Introduction

Surgical disease represents 11% of the global disease burden but remain an unmet need in developing countries.

Increasing attention has been placed on leveraging academic consortia to provide surgical care and training to health systems in low- and middle-income countries. US academic medical centers can also help build material and human resources by donating unused, clean, and unused medical supplies.

Thus, we sought to determine the national potential for recovering supplies and the global health impact of these supplies when donated.

Methods

We established the program Supporting Hospitals Abroad with Resources and Equipment (SHARE) to donate clean and unused medical supplies to resource-poor hospitals. Close cooperation with surgical nursing staff allowed recovery of unused supplies during procedures.

Using shipment data (September 2010 to November 2013), we estimated the total institution donation capacity of 19 most commonly recovered supplies. We also extrapolated our findings to 232 non-rural large teaching hospitals using the Nationwide Inpatient Sample (NIS) 2011 discharge database from HCUP, AHQR.

Additionally, we accompanied need-based donations to Luis Vargas Hospital (LHV) and Damien House (DH) in Guayaquil, Ecuador. We prospectively captured patient characteristics and equipment usage to calculate cost-effectiveness using disability-adjusted life years (DALY) averted. DAVY was calculated using the modified disability severity and treatment efficacy scoring scale and discounted life expectancy. We also extrapolated the annual avoidable DALY by our program along by conducting one-way sensitivity analyses.

Results – Patients

By count, gauze represents the largest category (Figure 1A) but by value, urinary catheters and sutures represent the most significant categories (Figure 1B).

33 patients were included in the cost-utility analysis (Table 2). An average of US $1.44/DALY averted was attributable to the donated medical supplies. A year of action by a single recovery and donation program may prevent 5.5% of the total 192,000 DALY lost due to leprosy worldwide.

Conclusions

Hospital operating rooms continue to represent a large source of recoverable medical supplies that have demonstrable health benefits to the recipient communities. Cost-effective recovery and need-based donation programs can significantly alleviate the global burden of surgical diseases.

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Literature Cited


Global Public Health Impact of Recovered Supplies from Operating Rooms: A Critical Analysis With National Implications

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