

# LONGER DURATION OF PRE-DIALYSIS NEPHROLOGY CARE IMPROVES BOTH SHORT-TERM AND LONG-TERM SURVIVAL IN DIABETIC DIALYSIS PATIENTS

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## INTRODUCTION

Both early and late mortality is extremely high on dialysis. We investigated to which extent the duration of pre-dialysis nephrological care (PDNC) influences the short- and long-term survival of diabetic dialysis patients (DP).

## METHODS

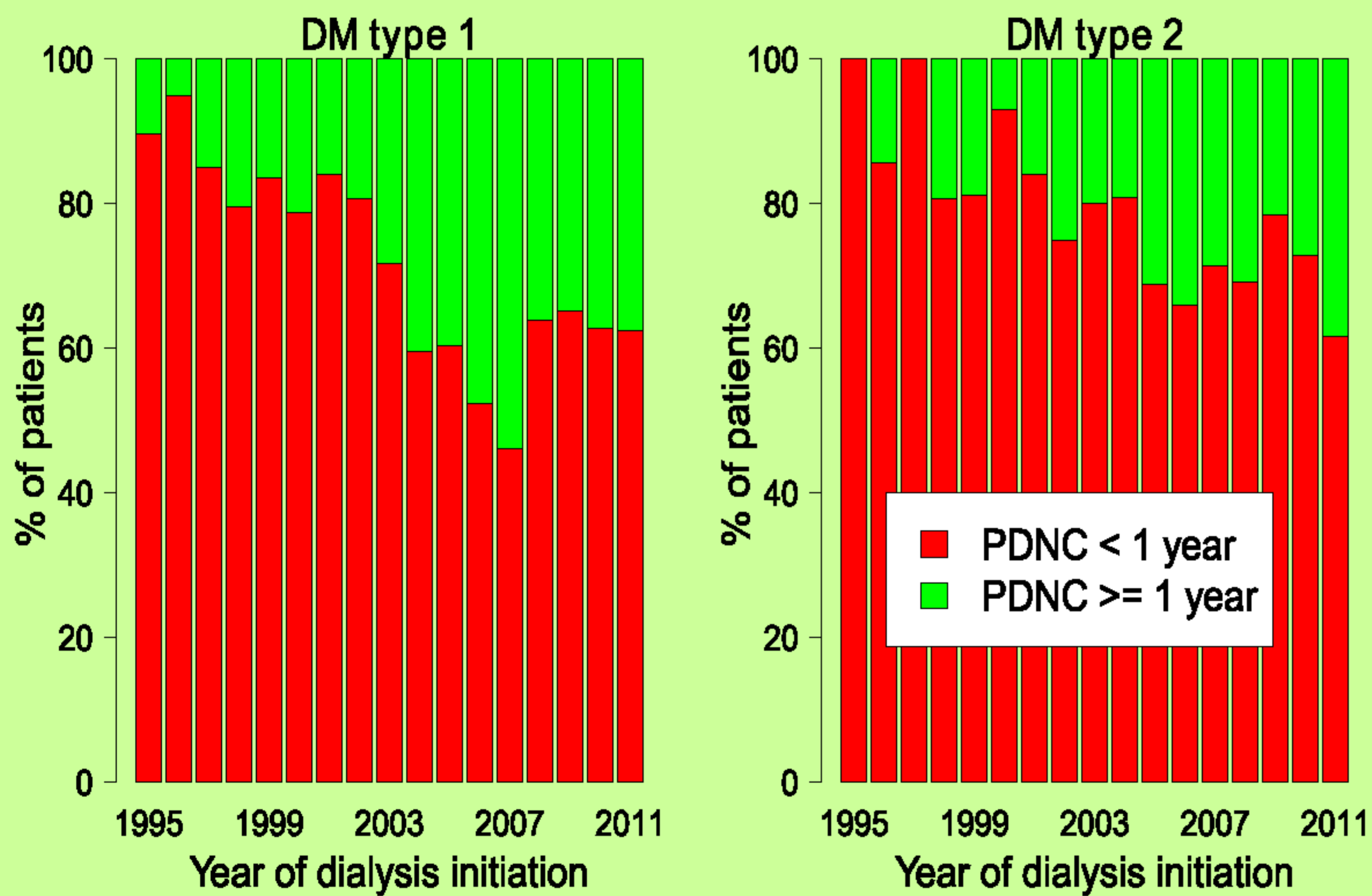
We performed an analysis of the Moscow City Nephrology Registry with inclusion of 826 incident DP with type 1 (DM1) and 791 DP with type 2 (DM2) diabetes mellitus started dialysis treatment (both hemo- and peritoneal dialysis) between 1/1/1995 and 31/12/2011. Median duration of follow-up was 1.1 years (IQR 0.3-2.6). Age at dialysis initiation was 36.6±11.4 years for DM1 and 62.2±9.1 for DM2, males accounted for 48.6% and 45.5%, respectively. We defined 2 groups of patients based on the duration of PDNC measured from the first visit to nephrologist in Moscow to the start of dialysis: early (PDNC ≥1 year) and late (PDNC <1 year).

## RESULTS

Only 28.2% of DM1 patients and 25.2% of DM2 patients had longer than 1 year history of pre-dialysis nephrological care during all study period.

The proportion of patients in the group of early PDNC increased for DM1 patients from 15.3% for the period 1995-2000 yrs to 31.5% in 2001-2006 and 39.5% in 2007-2011 yrs, as well as for the DM2 patients - 13.2%, 24.1% and 29.6%, respectively.

