

International Study of Health Care Organization and Financing for end-stage renal disease in France

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Abstract

The major features of ESRD management in France include the predominance of hemodialysis and the resulting competition for dialysis stations. In 2003, the prevalence of ESRD in France was 0.087%. Of the 52,000 ESRD patients, 30,882 were receiving dialysis and 21,233 had functioning renal transplants. The annual expenditure per ESRD patient in 2003 was estimated at €40,975. Autodialysis, at €49,133 per patient per year, was much less expensive than dialyzing in-center at either a public or private facility (€11,006 and €75,125, respectively). Transplant activity in France has rapidly increased in recent years, reaching 22 donors per million population in 2005.

The logo for the International Study of Health Care Organization and Financing (ISHCOF) features the acronym 'ISHCOF' in large, bold, white capital letters on a dark blue rectangular background.

International Study of Health Care
Organization and Financing

This paper is part of the International Study of Health Care Organization and Financing, which examines how the treatment of renal failure is paid for around the world. This study comprises 13 related papers published in a two-part special issue of the *International Journal of Health Care Finance and Economics*. The original published version of this paper (© Springer Science+ Business Media, LLC 2007) is available at www.springerlink.com.

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Introduction

In this brief study of the management of end-stage renal disease (ESRD) in France, we examine how the regulation, ownership, and financing of the health care system have created incentives that shape current practice. The major features of ESRD management in France include the predominance of hemodialysis and the resulting competition for dialysis beds/stations. The relative deficit in kidney transplantation due to the scarcity of donors is being corrected by a recent increase in organ recovery.

The French health care system has been traditionally considered a Bismarckian system, providing health care coverage to salaried workers and families based on financing through social charges. The single public payer, Social Security, collects social charges from employers and employees to pay for hospitals, physicians, drugs, and devices via sickness funds. In the past, when only employed citizens had Social Security, this financing system was sufficient. Over time, however, coverage was extended to rural workers, nonsalaried professionals, and eventually the whole population. To finance this increased population, state funds were introduced in 2000. These income-tax-based funds now compose 50% of the total Social Security budget.

Public and private not-for-profit hospitals are financed by a diagnosis-related group (DRG) prospective payment system, which is being progressively implemented to replace the previous fixed-budget system. The same is true for private for-profit hospitals, which were previously financed on a per diem basis. Office-based physicians (both general practitioners and specialists) and physicians who practice in private hospitals are paid on a fee-for-service basis. The level of the fee is negotiated between the physicians' unions and the Social Security Administration. Physicians who have reached a certain academic level can claim, from their patients, payment above the negotiated fee. This additional payment may be reimbursed to the patient through supplemental, voluntary insurance.

Social Security is a national, single public insurance system that finances sickness, maternity, and family benefits as well as retirement pensions. It covers 100% of the population and roughly 75% of all medical expenditures. Private insurance companies reimburse the remaining 25% of health expenditures. Ninety percent of the population purchases private insurance with cofinancing from employers or with government vouchers (for low-income citizens). However, ESRD patients do not need private insurance because they are covered 100% by Social Security.

Medical unions represent roughly 10% of the total population of office-based fee-for-service physicians. Unions are traditionally separated by professional specialization and political affiliation. The following six unions represent general practitioners and specialists and negotiate with the Ministry of Health and Social Security: the Confédération des syndicats médicaux français, the Fédération des médecins de France, the Syndicat des médecins libéraux, the Union collégiale des chirurgiens et spécialistes français, Médecins Généralistes France (general practitioners only) and Alliance.

The French health care system guarantees freedom of choice in two areas. On the patient side, there is no gatekeeping system for referrals; patients can see any type of doctor (general

practitioner or specialist) they choose, with no ceiling on the number of doctors seen or the frequency of visits. There may be a copayment, partly or fully covered by the supplemental insurance, depending on the doctor seen (but not on whether the doctor is a general practitioner or a specialist; general practitioners can also charge above the Social Security ceiling). An experiment is under way to create a system in which, as of 2006, every person chooses a “médecin traitant” to act as a gatekeeper. This is intended to prevent misuse of referral systems and reduce specialist consultations. On the doctor side, there is freedom of prescription for both drugs and tests. The exceptions are a limited number of drugs restricted to hospital use and the limitations imposed by medical regulatory references (i.e., practice guidelines now carry a financial liability in case of noncompliance) (Durand-Zaleski, Colin, & Blum-Boisgard, 1997). The combination of freedom of choice with a high coverage of medical expenditures and a fee-for-service payment for physicians in private practice typifies the French health care system and applies to the care of ESRD patients.

