

## OBJECTIVES

Palliative care is seldom proposed to patients with end-stage renal disease despite a mortality rate and disease burden as high as among cancer patients. The aim of this study is to analyse the access of palliative care-related hospitalization in the management of patients on dialysis in France, by describing the characteristics of these hospitalizations, the clinical status of the concerned patients, and the use of palliative care in those stopping dialysis.

## METHODS

The French REIN registry includes data about **51,834 patients aged 20 years and older** who began dialysis from January 1, 2008, to December 31, 2013. Linkage to the anonymized national hospital discharge database allowed us to analyse hospitalizations associated with palliative care. In the absence of a unique identifier, we proceeded to a stepwise linkage between the two databases using gender, age (in years), residency code, a national hospital identifier, and year and month of dialysis start for REIN and year and month of hospital discharge for PMSI. Hospitalizations were classified FOR palliative care when the principal diagnosis at discharge was coded as Z51.5 ("Palliative Care" in ICD10). Hospitalizations WITH palliative care were defined by at least one night in a bed "dedicated" to palliative care during the admission, independently of the principal diagnosis except "palliative care".

## RESULTS

During the follow-up period, there were **17,168 deaths in the total cohort (33%)**, and **1865 patients (3.6%) had a palliative care-related hospitalization** corresponding to a total of 3382 hospitalizations (Figure 1). Older patients do not have far more palliative care access despite a higher mortality rate (Figure 2). During the same period 4540 patients withdrew from dialysis (9% of the patients), 10% of them had a palliative care-related hospitalization. Lower levels of serum albumin, active cancer, and impaired mobility were each independently associated with the probability of at least one such hospitalization (Table 1).

Table 1: Clinical factors independently associated with the probability of a hospitalization associated with palliative care (multivariable cox proportional hazard model, 20 imputed datasets).

	Patients with dialysis withdrawal n = 4 540				Patients without dialysis withdrawal n = 47 294			
	% of patients with palliative care	Hazard ratio	95% CI		% of patients with palliative care	Hazard ratio	95% CI	
<b>Age (years)</b>								
20-44	16.7	1			1.7	1		
45-64	14.8	0.9	0.4	1.8	2.8	1.6	1.2	2.0
65-74	10.2	0.6	0.3	1.2	3.3	1.8	1.4	2.4
75-84	9.2	0.6	0.3	1.1	3.2	1.9	1.4	2.4
85+	7.6	0.5	0.2	1.1	3.4	2.2	1.6	3.0
<b>Serum Albumin (g/l)</b>								
<25	8.3	1.3	0.8	2.0	3.3	1.4	1.1	1.9
[25-30[	12.2	1.6	1.0	2.6	3.2	1.3	1.1	1.7
[30-35[	11.3	1.5	0.9	2.3	3	1.2	1.0	1.5
[35-40[	8.9	1.2	0.7	1.9	2.7	1.1	0.9	1.3
>=40	7.8	1			2.4	1		
<b>BMI (kg/m<sup>2</sup>)</b>								
<18.5	10.2	1.0	0.6	1.6	2.5	1.1	0.8	1.5
[18.5-23[	9.7	0.9	0.6	1.2	3	1.0	0.8	1.2
[23-25[	11.9	1			3	1		
[25-30[	9.4	0.9	0.6	1.2	2.8	1.0	0.8	1.2
>30	10.4	0.9	0.7	1.3	2.6	1.0	0.8	1.2
<b>Ischemic heart disease</b>								
No	10.1	1			3			
Yes	9.3	1.0	0.8	1.2	3.2	1.1	0.9	1.2
<b>Cerebrovascular disease</b>								
No	10	1			3			
Yes	9	1.0	0.7	1.2	3.2	1.0	0.9	1.2
<b>Arrhythmia</b>								
No	10	1			2.9			
Yes	9.6	1.2	1.0	1.5	3.3	1.1	1.0	1.2
<b>Active malignancy</b>								
No	8.5	1			2.7			
Yes	15.1	2.4	2.0	3.0	6	2.5	2.2	2.8
<b>Mobility</b>								
Walk without help	10.2	1			2.7			
Need assistance for walk	8.9	1.2	0.9	1.5	3.3	1.3	1.1	1.5
Totally dependent for walk	9.2	1.8	1.3	2.5	3.3	1.4	1.1	1.8
<b>eGFR (ml/min/1.73m<sup>2</sup>)</b>								
<5	9.2	0.9	0.6	1.4	2.6	1.0	0.8	1.2
[5-10]	10.7	1.1	0.8	1.3	2.8	1.0	0.8	1.1
[10-15]	9.6	1			2.8	1		
[15-20]	6.9	0.8	0.5	1.3	3.1	1.1	0.9	1.5
>20	9.9	1.2	0.8	1.8	3.3	1.3	1.0	1.7

Figure 1: Provenance and outcome of patients with a palliative care-related hospitalization.

