



The Bill & Melinda Gates Foundation: An opportunity to lead innovation in global surgery



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ABSTRACT

Background: The Bill and Melinda Gates Foundation has made unparalleled contributions to global health and human development by bringing together generous funding, strategic partnerships, and innovative leadership. For the last twenty years, the Gates Foundation has supported the expansion of programs that directly address the fundamental barriers to the advancement of marginalized communities around the globe, with a transformative focus on innovations to combat communicable diseases and to ensure maternal and child health. Despite the wide spectrum of programs, the Gates Foundation has not, as of yet, explicitly supported the development of surgical care.

Methods: This article explores the pivotal role that the Gates Foundation could play in advancing the emerging global surgery agenda. First, we demonstrate the importance of the Gates Foundation's contributions by reviewing its history, growth, and evolution as a pioneering supporter of global health and human development. Recognizing the Foundation's use of metrics and data in strategic planning and action, we align the priorities of the Foundation with the growing recognition of surgical care as a critical component of efforts to ensure universal health care.

Results: To promote healthy lives and well-being for all, development of quality and affordable capacity for surgery, obstetrics and anesthesia is more important than ever. We present the unique opportunity for the Gates Foundation to bring its transformative vision and programming to the effort to ensure equitable, timely, and quality surgical care around the world.

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Introduction

The Bill and Melinda Gates Foundation has redefined global health funding, becoming the first major private fund dedicated to worldwide health and development projects and a strong, incredibly generous, and important advocate for improving measurement of health and development outcomes and impact. Over the last 20 years, the Gates Foundation has remained firmly grounded in the principle that “all lives have equal value”¹ and has primarily and resolutely sought to assist people around the world in reaching

their full human potential. This focus on human development has led the Gates Foundation to support innovative programs that leverage advancements in science, technology, health, agriculture, and education to the benefit of the most neglected populations around the world. The combination of expansive resources, a vast network of forward-thinking partners, and a focus on data analytics has made the Gates Foundation a powerful leader in the global health arena. The Gates Foundation values efficiency and high-impact, results-driven projects and has pushed development actors with its ambitious yet achievable goals, which aim to eradicate disease and improve the lives of people worldwide.

This paper reviews the history, organizational structure, and primary areas of grant-making of the Bill & Melinda Gates Foundation in global health, with a special focus on efforts related

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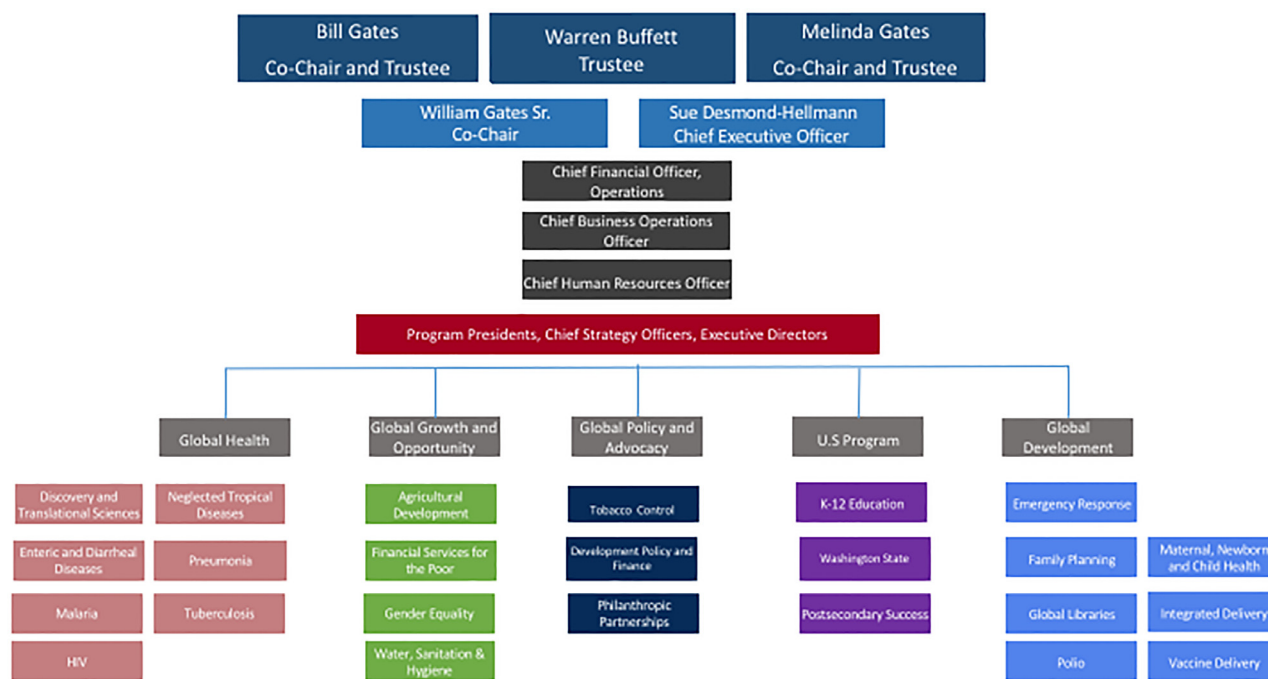


