Abstracts

METHODS: Five renal centres were investigated. All resources used during the process of dialysis treatment were identified during semi-structured interviews; published costs were applied. Overhead costs were apportioned using standard cost accounting.

RESULTS: Annual costs of HD in main units ranged from £33,516 to £45,029 (£30,508 to £46,459 in satellite units). A key differential factor between the units was the overhead costs. HD costs without overheads ranged from £30,055 to £35,138 (£23,110 to £35,227 in satellite units). Annual costs of PD were £14,859 to £17,022 and £22,196 to £24,358 for CAPD and APD, respectively. The key differential cost drivers between HD and PD other than overheads were disposables (averaging £10,117 for HD, £9,349 for CAPD and £16,223 for APD), nursing (£9,921 for HD; £2,775 for PD), anaemia therapy (£7,005 for HD; £2,410 for PD) and transport (£2,352 for HD; £130 for PD).

CONCLUSION: Within individual renal centres, the costs of delivering APD range from 32% to 50% lower than HD and for CAPD costs are from 53% to 66% lower than HD. Increased use of PD could result in more efficient use of resources from the perspective of purchasers and the government. Moreover, this type of treatment aligns with the UK government’s strategy of patient choice and self-care in a home environment.

TIME SPENT ON ANAEMIA MANAGEMENT WITH ERYTHROPOIETIN STIMULATING AGENTS (ESA) IN HAEMODIALYSIS CENTRES: A CROSS-COUNTRIES PERSPECTIVE

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OBJECTIVES: To quantify and compare staff time related to anaemia management with currently available ESA drugs in haemodialysis centres and to model the potential efficiency gains with adoption of once-monthly C.E.R.A. (continuous erythropoietin receptor activator) injections. METHODS: A multicentre, prospective, activity-based costing study was undertaken in 17 dialysis centres across 3 countries. Tasks were grouped into observable tasks (ESA preparation and administration) and quantified through time and motion observations. Time for non-observable tasks (e.g. ESA inventory/ordering, blood sampling, physician review) was estimated through staff interviews. Time was translated into cost using estimates of national wages for personnel. ESA acquisition costs were excluded. RESULTS: Average observed time and cost per ESA administration was 1.67 minutes (£0.53) in Germany, 2.67 minutes (£1.55) in the UK and 2.35 minutes (£1.92) in the US. Time per patient per year varies primarily due to the different mix of products and their frequency of administrations. The weighted average number of ESA injections per patient per week (year) was 1.8 (94) across the German centres, 1.6 (83) in the UK and 3 (155) in the US centres. Time for non-observable tasks account for 40 to 60% of the total time related to anaemia activities. Modelling estimated that with once-monthly C.E.R.A time for the observed activities would be 28 to 32 minutes per patient per year (>80% reduction). Additional savings could be generated related to non-observable tasks. The order of magnitude of these savings may vary according to the organization of the centres. CONCLUSIONS: Anaemia management with ESAs appears fairly standardized across dialysis centres and countries and accounts for a significant amount of staff time. With 12 injections of C.E.R.A. per patient per year, substantial time savings could be achieved enabling centres to focus on other aspects of patient care.

AN INTERNATIONAL ECONOMIC EVALUATION OF SEVELAMER HYDROCHLORIDE VERSUS CALCIUM-BASED PHOSPHATE BINDERS IN PATIENTS NEW TO DIALYSIS

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OBJECTIVES: Hyperphosphatemia is associated with increased mortality and morbidity for patients with chronic kidney disease who receive dialysis. Treatments for hyperphosphatemia include calcium- and other metal-based binders. However, metal-based binders are associated with increased calcification, which is likely to result in greater rates of complications and reduced survival. This analysis compares the use of sevelamer, a non-metal-based phosphate binder against calcium binders. The objective was to estimate the costs and health outcomes associated with sevelamer for treatment of hyperphosphatemia compared with calcium-based binders in patients new to dialysis over five years, from the perspective of the National Health Service in the UK. The model was also adapted to three other European countries: Finland, Poland and Germany. METHODS: A five-year deterministic decision analysis model was designed in order to estimate and compare the costs and outcomes of treatment with sevelamer versus calcium acetate. The model used Markov techniques to predict the monthly changes in health status (including inpatient stay and survival). Mortality rates and hospitalisation rates were drawn from published sources and patients using sevelamer had a 79% risk reduction of hospitalizations for the first 18 months of the model. Costs were limited to those incurred by the healthcare provider, and were drawn from national databases.

RESULTS: The total five-year discounted treatment cost for patients treated with sevelamer is £24,216 compared to £17,985 for calcium acetate. Patients receiving sevelamer can be expected to experience 2.70 quality-adjusted life years (QALYs) compared to 2.46 for those treated with calcium acetate. The incremental cost-effectiveness ratio (ICER) for sevelamer was, therefore, £25,916 per QALY. CONCLUSION: Sevelamer provides unique therapeutic benefits including a significant relative risk reduction in mortality and morbidity. As demonstrated in this economic evaluation, the reduction in mortality and morbidity translates into a substantial QALY gain with a modest investment of additional economic resources.

GLOBAL ECONOMIC EVALUATIONS OF DIALYSIS TREATMENT MODALITIES

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OBJECTIVES: The worldwide incidence of kidney failure continues to rise and treatment is costly; therefore, the burden of illness, including the health care resources allocated to its treatment, is growing. Given that the number of end-stage renal disease (ESRD) patients is increasing and the majority is on some form of dialysis, the number of dialysis patients is expected to increase as well. The purpose of this assessment was to review...