Supplementary materials

Table S1. Population characteristics among included and excluded patients of the study. Data from REIN, 2002-2015 (n= 1285).

Characteristics	ESKD patients in Metropolitan France n = 1231		Included patients n = 1115		Included patients for adjusted analysis n = 1038	
	n (%) *missing (%)*	Median [IQ]	n (%) *missing (%)*	Median [IQ]	n (%) *missing (%)*	Median [IQ]
Male	722 (58.7)		659 (59.0)		614 (59.2)	
Age at KRT initiation (years)	1231	14.4 [8.9 ; 17.9]	1115	14.4 [9.0 ; 17.9]	1038	14.4 [9.0 ; 17.9]
0 – 4 years	201 (16.3)		181 (16.2)		165 (15.8)	
5 – 12 years	302 (24.5)		276 (24.8)		259 (25.0)	
13 – 17 years	427 (34.7)		394 (35.3)		368 (35.5)	
18 – 20 years	301 (24.5)		264 (23.7)		246 (23.7)	
Primary disease						
CAKUT	332 (27.0)		313 (28.1)		289 (27.8)	
Hereditary nephropathy	239 (19.4)		228 (20.4)		213 (20.5)	
Glomerular/vascular disease	417 (33.9)		362 (32.5)		336 (32.4)	
Other/Unknown	243 (19.7)		212 (19.0)		200 (19.3)	
Context of rural environment	220 (19.6) *111 (9.0)*		218 (21.0) *77 (6.9)*		218 (21.0)	
Pre-emptive registration	449 (38.2) *56 (4.5)*		428 (38.4) *15 (1.3)*		403 (39.4) *15 (1.4)*	
Treatment at initiation						
Pre-emptive transplantation	243 (19.7)		230 (20.6)		219 (21.1)	
Dialysis	988 (80.3)		885 (79.4)		819 (78.9)	
Hemodialysis	720 (58.5)		644 (57.8)		592 (57.0)	
Peritoneal dialysis	268 (21.8)		241 (21.6)		227 (21.9)	
Urgent dialysis initiation*	309 (33.6) *67 (6.8)*		271 (32.8) *59 (6.7)*		252 (33.1) *58 (7.1)*	
HD initiation with a catheter*	427 (61.4) *24 (3.3)*		376 (60.4) *22 (3.2)*		350 (61.3) *21 (3.5)*	

* Only for children having initiated a dialysis

Abbreviations: REIN (French kidney replacement therapy registry), IQ (Interquartile), CAKUT (congenital anomalies of the kidney and urinary tract), HD (Hemodialysis)

Table S2. Association between social deprivation measured by the European Deprivation Index (EDI in quintile) and care indicators at KRT initiation in young ESKD patients in metropolitan France. Data from REIN, 2002-2015. Imputed data for EDI and context of rural environment (rural/urban).

	OR*	95%CI	p-value
All patients			
KRT initiation with dialysis (vs. pre-emptive transplantation) (n = 1231)			
EDI quintiles			0.04
Q1 (least deprived)	*Ref*		
Q2	0.92	[0.54 ; 1.56]	
Q3	0.98	[0.59 ; 1.64]	
Q4	1.52	[0.92 ; 2.51]	
Q5 (most deprived)	1.64	[1.04 ; 2.60]	
Pre-emptive registration (vs. not) (n = 1175)			
EDI quintiles			
Q1 (least deprived)	*Ref*		0.002
Q2	0.74	[0.46 ; 1.20]	
Q3	1.00	[0.63 ; 1.60]	
Q4	0.52	[0.33 ; 0.81]	
Q5 (most deprived)	0.53	[0.36 ; 0.80]	
Patients initiating KRT with dialysis			
Dialysis initiation with HD (vs. PD) (n = 988)			
EDI quintiles			
Q1 (least deprived)	*Ref*		0.20
Q2	1.44	[0.79 ; 2.62]	
Q3	1.59	[0.87 ; 2.91]	
Q4	1.81	[1.04 ; 3.15]	
Q5 (most deprived)	1.80	[1.11 ; 2.93]	
Urgent dialysis initiation (vs. planned) (n = 921)			
EDI quintiles			
Q1 (least deprived)	*Ref*		0.12
Q2	2.01	[1.15 ; 3.51]	
Q3	1.07	[0.60 ; 1.88]	
Q4	1.38	[0.83 : 2.30]	
Q5 (most deprived)	1.11	[0.70 ; 1.77]	
Patients initiating dialysis with HD			
HD initiation with a catheter (vs. AV fistula) (n = 696)			0.12
EDI quintiles			
Q1 (least deprived)	*Ref*		
Q2	2.39	[1.19 ; 4.79]	
Q3	0.98	[0.52 ; 1.85]	
Q4	1.40	[0.79 ; 2.50]	
Q5 (most deprived)	1.44	[0.85 ; 2.42]	
Urgent HD initiation with a catheter (vs. other HD initiation) (n = 688)			0.03
EDI quintiles			
Q1 (least deprived)	*Ref*		
Q2	3.11	[1.53 ; 6.30]	
Q3	1.29	[0.63 ; 2.64]	
Q4	2.00	[1.05 ; 3.82]	
Q5 (most deprived)	1.73	[0.95 ; 3.15]	
Patients initiating dialysis in 2009-2015 (n = 460)			
Late referral (vs. not)			
EDI quintiles			0.34
Q1 (least deprived)	*Ref*		
Q2	2.42	[0.66 ; 8.88]	
Q3	2.12	[0.56 ; 7.99]	
Q4	3.05	[0.92 ; 10.11]	
Q5 (most deprived)	3.72	[1.18 ; 11.69]	

