



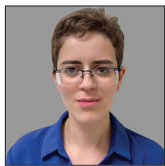
Letter to the Editor

Neurosurgical trips to war zones: Mission (im)possible?

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Dear Editor,

INTRODUCTION

Medical mission trips have a long history of humanitarian service, originating in the mid-19th century with the establishment of the Medical Missionary Society in China.^[7] Today, these missions play a key role in global healthcare, with an estimated 6000 launched annually from the United States alone, predominantly targeting low-income countries as defined by the World Bank.^[13,18] In this paper, we address the pressing need for neurosurgery capacity-building initiatives in war zones, with a focus on the Iraqi context as a pivotal case study. Our letter underscores the critical importance of understanding and addressing the complex challenges inherent to providing neurosurgical care in conflict-ridden regions, emphasizing the need to consider cultural, political, and socioeconomic factors in capacity-building efforts. By examining the experiences in Iraq, we aim to illuminate the broader implications and potential solutions for enhancing neurosurgical care in war-torn regions worldwide.

NEUROSURGICAL DEMANDS IN IRAQ

Iraq, despite its resource-rich status, faces a stark incongruity between the demand for neurosurgical care and the available capacity. Decades of conflict, looting, and corruption have left the healthcare system in disarray, hindering the nation's ability to meet the neurological needs of its population.^[12,13,16] Meanwhile, the surge of neurotrauma cases over recent decades and a dearth of resources have impacted the quality of neurosurgery training.^[1,2,8,10] As a result, newly graduated neurosurgeons possess expertise primarily in neurotrauma, while skills in subspecialties requiring advanced techniques and technology remain underdeveloped. Consequently, non-emergent neurosurgical procedures, such as those for epilepsy, brain tumors, and skull base pathologies, have been marginalized, resulting in a substantial backlog of treatable cases.^[1,9,17] In some instances, patients seek medical tourism or face potential mismanagement by inadequately trained neurosurgeons.^[4]

PREVIOUS INITIATIVES

Previous capacity-building initiatives in Iraq involved a few documented surgical mission trips, none have specifically addressed neurosurgery.^[6,15] These missions were primarily concentrated in

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the more prosperous and stable Kurdistan region of Iraq and their methodologies lacked objective assessment tools. They often focused on cases that required a single intervention to achieve desired outcomes, an approach that is seldom feasible in the complex field of neurosurgery. Moreover, documentation of these missions has predominantly consisted of anecdotal outcome data and perspectives from volunteers, lacking comprehensive research that explores the perception of care by the host community and patients.^[6,8,15] The absence of reports detailing mission setup, follow-up plans, patient outcomes, knowledge, training, and encountered obstacles raises substantial questions regarding the efficacy of such initiatives. Furthermore, concerns surrounding accountability, sustainability planning, local needs assessment, community engagement, and host-provider relationships remain largely unaddressed.

TRANSFORMING MISSION TRIPS INTO COMPREHENSIVE CAPACITY-BUILDING INITIATIVES

The dearth of neurosurgical capacity in Iraq underscores the urgent need for sustainable initiatives that consider the unique challenges presented by the country's complex political, economic, and sociocultural context. Several barriers and potential solutions deserve careful consideration.

Funding

Sustaining neurosurgical capacity building initiatives often faces financial challenges. Iraq, being predominantly Muslim, presents a unique opportunity for addressing this issue. The practice of "Khums," a non-federal income tax, entails Muslims paying 20% of their annual profits through religious scholar-led organizations, with proceeds allocated to charitable causes.^[11,16] Collaborating with religious scholars could redirect these funds to support the initiation of such programs, with successful outcomes serving as leverage to encourage federal government involvement. It is imperative for visiting teams to seek local guidance on navigating the country's complex bureaucratic processes.

Volunteerism

Engaging local healthcare providers requires a profound understanding of Iraq's unique human resources landscape and societal values. The country's lack of healthcare logistics planning has led to a surplus of trained healthcare professionals competing for stagnant positions in hospitals, resulting in a high unemployment rate among young graduates eager to contribute to healthcare.^[5] Harnessing this existing workforce can provide the necessary workforce and educational opportunities. Establishing partnerships with local healthcare institutions can further bolster the success and sustainability of these initiatives.

Communication and cultural exchange

The healthcare system in Iraq faces challenges in the doctor-patient relationship, primarily due to the absence of regulations that protect both parties. To mitigate risks, doctors often decline high-risk surgeries to avoid tribal retaliation. Additionally, the emergence of uncensored private hospitals has eroded patient trust in the healthcare system.^[3] Effective communication and culturally sensitive consent practices are essential. Local neurosurgeons should be consulted to provide pre-departure education and participate in preoperative discussions with patients.

Infrastructure

The healthcare system in Iraq copes with infrastructure challenges, but the situation is not as daunting as one might expect. Many hospitals paradoxically possess both basic and advanced neurosurgical equipment, which, unfortunately, remains significantly underutilized.

