



# Global Surgery: Quo Vadis?

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Received: 22 November 2023 / Accepted: 9 January 2024  
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## Abstract

Global surgery is a rapidly developing multidisciplinary field. This editorial chronicles the beginnings of GS, highlighting its evolution, milestones, challenges, and gazes in to the future as it becomes evident that global surgery has the potential to play a transformative role in achieving global health equity.

## Global Surgery: Quo Vadis?

Global surgery (GS) is a rapidly developing multidisciplinary field, aiming to provide equitable and improved surgical care across international health systems with a focus on underserved populations of low- and middle-income countries. [1] GS owes its existence to human ingenuity, compassion, resilience, determination and commitment of countless individuals' and organizations' relentless pursuit of improving healthcare access and outcomes worldwide. [2] This editorial chronicles the beginnings of GS, highlighting its evolution, milestones, challenges, and gazes in to the future as it becomes evident that global surgery has the potential to play a transformative role in achieving global health equity.

## The Humble Beginning of GS

It is well known that Christian Missionaries, International Committee of the Red Cross, Aga Khan Foundation, and Islamic Association of North America have been offering humanitarian health support, including Surgery, to the needy since long. While these episodic interventions were well-intentioned, they lacked continuity, sustainability, and the integration of surgical care into local health systems. League of Nations Health Organization (it later became the World Health Organization in 1946), *Médecins Sans Frontières* (Doctors Without Borders) and Operation Smile started providing some surgical services in crisis situations and

underserved regions since 1920, 1971, and 1982 respectively [3]. *Médecins Sans Frontières* became known for their work in conflict zones and disaster-stricken regions, providing vital surgical care in austere environments. Other missions focused on treating conditions like cleft lips, palates, hernias, and cataracts. However, most of the World's attention and resources were predominantly directed toward infectious diseases, maternal and child health, and non-communicable diseases; and Surgery remained "The neglected stepchild of global health" [4]. This neglect of surgical care resulted in a significant burden of unmet surgical need and patients in Lower-Middle Income Countries (LMICs) continued to face barriers to accessing timely and safe surgical services, leading to preventable deaths and disabilities.

## The Catalyst for the Evolution of GS

Main reason for this omission was absence of data about the magnitude of the problem. The much-needed catalyst for evolution of global surgery was the landmark publication of Lancet Commission on Global Surgery report [5]. This report provided the much-needed data about unmet needs of surgery which grabbed the World's attention: 5 billion people not having access to safe, timely affordable surgery and anesthesia, leading to 18.6 million preventable early deaths each year—more than the number of people who die from HIV/AIDS, malaria, and tuberculosis combined; millions of patients facing catastrophic expenditures when faced with surgical expenditure and many low- and middle-income countries likely to lose up to 2% of GDP due to loss of proper surgical care leading to loss of productivity. They also predicted that to reach the necessary levels of access to surgery by 2030 would require an investment of

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\$420 billion, which would save an estimated \$12 trillion in lost GDP over the same period, making it a very sound investment. Around the same time global burden of surgical disease was estimated to be ~30% [6].

## The Revolution that Became GS

The profound influence of Lancet Commission on Global Surgery report highlighted the *vast* disparities in surgical access and quality worldwide, called for universal access to safe and affordable surgery, laid the groundwork for a more systematic approach to global surgery and stressed the need for investments in local surgical infrastructure, workforce, and capacity building. The global health community *had to* acknowledge that surgery is an essential component of a functioning healthcare system and a critical part of universal health coverage. This prompted the World Health Assembly to unanimously pass a resolution to recognize surgical care as a critical and integral component of universal health coverage. This momentum was picked up by funders like World Bank, and other stakeholders like World Health Organization, surgical academic associations and institutions, the biomedical devices industry, and news media and advocacy organizations who took notice and a roadmap for building sustainable, resilient Global surgical systems was drafted [7, 8]. The United Nations' Sustainable Development Goals (SDGs) included a target for universal health coverage, which explicitly recognizes the importance of access to safe and affordable surgery.