As far as patients are concerned, the out-of-pocket payment does not apply to a list of 32 chronic diseases for which the costs are entirely covered by Social Security; ESRD is part of this list. This means that Social Security pays directly for all medical treatments and drugs for those patients. Social Security covers all treatments and fees at a predefined rate; additional services, such as private rooms in clinics and specialists’ fees above the standard rates, can be purchased by patients or reimbursed through private supplemental (commercial or noncommercial) insurance.

Methods

This paper is part of the International Study of Health Care Organization and Financing (ISHCOF), a substudy of the Dialysis Outcomes and Practice Patterns Study (DOPPS). The DOPPS is a multifaceted, multiyear international study of the variations in practice patterns and treatment of ESRD patients on hemodialysis and their impact on clinical and other outcomes. ISHCOF aims to characterize economic structures and their impact on the delivery of dialysis care. The study is based primarily on one-time commissioned surveys (2004–2005) and subsequent papers by authors from each of the 12 DOPPS countries. Details of the methods are described in Dor et al. (2007).

In general, the reported statistics and data are based on secondary data sources, including published articles, government documents, government Web sites, and local medical institutions such as the Bulletin Épidémiologique Hebdomadaire (the Weekly Epidemiological Report); the Direction de la Recherche des Études de l’Évaluation et des Statistiques (the Direction of Research in Evaluation and Statistics from the Ministry of Health); the Agence Technique de l’Information sur l’Hospitalisation, or ATIH (the Agency of Information on Hospitalization); and L’Assurance Maladie en Ligne (the French Social Security database). When possible, independent validation of the ISHCOF data was performed with external data sources such as national kidney failure registries, World Health Organization reports, the Organization for Economic Cooperation and Development (OECD) database, and published articles. All monetary estimates were provided in national currency units and converted to U.S. dollars with OECD purchasing power parities (PPP) from the year of each figure (OECD, 2006). Due to the small

number of economic investigators and countries in this study, international comparisons reported here are informal and qualitative, unless otherwise noted.

Annual expenditures for each modality type were estimated from two main data sources: a cost report from the French Social Security Agency (CNAM, 2005) and the U.S. Renal Data System Annual Report (USRDS, 2005). In Table 1, the costs are shown for hemodialysis treatment in both public and private centers, as well as for autodialysis centers. Though transportation costs are shown in this table, they are not used in subsequent estimations in order to maintain consistency with measures from other countries participating in the ISHCOF. The hemodialysis estimates shown in Table 1 were weighted by the proportion of patients receiving each type of HD care to obtain an overall estimate of the annual cost per HD patient. Peritoneal dialysis was estimated at 41% of the annual cost of hemodialysis, as was found by the Social Security Agency's report. In the United States, functioning renal transplant patients cost 24% as much as hemodialysis patients and that patients in the year of transplantation cost 620% as much as patients with a functioning graft (USRDS, 2005); Table 2 assumes that these percentages also apply in France. The final estimate of the annual expenditure per ESRD patient was obtained by weighting each modality's cost by the proportion of French ESRD patients on that modality.

The gross epidemiology of kidney disease and provision of care in France

Data concerning the ESRD epidemiology in France have been scarce because of the absence of a national registry. An effort titled Réseau Épidémiologique et Information en Néphrologie (REIN) collects, as of the end of 2006, data from 18 of 22 regions in France and provides high-quality epidemiological information. The objectives of this registry are to estimate the incidence, prevalence, and mortality of kidney disease patients; to describe their treatment modalities; and to describe the demographic and other characteristics of the ESRD population. The information reported here is the best data available at this time (Couchoud et al., 2006).

In 2003, the prevalence of ESRD in France was 0.087% (Macron-Noguès et al., 2005a). Of the 52,000 ESRD patients, 30,882 were receiving dialysis and 21,233 had functioning renal transplants (Babeau & Trigano, 2004). Between 1997 and 2001, the incidence of ESRD increased 31% or at an average annual rate of 7% (AMELI, 2005). Most of this increase is attributed to the increased prevalence of type 2 diabetes in the French population; other hypotheses include a better reporting system and the increased willingness of physicians to refer frail and elderly patients to dialysis due to improvements in dialysis technologies and drugs.

