

Emergency dialysis start in 2012 in France: evolutions since 2006 and outcomes.



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INTRODUCTION AND OBJECTIVES

Emergency dialysis start has been supposed to be associated with worse outcome [1,2]. Since, efforts have been made to enhance early patients' referral to nephrologist, and to improve their management at end-stage kidney failure. In the same time, guidelines evolved toward late initiation of dialysis, based on uremic signs.

The aim of this study was first to compare the proportion, profile and prognosis of emergency start (ES) patients versus planned start (PS) patients in 2012.

Second, we analyzed the evolution of ES patients between 2006 and 2012.

METHODS

Data were extracted from the Renal Epidemiology and Information Network (REIN) registry. **Inclusion criteria:** >18 years, starting chronic renal replacement therapy in mainland France. **Data collection:** First, we compared demographic characteristics, comorbidities, modalities of care and one-year survival of 2012 incident patients depending on their starting condition: ES or PS. **An ES was defined by a first dialysis within 24 hours after a nephrology consult, due to life-threatening metabolic disorder or acute pulmonary oedema.**

Then, ES and PS patients in 2006 (concerning the 16 areas of the registry at this time) were compared to patients of the same 16 French regions in 2012.

Statistical analysis: Patients characteristics have been described by subgroups and compared using Chi-square tests. Cox model was applied on survival. Survival curves have been represented by Kaplan-Meier method.

RESULTS

1/ Emergency start in 2012 in mainland France

➤ 30,3% of patients experimented an ES

➤ ES patients were far more comorbid than PS

Patients' characteristics at dialysis initiation in 2012 (22 mainland France areas)	Planned start (n=6161)	Emergency start (n=2678, 30.3%)	p
Baseline informations	n (%)	n (%)	p
Gender: men	3918 (63,6)	1736 (64,8)	0,268
Mean age (years)	67,93 ± 18,84	67,76 ± 16,42	0,65
Primary kidney disease			
Hypertensive/Vascular nephropathy	1740 (28,2)	693 (25,9)	0,022
Diabetic nephropathy	1342 (21,8)	581 (21,7)	0,928
Glomerulonephritis	708 (11,5)	260 (9,7)	0,014
Chronic interstitial nephropathy	252 (4,1)	125 (4,7)	0,217
Polycystic kidney disease	433 (7)	58 (2,2)	<0,001
Other or unknown	1686 (27,4)	961 (35,9)	<0,001
Comorbidities			
Albumin <30 g/l	981 (15,9)	669 (25)	<0,001
Current or former smokers	2058 (33,4)	935 (34,9)	0,006
Diabetes	2459 (39,9)	1105 (41,3)	0,229
Type 1	162 (6,6)	47 (4,3)	0,006
Type 2	2280 (92,7)	1051 (95,1)	
Active malignancy	636 (10,3)	394 (14,7)	<0,001
Cirrhosis	127 (2,1)	80 (3)	0,005
Chronic respiratory disease	725 (11,8)	457 (17,1)	<0,001
Cumulated cardiovascular diseases			
0	2995 (48,6)	1055 (39,4)	
1	1390 (22,6)	573 (21,4)	
2	895 (14,5)	479 (17,9)	
≥ 3	881 (14,3)	571 (21,3)	
Autonomy			
Walking ability			<0,001
Totally or partially dependent for transfers	216 (3,5)	209 (7,8)	
Need assistance for mobility	638 (10,4)	407 (15,2)	
Modalities of care at initiation			
Anemia management			
Haemoglobin <10g/dl	2660 (43,2)	1628 (60,8)	<0,001
ESA	2860 (46,4)	709 (26,5)	<0,001
Vascular access			
Fistula	3255 (52,8)	550 (20,5)	<0,001
Catheter at initiation time	2115 (43,3)	2286 (85,4)	<0,001
Residual eGFR (ml/min/1.73m²)			
< 5	353 (5,7)	457 (17,1)	
(5-10)	2823 (45,8)	1069 (39,9)	
(10-15)	1591 (25,8)	500 (18,7)	
≥ 15	445 (7,2)	164 (6,1)	
Missing data /excluded	949 (15,4)	488 (18,2)	
First dialysis modality			
HD/HDF	5333 (86,6)	2628 (98,2)	<0,001
DPA+DPCA	828 (13,4)	49 (1,8)	
Inscription on graft waiting list at initiation (<80 years)			
	580 (12,1)	37 (1,8)	<0,001

Table 1: characteristics of French RRT incident patients in 2012, depending on their initiation condition: ES or PS.