Fig. 1. Programmatic and organizational structure of the Gates Foundation.

to global surgery. We describe the leading role of this foundation in funding global health and development and guiding global health policy. Then, we discuss the need for greater funding and innovation in global surgery and propose pioneering ways for the Gates Foundation to invest further in dramatically advancing global surgery to help prevent mortality from surgically treatable diseases.

History

The philanthropic work of Bill and Melinda Gates began in 1997 as the Gates Library Foundation, which was established with the mission to bring personal computers and Internet access to libraries in low-resource communities in the United States. That same year, Bill Gates took a trip to India, where his vision for a world without polio was born. The Gates family quickly recognized the fundamental importance of investing in the health of the communities they sought to transform through technology and merged these focuses into a holistic philanthropic mission to improve the lives of the marginalized. The next year, the Foundation donated \$100 million for vaccines for children, thus launching the global health initiatives that now define a large part of the mission of the Gates Foundation. Shortly thereafter, this new direction became the official priority as the Gates family pledged \$750 million in seed money to set up the Global Alliance for Vaccines & Immunizations (GAVI) in 1999. The Gates Foundation has remained a substantial financial supporter of GAVI, which Bill Gates cites as “the best [investment] we’ve ever made,”² and it is also integral to gathering data to guide the decision-making of GAVI (see Addendum 1, online only). Discontent with the impact of the Foundation’s efforts alone, Bill Gates pledged another \$10 billion and declared the “decade of vaccines”³ in 2010, calling on others to help fill the financing gap to scale up the impact of existing and novel vaccines to prevent more than 8 million childhood deaths by 2020.

In 2000 the Bill & Melinda Gates Foundation was officially formed. Over the next 5 years, the Foundation expanded the scope of its projects to include not only the prevention but also the treatment of HIV/AIDS and malaria. Billionaire philanthropist Warren

Buffett pledged more than \$30 billion of his \$44 billion in stock holdings of Berkshire Hathaway to the Foundation in 2006, thereby doubling its endowment and making it the largest private philanthropy in the world. These funds are still being received as an annual installment of roughly \$1.5 to \$2 billion per year. Beyond that initial gift, Buffett has donated an additional \$21.9 billion to the Gates Foundation in subsequent years, including another \$2.4 billion in July 2017. Buffett’s substantial contributions to global health help to support Bill Gates, his close friend and business partner; but more importantly, they are grounded in the knowledge that the relentless pursuit of data and performance measurement by the Gates Foundation, combined with the ability of the foundation to harness markets and technology, ensures a worthy investment and outcomes. This unbelievably generous philanthropic capital has permitted the Foundation to continue to broaden its programming while maintaining its primary focus on global health equity.

Governance and organizational structure

The Foundation is based in Seattle, Washington, where it employs more than 1,200 staff members. The Foundation is led by an executive team composed of CEO Dr. Susan Desmond-Hellmann, CFO Jim Bromley, Co-Chair William H. Gates Sr. and trustees Bill and Melinda Gates and Warren Buffett. This team shapes the vision and strategic direction of the foundation and coordinates efforts among its various components. The organization is structured into five programs: Global Health, Global Development, Global Growth and Opportunity, Global Policy and Advocacy, and a US program to increase access to opportunities for success for Americans with the fewest resources. Each program is led by an executive director and president who engage numerous international partners in the grant-making process and advocacy work (Fig. 1). Grantees of the foundation include social and human development initiatives and enterprises in every continental state of the United States and in more than 100 countries worldwide. The five programs, which are further detailed next, cover a broad range of subject areas with many instances of overlap.