The prevalence of kidney transplantation in 2004 was 0.038% (Jacquelinet, Savoye, Kessler, & Durand, 2005). Between 1997 and 2001, kidney transplant incidence increased 18% (Jacquelinet et al., 2005). The corresponding average annual percentage increase of 4.2% was one of the highest among ISHCOF countries (data not shown). But the rate of transplantation has continued to grow to nearly 6% per year since 2001 (Jacquelinet et al., 2005). This great increase is the result of a national policy to increase the donation rate from 15 to 20 donors per million inhabitants. The Ministry of Health has provided human resources and financial means to achieve this goal, mostly by increasing the number of coordinators to recover organs in hospitals

and by launching a national donation campaign. In addition, the age limit for donors was increased to 70 years, resulting in an increased number of donors.

The age- and sex-standardized prevalence of ESRD is higher in the southern and the most north central regions of the country (Fig. 1) (Macron-Noguès et al., 2005b). Regional variations in transplantation have been described previously; they concern all types of organs and are related mostly to historical factors (early implementation of teams involved in organ recovery and transplantation) and differences in practice patterns (Macron-Noguès et al., 2005c; Roudot-Thoraval, Romano, Spaak, Houssin, & Durand-Zaleski, 2003).

Forty-six percent of France's ESRD patients are treated at the 151 public dialysis facilities; the remaining 54% attend 130 private facilities. Figure 2 presents the share of the public and private sectors for hemodialysis, self dialysis, and home dialysis. Though 58 of these 130 private facilities are nonprofit, the majority (55%) are for-profit. The trend has been toward consolidation and private ownership of hemodialysis facilities; one single investor, Nephrocare (Fresenius), has a 30% market share of hemodialysis in France. Another large investor used to be Baxter, which sold its facilities to B-Braun Avitum in 2004. The development of these private for-profit facilities for inpatient dialysis is explained by their lower costs relative to a favorable reimbursement system (fee for service).

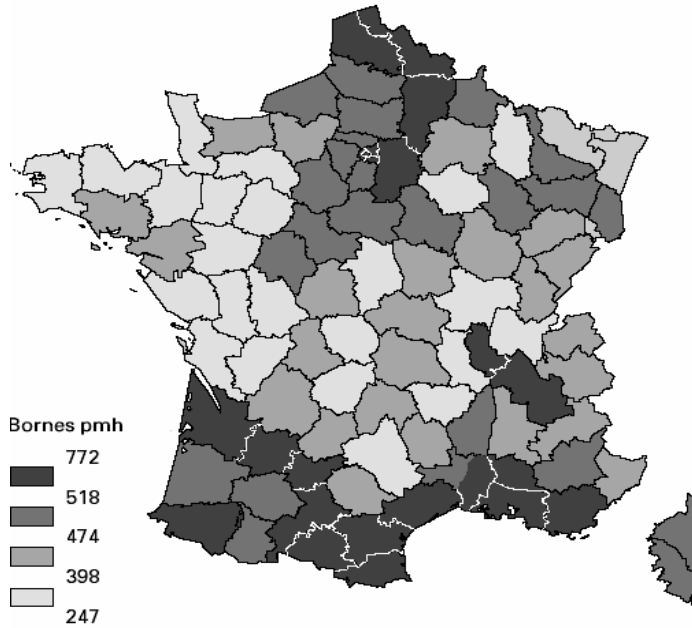
In contrast, public hospitals treat mostly high-cost, complicated cases and patients with comorbid conditions. Unlike private FFS hospitals, public hospitals have traditionally operated with a capped global budget, though this has been evolving into an activity-based reimbursement system since 2006. According to the ATIH database, public hospitals treat twice as many patients who have comorbid conditions or are aged 69 years and older as private hospitals (ATIH, 2004). The current trend shows an increased shift of dialysis toward the private sector, which also offers more attractive working conditions and higher incomes for nephrologists than does the public sector (DREES, 2005).

