

COST-EFFECTIVENESS OF HIGH DOSE HAEMODIALYSIS IN FRANCE

JP Benain¹ ; R Galland² ; M Kessler³ ; T Lobbedez⁴ ;
F Fagnani⁵ ; JJ Dumas⁶ ; V Chauvet⁷ ; M Laville⁸

¹ Economie de la Santé, H-ECO, Paris ; ² Dialyse, Caly dial, Lyon ; ³ Néphrologie, CHU Nancy, Nancy ; ⁴ Néphrologie, CHU Caen ;
⁵ Economie de la Santé, Cemka-Eval, Bourg-la-Reine ; ⁶ Market Access, Baxter, Maurepas ; ⁷ Médical, Baxter, Maurepas ;
⁸ Néphrologie, CHU de Lyon, Lyon.

OBJECTIVE

In France, a minority of patients with end stage renal disease dialyze at home (mainly peritoneal dialysis, PD). High dose (higher frequency and/or longer duration) haemodialysis (High Dose HD) may allow the development of home haemodialysis (Home HD). Whereas the medical literature suggests that it provides clinical benefits^{1, 2, 3, 4, 5, 6}, its cost-effectiveness aspects remain undetermined.

MATERIALS AND METHODS

A Markov model (social security perspective) was used to assess the costs and Quality Adjusted Life Year (QALY) per patient at 5 years associated with different dialysis modalities including High Dose HD at 5 sessions/week performed at home (High Dose Home HD) or in-centre (High Dose ICHD) and in comparison with conventional in-centre HD (conventional ICHD). The model included epidemiology (REIN registry), 2013 inflated direct costs (tariffs, literature) and survival (ERA-EDTA registry, literature, 2 hypotheses for High Dose HD: 0% and 24% improvement). Costs for High Dose HD was obtained via expert consensus based on the Home HD costs breakdown from a recently published report of the Haute Autorité de la Santé (HAS)⁷.

RESULTS

When the costs of dialysis sessions were excluded, the annual costs for a patient treated with High Dose Home HD were 50% lower (20,764€ vs. 41,327€) than those of conventional ICHD. Using the 2013 home tariff (5 sessions/week), the total annual cost per patient on High Dose Home HD was 20% lower than with conventional ICHD (73,849€ vs. 91,791€ ; Table 1).

In comparison with conventional ICHD, the incremental cost-effectiveness ratios (ICER) for High Dose ICHD were 875,567€/QALY and 548,179€/QALY (assuming respectively 0% and 24% survival benefit), while those for High Dose Home HD were -36,491/QALY and -3,813€/QALY with 5 sessions/week and 20,431€/QALY and 42,829€/QALY with 6 sessions/week. The ICER of PD was -403,410€/QALY (Table 2 and Figure 1).

Table 1: Cost per patient per year (2013)

Type of costs	Conventional ICHD	HDHHD (5 sessions per week)
Monitoring	7,459€	9,123€
Drugs	7,421€	7,752€
Transport	18,181€	972€
Hospitalization	8,265€	2,917€
Subtotal	41,327€	20,764€
Dialysis sessions 2013	50,464€	53,085€
Total	91,791€	73,849€

