



The Global Surgery Challenge

Key Facts & Figures

Access to Care



- **5 billion** people worldwide lack access to affordable, safe surgical and anesthesia care
- **143 million** additional surgeries are required each year to meet the global need
- Of the 313 million annual surgeries, **6%** occur in low- and middle-income countries (LMICs), where 1/3 of the population lives

Medical Equipment



- **80%** of medical devices in LMICs are donated or second-hand, typically provided without spare parts, user manuals and technical support
- At least **40%** of all medical equipment in LMICs is inoperable
- **85%** of African hospitals reported difficulty finding a local technician to service their equipment

Global Disease Burden



- **16.9 million** people die from surgically treatable conditions every year – more than HIV/AIDS, malaria and TB combined – and the vast majority live in LMICs
- **30%** of the global burden of disease is attributable to surgically treatable conditions, such as childbirth complications, road accidents, cancer and congenital defects

Infrastructure



- **65%** of hospitals in LMICs have unreliable electricity, and fuel for generators is often prohibitively expensive
- More than **50%** of hospitals in LMICs have unreliable access to medical oxygen, the majority of which have no access at all
- In most LMICs, there is **< 1** operating room per 100,000 people

Economic Impact



- Meeting the global need for surgical care would cost roughly **\$420 billion** between now and 2030, but the world will lose an estimated **\$12.3 trillion** in GDP if we fail to do so
- Approximately **33 million** people face catastrophic health expenditure due to the costs of surgery and anesthesia

Human Resources



- The world needs **2.2 million** more surgeons, anesthetists and obstetricians to meet the global need for surgery
- The majority of LMICs have less than **1 anesthetist per 100,000** population
- In sub-Saharan Africa, non-physician anesthesia providers deliver the majority of anesthesia, often alone and with limited training

Sources: Global Surgery 2030: Evidence and Solutions for Achieving Health, Welfare and Economic Development (*The Lancet*); Effectiveness of Medical Equipment Donations to Improve Health Systems: How Much Medical Equipment is Broken in the Developing World? (*Medical & Biological Engineering & Computing*); Medical Device Donations: Considerations for Solicitation and Provision (WHO); Limited Electricity Access in Health Facilities in Sub-Saharan Africa: A Systematic Review of Data on Electricity Access, Sources and Reliability (*Global Health: Science & Practice*); Anesthesia Capacity in 22 Low- and Middle-Income Countries (*Journal of Anesthesia & Clinical Research*); Clinical Engineering Effectiveness in Developing World Hospitals (Ottawa Institute for Electrical and Computer Engineering); Baseline Country Survey on Medical Devices (WHO); Access to Anesthesia: A Global Perspective (*The Journal of Global Health*)