

## Cost Analysis for HD and peritoneal dialysis for ESRD in South Africa

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**Introduction:** Hemodialysis (HD) and peritoneal dialysis (PD) are commonly used to treat patients with end-stage renal disease (ESRD). However, their costs have grown considerably in recent years as the rates of non-communicable diseases including diabetes and hypertension have grown. This will adversely impact on national health budgets especially in LMICs. Currently, there is limited knowledge about the costs of ESRD and the different components within the public healthcare system in South Africa. Consequently, our objective was to examine the direct medical costs of both approaches from a public provider perspective to provide future guidance. **Methods:** A prospective observational study undertaken at a leading public hospital in South Africa based principally on patients' notes and costs from nationally procured lists. A micro-costing approach was used to estimate health care costs among adult patients with ESRD who had received either HD and PD for at least 3 months. **Results:** The majority of patients (35%) were aged 40 to 50 years. Patients aged 29-39 years were mostly on HD (28%) while those between 51-59 years mostly on PD (29%), with HD typically managed in the private sector with limited facilities in the public sector. The average age of patients on HD and PD were 41 and 42 years respectively. Variable costs (HD; US\$172, 359.15, PD; US\$20, 488.79) were the highest cost component for both HD and PD patients. The annual cost of HD (US\$205,681.4) was higher than PD (US\$25,282 per patient) even though the difference was not statistically significant ( $p = 0.175$ ). The overall burden if appreciably more patients with ESRD are managed appropriately within the public system (covering 80% of the population) would be considerable and become unaffordable. **Conclusion:** HD costs more than PD. These cost estimates are useful for carrying out future health economic analyses and for allocating greater resources to prevent progress to ESRD.

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