Neurosurgical care

An estimated 5 billion people worldwide lack access to basic surgical care. In particular, the vast majority of low-income country and middle-income country (LMICs) currently struggle to provide adequate neurosurgical services. Significant barriers exist, including limited access to trained medical, nursing, and allied health staff; lack of equipment; and availability of services at a reasonable distance and at reasonable cost to patients. An accurate assessment of current neurosurgical capacity in LIMCs is an essential first step in tackling this deficit.

Objective: To quantify the neurosurgical operational capacity and assess access to neurosurgical services in LMICs, by taking into account the location of the workforce and services.

Methods: A total of 141 LMICs were contacted and asked to report the number of currently practicing neurosurgeons, access to computed tomographic and magnetic resonance imaging, and availability of neurosurgical equipment (microscope, endoscope, bipolar diathermy, high-speed neurosurgical drill). A proposed World Federation of Neurosurgeons classification was used to stratify cities based on the level of neurosurgical care that could be provided. The data were geocoded and analyzed in Redivis (Redivis Inc.) to assess the percentage of the population covered within a 2-hour travel time of a city offering differing levels of neurosurgical care.

Results: 68 countries provided complete data (response rate, 48.2%). Eleven countries reported having no practicing neurosurgeons. The average percentage of the population with access to neurosurgical services within a 2-hour window is 25.26% in sub-Saharan Africa, 62.3% in Latin America and the Caribbean, 29.64% in East Asia and the Pacific, 52.83% in South Asia, 79.65% in the Middle East and North Africa, and 93.3% in Eastern Europe and Central Asia.

There are several challenges to the provision of adequate neurosurgical care in low-resource settings. This study used mapping techniques to determine the current global neurosurgical workforce capacity and distribution. We have used our findings to identify areas for improvement. These include increasing and improving neurosurgical training programs worldwide, recruiting students and young physicians into the field, and retaining existing neurosurgeons within their home [1)].

In December 2016 in Bogotá Colombia, a group of neurosurgeons recognized the massive deficit in neurosurgical care, particularly in a developing country, and called upon the leaders of organized neurosurgery to take action. From this meeting the final version of the Bogotá Declaration on Global Neurosurgery was released, after a series of subsequent revisions and additions from leaders in the field at various society meetings across the world. The declaration was the first of its kind to acknowledge the massive deficit in global neurosurgical care and also place responsibility onto our own professional community to create collective and unified efforts to improve access to neurosurgical care.

The engagement of a neurosurgery delegation at the World Health Assembly since 2018, culminating in the active participation in the 76th World Health Assembly in May 2023, reflects a commendable commitment to addressing global neurosurgical care. The focus on advocating for timely, safe, and affordable neurosurgical care on a global scale is a critical step in recognizing the growing impact of neurosurgical diseases worldwide.

The effort to forge new collaborations and strengthen official relations between the World Health

Organization (WHO) and the World Federation of Neurosurgical Societies is essential for fostering a unified approach to addressing neurosurgical needs. The active support for resolutions that impact neurosurgical patients demonstrates a commitment to advancing the field and improving patient outcomes on a broader scale.

The mention of the Global Neurosurgery Bogota Declaration of 2016 emphasizes the importance of patient-centered advocacy in the neurosurgical profession. The declaration likely outlines principles and commitments that underscore the profession's responsibility to prioritize patient needs and advocate for improved access to neurosurgical care globally.

The adoption of the first neurosurgery-driven resolution at the 76th World Health Assembly, calling for micronutrient fortification to prevent spina bifida and other micronutrient deficiencies, is a notable achievement. The collaboration of the Global Alliance for Prevention of Spina Bifida with various stakeholders, including the Colombian government, showcases the effectiveness of coordinated efforts in advocating for resolutions that address specific neurosurgical issues. The resolution underscores the importance of preventive measures and public health initiatives in reducing the burden of neurosurgical diseases.

The acknowledgment of the advocacy journey ahead to address unmet neurosurgical needs indicates an awareness of the ongoing challenges in the field. Continued efforts will be required to address these needs comprehensively, and the emphasis on collaboration with elected leaders, stakeholders, and allied professionals is a strategic approach to implementing initiatives effectively.

In conclusion, the described initiatives represent significant strides in advocating for global neurosurgical care. The adoption of resolutions and collaboration with key stakeholders demonstrate a proactive approach to addressing specific neurosurgical issues, such as spina bifida prevention. The commitment to patient-centered advocacy, as reflected in the Global Neurosurgery Bogota Declaration, provides a guiding framework for the profession. Moving forward, sustained efforts and collaboration will be crucial to effectively address unmet neurosurgical needs and reduce the burden of neurological disorders on a global scale [2].

[1]
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[2]
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