

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 transfusion ratio (STrR) 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.
- ◆ Poor capture of comorbidity data plausibly leads to biased estimates of SMR, SHR, and STrR, such that estimated ratios exceed actual ratios.
- ◆ We compared comorbidity prevalence from the ME Report and Medicare claims among patients that were dialyzed by Affiliated Dialysis Centers (ADC), a provider that operates nearly exclusively in skilled nursing facilities.

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 142683 (East Peoria, 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.

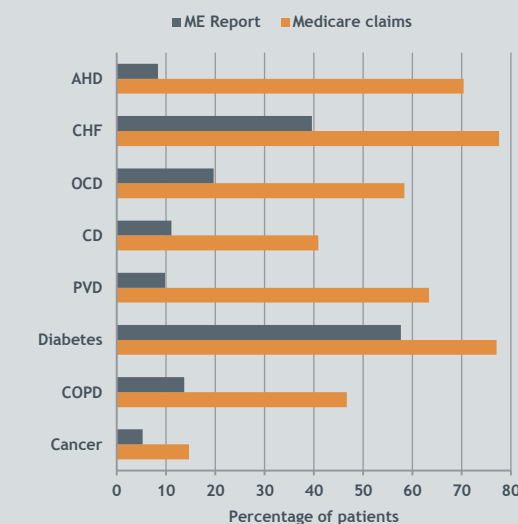
Results

- ◆ 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 a valid ME Report.
- ◆ Among the 730 patients with a valid ME Report, 584 (80%) had ≥ 12 Medicare claims during the 6 months before 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 32% were blacks.
 - ◆ Mean time since ESRD incidence was 2.2 years.
- ◆ On the other hand, even among 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 ranged from a minimum of 1.3 (diabetes) to a maximum of 8.4 (atherosclerotic heart disease). The mean of prevalence ratios was 3.9.

Quality metrics in ADC facilities (January 2015 report)

	OP	EP	EGV
SMR	1.90	2.90	1.28
Lower bound	1.76	2.18	0.88
Upper bound	2.04	3.78	1.79
SHR	1.30	1.08	1.21
Lower bound	1.05	0.66	0.80
Upper bound	1.64	1.88	1.87
STrR	1.74	1.74	0.86
Lower bound	1.36	0.80	0.37
Upper bound	2.32	4.25	2.22
5-Star Rating	★	★	★

Prevalence of comorbidity, by source of data



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 STrR 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 precludes accurate assessment of 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.