*Adjusted for age at KRT initiation (spline), context of rural environment (rural/urban) and primary kidney disease (four categories)
Abbreviations: KRT (Kidney Replacement Therapy), EDI (European Deprivation Index), ESKD (End-Stage Kidney Disease), REIN (French kidney replacement therapy registry), HD (Hemodialysis), AV fistula (Arteriovenous fistula)

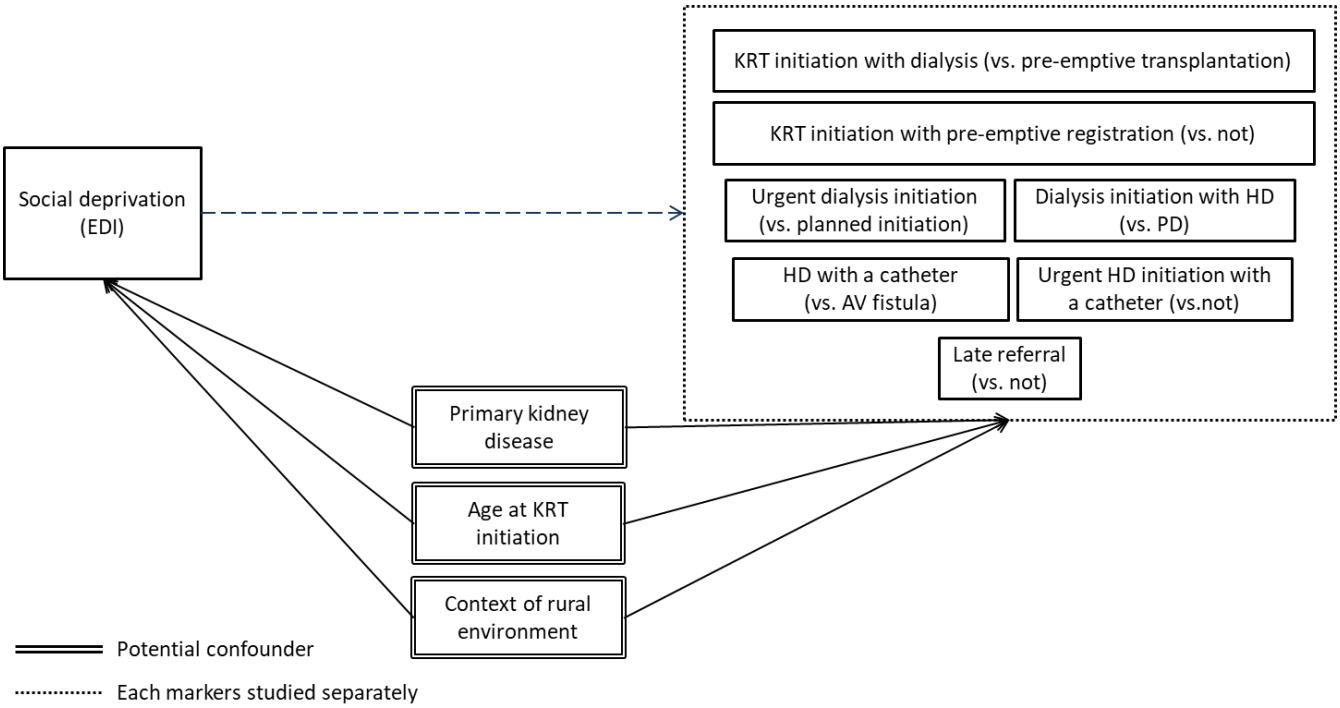

Figure S1. Assumed causal relationships between social deprivation (measured by European Deprivation Index (EDI)) and indicators at KRT initiation, and its potential confounders and effect modifiers.

Assumptions for potential confounders:

- Age at initial kidney replacement therapy: We assumed that the younger the child, the more likely the parents have to reorganize their work life, which might affect the level of deprivation. Age at KRT has also been shown to be associated with different indicators in KRT initiation.
- Primary disease: Some primary kidney diseases like glomerulonephritis imply a faster progression than others like CAKUT. This difference may impact the level of deprivation because a longer course of chronic kidney disease may increase the risk of deprivation. Moreover primary disease is known to be associated with indicators in KRT initiation like albumin or hemoglobin.
- Context of rural environment is not directly accounted for in the index of deprivation EDI. Yet, deprivation and access to care (and thus potentially dialysis) are likely to differ in rural and urban areas. Therefore, we adjusted for this factor available at the IRIS level.

Modified STROBE Statement—checklist of items that should be included in reports of observational studies (Cohort/Cross-sectional and case-control studies)

	Item No	Recommendation
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract – NO (KRT Registry study not clearly stated)
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found - YES
Introduction		
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported- YES
Objectives	3	State specific objectives, including any prespecified hypotheses - YES
Methods		
Study design	4	Present key elements of study design early in the paper – YES (Study design, Setting and population)
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection – YES (Study design, Setting and population)
Participants	6	(*a*) *Cohort study*—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up *Case-control study*—Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls *Cross-sectional study*—Give the eligibility criteria, and the sources and methods of selection of participants – YES (Study design, Setting and population)
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable – YES (Outcomes, Social deprivation assessment and Potential confounders)
