

Treatment Costs of Pediatric Cancer in Rwanda

Author

Neal, Claire C.

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Abstract

Problem: Worldwide, a child is diagnosed with cancer every three minutes. More than 80% of the approximately 200,000 children diagnosed each year live in low and middle income countries. All too often these children have little to no access to life-saving care: only 20% of children diagnosed have access to effective treatment and 90% of childhood cancer deaths now occur in low income countries where access to effective treatment is severely limited.

Rationale: Despite these disheartening statistics, childhood cancer can be highly curable when access to treatment is available. Dramatic improvements in childhood survival rates have been achieved in low income countries where a commitment to access to care has been made and long-term partnerships have been established. Unfortunately, questions around the affordability of cancer care persist.

Study Design: The project utilized a micro-costing approach to capture and calculate a cost for the overall cancer program at the Butaro Cancer Center of Excellence in Rwanda as well as a per patient cost for 2 common pediatric cancers: Hodgkin lymphoma and Wilms tumor. Costs were analyzed retrospectively from the provider perspective for the fiscal year 2013-2014 and comprised fixed costs, including infrastructure, utilities, administrative costs and maintenance costs, as well as variable costs such as drug pricing, social support, staff salaries, and patient support costs.

Results: The overall cost of the cancer program for the 2013-2014 fiscal year was estimated at \$953,499 with an additional \$556,105 necessary for start-up activities. Over the course of the study period 1,290 new patients were enrolled and 1,286 existing patients were treated at an average cost per patient across cancer types of \$777. The cost for a full course of treatment and follow-up was determined to be \$2,036 for a patient with Wilms Tumor. Adjusting for expected outcomes, the cost per patient decreases to \$1,432. The cost for a full course of treatment for a pediatric patient with Hodgkin Lymphoma was determined to be between \$1,147 and \$1,744. The experience of the Butaro Cancer Center makes a strong case for the affordability of cancer care in low income settings.