Although certain limits exist on the number of physicians trained, France had 98,000 primary care physicians (PCPs) in 2004, which represents one PCP per 617 inhabitants. France has 1,087 nephrologists (DREES, 2005; ONDPS, 2004) or one nephrologist for every 48 ESRD patients; this finding is about average for ISHCOF countries (Ashton & Marshall, 2007; Hirth, 2007; Kleophas & Reichel, 2007; Luño, 2007; Nicholson & Roderick, 2007; Pontoriero, Pozzoni, Del Vecchio & Locatelli, 2007; Van Biesen, Lameire & Vanholder, 2007; Wikström et al., 2007). Of these nephrologists, 694 perform dialysis and see an average of 44 patients each.

PCPs in France earn approximately €64,000 (US\$70,640; PPP 2003) per year (Legendre, 2005). While the full salary of a nephrologist in a public hospital is about €1,470 (US\$101,746; PPP 2001) (private personal communication), actual income is much lower, about 50% less, due to taxation. Nephrologists in public hospitals earn the same salary as any other physician (specialist), and this salary is the same throughout the country, based on salaries for civil servants of the same rank. These wages, particularly those for nephrologists, are somewhat low by international standards because they reflect wages in the public sector. The average revenue for specialists in the private sector is €98,000 (US\$108,168; PPP 2003); however, there is no specific figure for private-practice nephrologists because they represent a small population

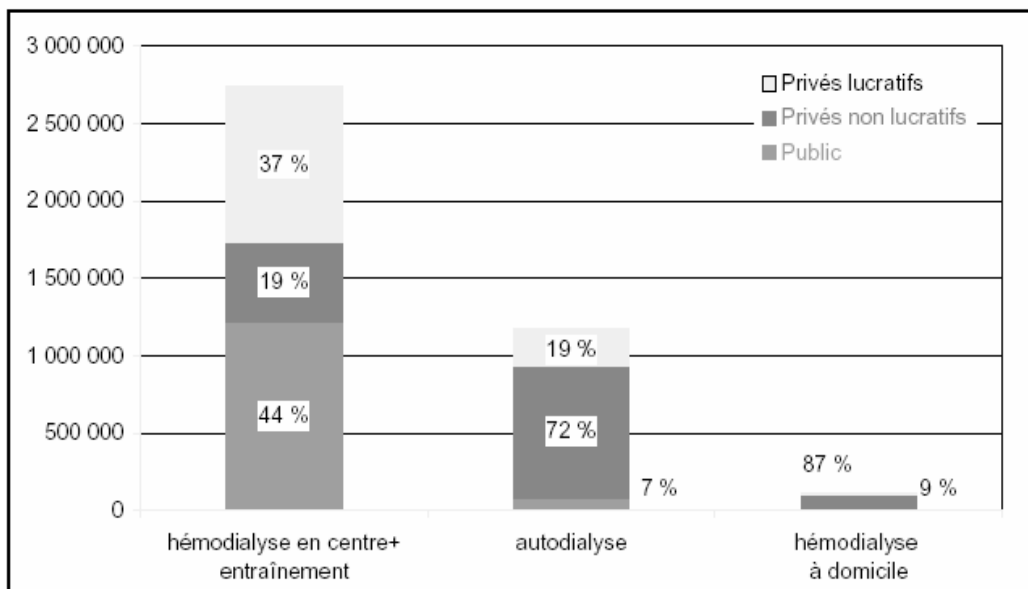
Figure 1. Age and sex standardized prevalence of ESRD patients treated with dialysis per million inhabitants (pmh) in France, 2003.

Prévalence par million d'habitants (pmh) standardisée sur l'âge et le sexe de l'insuffisance rénale chronique terminale traitée par dialyse selon le département de domicile. Enquête nationale Sros/IRCT CnamTS/Dhos 2003



Source: Macron-Noguès et al. (2005)

Figure 2. Distribution of public, private nonprofit (privé non lucratifs), and private for profit (privé lucratifs) hemodialysis sessions in France in 2002.



Champ : France métropolitaine.
Source : SAE 2002, Drees.

Source: Babeau & Trigano (2004)

(Legendre, 2005). The similarity between incomes of salaried (public) and fee-for-service (private) physicians is misleading due to the differences in taxation schedules and social benefits (private physicians must pay all their own benefits, whereas the employers of salaried physicians pay for benefits). Dialysis nurses, who are generally responsible for outpatient treatment, number 5,900 (or 4,900 full-time equivalents). Those who are senior-level nurses earn an annual income of €45,000 (US\$49,700; PPP 2001) (before social charges and taxes); after taxes, nurse income drops to about €30,000 per year in public hospitals. There is a shortage of nurses, which is attributed to the law reducing the official work week to 35 hours and to the development of part-time work (Collet, 2005). This shortage is expected to be temporary as more nurses are trained in the three-year nursing education programs. Average monthly net (after social charges) earnings are €2,000 in the public sector and €1,700 in the private sector (Brahmi, Brizard, & Audric, 2002).

