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Dialysis Facility Performance after Health Equity Scoring Incentives

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To the Editor:

In 2021, the Centers for Medicare and Medicaid Services (CMS) launched the ESRD Treatment Choices (ETC) Model, one of the largest randomized evaluations of pay-for-performance ever conducted in the US. It randomly assigned dialysis facilities and nephrologists in 30% of hospital referral regions to receive financial incentives based on their patients' receipt of home dialysis, kidney transplant, and transplant waitlisting.¹ Initially, the model did not adjust performance for any sociodemographic characteristics. In ETC's first year, dialysis facilities that disproportionately served patients with social risk factors experienced substantially higher rates of financial penalties.² (Table)

In the model's second year (2022), ETC changed its scoring methodology to implement a Health Equity Incentive. The Incentive creates separate scoring strata for facilities with 50% or more patients who are dually enrolled in Medicaid (DE) or receive low-income subsidies (LIS).¹ We used this unique opportunity to evaluate changes in ETC performance among facilities disproportionately serving patients with social risk factors after the introduction of the Incentive.

Among 2,189 dialysis facilities selected for ETC participation between 2021–2022, we identified each facility's proportion of patients initiating dialysis who were Black, Hispanic, uninsured or Medicaid-covered, or living in the most socially disadvantaged

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neighborhoods.³ (Figure S1) A composite social risk indicator assessed whether facilities were in the top quintile for 0, 1, or 2+ of these social risk factors, allowing the measurement of social risk as a multi-dimensional construct in line with our prior work.² (Supplementary Methods)

The addition of a Health Equity Incentive was not accompanied by a change in the disparity in home dialysis (0.1 [−0.6, 0.7]) or transplant (−0.1 [−0.6, 0.4]) performance between facilities in the lowest and highest social risk cohorts. However, the Incentive’s introduction corresponded with a 11.8 percentage point ([−21.2, −2.4]) reduction in proportion of facilities penalized in the highest risk cohort relative to the lowest risk cohort. (Table) Disaggregation by each social risk feature can be found in Table S1. Table S2 and Figure S2 show Health Equity improvement scores and stratified results for facilities with ≥50% patients who were DE/LIS.

In conclusion, while the introduction of ETC’s Health Equity Incentive was not accompanied by narrowed disparities in home dialysis, transplant and waitlisting, it reduced financial penalties among facilities that disproportionately serve patients with social risk. The ETC’s Health Equity Incentive only accounts for the facility’s proportion of DE/LIS beneficiaries, though other social risk factors also pose barriers to equitable kidney care.^{2,4,5} These findings support careful consideration of the design and consequences of health equity incentives in future pay-for-performance models.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Change in ETC Model Performance Measures Between 2021 and 2022 Model Performance Among Dialysis Facilities, by Composite Social Risk Indicator^a

Table:

	2021 [95% CI]	2022 [95% CI]	Change from 2021 to 2022 [95% CI] ^{b, c}
Home Dialysis Achievement (% utilization of home dialysis)			
Social risk indicator of 0	16.0 [14.8, 17.1]	17.1 [16.0, 18.3]	1.2 [0.8, 1.5]
Social risk indicator of 1	14.7 [13.6, 15.7]	16.0 [14.9, 17.0]	1.3 [0.9, 1.7]
Social risk indicator of 2+	14.1 [13.0, 15.2]	15.3 [14.2, 16.4]	1.2 [0.6, 1.8]
Diff. between cohorts 0 and 1 ^b	-1.6 [-2.6, -0.6]	-1.4 [-2.4, -0.4]	0.1 [-0.3, 0.6]
Diff. between score of 0 and 2+ ^b	-2.3 [-3.6, -0.9]	-2.0 [-3.4, -0.7]	0.1 [-0.6, 0.7]
Transplant Achievement^d (% utilization of transplant)			
Social risk indicator of 0	19.1 [17.3, 20.9]	19.5 [17.9, 21.1]	0.4 [-0.1, 0.9]
Social risk indicator of 1	19.5 [17.8, 21.3]	19.5 [17.8, 21.1]	-0.1 [-0.6, 0.5]
Social risk indicator of 2+	18.9 [17.0, 20.7]	19.2 [17.3, 21.1]	0.3 [-0.1, 0.7]
Diff. between cohorts 0 and 1 ^b	1.0 [-0.3, 2.3]	0.4 [-0.8, 1.7]	-0.5 [-1.0, 0.02]
Diff. between score of 0 and 2+ ^b	0.3 [-1.4, 2.0]	0.2 [-1.4, 1.8]	-0.1 [-0.6, 0.4]
Transplant Improvement^e (% improvement in transplant)			
Social risk indicator of 0	16.0 [14.5, 17.5]	16.2 [14.9, 17.5]	0.2 [-0.2, 0.6]
Social risk indicator of 1	16.4 [14.9, 17.9]	16.2 [14.8, 17.6]	-0.2 [-0.7, 0.3]
Social risk indicator of 2+	15.9 [14.3, 17.4]	16.0 [14.4, 17.6]	0.1 [-0.2, 0.5]
Diff. between cohorts 0 and 1 ^b	0.8 [-0.3, 1.9]	0.4 [-0.6, 1.4]	-0.4 [-0.8, 0.01]
Diff. between score of 0 and 2+ ^b	0.3 [-1.1, 1.7]	0.1 [-1.2, 1.5]	-0.1 [-0.5, 0.4]
Financial Penalty (% of facilities penalized)			
Social risk indicator of 0	11.5 [4.9, 18.1]	20.9 [14.1, 27.8]	9.4 [0.7, 18.2]
Social risk indicator of 1	14.0 [5.8, 22.2]	22.7 [14.5, 31.0]	8.7 [-0.1, 17.6]
Social risk indicator of 2+	18.6 [8.8, 28.4]	16.2 [7.4, 25.0]	-2.4 [-11.4, 6.6]
Diff. between cohorts 0 and 1 ^b	2.5 [-3.7, 8.6]	1.3 [-4.1, 6.6]	-0.8 [-7.1, 5.5]
Diff. between score of 0 and 2+ ^b	6.6 [-1.2, 14.4]	-6.0 [-13.3, 1.4]	-11.8 [-21.2, -2.4]

	2021 [95% CI]	2022 [95% CI]	Change from 2021 to 2022 [95% CI] ^{b, c}
Largest Payment Reduction (% of facilities receiving largest penalty)			
Social risk indicator of 0	0.6 [0.003, 1.3]	1.4 [0.6, 2.2]	0.8 [-0.3, 1.8]
Social risk indicator of 1	1.3 [0.04, 2.5]	1.3 [0.2, 2.4]	0.01 [-1.5, 1.5]
Social risk indicator of 2+	2.4 [-0.2, 5.1]	0.2 [-0.2, 0.6]	-2.2 [-4.9, 0.4]
Diff. between cohorts 0 and 1 ^b	0.7 [-0.4, 1.8]	0.1 [-1.2, 1.5]	-0.8 [-2.3, 0.7]
Diff. between score of 0 and 2+ ^b	1.9 [-0.8, 4.7]	-0.9 [-1.6, -0.2]	-3.0 [-5.8, -0.2]

Note: Confidence interval widths have not been adjusted for multiplicity and may not be used in place of hypothesis testing.

^a Composite social risk indicator represents the number of measures of social risk per facility, for which a facility receives 1 point for being in the highest quintile of social risk for 4 categories of identifying patient characteristics; all analyses in this table were conducted on this level.

^b Linear regression models used to generate estimates and confidence intervals, using regional fixed effects and standard errors clustered by Hospital Referral Region (HRR). Within year estimates compare each cohort to the cohort with a social risk indicator of 0; across year estimates compare 2022 to 2021.

^c Difference of differences (e.g., the difference between 2022 and 2021 performance differences across cohorts) was generated using a linear regression model that interacts year and cohort variables, using regional fixed effects and standard errors clustered by HRR.

^d Transplant achievement is defined as the mean proportion of patients who received a living-donor kidney transplant or were placed on a transplant waitlist in each year.

^e Transplant improvement is defined as the mean percentage improvement in living-donor kidney transplant or deceased-donor waitlisting in each year compared to that year's specific benchmark period (Supplementary Appendix).