Total Gates Foundation Global Health and Global Development Funding from 2000–2016
(in Billions, adjusted for 2016 USD)

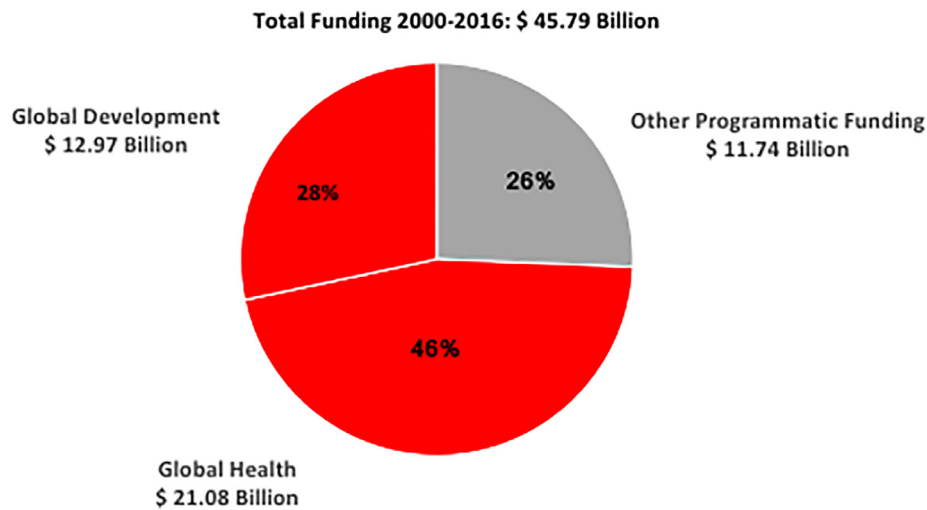


Fig. 2. Gates Foundation funding by program, 2000–2016.

Global Health

The Global Health program seeks to identify and intervene against the leading causes of death and disability in developing countries. In doing so, this program has focused primarily on science and discovery for individual diseases supporting systems of vertical health delivery. The development and distribution of vaccines remains a major focus of the investment of the Gates Foundation in global health. Thus, this program is divided into a section for discovery and translational science and sections for specific communicable diseases: enteric and diarrheal disease, HIV, malaria, neglected tropical diseases, pneumonia, and tuberculosis. The division of discovery and translational science now also includes funding for novel initiatives and tools in maternal, newborn, and child health.

Global Development

The Global Development program grew out of the global health division in 2012 in an effort to connect the silos of disease-centric projects and to ensure a wider, population-based impact. These programs are focused on scaling up evidence-based interventions harnessing both the supply and demand sides and including the public and private sector. Compared with the Global Health program, this team targets horizontal, systems-based strategies for family planning, vaccine delivery, maternal and child health, and nutrition. Integrated delivery initiatives strive to connect health-related services, such as vaccines, medications and diagnostics, in innovative ways or via expansion of existing programs to the people who need them in low- and middle-income countries (LMICs). The integrated delivery initiatives do this through improving supply chain systems, linking data and demand side interventions, and encouraging rethinking of products and services from the perspective of the user. Maternal, newborn, and child health comprises a substantial portion of the work of this program (see Addendum 2, online only). Primary health care has also become increasingly recognized as an important, crucial component of this development work. Notably, the most ambitious and perhaps most tenaciously held goal of Bill Gates is the eradication of polio, which is also currently under the auspices of this program.

Global Growth and Opportunity

In another reorganization of the ever-growing Gates Foundation, the Global Growth and Opportunity program was created from the Global Development section this year. The focus areas for this new program include agriculture, development, gender equality, financial services, and water, sanitation, and hygiene. The dedication of increased human resources to these areas indicate the ongoing strong commitment of this foundation to this end. The broadest goals of the program are to shape and transform current markets and to develop untapped markets. There is a special focus on developing new projects and techniques that will help lift people out of poverty, an indispensable component of securing and maintaining health. The Global Growth and Opportunity program also focuses on gender equality to break down the barriers that keep women from having access to the market opportunities that are more readily available to men.

Global Policy and Advocacy

The Global Policy and Advocacy program works to build strategic relationships and partnerships with governments, philanthropists, media, and policy organizations and to promote policies that advance the overall mission of the foundation. This program is facilitated through offices in London, China, India, Ethiopia, Nigeria, and South Africa. Optimizing and leveraging domestic and global funding is the main focus of the efforts of the policy teams as they seek to increase the effectiveness of development aid, multilateral development banks, such as the World Bank and African Development Bank, and individual country finance. A separate but specific focus area for advocacy is global tobacco control in partnership with Bloomberg Philanthropies. This collaboration uses a 3-pronged approach composed of policy interventions, social marketing, and building an evidence base from data derived from local population data to help individual governments implement effective policies to counter the tobacco industry.⁴

United States

The US program is designed to help disadvantaged people gain access to libraries, the Internet, and other educational programs.