Expenditures

French health care expenditures in 2004 represented roughly 10.5% of the gross domestic product, or approximately €3,000 per person per year (US\$3,289; PPP 2004), and had increased during the previous five years at an average yearly rate of 4–5% (Fenina & Geffroy, 2005). Of the ISHCOF countries, France spends the third-highest percentage of gross domestic product on health care after the United States and Germany (Fenina & Geffroy, 2005). Various cost-containment programs have been proposed and implemented, many of them under the assumption that high health care costs are due to unnecessary hospital and ambulatory services, as described by a recent survey commissioned by the Haute Autorité de Santé (national health authority). The survey identified as much as 15% of total hospital costs being related to misuse or adverse events (Haute Autorité de Santé, 2004).

In 2001, the total ESRD health care expenditure was about 1.3% of total health care expenditures. This study estimated that the annual expenditure per ESRD patient was €40,975 (US\$45,327; PPP 2003) in 2003 (Table 2).

Table 1. Annual Expenditures per HD Patient in France, 2003

Component	Expenditure per patient (€)		
	In-center dialysis		Autodialysis
	Public	Private	
Dialysis	85,852	45,485	34,284
Transportation	13,310	13,166	7,280
Other costs	11,844	16,474	7,569
Total	111,006	75,125	49,133
Total Excluding Transport	97,696	61,959	41,853

Source: CNAM (2005)

Table 2. Expenditure per ESRD Patient in France, excluding transportation, 2003

Modality	Expenditure per patient (€)	Weight	Weighted Expenditure per Patient	
			€	US\$, PPP
Hemodialysis	58,356	0.53	31,104	34,407
Peritoneal Dialysis	23,926	0.06	1,412	1,562
Year of Transplant	84,407	0.04	3,292	3,641
Functioning Transplant	14,005	0.37	5,168	5,717
Total		1.00	40,975	45,327

Table 1 shows the costs for hemodialysis care. Autodialysis, at €19,133 (US\$54,351; PPP 2003) per patient per year, is much less expensive than in-center dialysis at either a public or private facility (€11,006 and €75,125, respectively or US\$122,794 and US\$83,103, PPP 2003) (Table 1). Transportation costs account for an astonishing 11–18% of total hemodialysis costs.

Contractual medical fees negotiated between Social Security and medical unions are paid to nearly all general practitioners and 60% of specialists. Fee levels in 2004 for a routine office visit were €20 (US\$22; PPP 2004) for a general practitioner and €23 (US\$26; PPP 2004) for a specialist, but physicians could get additional fees from the medical or surgical procedures performed during the course of a visit. Thus, office-based physicians are paid mostly through Social Security. Doctors who practice in private clinics are paid on a fee-for-service basis; doctors who practice in public or nonprofit hospitals are salaried. About one-third of physicians work in public hospitals; however, physicians can have joint appointments in public hospitals and private for-profit facilities. This facilitates continuity of care, harmonization of medical practice, and patient referral. It also makes it easier for physicians to allocate a greater share of their time to private facilities, which offer more attractive incomes.

Financial incentives differ between nonprofit and for-profit hospitals. Private for-profit hospitals are financed by a per diem, paid in part by Social Security, in part by private coinsurance or out of pocket. These for-profit hospitals (clinics) represent one-quarter of the total hospital expenditures. Prior to 2006 all public health service nonprofit hospitals, whether public or private, were financed by a global budget given by Social Security. The hospital budget was capped and did not change with increases in volume, variation of case mix, or new technologies. This meant that hospitals tended to constrain the average cost per patient to stay within the limits of the capped budget when volume and patient severity increased. Budget-conscious hospital managers could reduce the cost of dialysis by adjusting EPO dosage to the lower boundary recommended by European guidelines and choosing low-cost dialysis membranes (hospital nephrologists, personal communication, June 2006), since these materials were included in the global budget. As of 2006, however, this system was progressing toward a fully activity-based reimbursement.

