

**Predialysis Education and
Incident Patients' Modality Choice and
Transplant Wait Listing:
Findings from the CDS**

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Predialysis Education

- **A CMS evaluation of ESRD Network activities in late 2009 cited the need for more focus on predialysis patient education**
- **In 2010 CMS implemented a Medicare education benefit that reimburses for review of dialysis and transplant options with pre-ESRD patients**
- **Findings from a recent USRDS study underscore the potential value of these initiatives**

Comprehensive Dialysis Study (CDS)

- **Most recent special data collection study conducted by the USRDS**
- **Participants**
 - **Patients aged ≥ 18 starting regular dialysis 2005-07**
 - **affiliated with 296 randomly selected dialysis clinics located across all ESRD Networks**
 - **who responded to a Patient Questionnaire in a phone interview survey (n=1643)**

Survey questions included:

- Was peritoneal dialysis discussed with you before you started your regular treatment for kidney failure?
- Was kidney transplantation discussed with you before you started your regular treatment for kidney failure?

CDS participants, compared to all other patients starting dialysis in the same time period

- **Were more likely**
 - to be less than 65 years old (62% vs 50%)
 - to be able to ambulate/transfer independently (98% vs 92%)
 - to be working (13% vs 10%)
 - to have been under the care of a nephrologist prior to starting ESRD therapy (72% vs 65%)
- **Had, on average**
 - fewer comorbid cardiovascular conditions (0.9 vs 1.0)
 - higher serum creatinine (6.9 vs 6.6 mg/dL)
 - higher serum albumin (3.2 vs 3.1 g/dL)
 - higher weight (84 vs 80 kg) and BMI (29.8 vs 28.4 kg/m²)

But CDS participants were similar to the overall incident dialysis population with regard to

- **Gender (55% male)**
- **Race (28% black)**
- **Private health insurance (27%)**
- **Diabetes (52%)**
- **Average hemoglobin level (10.1 g/dL)**

In summary: Composition of CDS sample

- **Incident patients who were younger and had greater likelihood of employment and independent functioning than the overall population starting dialysis—i.e., patients who demonstrated characteristics generally associated with being good candidates for PD and/or transplantation**

Early Awareness of Peritoneal Dialysis as a Modality Option?

Was peritoneal dialysis discussed with you before you started your regular treatment for kidney failure?

- **Based on study participants' response to this question—**

Did having an early discussion of PD influence dialysis modality choice?

PD Awareness and Modality Choice

- Overall, 61% reported that PD had been discussed with them
(58.6% of those who started on HD)
- In comparison, only 25% of incident HD patients in the DMMS Wave 2, and only 30% of incident HD patients in ESRD Network 18 (Mehrotra et al. *Kidney Int* 2005), reported that PD had been discussed with them

PD Awareness and Modality Choice

- **10.9% of CDS participants who reported having predialysis discussion of PD did begin treatment on PD**
- **Only 1.6% of CDS participants who reported that PD had not been discussed with them began treatment on PD**
- **Thus, predialysis information was important. But, even with early discussion, the % actually starting on PD remained relatively small**