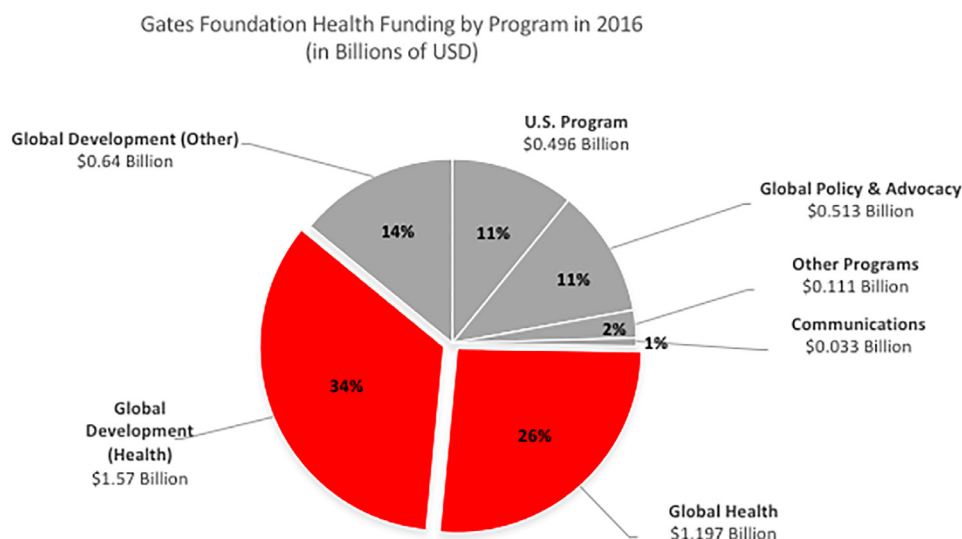


Fig. 3. The 2016 global health-related budget allocation (red).¹ (Color version of figure is available online.)

In addition, the US program focuses on eradicating homelessness and provides funding for domestic emergency relief. Much of this program is focused on local and community-based efforts in the Pacific Northwest, where the Foundation headquarters are located. The educational support strives to improve rates of high school graduation and college enrollment of low-income students of all races and ethnicities. It also helps college students obtain the means to complete a degree as a gateway to the middle class. Efforts are thus targeted at increasing economic mobility by providing the information, skills, support, and tools that Americans need to advance in society.

Finance and Grant-Making

From its inception through 2016, the Gates Foundation has made humanitarian investments and contributions totaling more than \$41.3 billion.⁵ The key targets of the funding of the Gates Foundation have been in the development and deployment of vaccines; the prevention and treatment of malnutrition and infectious diseases, such as HIV/AIDS, malaria, tuberculosis, acute diarrheal and respiratory illnesses, and tropical parasitic diseases; and the expansion of reproductive, maternal, newborn and child health care. The pie chart in Fig. 2 shows the allocation of contributions to the 5 programs for the period of 2000–2016. Fig. 3 presents the program funding by program for 2016 and indicates the current priorities and distribution of grant making. Notably, 60% of all funds are directed toward projects related to Global Health or Development. Finally, Fig. 4 shows the breakdown of Global Development funding in 2016 by topic, highlighting health-related initiatives.

Since 2012, the enterprise project management office has served as a centralized entity by which the structure and standards for project management are set across the organization. Internally, each of the 5 programs has a project management office that oversees projects in coordination with grant-receiving partner organizations. In selecting projects to fund, there are minimum criteria defining the scope and duration of the project with 3 tiers of projects: tier 1 projects have the highest priority and visibility, tier 2 projects are smaller but still cross-functional, and tier 3 projects are those managed within an individual department or with a single function.⁶ Table 1 shows the ten valuation criteria that are used to assign a score to each project. When graphed, these criteria provide the executives of the Gates Foundation with a more objec-

Table 1
Portfolio valuation criteria⁵

Benefits	Risks
Programmatic impact & alignment	Change management impact risk
Effectiveness	Requirements risk
Grantee & partner experience	Dependency & coordination risk
Efficiency	Schedule risk
Payback period	Capacity risk

tive structure to evaluate projects on potential benefits, associated risks, and the overall fit with the current organizational priorities and strategies.

The Gates Foundation is also newly investing in helping partner organizations make use of funding for maximal impact. Specifically, the Development Policy and Finance Team (DPFT), a part of the Foundation's Global Policy and Advocacy division, seeks to create innovative policies and novel financing solutions. Using its influence in philanthropy, the DPFT empowers global stakeholders in human development, including governments, universities, think tanks, and multilateral development banks, to produce policies, ideas, and research that enable innovative and impactful initiatives. Working with multiple donors, development partners, and multilateral organizations, the foundation uses investments to advance research, modernize development aid systems, and maximize the value on each aid dollar invested. The external activities of the DPFT also include working with LMICs to analyze their spending on health promotion and alleviation of poverty and to develop the data and tools that enable progress toward the goal of human equality. Internally, the DPFT draws on its experience to develop the evidence to support the policy and financing work of the other teams in the Foundation.

