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Editorial Commentary on Bolkan et al. “The Surgical Workforce and Surgical Provider Productivity in Sierra Leone: A Countrywide Inventory”

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After decades of work by the global surgical care community to create an evidence base for advocacy and give a voice to the billions of people in the world who lack access to safe, timely, and affordable surgical care, the World Health Assembly (WHA) adopted resolution 68.15—*Strengthening emergency and essential surgical care and anesthesia as a component of universal health coverage* [1].

With guidance from the World Health Organization, Member States (i.e., countries), international and local organizations, and individual care providers have the opportunity to increase the attention and resources directed towards emergency and essential surgical care and anesthesia (EESCA) [2]. An increase in attention and resources for EESCA has the potential to reverse the extreme inequity in this pressing global health dilemma and improve the care of the ill and injured worldwide.

Among other calls to action for both the World Health Organization and individual countries, the WHA resolution requests that countries:

- i. carry out regular monitoring and evaluation of the EESCA capacity of healthcare facilities;
- ii. collect and compile data on number, type, and indications of surgical procedures performed; and
- iii. develop and implement surgical care and anesthesia policies to assure minimum standards for a skilled workforce.

Sierra Leone, despite ongoing recovery from civil war and ailing from the recent Ebola epidemic, provides an inspiring and instructive example for other low- and middle-income countries (LMICs) who are amassing the data required to strategically integrate EESCA into

national health policies and plans. In keeping with the recommendations of the WHA resolution, Sierra Leone and partners have performed a series of baseline studies that can be used to develop of a national surgical plan, including a population-based assessment of surgical need [3], an EESCA capacity assessment [4], and documentation of the number, rate, and types of surgical procedures performed in each district [5].

In this issue, Bolkan and others add to these studies by describing the surgical workforce and surgical provider productivity in the country [6]. The data they report inform potential workforce development initiatives, such as training new surgical providers, developing a formal task-sharing program, and improving the efficiency of the surgical workforce more generally. The authors also described the distribution, scope of practice, and productivity of the surgical workforce by cadre; such information is potentially useful for creating policies that aim to make surgical care more available in areas with a particularly high burden of surgical conditions.

In addition to providing useful data for Sierra Leone, the report highlights several issues that contribute to the discourse around improving access to safe, timely, and affordable surgical care in LMICs more broadly. First, advancing the EESCA capacity-improvement agenda at the country level requires local champions [2]. In countries without a surgical specialist training program, the potential pool of these important actors is critically limited, as demonstrated by Sierra Leone (<1 surgical specialist per 100,000 persons). Efforts should be made to develop and accredit postgraduate surgical specialist training programs, and create incentivization schemes to retain specialists in these countries. Successful examples of creating, accrediting, and expanding surgical specialist training programs in countries that previously did not have a postgraduate surgical training program exist in sub-Saharan Africa, including examples from neighboring countries under the auspices of the West African College of Surgeons and the College of Surgeons of East, Central, and Southern Africa [7, 8]. Retention and incentivization schemes should be tailored to the unique work environments within which EESCA providers practice, including the high-risk of burn out and need for the requisite infrastructure, equipment, supplies, and support staff for providing safe surgical care [9].

Second, the private and not-for-profit sectors provide a significant proportion of the surgical care administered in many LMICs and should be considered when developing a national surgical plan [5]. In Sierra Leone, the majority of surgical care was provided by the not-for-profit sector, which performed 54 % of all procedures. While this high percentage likely reflects both the under-resourced government healthcare system and a significant non-government organization presence, the existing capacity and experience of the non-government sectors might be leveraged and organized to increase access to surgical care while government healthcare system capacity improvements are fledgling. Further, with multiple sectors and actors supporting surgical care in the same country, the importance of partnership tracking and coordination to avoid duplication of scarce resources is apparent [10].

Lastly, Bolkan and others found that the productivity of surgical care providers (i.e., number of procedures performed per week) was generally low (average productivity per provider

was 2.8 procedures per week), and was highly variable between cadres, sectors, and districts. In addition to increasing the number of trained surgical care providers, efforts to improve access to safe and timely surgical care will require a better understanding of ways to enhance productivity among existing providers. Such initiatives could include ensuring the availability of essential resources, improving operating theater efficiency, strengthening healthcare management, incentivizing safe and high-volume surgical care, promoting self-agency, and building emotional infrastructure [11–15]. Nobel Laureate for Economics Amartya Sen theorized on the issue of productivity and championed the ‘human capabilities approach’ as a way to measure equality, utility, and welfare [16]. The human capabilities approach reminds us that it is not only the equipment, supplies, knowledge, and skills we are given that determines our ability to transform resources into valuable activities, but the environment within which we work and the faculty to make useful choices that maximize our capabilities [17]. Learning from this approach, we should strive to ensure that EESCA providers work in an ecosystem that enables and sustains safe and high-volume surgical care in spite of resource limitations [18, 19].

While WHA resolution 68.15 is an important milestone and might exert considerable influence on ministries of health, it will not lead to improvements in and of itself [20]; the calls to action within the resolution require efforts from all involved stakeholders. The work done to date in Sierra Leone, including the report by Bolkan and others in this issue, might serve as an example for countries who are attempting to define their burden of surgical conditions, assess EESCA capacity, describe the number, rate, and types of surgical procedures performed nationwide, and document the EESCA workforce distribution and productivity. By doing so, countries might have the data required to inform ways in which EESCA should be integrated into national health policies and plans. Countries with national health plans that include EESCA will be well poised to improve health equity, provide safe, timely, and affordable surgical care to patients in need, and achieve universal health coverage.

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