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Delivering Low Cost Prostheses to Honduras, Guatemala, Vietnam, Haiti and the Bahamas:

Prostheses Cost Comparison for Hope to Walk Service-Learning Project

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BACKGROUND

Individuals with lower extremity amputation in underdeveloped countries have an average income of less than $6 per day and are unable to afford a traditional prosthesis. This limits their ability to work, prolongs disability and prevents their inclusion in society. Amputations can happen as the result of trauma, diabetes, genetic or birth defects, or cancer.

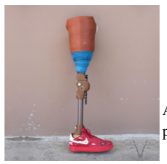
PURPOSE

The purpose of this review was to compare the cost of low cost prostheses versus traditional prostheses.

METHODS

A cost comparison database was constructed using information from local prosthetic organizations. Low cost prostheses' and traditional prostheses' components were compared by cost. Researchers accomplished this comparison by contacting Hope to Walk and Virginia Prosthetic and Orthotics representatives in order to obtain the most current information. Researchers then assembled a brochure that will be used to educate future patients and financial donors on the cost comparison analysis.

Below knee prosthesis



Above knee prosthesis

Prosthetic User Costs for Traditional Prosthesis and Rehabilitation

Functional Level	Above Knee Amputation	Below Knee Amputation
K1 Avg. Hardware	$35,080	$5,000-$7,000
K2 Avg. Hardware	$43,144	$10,000
K3 Avg. Hardware	$51,400	$15,000
K4 Avg. Hardware	$60,300	$15,000-$20,000
Avg. Rehabilitation	$50-350 per visit	$50-350 per visit

Prosthetic User Costs for Hope To Walk Prosthesis

	Above Knee Amputation	Below Knee Amputation
Prosthesis Hardware	$0	$0
Prosthesis Alterations	$0	$0
Rehabilitation	$0	$0
Total	$0	$0

Generic Cost for Hope to Walk Prosthesis

	Above Knee Amputation	Below Knee Amputation
Wooden foot block	$15	$15
PVC Pipe and Wooden Dowel	$10	$10
Gorilla Glue	$5	$5
Fiberglass Casting Supplies	$20	$20
Paint	$5	$5
Assorted Fasteners	$10	$10
3D Printing Costs for Knee	$100	$0
Assembly Resources	$40	$30
Total	$205	$95

Hope to Walk creates prosthetic legs that cost as little as $100 for transtibial and $200 for transfemoral prostheses. Through donations and community partnerships, Hope to Walk provides the prostheses at no cost to the recipients. Conversely, traditional prostheses cost $5,000 - $60,000 before insurance adjustments.

DISCUSSION

Hope to Walk's prosthesis is significantly less expensive. As seen in the cost comparison tables, the biggest difference comes from the componentry of the prosthetic and operation costs. Hope to Walk uses high grade, everyday material for it's prosthetics, is completely funded by donations and run by volunteers, which allows them to make prostheses at no cost to individuals in low-income countries.

COMMUNITY IMPORTANCE

The information gained from this service learning project will be used to educate prospective financial donors regarding the impact of their contributions towards providing prosthetic limbs to improve the quality of life of individuals with limb loss in Honduras, Guatemala, and Vietnam. This project also fosters development of research and communication skills for Doctor of Physical Therapy students.

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