**Figure 1.** Duration of pre-dialysis nephrology care according year of dialysis initiation and type of diabetes



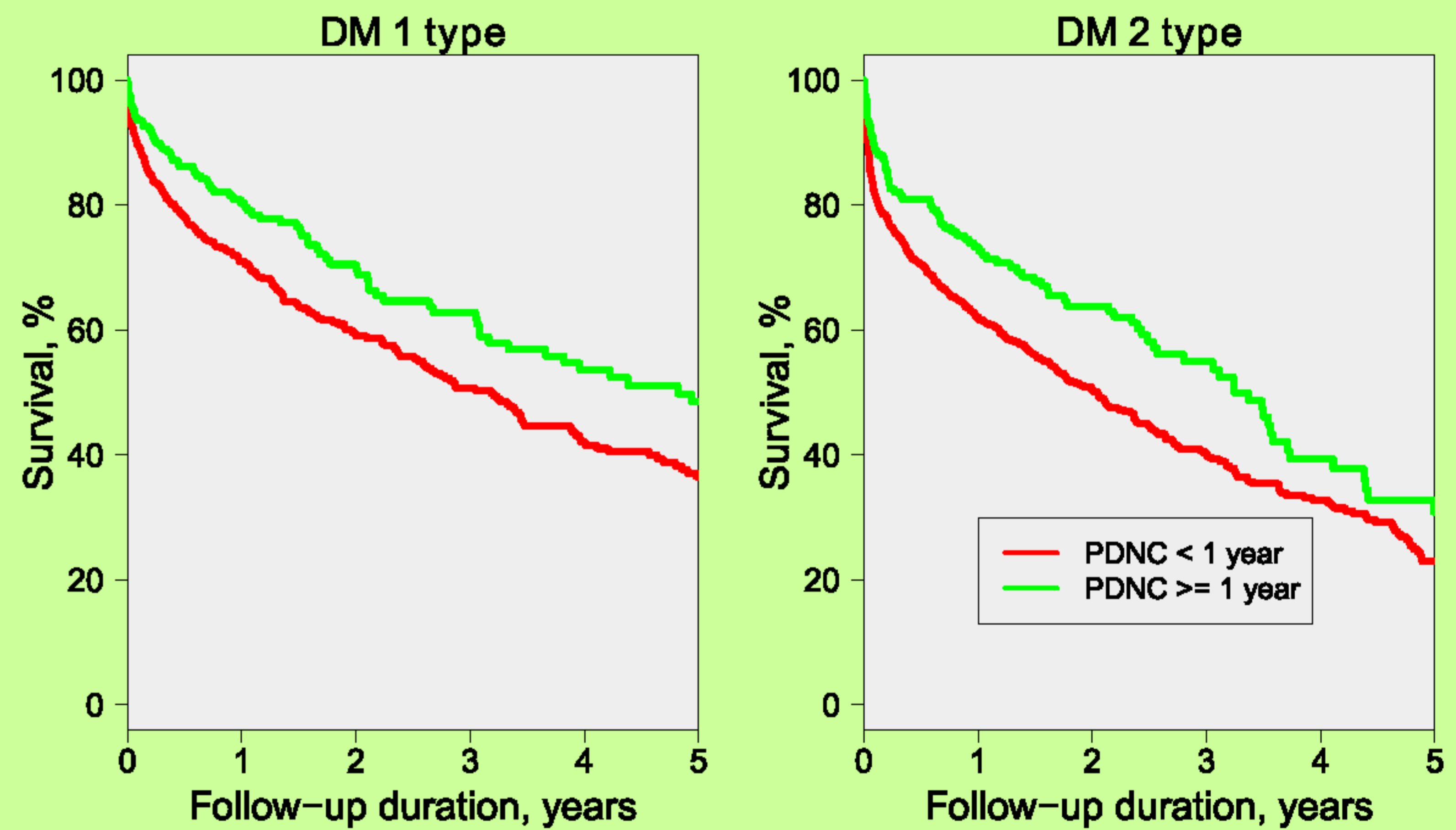
Survival was substantially higher in DP with early than in late PDNC (table 1, figure 2).

**Table 1.** Patient survival on dialysis according the duration of pre-dialysis nephrology care and diabetes type

Group	Survival in DM type 1, %		Survival in DM type 2, %	
	1-year	5-years	1-year	5-years
Early PDNC (≥ 1 year prior to dialysis)	80.3	48.5	73.3	30.9
Late PDNC (<1 year prior to dialysis)	71.0*	36.5*	62.0*	23.0*

\*p < 0.05 in comparison with early PDNC group

**Figure 2.** Patient survival on dialysis according the duration of pre-dialysis nephrology care and diabetes type



These results confirmed in multivariable Cox regression model with inclusion of age, sex, year of dialysis initiation, and dialysis modality. In comparison with early PDNC relative risk of death in group of patients with late PDNC was 1.32 (95%CI 1.01-1.73, p<0.05) in DM1 patients and 1.44 (95% CI 1.13-1.83, p<0.005) in DM2 patients.

## CONCLUSIONS

Early pre-dialysis nephrology care is a significant factor for improving survival on dialysis patients with both diabetes mellitus type 1 and type 2. The beneficial trend for raising the proportion of patients with early PDNC during 1995-2011 yrs could be attributed to increasing the number of outpatient nephrologists in Moscow in this period. Moreover, we could expect that further enhancement of outpatient nephrology service in parallel with improving cooperation with endocrinology service will lead to increasing early referral and better predialysis care for diabetic patients, as well as to the better survival of dialysis patients.