Although the financing system is changing toward a unified payment system, in 2005, private clinics were paid a per diem with a €20 (US\$22; PPP 2004) cap on drug expenditures for inpatients. Special provisions were made for expensive drugs (restrictive list) such as EPO, which were reimbursed at up to €15 (US\$17; PPP 2004) per session, not enough to cover the full cost. This payment method is currently evolving toward a more evidence-based incentive system (see the discussion that follows). Supplies such as stents can be billed to Social Security at

roughly their purchase price. Out-of-pocket payments are charged for outpatient visits, tests, and pharmaceuticals. Patients do not bear the costs of hospitalization except for a €20 (US\$22; PPP 2004) per diem, which covers food costs.

Specific aspects of treatment and financing

Prescription drugs

Medications dispensed for ESRD care are controlled by formularies following advice from the French or European drug agency (the Agence Française de Sécurité Sanitaire des Produits de Santé or the European Agency for the Evaluation of Medicinal Products) in both the public and private sectors, and their use is determined purely by physicians. There are formulary restrictions for the prescription of EPO, specifically, as well as informal limits based on European guidelines: target hemoglobin concentration should be above 11 g/dL and always less than 14 g/dL (Locatelli et al., 2004).

Over the coming years, as hospitals and clinics enter into the prospective (DRG-based) payment systems, special provisions will be made for expensive drugs and devices, including EPO, which will be reimbursed on the basis of actual cost. As of 2006, EPO can be reimbursed in addition to the DRG reimbursement as long as hospitals demonstrate appropriate use, i.e., prescription according to international guidelines (Ministère de la santé et des solidarités, 2005).

Hospitalization

In addition to their routine dialysis sessions, many ESRD patients require inpatient hospital visits each year. Of the 20,307 inpatient admissions to both public and private facilities with a primary or secondary diagnosis of ESRD in 2002, six percent were for problems concerning vascular access (ATIH, 2004). Once admitted, a patient typically stays 9.2 days (Rayner et al., 2004) at a cost per stay of €740 (US\$ 822; PPP 2002) per day (ATIH, 2001).

Transplantation

France has 390 transplant surgeons (DREES, 2005) to perform kidney transplantations in 37 of the 2,900 hospitals (eight centers perform pancreas-kidney transplantation and nine centers perform pediatric transplantations) (Agence de la Biomédecine, 2004). Patients are not required to share any of the costs of transplantation. The average hospital stay for a transplant patient is 19 days (ATIH, 2004).

Transplantation in France is centrally organized. Patients register on awaiting list and when a graft is available, allocation follows a prioritization system. National priority is given to hyper-immunized patients, followed by candidates from the region, children, patients awaiting a pancreas-kidney graft, and patients who have waited the longest. A higher-than-average number of transplant recipients are white due to the availability of HLA-compatible grafts. Children also receive a greater-than-average number of transplants due to their priority in the system. Type 1 diabetics who have an indication for pancreas-kidney transplantation have a higher priority and

therefore tend to receive a higher number of transplantations than average. They represent 3% of total grafts. As of 2005, financial incentives were introduced with supplemental payments for hospitals involved in recovering organs. In addition, a 2004 law has facilitated donation from living related donors by enabling nephews, nieces, uncles, aunts, first-degree cousins, grandparents, and partners to donate organs. The total number of kidney transplantations in 2005 was 2,572, of which 4.8% were from living related donors (Agence de la Biomédecine, 2006). During 2005, the total number of new patients on the transplant waiting list was 3,154, making a total of 5,931 patients waiting for a kidney transplant at the end of 2005 (Agence de la Biomédecine, 2006).

Dialysis

The average cost of a hemodialysis treatment in France is €225 (US\$250; PPP 2001) per visit (ATIH, 2001). In comparing the per-treatment cost of dialysis in France with that in other countries, it should be noted that French physicians are present for more than 60% of dialysis treatments and must be present for the entire session in 57.6% of treatments (Macron-Noguès et al., 2005b; Ministère de la santé et des solidarités, 2002). Physicians do not have to be present during autodialysis; 28.1% of ESRD patients are autodialyzed, during which they participate in their treatment with the help of nurses (Macron-Noguès et al., 2005b).

