

Glycosylated hemoglobin testing & lipid monitoring prior to ESRD

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Introduction

- Care in the transition period from CKD to ESRD has been an area of concern.
- Late-stage CKD is associated with high adverse event rates, with increased hospitalizations for cardiovascular events.
- Risk factor monitoring has received little attention to determine if providers are monitoring glycemic or lipid level control, which may reduce complications.
- In order to address risk factor monitoring, we used Medicare data to investigate the percent of glycosylated hemoglobin (HbA1c) testing in patients with diabetes prior to ESRD and lipid monitoring in all patients prior to ESRD.
- NKF KDOQI guidelines suggest that all CKD patients should be evaluated for dyslipidemia and those in Stage 5 CKD should be evaluated at least annually.
- ADA guidelines recommend that patients with diabetes should have their A1c level monitored 2-4 times a year.

Methods

- Patients included were incident ESRD patients in 2003 (n=34,408; 19,527 with diabetes), 2005 (n=35,479; 18,271 with diabetes), and 2007 (n=31,571; 16,227 with diabetes), age 67 and above. Claims for services were assessed in the two years before ESRD.
- The study period was the 24 months prior to ESRD, assessing CPT coded services on an outpatient basis.
- HbA1c testing was identified through Current Procedural Terminology (CPT) codes 83036 and 83037.
- Lipid monitoring was identified through CPT codes 80061, 82465, 83715- 83721, and 84478.
- One ICD-9-CM diagnosis code from Part A inpatient, skilled nursing, or home health claims, or two codes from outpatient or Part B claims, were used to define diabetes.

Results

- The percent of patients receiving at least one lipid test within a quarter prior to ESRD was consistently about 11% higher in 2005 compared to 2003 across all quarters. This same trend was not observed when comparing 2005 and 2007, where the difference was about 11% higher in 2007 compared to 2005 two years prior to ESRD, but decreased to almost no difference in the three quarters prior to ESRD.
- The percent of patients receiving at least one HbA1c test within a quarter in the two years prior to ESRD was also consistently about 11% higher in 2005 compared to 2003 across all quarters. Although consistently higher in 2007 compared to 2005, the difference was only about 0.03% across all quarters.
- The lipid and HbA1c testing percent remained consistent across all quarters prior to ESRD in 2003, 2005, and 2007, with lipid testing decreasing slightly in the three months prior to ESRD in 2007.
- The frequency of one- and two-year lipid and HbA1c testing prior to ESRD increased over the years.

Figure 1
Percent of patients with lipid and HbA1c testing prior to ESRD in each quarter

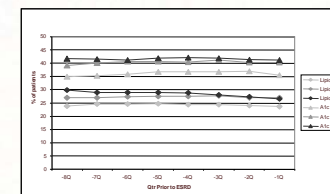


Table 1
Percent of patients with HbA1c testing prior to ESRD

Qtr prior to ESRD	2003	2005	2007
-4Q	34.92	39.04	41.73
-3Q	35.24	40.11	41.57
-2Q	35.76	40.58	41.23
-1Q	36.78	40.53	41.90

Table 2
Percent of patients with lipid testing prior to ESRD

Qtr prior to ESRD	2003	2005	2007
-4Q	23.81	26.94	29.89
-3Q	24.61	26.88	29.05
-2Q	24.58	27.22	29.03
-1Q	24.75	27.44	28.98

Table 3
Frequency of HbA1c and lipid testing in the two years prior to ESRD

Year	0	1	2	3	4+
HbA1c testing					
2003	19.2	13.1	12.5	12.4	42.6
2005	14.0	11.7	12.6	13.1	48.5
2007	15.0	10.1	11.4	12.3	51.1
Lipid testing					
2003	31.0	18.8	15.0	11.0	24.3
2005	25.7	18.2	16.0	12.2	27.9
2007	24.1	17.1	16.2	13.1	29.5

Table 4
Frequency of HbA1c and lipid testing in the year prior to ESRD

Year	0	1	2	3	4+
HbA1c testing					
2003	32.1	21.0	19.6	14.5	12.7
2005	25.7	21.9	21.0	16.4	14.8
2007	25.4	20.1	20.7	17.3	16.5
Lipid testing					
2003	45.1	25.0	15.0	7.8	7.3
2005	39.9	26.6	16.8	8.9	7.8
2007	36.5	26.9	18.2	10.1	8.3

Conclusions

- HbA1c testing in patients with diabetes prior to ESRD increased from 2003 to 2007. In 2007, however, 59% of patients did not receive a test in the quarter prior to ESRD and 25% did not receive a test in the year prior to ESRD.
- Lipid monitoring for all patients prior to ESRD has increased from 2003 to 2007. In 2007, however, 73% of patients did not receive lipid monitoring in the quarter prior to ESRD and 37% did not receive a test in the year prior to ESRD.
- HbA1c testing in patients with diabetes prior to ESRD and lipid monitoring for all patients prior to ESRD change little prior to ESRD, even though adverse CVD events are increasing with advancing CKD.