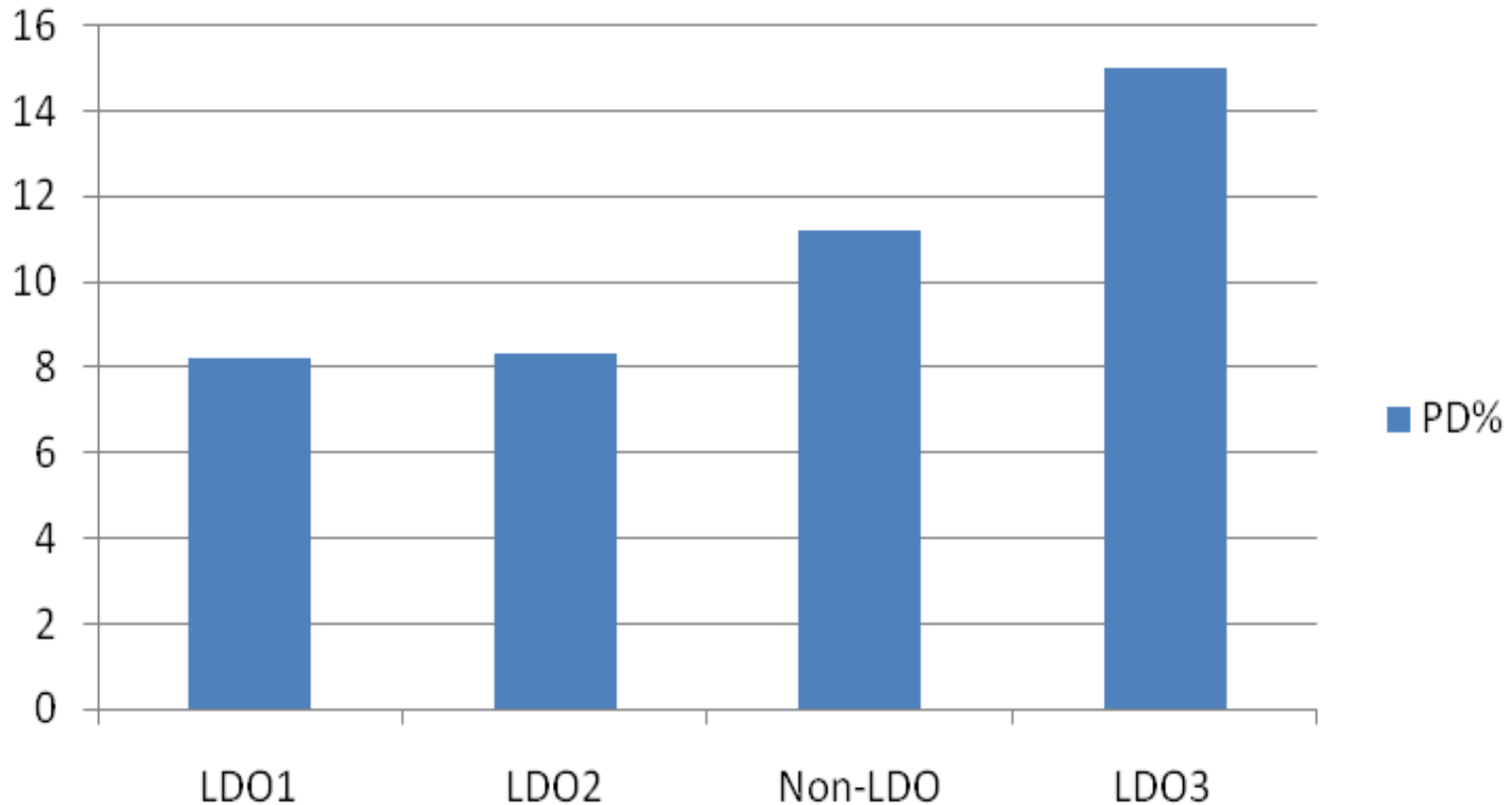
PD Awareness and Modality Choice

- Among those who had predialysis discussion, CDS patients who initiated PD had a higher educational level, higher hgb and serum albumin levels, and lower cardiovascular disease burden
- Although most patients may have no contraindications to either PD or HD, physician attitudes about which patients will benefit more with PD may contribute to sociodemographic and clinical differences between informed patients who do and do not start PD

PD Awareness and Modality Choice

- **Other potential influences:**
 - **We observed in the CDS that the % of informed patients who started PD differed substantially across LDOs**

