



Global neurosurgery: current and potential impact of neurosurgeons at the World Health Organization and the World Health Assembly. Executive summary of the World Federation of Neurosurgical Societies–World Health Organization Liaison Committee at the 71st World Health Assembly

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Since the creation of the World Health Organization (WHO) in 1948, the annual World Health Assembly (WHA) has been the major forum for discussion, debate, and approval of the global health agenda. As such, it informs the framework for the policies and budgets of many of its Member States. For most of its history, a significant portion of the attention of health ministers and Member States has been given to issues of clean water, vaccination, and communicable diseases. For neurosurgeons, the adoption of WHA Resolution 68.15 changed the global health landscape because the importance of surgical care for universal health coverage was highlighted in the document. This resolution was adopted in 2015, shortly after the publication of *The Lancet* Commission on Global Surgery Report titled “Global Surgery 2030: evidence and solutions for achieving health, welfare and economic development.” Mandating global strengthening of emergency and essential surgical care and anesthesia, this resolution has led to the formation of surgical and anesthesia collaborations that center on WHO and can be facilitated via the WHA. Participation by neurosurgeons has grown dramatically, in part due to the official relations between WHO and the World Federation of Neurosurgical Societies, with the result that global neurosurgery is gaining momentum.

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THE World Health Organization (WHO) is the world’s highest body governing global health policy. Convened annually in Geneva, Switzerland, near WHO headquarters, the World Health Assembly (WHA) is the forum through which the health ministers of the 194 Member States of WHO discuss global policy questions and approve WHO’s program of work and its budget. Since its first meeting in 1948, the WHA has become the

major platform for global health initiatives, with remarkable gains made in morbidity and mortality from common medical conditions. Access to surgical care, however, was long considered a luxury in many low- and middle-income countries (LMICs), where progress has stagnated or even regressed in the past 25 years.

The perception of surgery as the “neglected stepchild of public health” led to the launch of *The Lancet* Commis-

ABBREVIATIONS LMICs = low- and middle-income countries; WFNS = World Federation of Neurosurgical Societies; WHA = World Health Assembly; WHO = World Health Organization.

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sion on Global Surgery. In April 2015, the Commission reported 5 key messages: 1) 5 billion people do not have access to safe, affordable surgical and anesthesia care; 2) 143 million additional surgical procedures are needed in LMICs each year to save lives and prevent disability; 3) 33 million people face catastrophic health expenditures for surgery and anesthesia each year; 4) investing in surgical services in LMICs is affordable, but without such investments, LMICs will experience losses in economic productivity from 2015 to 2030 that are estimated to amount to US\$12.3 trillion; and 5) surgery is an indivisible, indispensable part of health care.^{2,11,17} The publication of *The Lancet* Commission on Global Surgery Report was followed shortly by the passage of WHA Resolution 68.15—“Strengthening emergency and essential surgical care and anaesthesia as a component of universal health coverage.”²⁰ The unanimous adoption of this resolution by Member States has launched a concerted effort to advance surgical care, including neurosurgical care.

Current Capacity and Deficit in Essential Neurosurgical Care

Dewan et al. recently reported the estimate of the global volume of neurosurgical diseases, as well as the number and the distribution of neurosurgeons worldwide.⁶ They calculated an operative deficit of 5 million neurosurgical cases per annum, with traumatic brain injury, stroke-related conditions, tumors, hydrocephalus, and epilepsy comprising the majority of the global neurosurgical disease burden.^{4,5,7–10,14,15,18} They further estimated that 23,300 additional neurosurgeons are needed to address the deficit, mostly in Africa and Southeast Asia.

Ongoing efforts by neurosurgical professional associations and philanthropic foundations partially address these deficits, but the gaps in human health resources and access to treatment facilities is so significant that national policy changes are needed—especially in LMICs—to address these urgent needs.^{1,3,12,13,19} Participation in the WHA provides yet another avenue for advocacy at the broadest level, as well as partnering with other groups that focus on trauma prevention and treatment, emergency services, and surgical capacity.

Neurosurgical Organizations and Partnerships at the WHA

Many nongovernmental organizations (NGOs) in official relations with WHO attend the WHA to monitor reports and voting, as well as to make statements during the proceedings to support particular issues. Neurosurgeons representing the World Federation of Neurosurgical Societies (WFNS), the WFNS Foundation, and the International College of Surgeons have attended the 2017 and 2018 WHAs. The WHA serves as a meeting place for potential allies, such as other allied health professionals, public and private sector partners, and health economists. Although WHO programs can be contacted anytime and are responsive to contact, the WHA provides an important platform for neurosurgeons to connect in person with the offices within WHO that are concerned with health issues

related to neurosurgery. These include the Emergency and Essential Surgical Care Programme; the Department for Management of Noncommunicable Diseases, Disability, Violence, and Injury Prevention; Maternal, Child, and Adolescent Health; Essential Medicines and Medical Devices; and the Mental Health Programme, which includes Neurology and Public Health.

