Insufficient Risk Adjustment of Quality Metrics for a Niche Dialysis Provider

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Introduction
- The standardized mortality ratio (SMR), standardized hospitalization ratio (SHR), and standardized transition ratio (STR) constitute one domain in the 5-Star Quality Rating System for dialysis facilities.
- Each of these metrics is risk-adjusted, partially for comorbidity that is ascertained from the Medical Evidence (ME) Report.
- For providers that dialyze patients after admission to a skilled nursing facility, data from the ME Report may not accurately describe current health status.

Methods
- Data were ascertained from the Centers for Medicare & Medicaid Services End Stage Renal Disease database, as formatted by the United States Renal Data System.
- From data.medicare.gov, we identified CMS Certification Numbers (CCNs) for ADC:
  - CCN 142676 (Oak Park, Illinois)
  - CCN 142699 (Elk Grove Village, Illinois)
- From the CMS ESRD database, we identified patients that first received dialysis from ADC in 2011.
- We retained those patients with a valid ME Report and ≥12 Medicare claims during the 6 months before first ADC dialysis session.
- We queried claims in the aforementioned 6 months for diagnosis codes indicating:
  - Atherosclerotic heart disease
  - Congestive heart failure
  - Other cardiac disease
  - Cerebrovascular disease
  - Peripheral vascular disease
  - Diabetes
  - Chronic obstructive pulmonary disease
  - Cancer
- We defined a condition to be present if we identified ≥1 inpatient facility claim or ≥2 outpatient facility or physician claims with qualifying diagnosis codes.

Results
- We identified 747 patients that first received dialysis from ADC in 2011:
  - Oak Park (OP), N = 703
  - East Peoria (EP), N = 33
  - Elk Grove Village (EGV), N = 11
- Among the 747 patients, 730 (98%) had submitted ≥1 inpatient facility claim or ≥2 outpatient facility or physician claims after first ADC dialysis session.
- Among the aforementioned 584 patients:
  - Mean age was 71.9 years.
  - 55% were non-Hispanic whites, 10% were Hispanic whites, and 35% were blacks.
  - Mean time since ESRD incidence was 2.2 years.
  - Of the 163 patients excluded from analysis, mean time since ESRD duration was 1.5 years.
  - The prevalence of 8 specified comorbid conditions was much higher according to recent claims than according to the ME Report.
  - Prevalence ratios for claims versus the ME Report:
    - Atherosclerotic heart disease: 4.22
    - Congestive heart failure: 3.78
    - Other cardiac disease: 1.79
    - Cerebrovascular disease: 2.04
    - Peripheral vascular disease: 1.90
    - Diabetes: 2.22
    - Chronic obstructive pulmonary disease: 0.86
    - Cancer: 1.87

Conclusions
- Each facility operated by Affiliated Dialysis Centers has received one star in the inaugural set of 5-Star Quality Ratings for dialysis facilities.
- One-third of the score underlying each rating can be attributed to the SMR, SHR, and STR of each facility.
- Affiliated Dialysis Centers has a unique profile, in that the provider begins to dialyze patients long after diagnosis of end-stage renal disease.
- In this setting, the logic of risk adjustment according to health status at dialysis initiation is clearly Inapplicable.
- This distortion in risk adjustment must be corrected in order to improve the quality of care rendered by Affiliated Dialysis Centers.
- However, the unique case of Affiliated Dialysis Centers is actually the canary in the coal mine of quality measurement.
- In Dialysis Facility Compare, any transfer from one outpatient dialysis facility to another shifts all of the accumulated risk from the former facility to the latter.
- However, any comorbidity that was accumulated during the time between ESRD diagnosis and facility transfer is not considered in risk adjustment of outcomes that occur in the latter facility.
- This limitation of Dialysis Facility Compare must be corrected in order to improve the utility of public reporting.