➤ ES was independently associated with worse one-year survival

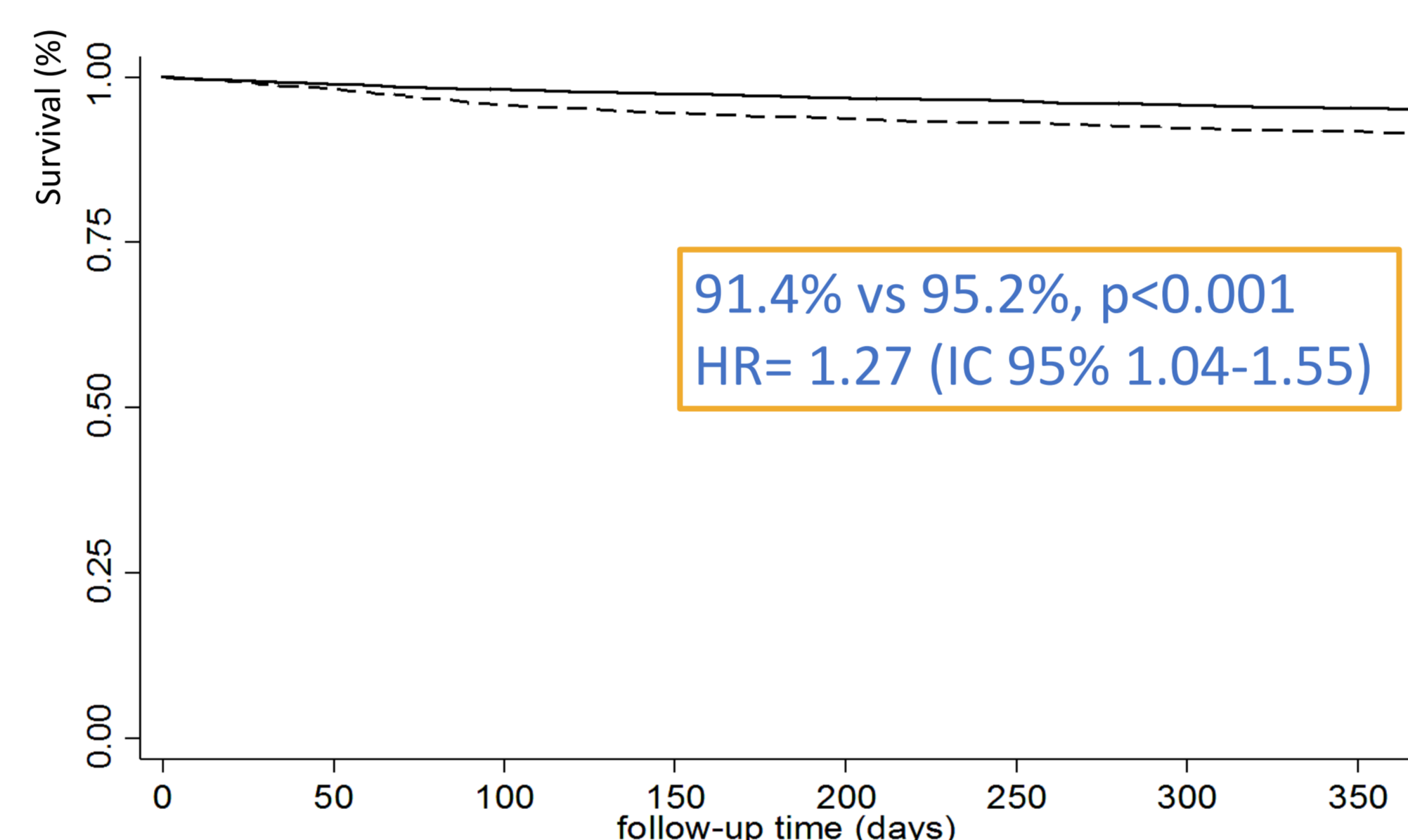


Figure 1: Kaplan-Meier survival from RRT incident patients in 2012 (on 22 areas), depending on their initiation modality: ES (dotted line) or PS (full line)

➤ A large part of ES patients had a previous nephrology follow-up:

- 36,4% of ES patients had ≥3 consults during the previous year: they represent patients followed for CKD, presenting an acute decompensation.
- 44,4% of ES patients had no previous follow up.

➤ previously followed patients experimenting an ES had worse one-year survival than PS patients: 91,1% vs 95,2%, p= 0.048.