Financing instruments such as grants are developed and monitored across Foundation programs according to strategic financing priorities. To generate all of its grants and contracts, the Foundation uses a standardized, four-phase process: concept development, preproposal, investment development, and management and close. First, the Foundation collaborates with partner organizations to provide early guidance to potential grantees to align proposal development with the strategic focus of the Foundation. Grants are structured to facilitate tracking the costs of delivering results, and the Foundation periodically reviews its funding models with research partners to develop additional research and evaluation ca-

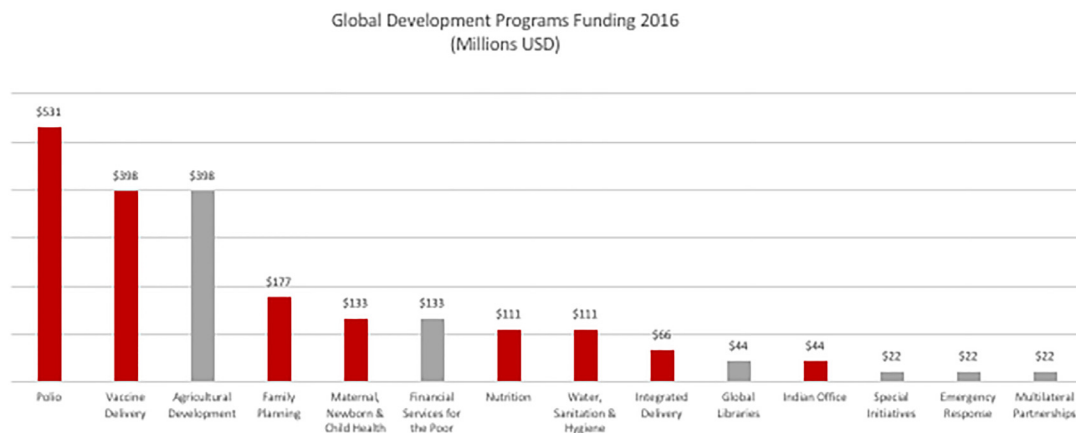


Fig. 4. Global development and global health funding areas (red).¹

capacity. Data collection and reflection on lessons learned are defining characteristics of the operational implementation strategy. Finally, measurement and close evaluation of funded programs is an integral part of project management at the Foundation (see Addendum 3, online only).

Role in global health

As described earlier, the Gates Foundation has emerged as the leading investor in novel areas of global health and human development that prioritize poor and marginalized populations around the world. It models a dedicated, thoughtful, and impactful commitment to global health by advancing the delivery and policy agenda through ambitious but attainable outcome goals, by its malleability to shift as the issues evolve, and by leveraging partnerships for effective global health advocacy.

The Foundation recognizes that it is not enough merely to discover and bring new scientific tools to fight disease and inequity to production; we must also to be able to deliver scientific tools to those with the greatest need. This approach has led to increased focus on systems of health care delivery as instruments, which in turn also support vaccine distribution. The commitment of the foundation to systematic and sustained global health investments that span the spectrum from scientific development through field implementation is illustrated by the successful work of GAVI. For example, the goals of the GAVE mission for 2011–2015 included 3 specific targets: under-5 mortality rate, future deaths averted, and number of children immunized.⁷ But most importantly, through its support of GAVI, the Gates Foundation has successfully galvanized countries, donors, and the private sector to make vaccines readily accessible to vulnerable populations.

Maternal, newborn, and child health care (MNCH) has received sustained attention from the Gates Foundation. According to the 2016 Annual Report, MNCH was allocated 6% of the Foundation's \$2.2 billion budget for global development, which translates into more than \$132 million in grant funding.⁸ Recognizing the urgency in eliminating preventable causes of death related to complications from pregnancy and childbirth, the strategic approach of the foundation to this aspect of women's health has been to expand the coverage of "high-impact interventions" that ensure the survival and health of women and newborn children during the perinatal period and beyond.⁹ Some of these strategies focus on clinical care, such as improving the quality of MNCH services in primary health care facilities and strengthening the capacity of MNCH facilities to prevent and manage obstetric emergencies such as postpartum hemorrhage. Others partner with governments, agencies, and concerned local and global advocates to invest in innovative

tools, therapies, and technologies that facilitate effective, equitable systems of maternal health care delivery. In this area a notable example of the work of the Gates Foundation in the United States is its support of the Maternal Health Task Force based at the Harvard T.H. Chan School of Public Health in Boston, Massachusetts. Through this initiative, the foundation seeks to increase global access to comprehensive information on maternal health through collaboration with the Public Library of Science (PLOS).¹⁰