Figure 1: Cost-effectiveness summary

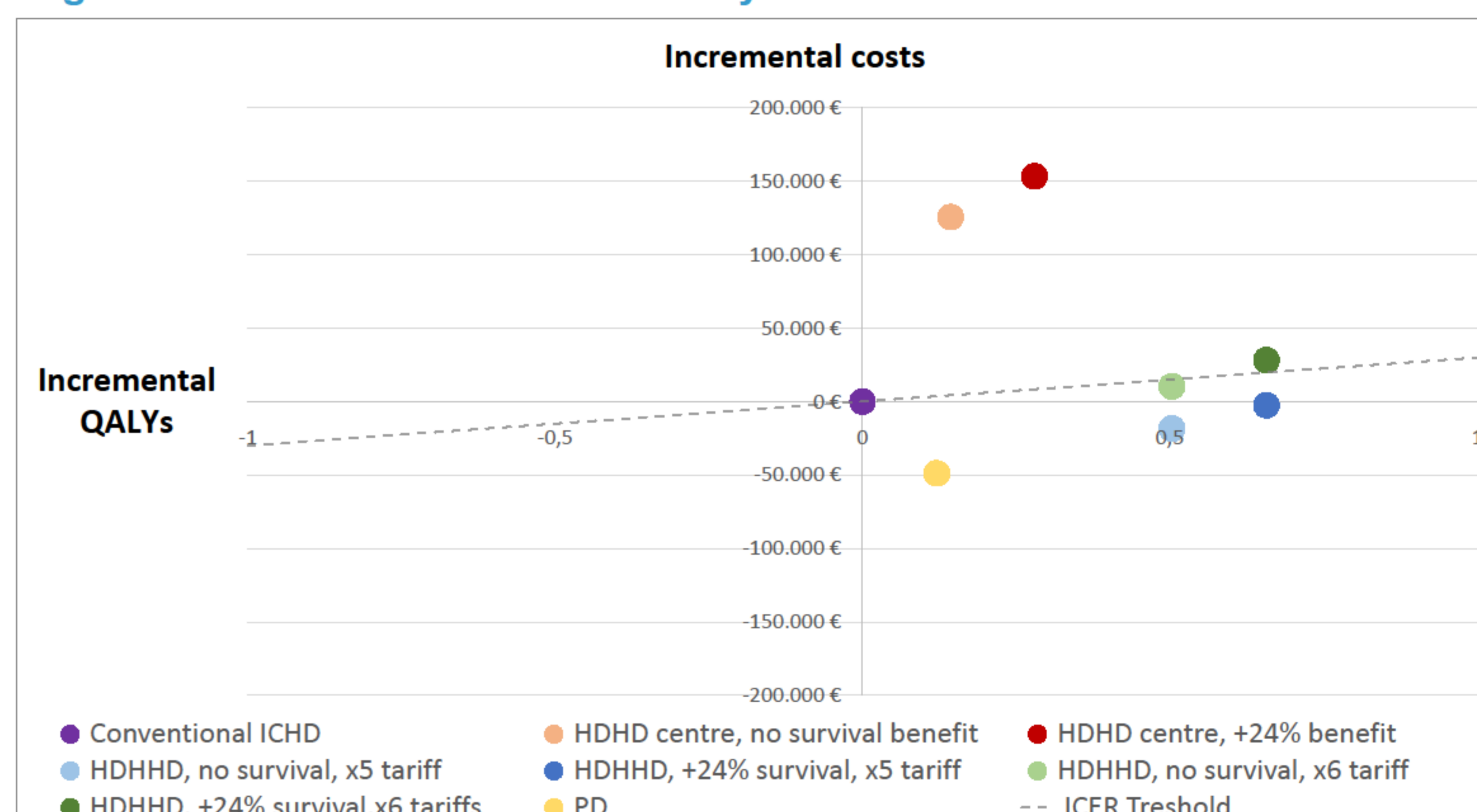


Table 2: Incremental QALY and cost per patient at year 5

	Conventional ICHD (Base case)	PD	HDHHD centre, no survival benefit	HDHHD centre, +24% benefit	HDHHD, no survival, x5 tariff	HDHHD, +24% survival, x5 tariff	HDHHD, no survival, x6 tariff	HDHHD, +24% survival, x6 tariff
Incremental QALY	0	0.12	0.14	0.28	0.50	0.66	0.50	0.66
Incremental cost	0	-48,856€	125,617€	153,397€	-18,370€	-2,507€	10,285€	28,155€
ICER	-	-403,410	875,567	548,179	-36,491	-3,813	20,431	42,829
Result	-	Dominant	Not cost-effective	Not cost-effective	Dominant	Dominant	Cost-effective	Slightly not cost-effective

DISCUSSION AND CONCLUSION

In France, High Dose HD performed in centre is not cost-effective and should only be reserved to temporary treatments or to a few exceptional cases.

In comparison, High Dose Home HD is dominant (i.e. more effective and less expensive) when performed 5 times per week (2013 tariffs) and cost-effective (i.e. <30,000€/QALY) at 6 sessions per week, assuming no survival benefit.

The simultaneous development of the two home techniques (High Dose Home HD and PD) is a cost-effective and sustainable approach to be further promoted in France.

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