, adjusting the dry weight as needed, reassessing phosphate binder therapy and vitamin D dose, contacting the hospital for treatment information and discharge summaries, and reconciling medications. Medication reconciliation is paramount because many hospital-based physicians are often unaware of the complete

list of medications dialysis patients are taking before admission and patients are frequently discharged on duplicate medications, more than one agent from the same class, and both a brand name and generic version of the same medication (5). In a follow-up report to the study by Chan *et al.*, Wingard *et al.* (6) cautioned against a “resume previous orders” approach to patients returning to a dialysis facility after hospitalization and recommended prompt attention to “high-risk domains” for readmission, including anemia management, nutritional status, infection/inflammation, vascular access, dry weight, mineral metabolism, mental status/depression, and medication reconciliation.

The most effective strategy for preventing admissions and readmissions is to have the infrastructure necessary to deal with intercurrent illnesses outside the hospital emergency room (ER). To a certain extent, this is also the responsibility of the nephrologist, whose path of least resistance is often to send every sick patient to the ER rather than trying to deal with the problem through other means. Studies of hospital readmissions in the general population have shown that a visit to the physician within 1 week of discharge is an important tool in reducing readmissions because it fosters another medication reconciliation, ensures that the patient is following all instructions given at hospital discharge including other referrals and therapies, and allows for the detection of signs and symptoms before they become severe enough to trigger readmission (7). Erikson *et al.* used 2004–2009 Medicare and Medicaid claims data to create a quasi-experimental model to assess the relationship between nephrologist/mid-level provider visit frequency after hospital discharge and the probability of rehospitalization (K.F. Erikson *et al.*, unpublished observations). They found that one additional provider visit during the month after hospital discharge reduced the absolute probability of a 30-day hospital readmission by 3.5% (95% confidence interval, 1.6% to 5.3%). These authors concluded that, at current Medicare reimbursement rates, the effort to visit patients one additional time during the month after hospital discharge could lead to 31,370 fewer hospitalizations per year and \$240 million per year saved. Whether the nephrologists in this study who visited their patients more frequently after hospital discharge were performing laboratory value and dry weight review, symptom assessment, and medication

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reconciliation is unclear, but the increased “face time” clearly provides opportunities for these activities to occur. Many nephrologists continue to squander their dialysis visits with patients despite increasing evidence that the quality of the interaction is as important as the frequency of the visits. The current incentives may lead to documenting the visit to bill at the highest level for the monthly capitation payment, rather than ensuring that the providers actually listen to the patient and evaluate the clinical data. The study by Erikson *et al.* follows closely on a report from the Dialysis Outcomes and Practice Patterns Study showing that frequency and duration of patient-physician contact in hemodialysis units also affects mortality (8). Both studies should be a wake-up call to nephrologists regarding their key role in the well-being of their patients. Nephrologist accountability for patient outcomes is virtually nonexistent in the United States, and studies like these provide the limited evidence upon which to base public policy.

The US Centers for Medicare and Medicaid Services are exploring a hospital readmissions measure to incorporate into the Quality Incentive Program for dialysis facilities (9). The proposed measure would be expressed as a standardized readmission ratio (SRR) of the observed number of readmissions in a dialysis facility divided by the expected number of readmissions in the dialysis facility. The expected number of readmissions is case-mix adjusted according to the patient characteristics listed in Table 1. The SRR will also be adjusted for hospital effects (10). Performance measures that affect payment and/or public reporting are vetted by a technical expert panel (TEP), and then submitted to the National Quality Forum for review and approval. The criteria by which such measures are evaluated include importance, reliability and validity, feasibility, usability, and harmonization with other measures. The TEP that reviewed the SRR measure specifications scored it highest on importance and feasibility and lowest on reliability/validity and usability. There were concerns regarding the ability of Medicare to adequately adjust for current comorbidities from claims data and to prevent dialysis units refusing to accept and/or involuntarily discharging patients with large numbers of readmissions (“cherry picking”). Furthermore, because no clinical practice guidelines currently exist for dialysis facilities or nephrologists on decreasing readmissions, the TEP felt that it was premature to hold dialysis providers accountable to a standard of care for which the evidence base is limited.

The ultimate question is whether the dialysis provider community should require financial incentives to do the right thing. Irrespective of whether an SRR measure becomes part of the Quality Incentive Program, there is clearly emerging evidence that dialysis facilities and nephrologists can play a role in decreasing readmissions by addressing the same components of dialysis care performed on a monthly basis during the week after hospital discharge, including evaluation (and modification, if appropriate) of anemia, nutritional status, dry weight, phosphate binder and vitamin D therapy, and medications. Obtain the hospital discharge summary and reinforce any medication changes and follow-up visits with the patient. Abandon a “resume previous orders” mentality. Make sure that the patient understands what led to the hospitalization and what can be done to avoid repeating the scenario. Speak with the patient in terms

**Table 1. Patient characteristics in the standardized readmission ratio model**

Characteristic
Sex
Age
Years with ESRD
Diabetes as cause of ESRD
Body mass index at ESRD incidence
Days hospitalized during index admission
Past year comorbidities (from all claims)
<b>Discharged with high-risk condition</b>
HIV infection
Hepatitis
Cystic fibrosis
Immunity disorders
Sickle cell anemia
Disorders of pregnancy
Other liver disorders
SLE and connective tissue disorders
Poisoning by nonmedical substances

of symptoms (“shortness of breath”) and not diagnoses (“congestive heart failure”). Perhaps most importantly, develop the patient care infrastructure to allow for the assessment of intercurrent illnesses outside the ER. Unfortunately, the path of least resistance for ESRD patients in a busy ER is to admit them to the hospital. Hospitals with high readmission rates have more to lose from Medicare penalties than dialysis providers do, so hospitals are economically motivated to partner with dialysis facilities and nephrologists to develop alternatives to ER care. The phrase “send the patient to the ER” should be used much more sparingly by nephrologists as alternate models of acute outpatient care are implemented.

#### Disclosures

None.

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