Universal access to family planning is another important aspect of MNCH care that has been championed by the foundation recently. Together with the Department for International Development in the United Kingdom, the United Nations Population Fund, and USAID, the foundation has catalyzed a global partnership called Family Planning 2020. This initiative ensures that all women and girls, wherever they live, have access to life-saving contraceptive information, services, and affordable supplies. These governments, donors, civil society, the private sector, and multilateral organizations aim to offer modern family planning to 120 million additional women and girls globally, allowing these women and girls to plan their futures and accelerating decreases in maternal and newborn mortality. Critical components of the investment portfolio are policy and advocacy, performance monitoring and measurement, developing new and more affordable technologies and contraceptives, and ensuring equity, quality, and access.

The foundation also collaborates with global organizations, such as the United Nations, the World Bank Group, and the World Health Organization, to support work in global health advocacy and policy related to human development and health care financing. Most importantly, these collaborations helped fund Disease Control Priorities (DCP3) for Universal Health Care¹¹ and for the monitoring of progress toward the Sustainable Development Goals (SDGs). The Gates Foundation has given \$279 million dollars to the Institute for Health Metrics and Evaluation at the University of Washington since its inception in 2007 to help provide metrics for organizations such as the World Bank Group, National Institutes of Health, and many national governments to support the creation of data-driven policy.¹² In partnership with the Institute for Health Metrics and Evaluation, the foundation coauthored the first annual Goalkeepers Report to track progress toward the 17 SDGs, which was released in September 2017. The Gates Foundation intends to continue this collaborative investment until the SDGs are met in 2030.

Finally, the Gates Foundation is a vital piece of the innovative partnership with the Global Financing Facility (GFF), which is a trust fund seeking to close the annual financing gap of \$33.3 billion required to meet the SDG for RMNCAH (reproductive,

maternal, newborn, child, and adolescent health). The GFF provides support for smart, scaled, and sustainable financing to achieve the RMNCAH results for LMICs, serves as a pathfinder for financing for development, including domestic resource mobilization¹³, and promotes universal health care and the strengthening of health systems. The GFF currently sponsors efforts in 16 LMICs with the goal of reaching 62 countries within five years. The GFF uses modest investment resources to catalyze greater funds from governments, external funding, and the private sector at a rate of \$1 from GFF investment funding to \$3 to \$5 from private capital markets. The Gates Foundation was the fifth largest founding member of the GFF in 2015, along with the governments of the United States, Canada, and Japan. In addition, the Gates Foundation serves as a key partner for the GFF in financing, governance, and advocacy, and the GFF investors group is chaired by the president of the Global Development Program of the Gates Foundation. For more details on the GFF and how it functions, see the 3 addendums in this paper highlighting the [World Bank](#) in this Global Surgery series.

Role in global surgery

To date the Gates Foundation has not explicitly focused on surgical care or the development of surgical systems. Most initiatives funded by the Gates Foundation that touch on surgical disease have been “vertical” or limited to specific disease processes similar to the early vaccine initiatives. Prominent examples of supported vertical programs that include surgical care are the provision of eye care for trachoma¹⁴ (a leading cause of preventable blindness) and male circumcision for HIV/AIDS prevention.¹⁵ Exceptions to a vertical strategy, which encompass a broader systems-based approach, are funding for improved safety and availability of blood transfusions¹⁶ and work related to decreasing maternal mortality secondary to postpartum hemorrhage through the GFF. Several small grants, however, have supported important research and academic endeavors related to surgery. For example, in 2007 the foundation awarded the University of California San Francisco with funds for a meeting on expanding the surgical capacity of sub-Saharan African. Another study of the political economy of surgery was funded by the foundation in the LMICs Uganda, Sierra Leone, and Papua New Guinea. That study concluded that surgical prioritization in these regions can be reinforced by emphasizing the importance of surgery in achieving national health goals, such as addressing the increasing prevalence of noncommunicable diseases, and by improving data tracking and collection of national surgical indicators.¹⁷ The foundation also supported the Bellagio Essential Surgery Group, which published its recommendations for increasing access to surgery in sub-Saharan Africa in 2009.¹⁸

A crucial recent contribution to the efforts of global surgery was funding for the second commissioner meeting of the Lancet Commission on Global Surgery (LCoGS) in Freetown, Sierra Leone, in 2014. This was facilitated by Dr. Mariam Claeson, former director for MNCH at the foundation. The LCoGS was an independent, international, multidisciplinary team led by 25 surgeons, health care providers, and researchers supported by advisors and collaborators from more than 110 countries and 6 continents; this group convened to develop a framework for transforming health care by providing universal access to surgery, obstetrics, and anesthesia care worldwide. The report, titled “Global Surgery 2030: Evidence and Solutions for Achieving Health, Welfare, and Economic Development,” offers 5 key messages, a set of indicators, and recommendations to improve access to safe, affordable surgical and anesthesia care in LMICs, as well as a template of a national surgical plan (Fig. 5).¹⁹ This commissioner meeting was essential in developing the publication by the LCoGS for strategizing how to embed surgery in the efforts to strengthen health systems to en-

sure that surgery becomes an integral part of the Global Health agenda.