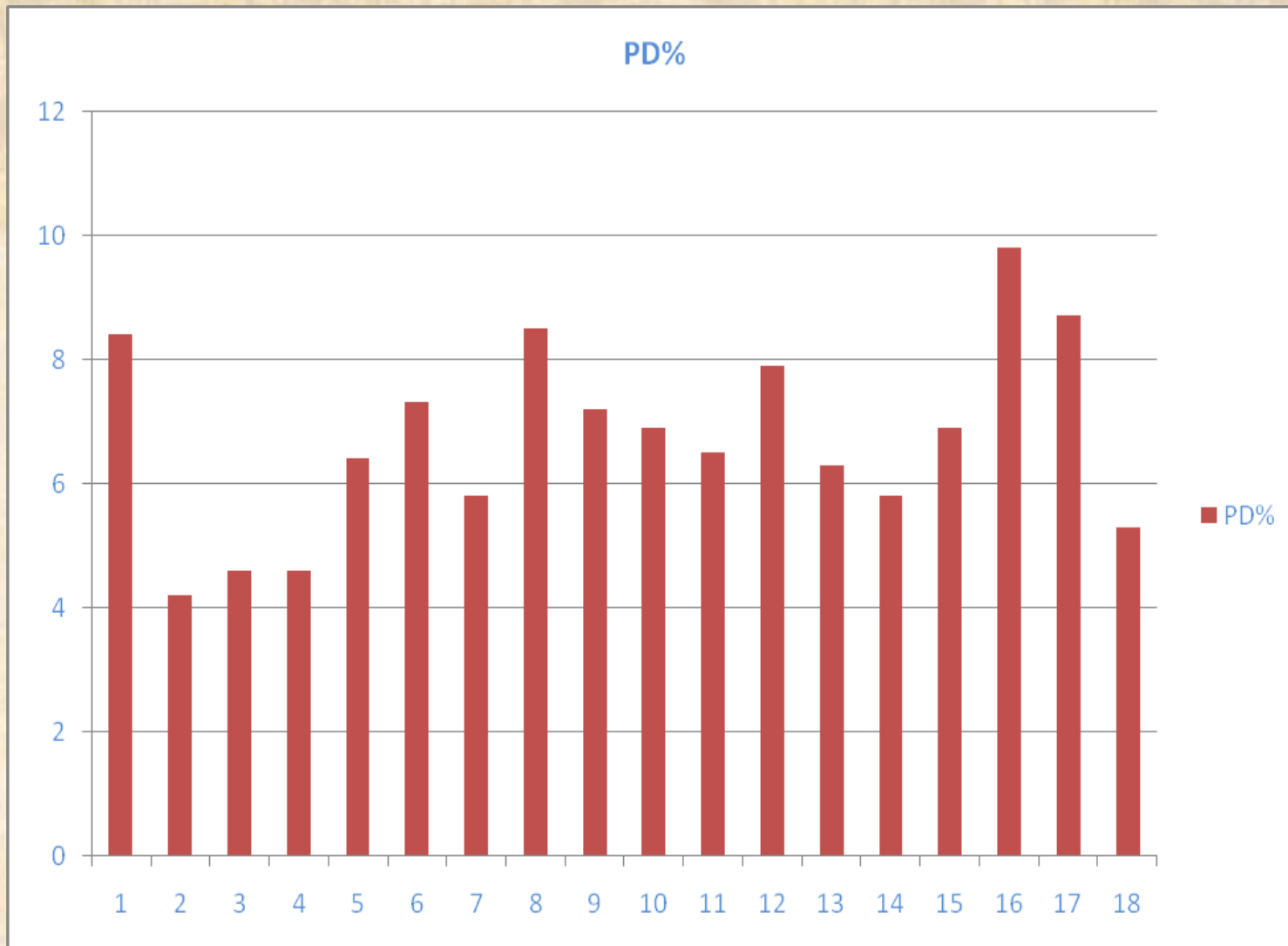
PD%



Percent PD selection among CDS participants with whom PD was discussed predialysis, by dialysis unit ownership; $P = 0.066$ for LDO3 vs. LDO1 and LDO2

PD Awareness and Modality Choice

- In addition, USRDS data show that the % of patients selecting PD differs substantially across the 18 ESRD Networks



Percent PD selection by ESRD Network region among U.S. patients starting chronic dialysis June 1, 2005 to June 1, 2007

Early Awareness of Kidney Transplantation ?

Was kidney transplantation discussed with you before you started your regular treatment for kidney failure?

- **Based on study participants' response to this question—**

Did early discussion of kidney transplantation influence placement on a kidney transplant waiting list?

Early Transplantation Awareness and Kidney Transplant Wait Listing

- **According to the Medical Evidence Form (CMS Form 2728), 70.6% of CDS participants were “informed of kidney transplant options”**
- **Just over half (55%) of these persons said when interviewed that kidney transplantation had been discussed with them predialysis**

Early Transplantation Awareness and Transplant Wait Listing

- Cox proportional hazards analyses followed transplant outcomes to 9/30/08
- Transplant-informed CDS patients (on 2728) who said that kidney transplantation had been discussed with them prior to dialysis were significantly more likely than those who did not report that transplantation had been discussed prior to dialysis

--to be wait listed

(HR 1.59, 95% CI 1.25-2.03; $P = 0.0002$)

