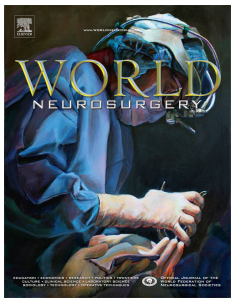
Accepted Manuscript



Profits and Charitable Missions: Funding Volunteerism in the Developing World

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PII: S1878-8750(16)31131-7

DOI: 10.1016/j.wneu.2016.10.130

Reference: WNEU 4798

To appear in: *World Neurosurgery*

Received Date: 25 October 2016

Accepted Date: 26 October 2016

Please cite this article as: Bean JR, Profits and Charitable Missions: Funding Volunteerism in the Developing World, *World Neurosurgery* (2016), doi: 10.1016/j.wneu.2016.10.130.

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The healthcare resources and capability of a nation are directly related to its wealth. In contemporary economic parlance, wealth is equivalent to gross domestic product (GDP), the monetary value of all the goods and services produced within a nation's borders over a period of time, generally calculated annually. For instance, according to the World Bank data, the 2015 annual GDP in the United States was $17.9 trillion, in China $10.8 trillion, in Turkey $718 billion, in Tanzania $45 billion, and in Tajikistan, $7.8 billion, to briefly illustrate the range from around the world.[1] A better comparison is GDP per capita, relating the total GDP to the size of the population. The 2015 GDP per capita in the U.S. was $55,836, in China $7,924, in Turkey $9,130, in Tanzania $865, and in Tajikistan $926.[2] There is obviously a wide disparity in the wealth of nations.

The amount, and to some degree the quality of modern healthcare provided in a nation is reflected by the nation's healthcare expenditures. The data used to track national healthcare expenditures include the total amount and percentage of GDP spent on healthcare and the per capita healthcare expenditures (adjusted for purchasing power parity, PPP, an exchange rate factor). Again using World Bank data[3], the percentage of GDP spent on healthcare in 2014 was 17.1% in the U.S., 5.0% in China, 5.4% in Turkey, 5.6% in Tanzania, and 6.9% in Tajikistan. In terms of actual money equivalents, per capita 2014 annual healthcare spending was $9,403 in the U.S., $420 in China, $568 in Turkey, $52 in Tanzania, and $76 in Tajikistan. Healthcare spending varies widely among nations, dependent upon the size and distribution of the national economy.

Sub-Saharan Africa is one of the most economically limited regions in the world, in terms of national wealth and the availability of routine, and more particularly, specialty healthcare services. In East Africa, the 2015 per capita GDP in Kenya was $1,376, while in Uganda it was $675, compared to Tanzania's $865. All three of these nations have been the focus of efforts to provide neurosurgery services through voluntary, charitable efforts. FIENS (Foundation for International Education in Neurological Surgery), founded in 1969, "sends volunteer neurosurgeons to developing countries to teach neurosurgical techniques and procedures, to establish neurosurgery residency programs, and to lend their skills in the operating room,"[4] and has had active programs in Uganda, Kenya, and Tanzania. The model is self-funded neurosurgeon volunteerism and funding by charitable contributions for equipment and supplies.

Examples of successful voluntary neurosurgical ventures in East Africa have been described previously. Benjamin Warf, MD published descriptions of the charitable work at CURE Childrens' Hospital in Mbale[5], Uganda, where the value and cost-effectiveness of endoscopic third ventriculostomy for infant and childhood hydrocephalus was demonstrated.[6] [7] Michael Haglund, MD described The Duke University experience of expanding neurosurgical service availability at the New