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). – YES (Outcomes, Social deprivation assessment and Potential confounders)
Bias	9	Describe any efforts to address potential sources of bias – YES (Statistical analysis)
Study size	10	Explain how the study size was arrived at (if applicable) – NO (not applicable)
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why – YES (Statistical analysis)
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for

		confounding – YES (Statistical analysis)
		(*b*) Describe any methods used to examine subgroups and interactions– YES (Statistical analysis)
		(*c*) Explain how missing data were addressed - YES (complete cases analyses and imputed analyses)
		(*d*) *Cohort study*—If applicable, explain how loss to follow-up was addressed *Case-control study*—If applicable, explain how matching of cases and controls was addressed *Cross-sectional study*—If applicable, describe analytical methods taking account of sampling strategy– YES (Statistical analysis)
		(*e*) Describe any sensitivity analyses – YES (imputed analyses)
Results		
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analyzed – YES (Population characteristics)
		(c) **Use of a flow diagram**– YES (Figure 1)
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders – YES (Characteristics of included patients at dialysis initiation)
		(b) Indicate number of participants with missing data for each variable of interest – YES (Figure 1 and Tables 1 & 2)
		(c) *Cohort study*—Summarise follow-up time (eg, average and total amount)
Outcome data	15*	*Cohort study*—Report numbers of outcome events or summary measures over time
		Case-control study—Report numbers in each exposure category, or summary measures of exposure
		Cross-sectional study—Report numbers of outcome events or summary measures – YES (Characteristics of included patients at KRT initiation and Tables 1 & 2)
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included – YES (Association between social deprivation and indicators at KRT initiation and Table 3 & Figure 2)
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses – YES (analyses of interaction with sex and with the type of center and imputed analyses)
Discussion		

Key results	18	Summarise key results with reference to study objectives – YES (First paragraph)
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias– YES (Fourth paragraph)
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence– YES (Second and third paragraph)
Generalisability	21	Discuss the generalisability (external validity) of the study results- YES (Discussion)

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.