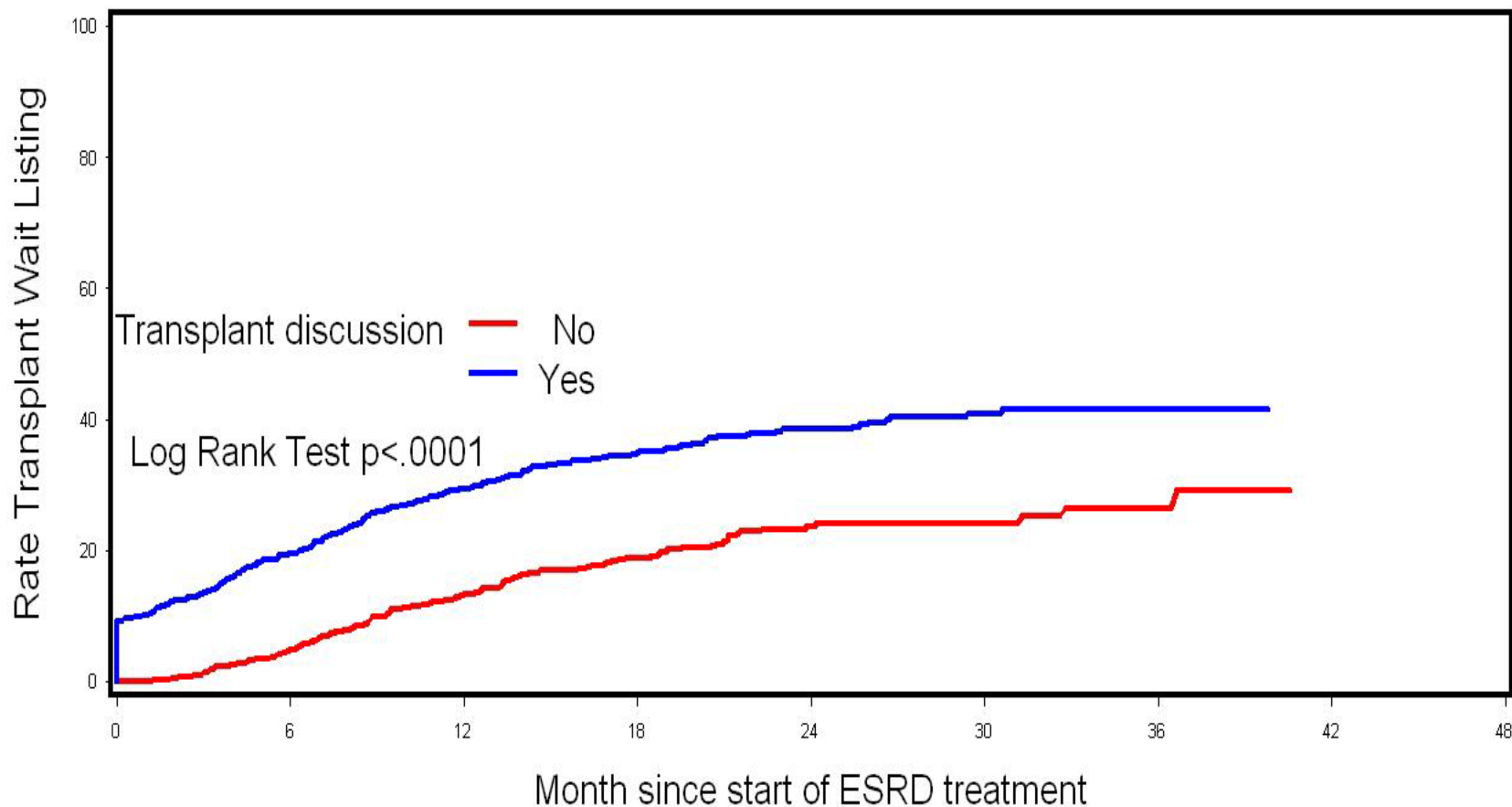
--and to receive a kidney

(HR 1.59, 95% CI 1.01-2.50; $P = 0.046$)