Future engagement

Case for the engagement of global surgery

Momentum to incorporate essential surgery into universal health coverage continues to grow. Dr. Jim Kim, the president of the World Bank, stated that “surgery is an indivisible, indispensable part of health care.”²⁰ We also believe, along with Bill and Melinda Gates, that all lives have equal value and that where you are born should not determine access to lifesaving surgical interventions like potentially lifesaving Cesarean sections. The burden of surgical disease is vast but still unrecognized; in fact, surgical diseases kill more people each year than HIV, malaria, and TB combined¹⁹; however, the capacity to provide the needed surgical care does not exist. There is a global deficit of 143 million surgical procedures per year,¹⁹ and consequently, surgically treatable conditions kill 17 million people each year.

As we have described thus far, the Gates Foundation is a leader in seeking bold and innovative ways to approach the challenges that separate the world’s population from the highest standards of health and human development. The foundation has a track record of casting visionary goals and supporting data measurement and monitoring, which translates into a better understanding of how to accomplish those goals. The work of the Gates Foundation uses these data-driven insights to help develop national policies in ways that garner commitment from other stakeholders to participate and champion the process. Furthermore, it leverages the private sector to develop multilateral solutions to complex problems. Speaking in Boston in April 2018, Bill Gates reiterated that his interest in global health began as a response to learning that such a small number of diseases were responsible for so many deaths. He noted that he soon recognized that the problem needed “a two-pronged approach, funding both the ‘upstream’ areas of research—promising research that wasn’t getting much funding—and ‘downstream’ areas such as primary care delivery systems.”²¹ This thought characterizes the comprehensive tactic that the foundation models for each focus area to which it is committed.

Without access to basic and essential surgery, the global community will not meet their SDGs for RMNCAH. Goal 3 of the SDGs targets a decrease in the global maternal mortality rate to less than 70 per 100,000 live births and neonatal mortality to a rate of 12 or fewer deaths per 1,000 live births.²² Maternal and neonatal mortality rates have decreased in the last decade partly because of efforts to increase facility-based deliveries and also because of improvements in the quality of antenatal care delivery. But without access to safe and high-quality surgical care, including Cesarean sections, emergency hysterectomies, and safe abortions, this target will not be met. The physical and human resources needed for emergency obstetric and newborn care and emergency surgical care are so similar and closely integrated that investing in one increases access to and buttresses the functioning of the other. Furthermore, the foundation has already championed the rights of children to healthy life and recognized the impact that healthy children have on families, societies, and economies. Provision of surgical care to people at every stage of life is a human right and essential for the well-being of communities and countries as a whole.

Performance management

One of the greatest challenges facing the development of surgical care for the world population is the accurate and systematic collection of surgical, obstetric, and anesthesia indicators to better understand the challenges of providing surgical care. As mentioned

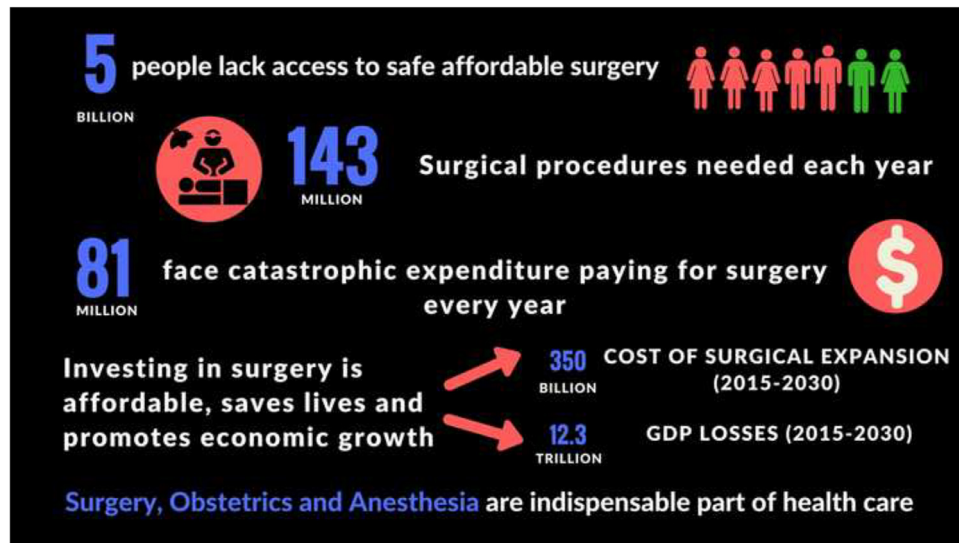


Fig. 5. Key messages of the Lancet Commission on Global Surgery.

