



Direct Treatment Costs for HIV/AIDS in Portugal

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Objectivos (Objectives): In Portugal, the cost of HIV/AIDS treatment is a conflicting issue among and between policymakers, scientists, healthcare providers, pharmaceutical companies and patient groups. Debates essentially focus on the value of antiretroviral treatments (ART), with controversies about whether benefits are worth the price, about how much hospitals should be financed for treating HIV patients, or about the opportunity of detecting and treating patients earlier. However, previous studies on the costs of HIV/AIDS in Portugal are either outdated, relying on data when treatment options were markedly different, or have not adopted systematic methods of data collection and analysis, sometimes relying on mere assumptions or evidence from other countries. The present study aims to address these drawbacks using data from a sample of Portuguese NHS hospitals, which provide data on resource use related to all aspects of patient treatments, i.e., not restricted to ART. By doing so, we also expect to provide a crucial input for further economic analyses about public health or treatment strategies under debate (e.g., expanded HIV screening or guidelines about how to start treatment).

Metodologia (Methodology): A retrospective analysis of patient records was conducted for a sample of 150 patients from five specialized centres representing 38.05% of all patients undergoing treatment for HIV/AIDS in Portugal. Data on utilization of medical resources were collected over a time horizon of 12 months (from 1/1/2008 to 31/12/2008). Each component of care was collected and a unit cost was applied using official sources on hospitals financing and drug prices, and accounting data from NHS hospitals. Data were collected on patients' clinical characteristics. Costs were calculated for each disease stage for every patient individually. We restricted our analysis to hospital costs as ambulatory care represents a marginal component of HIV treatment. We then analysed the impact of patients' characteristics on costs using generalized linear modelling techniques.

Resultados (Results): The average cost of treatment is 13,625€ per patient-year. The main cost-driver is antiretroviral treatment (8,767€ per patient-year), followed by inpatient costs (1,603€). Costs related to prophylaxis treatment, to day care and to exams represent relatively marginal shares of total costs (11%, 1% and 6% respectively). Treatment costs increase with the severity of disease, from 11,901€ among patients with more than 500 CD4 cells/μl to 23,351€ for patients with CD4 count ≤ 50 cells/μl. Cost progression is mainly due to the increase in in-patient costs (from 0 to 7,815€), while ART costs remain quite constant over disease stages. Multivariate analysis shows significant cost differences related to stage of disease but none related to patient's age, sex, nationality, previous co-morbidities and detection setting.

Conclusões (Conclusions): Our study confirms the high costs of HIV/AIDS treatment in Portugal, which vary between 11,901€ and 23,351€ per year. Although comparisons with other studies may be misleading, due to differences in patients' characteristics or treatment patterns, our results show high similarity to values obtained in France (from \$10,992 to \$15,852), Italy (average \$14,928), and the US (from \$7,344 to \$24,396) (see Levy et al., Lancet Infectious Disease 2006, for a review of the literature). Antiretroviral drugs are by far the most important cost driver (64%),

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although their share is lower among patients in later stages of disease, where in-patient costs are higher (33%). Cost progression adds economic to clinical arguments in favour of keeping patients as long as possible at low-severity stages of disease. However, the relatively modest progression highlights that alternative public health strategies that do not affect transmission of disease may only have a limited impact on costs, since treatment costs are largely dominated by ART costs that are constant across stages of disease.