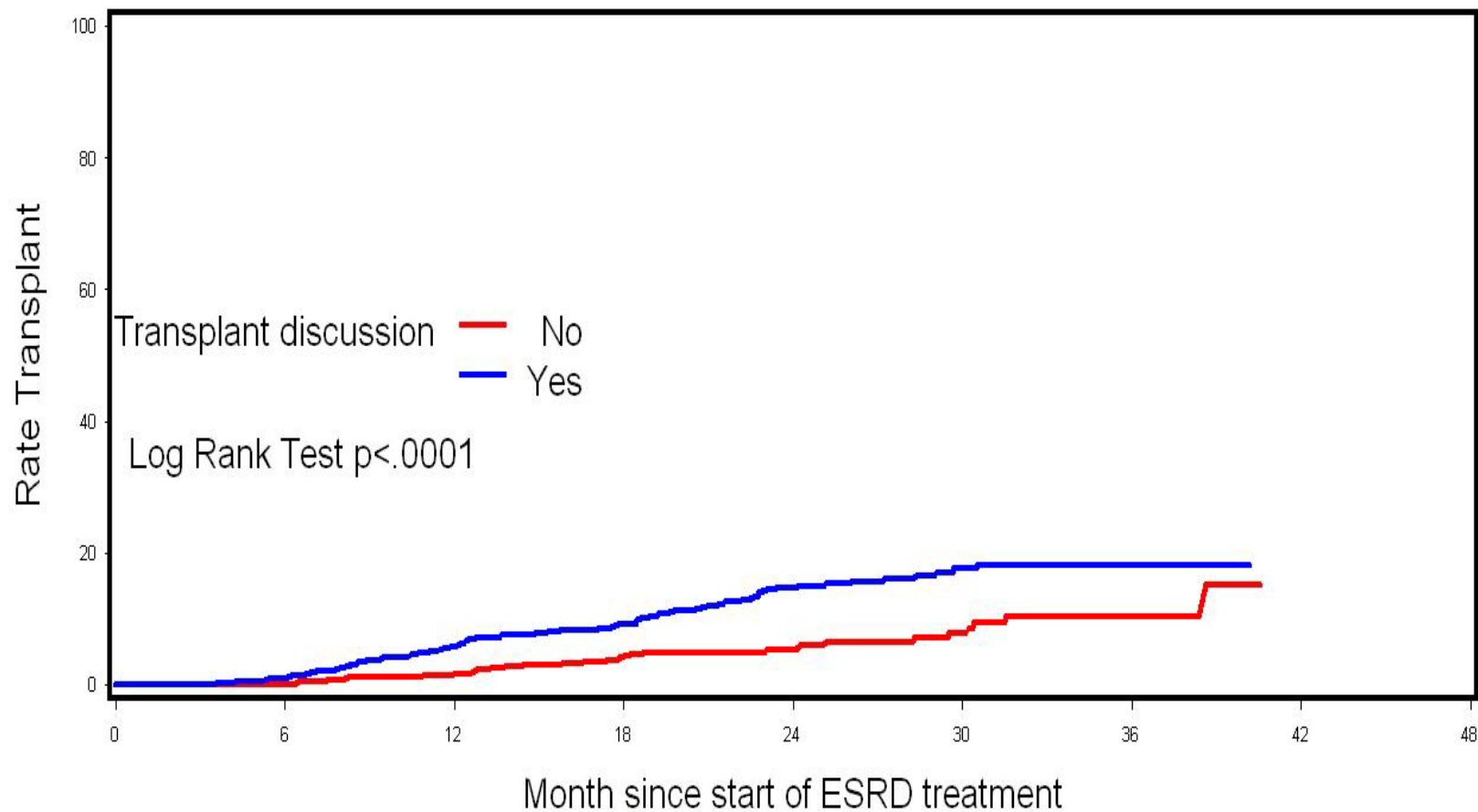
Cox models adjusted for:

- **Age, sex, race**
- **Education and work status**
- **Private health insurance**
- **Living alone**
- **Ever smoked**
- **Predialysis nephrology care**
- **Diabetes, cardiovascular comorbidity**
- **BMI**
- **MOS SF-36 PCS score**
- **HD/PD**

Transplant Wait Listing



Transplantation



In summary, CDS data confirm that

- **A prerequisite for patients to make informed decisions is that treatment options be discussed with them.**
--KL Johansen, *Arch Intern Med*, 9/27/10
- **Deferring discussion of transplantation to after commencement of maintenance dialysis...is not expected to be associated with the best outcomes.**
--R Mehrotra et al., *Kidney Int* 68:388, 2005

Summary

- **CDS data indicate that early awareness increases the likelihood of initiating PD and the likelihood of earlier wait listing and transplantation**
- **CDS participants had characteristics generally associated with being good candidates for PD and/or transplantation**
- **But only 61% said that PD had been discussed with them, and only half said that transplantation had been discussed with them, before starting dialysis**

Discussion

- In January 2010, CMS implemented a Medicare benefit providing Stage 4 CKD patients with up to 6 educational sessions that explain treatment options
- A curriculum to assist in providing patient education, *Your Treatment, Your Choice*, is available at no charge from NKF

Our conclusion

- **Factors associated with patient counseling and renal replacement therapy choices merit continued study in the context of new regulatory requirements**
- **CDS data offer benchmarks for assessing whether and how patterns of modality selection and transplant access effectively change in the future**

For more discussion:

- ***Arch Intern Med.* Published online 9/27/10**

Kutner NG, Zhang R, Huang Y, Wasse H

Patient awareness and initiation of peritoneal dialysis

Johansen KL (editorial)

Choice of dialysis modality in the United States