previously, the 2015 LCoGS report recognized the paucity of data regarding surgical care and surgical systems worldwide and suggested 6 indicators that would provide actionable insight: access to timely surgery, the density of the specialist surgical workforce, surgical volume, perioperative mortality, and protection against impoverishing and catastrophic expenditure. In the time since the report, key actors in the global surgery community have responded to the call for indicator data collection. Through the ministry of health, many countries are beginning to collect this data on a regular basis. Yet, despite individual efforts, there is no global platform or partnership to coordinate and move this work forward. Furthermore, despite recognition of the importance of health metrics and real data in designing meaningful policies and interventions, no major funder has moved to finance the collection of surgical metrics. Tracking progress in these areas is essential to ensure programs are results driven and making needed adjustments to optimize resources and gain a better return on investment for women, children, and families. Although a daunting task, it has been done previously with 2 global partnership initiatives funded by the Gates Foundation: GAVI and Family Planning 2020. Both international and country-based programs are collecting, tracking, and using data to measure and monitor progress to improve performance. With innovation and support, we could readily drive new performance measurements for global surgery and publish results annually to ensure further accountability and transparency.

The global surgery community is pioneering advances in new metrics for surgery in LMICs with motives that align with the foundation's relentless pursuit of data for global and country tracking of performance for RMNCAH. Maternal health metrics have been linked inextricably to each of the LCoGS indicators and are also directly relevant to tracking progress toward the SDG targeting decreased maternal mortality. For example, timely access to surgical care is extrapolated from time to mortality of untreated postpartum hemorrhage.¹⁹ Furthermore, access to surgical care is indicated by a facility that can provide the 3 bellwether procedures, one of which is a Cesarean section (the other 2 being long-bone fixation and laparotomy). Thus investment in performance management would accomplish not only improved metrics for surgical care but for RMNCAH as well. Tracking performance at both the global and country level can further shine the spotlight on issues related to equity, quality, and access, to drive results and ensure a strong return on investment. The focus and expertise in metrics of the foundation could galvanize new platforms for data collection

and dissemination for global surgery to coordinate and optimize results and future investments.

Innovations to “bend the curve”

To urgently reach more people, faster, better, more affordably, and more sustainably in the next 5 years, we also propose that the Gates Foundation harness its track record in innovations to increase access and quality of surgery. To drive the next wave of disruptions, the global community needs increased investments to fully understand the problems and bottlenecks, to conduct user-centered design and new design thinking, and to test and prototype novel solutions at facilities in low-resource settings. The foundation has the track record to convene “like and unlike minds” to identify novel innovations to increase access, safety, and quality of services by addressing barriers to training, service delivery, product development, policy and advocacy, and performance management. The Gates Foundation can catalyze and galvanize global partnerships, including the private sector, to ensure that cutting edge technologies to save lives are available, accessible, and affordable at scale to drive impact. To meet the third SDG (ensuring healthy lives and promote well-being for all), provision of an adequate capacity of surgery, obstetrics, and anesthesia is more important than ever before. The leaders of the Gates Foundation can play a critical role in ensuring that access to surgery with a focus on equity, access, and quality are prioritized by country leaders; the World Health Organization; the United Nations Population Fund; donors, including the World Bank and the GFF; and the private sector and civil society organizations.

In conclusion, the Bill & Melinda Gates Foundation has spearheaded and revolutionized opportunities in global health, development, and policy with regard to data collection, scientific discovery, and health care delivery over the last 3 decades. The tremendous support from the partnerships it has established has further increased the ability to achieve goals previously unimagined within a lifetime. The Gates Foundation is thus uniquely poised to leverage its pioneering experience with the funding necessary to help secure universal access to this vital component of health: quality, timely, and affordable surgical, obstetric, and anesthesia care. We can only imagine the possibilities for the number of lives saved and the increased well-being and advancement of the least well off of the world population in the coming decade if

the Gates Foundation seized the opportunity to promote innovation and access to essential surgical care around the world.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:[10.1016/j.surg.2018.08.002](https://doi.org/10.1016/j.surg.2018.08.002).

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