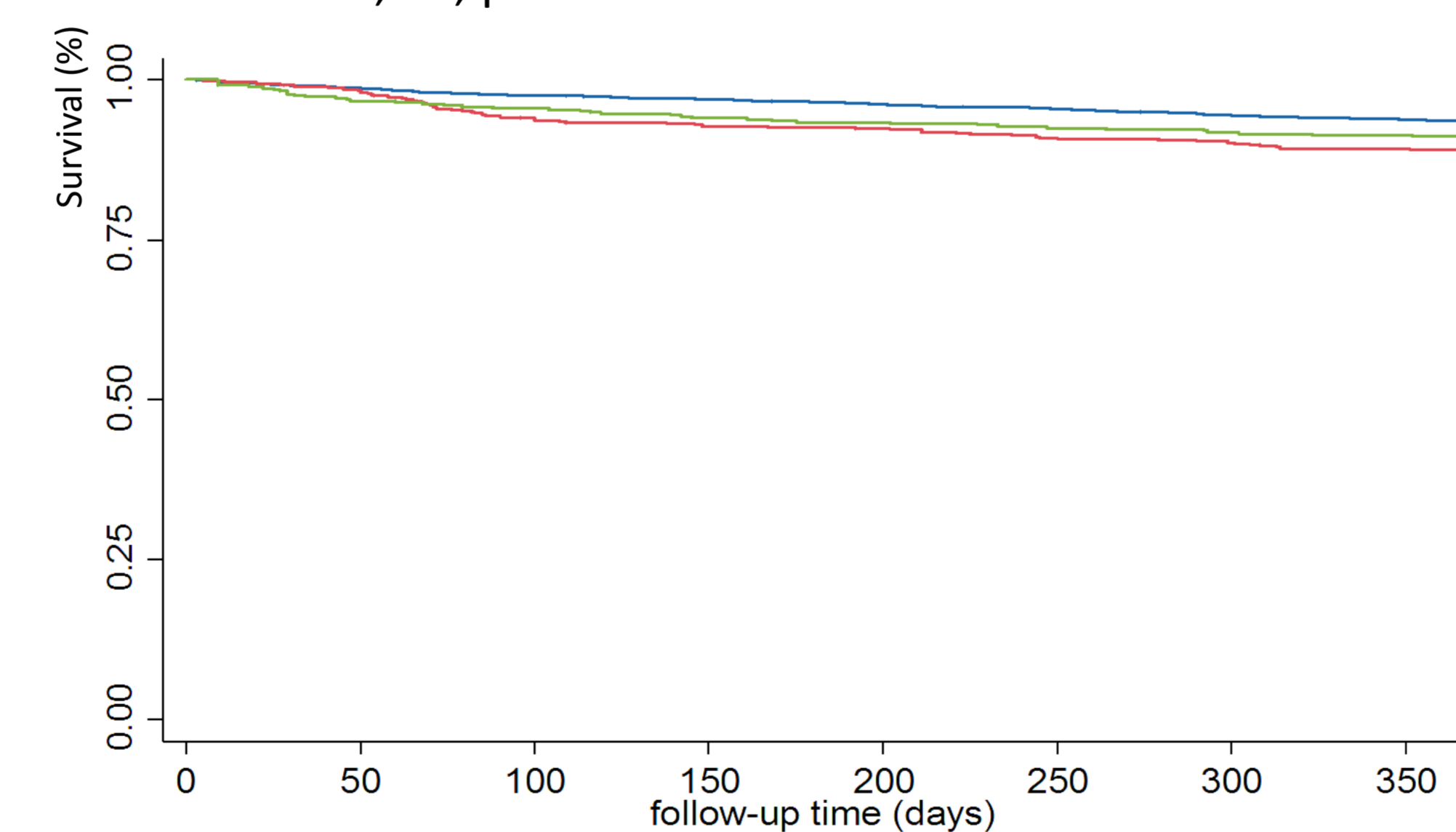


Figure 2: Kaplan-Meier survival from RRT incident patients in 2012 (on 22 areas) depending on their previous follow-up: no previous consult (red line), ≥3 previous consults (green line), compared to PS survival (blue line).

2/ Evolution since 2006 (analysis restricted to 16 areas)

➤ ES rate remained stable:

29.2% in 2012 vs 28.4% in 2006, p=0.28.

➤ ES patients were even more comorbid in 2012 vs 2006:

- denutrition concerned 25.5% vs 19.6%, p=0.004
- 17.6% had respiratory failure vs 14.1%, p=0.001
- Other comorbidities were comparable.