This underutilization of neurosurgical resources presents a golden opportunity for initiatives aimed at enhancing neurosurgical care in the region. It offers the chance to maximize the impact of neurosurgery mission trips and capacity-building programs by optimizing the use of the existing equipment and infrastructure. By strategically harnessing these available resources, such initiatives can take significant steps toward bridging the neurosurgical care gap in Iraq. Ultimately, these initiatives could lead to the provision of crucial medical services to communities in dire need, all while laying the groundwork for the long-term sustainability of the neurosurgery services provided.

Follow-up and outcome assessment

The criticism of surgical mission trips often revolves around the insufficient follow-up and outcome documentation of patients. This issue is particularly pronounced in Iraq, where the decentralized nature of patient records exacerbates the challenge.^[14] Effectively addressing this issue requires the active involvement of local neurosurgeons willing to assume responsibility for overseeing postoperative care and providing reports to visiting teams. Additionally, leveraging the potential of telemedicine can play a pivotal role in meeting this challenge head-on.

CONCLUSION

It is imperative to shift the focus from one-time mission trips to sustainable capacity-building initiatives. To ensure preparedness and maximize impact, these initiatives should leverage insider knowledge, align with community needs, and utilize available local resources. Clear objectives, including providing meaningful service and educational opportunities,

fostering collaborative relationships, expanding research opportunities, and encouraging independent practice, should be at the forefront. The adage “Give a man a fish and you feed him for a day. Teach a man to fish and you will feed him for life” aptly captures the essence of these efforts to build lasting neurosurgical capacity in challenging environments.

Ethical approval

The Institutional Review Board approval is not required.

Declaration of patient consent

Patient’s consent was not required as there are no patients in this study.

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Conflicts of interest

There are no conflicts of interest.

Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

REFERENCES

1. Al-Khalisi N. The Iraqi medical brain drain: A cross-sectional study. *Int J Health Serv* 2013;43:363-78.
2. Alwan NA. The killing of doctors in Iraq must stop. *BMJ* 2011;343:d4467.
3. Amin NM, Khoshnaw MQ. Medical education and training in Iraq. *Lancet* 2003;362:1326.
4. Chaganty SS, Ozair A, Rahman F. State of accredited endovascular neurosurgery training in India in 2021: Challenges to capacity building in subspecialty neurosurgical care. *Front Surg* 2021;8:705246.
5. Cheeseman B. Iraqi doctors protest unemployment as coronavirus cases surge. *The Telegraph*; 2022. Available from:

6. <https://www.telegraph.co.uk/news/2020/09/06/iraqi-doctors-protest-unemployment-coronavirus-cases-surge> [Last accessed on 2022 Jul 20].
7. Dr. Paul Osteen shares about his trip to Iraq-M3-mobilizing medical missions; 2022. Available from: <https://m3missions.com/dr-paul-osteen-shares-about-his-trip-to-iraq> [Last accessed on 2022 Jul 20].
8. Grundmann CH. Sent to heal! About the biblical roots, the history, and the legacy of medical missions. *Christ J Glob Health* 2014;1:6-15.
9. Hmpglobelearningnetwork.com; 2022. Available from: <https://www.hmpglobelearningnetwork.com/site/eplab/articles/medical-mission-iraq-highlighting-work-preemptive-love-coalition> [Last accessed on 2022 Jul 20].
10. Hoz SS, Al-Sharshahi ZF, Aljuboori Z, Albanaa SA, Al-Awadi OM. The history and current status of neurosurgery in Iraq. *World Neurosurg* 2020;140:353-6.
11. Hoz SS, Tamer WA, Al-Awadi OM, Al-Sharshahi ZF, Dolachee AA. Neurosurgery training in war-torn countries: A perspective from Iraq and Syria. *Surg Neurol Int* 2020;11:430.
12. IMF. Taxation and public expenditure in Islam. In: *New issues in Islamic finance and economics: Progress and challenges*. Washington, DC: IMF; 2015. p. 263-92.
13. Kapp C. Anarchy pushes Iraqi health system to brink of collapse. *Lancet* 2003;361:1351.
14. Maki J, Qualls M, White B, Kleefeld S, Crone R. Health impact assessment and short-term medical missions: A methods study to evaluate quality of care. *BMC Health Serv Res* 2008;8:121.
15. Nott D, Marsh H. *War doctor: Surgery on the front line*. New York: Abrams Press; 2021.
16. Our mission in Iraq, operation hope USA; 2022. Available from: <https://www.operationhopeusa.org/blog/our-mission-iraq> [Last accessed on 2022 Jul 20].
17. Punchak M, Lazareff JA. Cost-effectiveness of short-term neurosurgical missions relative to other surgical specialties. *Surg Neurol Int* 2017;8:37.
18. Webster P. Reconstruction efforts in Iraq failing health care. *Lancet* 2009;373:617-20.
19. World Bank Country and Lending Groups - World Bank Data Help Desk; 2022. Available from: <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups> [Last accessed on 2022 Jul 20].

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