Activities of Neurosurgical Interest at WHA 2018

In just 2 years, neurosurgical participation in the WHA has increased from 1 observer to nearly 20 active participants. Prior to the 2018 WHA, a boot camp for interested participants and observers was held at the American Association of Neurological Surgeons (AANS) annual meeting. The structures of the WHA and WHO were presented; the schedule of official, technical, and off-site conferences was reviewed; and effective advocacy strategies were discussed.¹⁶

The most recent WHA, held May 21–25, 2018, did not include a report on progress toward implementation of WHA 68.15, now required biennially from the WHO Secretariat. The next report, due in 2019, will serve to keep the spotlight on surgical care within the WHA agenda. Some neurosurgeons who attended this year were able to meet with their health ministries during the WHA, and will be participating in national data collection as these reports are prepared for the 72nd WHA in 2019. Clearly, data collection and analysis are the first steps toward informing national policies that can impact neurosurgical training and practice. Early collaborative steps were made to expand an open-access neurosurgeon-created partnering database, Intersurgeon (www.intersurgeon.com), for sharing training, equipment, and other resources with the rest of the global surgery community. A curriculum was designed for a future course in advocacy and global neurosurgical skills.

The strong and growing neurosurgical presence at the 71st WHA firmly positions neurosurgeons to be key partners in the scaling up of emergency and essential surgical care and anesthesia in the developing world. Neurosurgeons who collaborate with WHO, for example by participating in the WHA, will continue to foster advocacy campaigns and trauma prevention efforts, design policies to improve emergency services and surgical care delivery, and help set the global health agenda so that people worldwide will have access to safe, timely, and affordable surgical and neurosurgical care. Although the WHA is not the sole platform for impacting global policy, it provides an efficient forum for key stakeholders, including governments and nonstate actors, to discuss global health strategies.

Discussion and Opportunities for Neurosurgical Participation in the WHA

Walter Johnson, Emergency and Essential Surgical Care Programme Lead at WHO, is a neurosurgeon and welcomes volunteer neurosurgeons to learn about the collaborative process with WHO. Activities of this program

include promoting national surgical policies, improving surgical education and training, building quality and safety, research using surgical analysis tools, resource-stratified treatment algorithms, building a network of WHO Collaborative Centers for Surgery and Anesthesia worldwide, and advocating for the surgical workforce and patients.

The WFNS represents 118 neurosurgical member societies, with more than 49,000 members.¹⁶ Founded in 1955 to promote global improvement in neurosurgical care, the WFNS has long worked to build neurosurgical capacity through education, technology, and research. As a non-state actor in official relations with WHO, the WFNS is well positioned to champion access to neurosurgical training and care as a public health issue, to contribute to the knowledge base essential to this effort, and to form collaborative partnerships with other specialties and federal and global health agencies.

The WHO-WFNS Liaison Committee is actively working with WHO to advance access to quality care for neurosurgical patients. Membership in the Committee is open to all interested neurosurgeons who are members of WFNS member societies. The committee has no budget and all expenses are borne by individual committee members. In addition, neurosurgeons may participate as members of other nonstate actors, such as the International College of Surgeons, in official relations with WHO.

National and regional neurosurgical societies play an important role in advancing the global neurosurgical agenda. In LMICs, contributions include advocating for collection of data on the neurosurgical disease burden and accurate reporting of human health resources, and may also include evaluation of resource-stratified interventions, policies, and equipment. Professional associations in high-income countries may train and organize volunteer neurosurgeons to support local training, as well as conduct bidirectional educational exchanges and research initiatives. These combined neurosurgical voices will present the most effective advocacy to health ministers of WHO Member States.

Conclusions

The WHA has become an important annual forum within the broader strategy for advancement of global neurosurgery. Participation accelerates progress toward the goal of increasing access to safe, timely, and affordable neurosurgical care worldwide, particularly in LMICs. Neurosurgeons should continue to expand their activities with WHO and should consider attending the WHA to 1) advocate on behalf of our colleagues and their patients in regions with significant gaps in access to neurosurgical care, 2) design policies to improve delivery of neurosurgical care within the setting of universal health coverage, and 3) participate in advancing the global health agenda of WHO and its Member States.

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Disclosures

Dr. Johnson is employed by WHO; this report does not necessarily reflect official WHO opinions. Dr. Rosseau is the appointed chairman of the WHO-WFNS Liaison Committee and receives no compensation for any committee activity.

Author Contributions

Conception and design: Vaughan, Rosseau. Analysis and interpretation of data: Rosseau. Drafting the article: Vaughan, Rosseau, Park. Critically revising the article: all authors. Reviewed submitted version of manuscript: all authors. Approved the final version of the manuscript on behalf of all authors: Vaughan. Study supervision: Rosseau, Johnson.

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