➤ Improvement of survival for both ES and PS

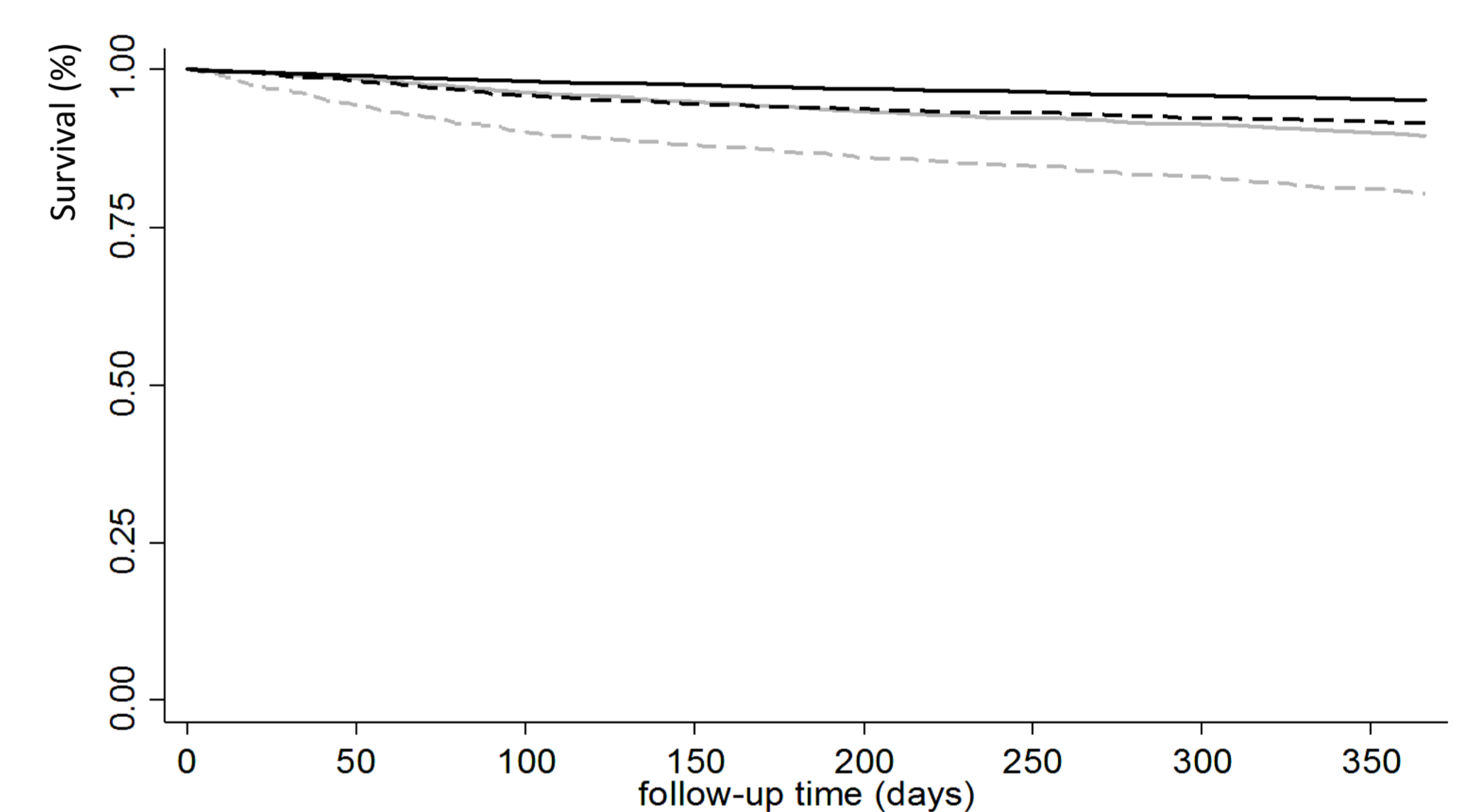


Figure 3: Kaplan-Meier survival from RRT incident patients in 2006 (grey) and 2012 (black), depending on their initiation modality: ES (dotted line) or PS (full line)

➤ Progression of inscription on graft waiting list:

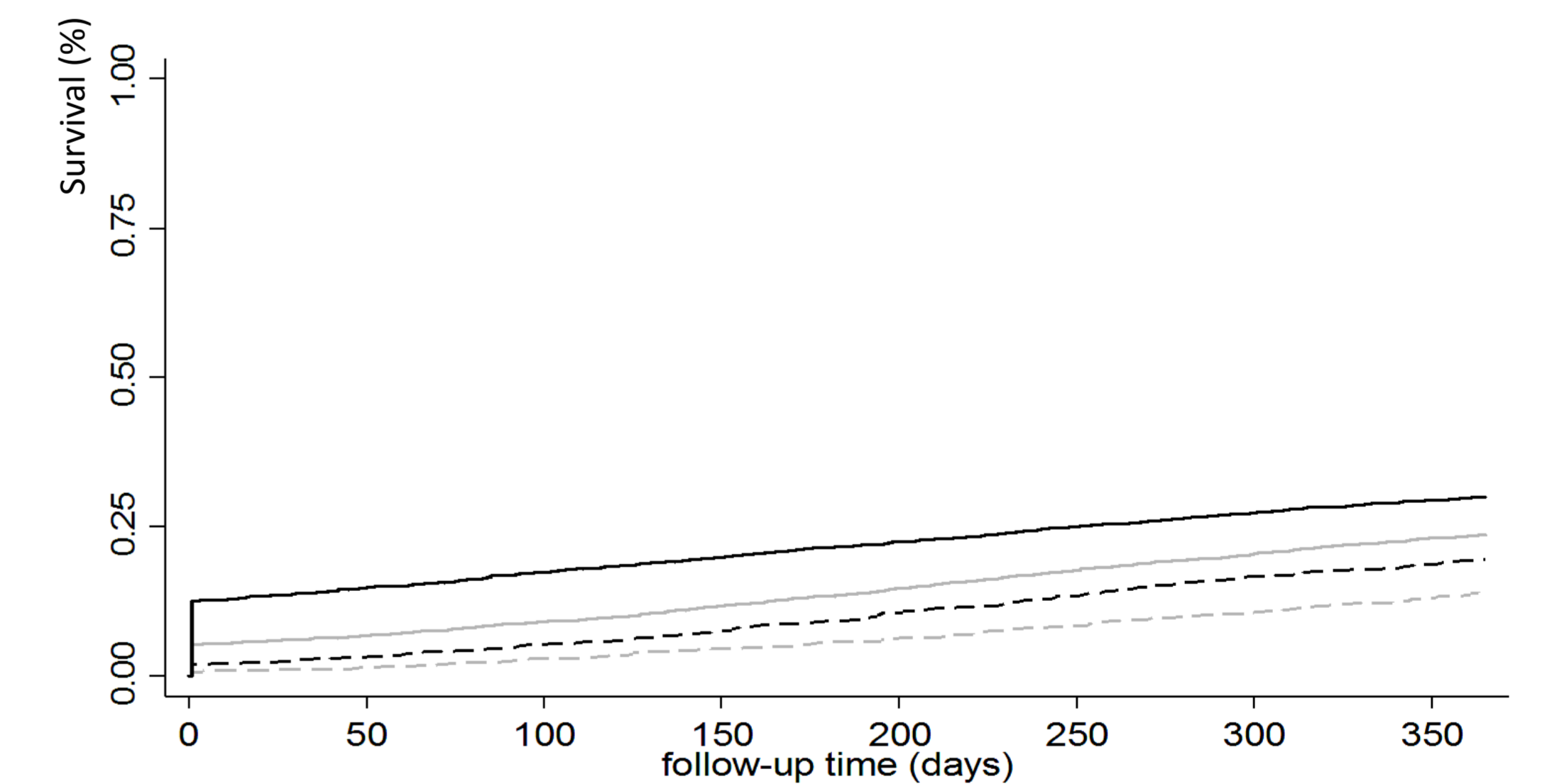


Figure 4: Kaplan Meier representation of graft waiting list inscription rate from RRT incident patients in 2006 (grey) and 2012 (black), depending on their initiation modality: ES (dotted line) or PS (full line)

CONCLUSIONS

- Despite several efforts, the proportion of ES remained stable between 2006 and 2012.
- One-year survival significantly increased between 2006 and 2012 for both ES and PS patients. But **ES was still associated with a worse prognosis in 2012 → nephrologists have to strongly focus on avoiding ES.**
- Patients experimenting an ES presented far more comorbidities than PS patients; this profile was even more pronounced in 2012.
- A large part of ES patients had a consistent nephrology follow-up, but presented a life-threatening decompensation [3]. **This raises the question of an intensified ESRD follow-up [4] or an early dialysis initiation for some high-risk patients.**

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