This revolution which led to the modern version of Global Surgery came from a better understanding of the global surgical landscape and acknowledging human rights in the provision of surgical care around the world [9]. Now, it is a multidisciplinary field which works toward equitable surgical care globally and involves need (funding, public health, and policy), access (cost and capacity), quality (safety and effectiveness), research (understanding of surgical needs and outcomes in LMICs, academic support for filling the knowledge gaps, data-driven approach for more targeted interventions and resource allocation), advocacy (to develop public support), and education (training and capacity building) [1, 10–13].

A large number of non-governmental organizations support the global effort to improve surgical services by helping with providing services, collaboration, training, and essential equipment [14]. One of the most significant developments in GS is the emphasis on training local healthcare workers, including surgeons, anesthetists, and nurses. Initiatives such as the College of Surgeons of East, Central, and Southern Africa (COSECSA) and the Global Initiative for Children's Surgery (GICS) are dedicated to addressing the shortage of surgical providers in LMICs [15].

Equally important is the development of an ecosystem for low-cost surgical innovations which are providing affordable surgical solutions for the LMICs [16–18]. Advances in telemedicine and mobile health applications are also helping by enabling remote consultations, telementoring, and improved surgical outcomes in resource-limited settings.

One of the most important drivers of GS is its skyrocketing attraction among the medical students and trainees because of the principle of *Noblesse oblige* (desire to help those who are less privileged). Several academic global surgery teaching and training programs are being run by HIC institutions [19, 20]. These motivated students and trainees have formed networks of future global surgery providers in the US (Global Surgery Student Alliance, GSSA) as well as all over the world (International Student Surgical Network, InciSioN). These networks provide inspirational leadership for advocacy, education, and research toward the future of Global Surgery.

## The Challenges and a Gaze Into the Future

GS has made substantial progress in recent years, but there is much work to be done in the areas of strengthening local surgical healthcare systems by capacity building, training, education and authorship, robust data collection, greater investment in Global South research and innovative solutions, community engagement in advocacy and policy, health workforce retention, better funding and better coordination between governments, non-governmental organizations, and international institutions [21–25]. Surgery needs to be made a central component of universal health coverage with necessary commitment and investment.

A recent ardent call to “decolonize” Global health and GS has invigorated its modern narrative. It emphasizes the need to move beyond imbalanced power dynamics favoring the Global North, brain drain from the Global South and cultural insensitivity toward shifting the power paradigm toward empowerment of Global South in the form of funding, resources, building capacity, authorship, self-determination in healthcare systems, and even medical education [26]. Guidelines, checklists, and roadmaps for how to plan, how to have partnerships, what to do, how to do it, what not to do, how to measure impact, and even how to write in GS are comprehensively documented [27]. All that is now needed is to “walk the talk.” It must be remembered that it is not a zero-sum game in which the Global South gains and the Global North loses. They must become the two sides of the same GS coin and complement each other to work in sync toward the same milestone—safe accessible surgery for all [28]. The Global South Health Care Workers have to realize that the burden of breaking down the metaphorical chains of colonialism and neo-colonialism in the Global South is on

themselves as they are the biggest stakeholder and stand to benefit the most in the process and achievement of decolonisation [29, 30].

Global means together—like a team game—and in this ecosystem of GS everyone brings something to the table; every surgeon can contribute to this challenge in his/ her own way. It has now become a juggernaut with its own momentum. While significant progress has been made, the journey toward achieving equitable access to surgical care is far from over. The global community must stand together to ensure that no one is left behind in the quest for surgical equity. The future of GS should be one where every individual, regardless of their geographical location or financial status, has the opportunity to receive safe, affordable, and quality surgical care when needed. Quo Vadis? We are on a path toward greater surgical equity, and we must continue our journey with determination and resolve.

## Declarations

**Competing Interests** The authors declare no competing interests.

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