All dialysis centers, both public and private, have an occupancy rate close to 100%. This is the result of state-managed, regional planning, which determines the number of facilities required to treat the population of ESRD patients and then authorizes centers to provide care accordingly. There is, therefore, very little competition between centers because they are guaranteed to fill their beds. However, in several regions, the number of dialysis beds may be too low, while in other regions, the number of beds may be too high (Macron-Noguès et al., 2005c). Due to the imprecision of ESRD prevalence estimates in France in recent years, it is unlikely that state or regional planning was adequate; for this reason, the 2003 national inquiry and the REIN project were initiated. Before making conclusions about the necessary number of dialysis beds, France needs more accurate epidemiologic data.

Similar to other European ISHCOF countries, most ESRD patients (91%) are treated by hemodialysis; only 8.7% receive peritoneal dialysis (Macron-Noguès et al., 2005b). The limited development of continuous ambulatory peritoneal dialysis (CAPD) can be explained by the absence of financial incentives and/or experience to promote this method in the private for-profit sector and by the preference for hemodialysis in university hospitals. This resulted in a scarcity of nephrologists trained in CAPD.

The national standard for dialysis dose is 1.2 Kt/V. Two studies have shown that the average single-pool dialysis dose in France exceeds this standard. In a sample of French patients, the average spKt/V was 1.34 (Combe et al., 2001), and DOPPS I data yield an spKt/V of 1.51 for French hemodialysis patients (Hecking et al., 2004). The length of treatment time for hemodialysis ranges from 540 to 1,440 min per week, with an average of 720 min per week. The informal guideline for the adequacy of dose is to receive dialysis for 3–4 hours, three times per week. In addition to time spent in dialysis, ESRD patients make office visits to specialists and PCPs that take an average of 30 and 15 minutes, respectively.

Information that doctors provide to their patients about the risk of complications generally deters patients from missing or shortening dialysis sessions. If patients skip or shorten sessions, it is generally due to social or professional obligations. Like other non-compliance issues, missing and shortening of sessions appear to be more frequent among patients who are of lower socioeconomic status, although our information systems do not allow quantitative documentation of this phenomenon. However, this is an issue of low priority because it concerns very few patients. According to DOPPS I data, only 0.3% of French hemodialysis patients skipped one or more treatments per month and 7.3% of patients shortened a treatment by more than 10 min (Hecking et al., 2004). These percentages were relatively low compared with other European DOPPS countries (Hecking et al., 2004). In a study of French dialysis patients in 2001, 20% of deaths followed withdrawal from dialysis treatment, suggesting that discontinuation of dialysis may account for a large proportion of deaths (Birmele et al., 2004).

Trends and outcomes

In mainland France, 13% of patients with ESRD are diabetics, versus 25% in the French territories of the Pacific Ocean, Indian Ocean, and West Indies. In those territories, the use of autodialysis (self-dialysis) is more prevalent (50% of patients) due to the limited number of accessible hospital facilities, the lack of trained nephrologists, and inadequate regional planning. Due to the high incidence of ESRD in these territories, an active renal transplant program is presently ongoing in the territories of the Indian Ocean and emerging in territories of the West Indies.

In France, ESRD patients who start dialysis after age 64 have an annual mortality rate of 20% (Société de Néphrologie, 2006); that rate is affected by demographic, socioeconomic, and racial differences. An increased cardiovascular mortality rate is expected due to the increasing number of newly enrolled diabetic and elderly dialysis patients.

Conclusion

Modalities of ESRD treatment in France are quite heterogeneous and vary according to region. It is felt that all patients should receive realistic information regarding the various strategies so that they may choose the most appropriate modality for themselves. In this context, it seems that patients are not sufficiently informed about peritoneal dialysis. Health authorities are currently trying to increase the rate of peritoneal dialysis from 8% to 15%. New alternatives, such as daily hemodialysis, are also under investigation. The current effort to increase peritoneal dialysis is motivated mostly by its lower cost. Another reason is that PD is more adapted to the needs of the younger population because it is less constraining and damaging to the physical image and self-esteem. However, no information about the actual preferences of French patients is yet available.

Transplant activity in France increased in 2005 following an information campaign: for the first time the organ donation rate reached 22 per million inhabitants. This improvement results from a better identification of stroke patients who become donors: hospital teams have received

information and incentives to report potential donors, including donors over age 60. One-quarter of the kidneys transplanted in 2005 were recovered from donors over age 60. It is hoped that recent legal modifications that extend the criteria for living donors will increase the number of living-donor kidney transplant recipients.

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