\* patients may have multiple hospitalizations.

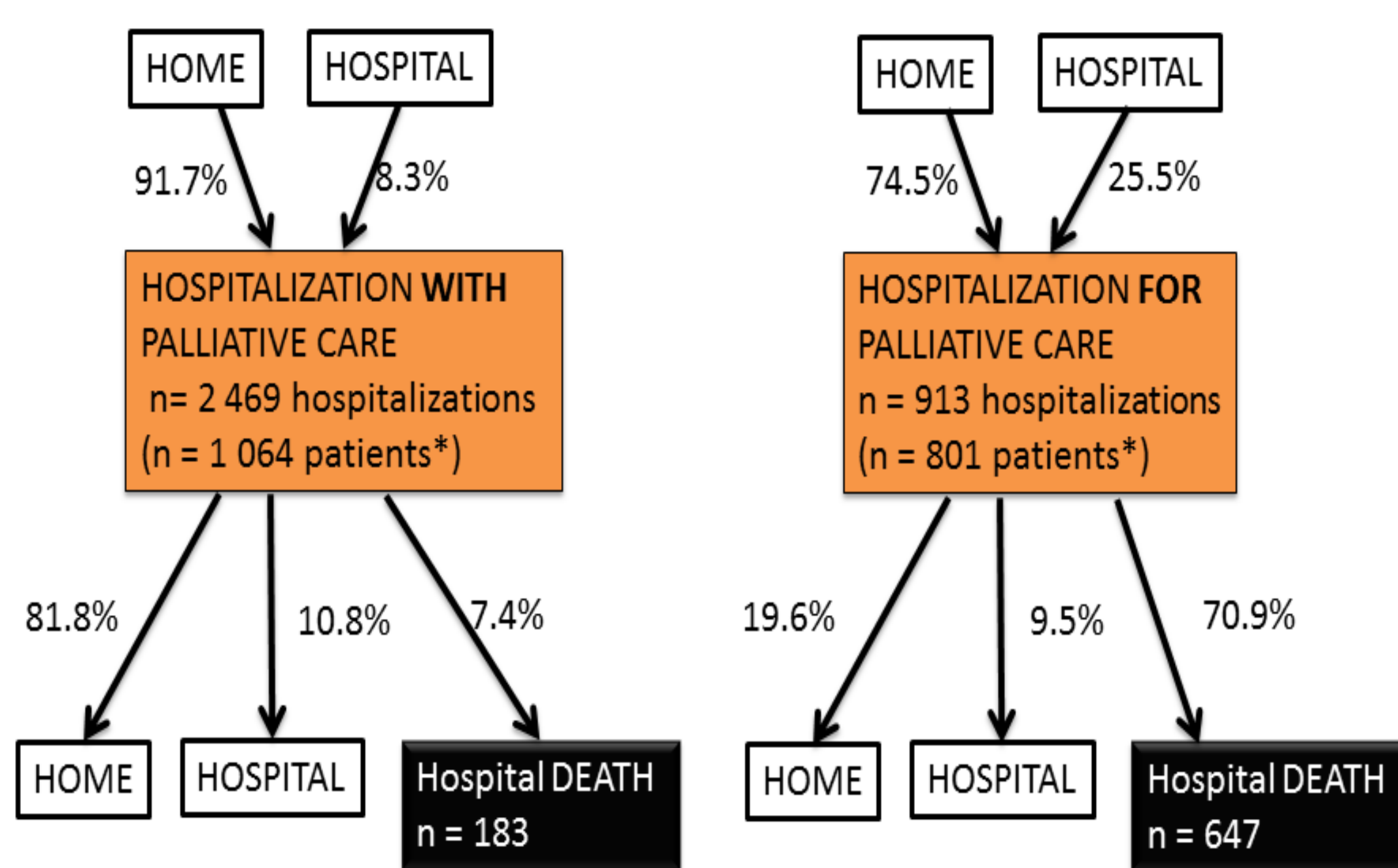
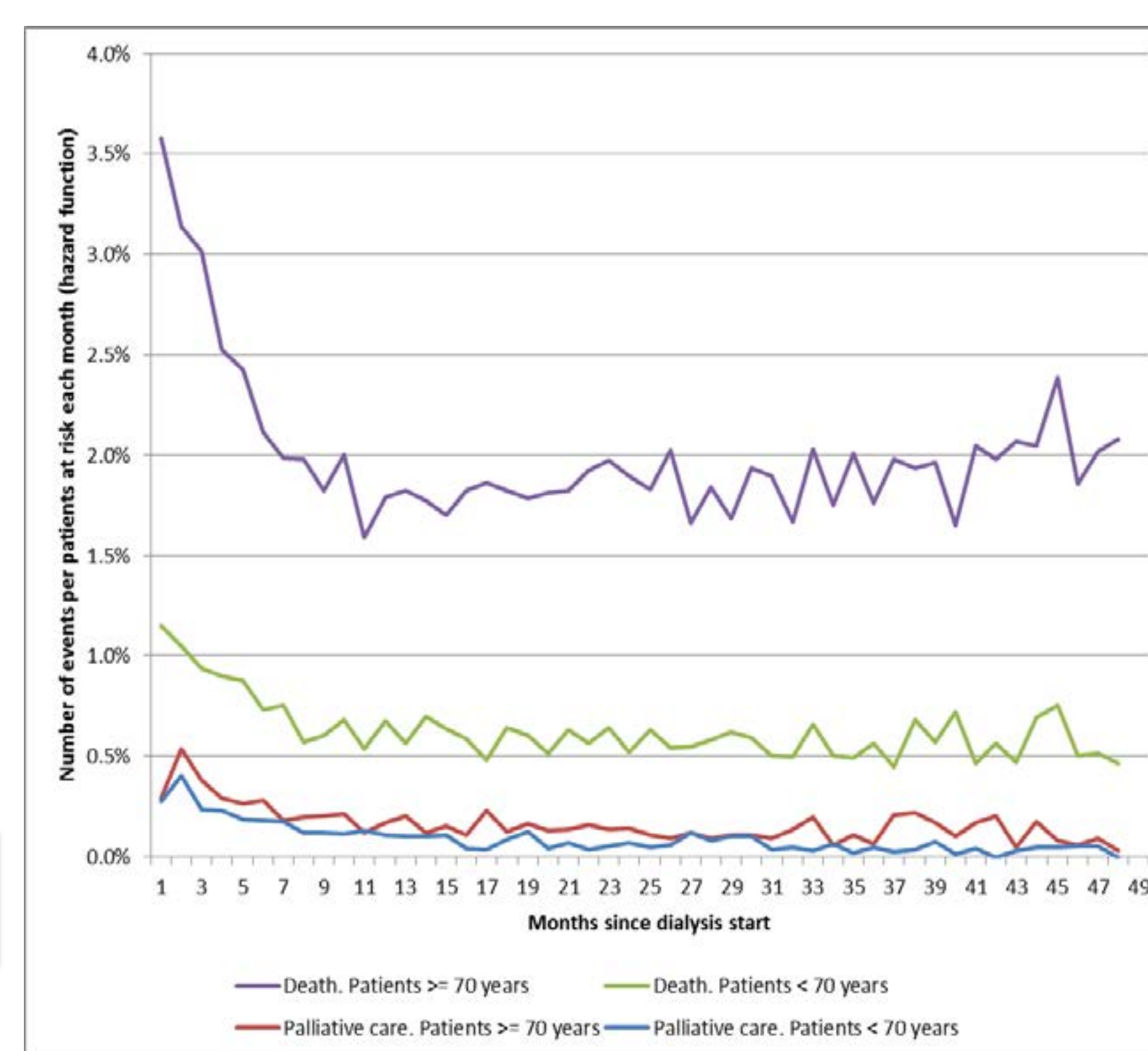


Figure 2: Hazard function over time of hospitalizations associated with palliative care and deaths from all causes during the first 4 years after dialysis initiation, according to age.



## DISCUSSION

This study suggests that among ESRD patients, only a few resorted to palliative care-related hospitalization, even those withdrawing from dialysis. Cooperation between nephrologists and physicians trained in palliative care should be improved at least to the extent necessary to identify patients who should be referred to palliative care. Our study also highlights the need of more information on the current access to any kind of supportive care for dialysis patients.

