Global Surgery 2030

evidence and solutions for achieving health, welfare, and economic development

Policy Brief:
MONITORING SURGERY AND ANAESTHESIA FOR IMPROVED HEALTH, WELFARE, AND DEVELOPMENT

This is a year of transition for global health, welfare, and development goals. In 2015, United Nation member states will adopt a set of Sustainable Development Goals (SDGs), and numerous international agencies including the World Bank, World Health Organization (WHO) and USAID will decide upon 100 core indicators for monitoring progress towards Universal Health Coverage (UHC).

The Lancet Commission on Global Surgery's compelling new report, *Global Surgery 2030: evidence and solutions for achieving health, welfare, and economic development*, demonstrates that realising these new goals will not be possible without including *universal access to safe, affordable surgical and anaesthesia care when needed* as a fundamental aim.

The pivotal role of surgery in improving health and welfare

Surgical conditions account for approximately 30% of the global burden of disease, and the need for surgical intervention spans 100% of disease sub-categories. Widespread provision of surgical care can greatly decrease death and disability. For example, surgery is responsible for approximately 65% of cancer cure and control, and increased access to caesarean delivery reduces neonatal mortality by up to 70%. The magnitude and ubiquity of surgical conditions makes tracking their prevalence and treatment within local, national, and international monitoring systems essential to fully capture the health and welfare of populations. Furthermore, because of its complexity, delivery of safe and timely surgery can signal the necessary components of a responsive health care system capable of treating a wide range of diseases.

28-32% of the global burden of disease can be attributed to surgically treatable conditions

Surgery as a powerful tool for poverty alleviation and economic development

Global Surgery 2030 highlights the grave economic consequences of untreated surgical conditions. Without urgent scale-up of surgical care, the projected GDP loss from five major categories of surgical conditions between 2015 and 2030 in low- and middle-income countries (LMICs) is $12.3 trillion. This will reduce annual GDP growth as much as 2%. Using a Value of a Statistical Life method (which captures the intrinsic value people put on improved health and longer lives that cannot be captured by GDP measures alone), the report finds that illness and death from surgical conditions resulted in $4.0 trillion in total welfare losses in LMICs in 2010.

Seeking surgical care can also pose significant financial risks to individuals. *Global Surgery 2030* found that 33 million cases of catastrophic expenditure occur annually from the direct medical costs of seeking surgical services, and an additional 48 million cases occur each year when non-medical costs, such as food and transportation expenses, are included. One quarter of all people who have a surgical procedure will face financial catastrophe as a result of seeking care.

Indicators to monitor access to safe, affordable surgical and anaesthesia care when needed

Using new research to demonstrate their feasibility, availability and importance, The Lancet Commission on Global Surgery developed six core surgical indicators, as well as accompanying targets that will be necessary to realize emerging global health, welfare and development goals, with an emphasis on those relating to UHC. These indicators are structured around preparedness for surgical care (access to surgery and workforce density), delivery of surgical care (surgical volume and perioperative mortality rate), and impact of surgical care (protection against impoverishing expenditure and catastrophic expenditure). These indicators are intended to be used in tandem, collected at a national level and reported at a global level (Table 1).

Indicator	Definition	Rationale	Data Sources	Responsible Entity	Comments	Target
Group 1: Preparedness for surgical and anaesthesia care						
Access to timely essential surgery	Proportion of the population that can access, within 2 hours, a facility that can do caesarean delivery, laparotomy and treatment of open fracture (the Bellwether procedures)	All people should have timely access to emergency surgical services. Bellwether procedure performance predicts accomplishment of many other essential surgical procedures; 2 hours is a threshold of death from complications	Facility records and population demographics	Ministry of Health	Informs policy and planning regarding location of services in relation to population density, transport systems and facility service delivery	**A minimum of 80% coverage of essential surgical and anaesthesia services per country by 2030**
Specialist surgical workforce density	Number of specialist surgical, anaesthetic and obstetric physicians who are working, per 100 000 population	The availability and accessibility of human resources for health is a crucial component of surgical and anaesthesia care delivery	Facility records, data from training and licensing bodies	Ministry of Health, Ministry of Education	Informs workforce, training and retention strategies	**100% of countries with at least 20 surgical, anaesthetic, and obstetric physicians per 100 000 population by 2030**
Group 2: Delivery of surgical and anaesthesia care						
Surgical volume	Procedures done in an operating theatre, per 100 000 population per year	The number of surgical procedures done per year is an indicator of met need	Facility records	Facility, Ministry of Health	Informs policy and planning regarding met and unmet need for surgical care	**80% of countries by 2020 and 100% of countries by 2030 tracking surgical volume; 5 000 procedures per 100 000 population by 2030**
Perioperative mortality rate (POMR)	All-cause death rate prior to discharge among patients who have undergone a procedure in an operating theatre, divided by the total number of procedures, presented as a percentage	Surgical and anaesthesia safety is an integral component of care delivery; perioperative morality encompasses deaths in the operating theatre and in the hospital after the procedure	Facility records and death registries	Facility, Ministry of Health	Informs policy and planning regarding surgical and anaesthesia safety, as well as surgical volume when number of procedures is the denominator	**80% of countries by 2020 and 100% of countries by 2030 tracking perioperative mortality; in 2020, assess global data and set national targets for 2030**
Group 3: Impact of surgical and anaesthesia care						
Protection against impoverishing expenditure*	Proportion of households protected against impoverishment from direct out-of-pocket payments for surgical and anaesthesia care	Billions of people each year are at risk of financial ruin from accessing surgical services; this is a surgery-specific version of a World Bank universal health coverage target	Household surveys, facility records	Ministry of Finance, World Bank, WHO, USAID	Informs policy about payment systems, insurance coverage, and balance of public and private services	**100% protection against impoverishment from out-of-pocket payments for surgical and anaesthesia care by 2030**
Protection against catastrophic expenditure†	Proportion of households protected against catastrophic expenditure from direct out-of-pocket payments for surgical and anaesthesia care	Billions of people each year are at risk of financial ruin from accessing surgical services; this is a surgery-specific version of a World Bank universal health coverage target	Household surveys, facility records	Ministry of Finance, World Bank, WHO, USAID	Informs policy about payment systems, insurance coverage, and balance of public and private services	**100% protection against catastrophic expenditure from out-of-pocket payments for surgical and anaesthesia care by 2030**

Table 1. *Access, workforce, volume, and perioperative mortality indicators should be reported annually. Financial protection indicators should be reported alongside the World Bank and WHO measures of financial risk protection for universal health coverage. These indicators provide the most information when used and interpreted together; no single indicator provides an adequate representation of surgical and anaesthesia care when analysed independently. USAID=US Agency for International Development. Equity stratifiers are listed in report's discussion. *Impoverishing expenditure is defined as being pushed into poverty or being pushed further into poverty by out-of-pocket payments. †Catastrophic expenditure is defined as direct out-of-pocket payments of greater than 40% of household income net of subsistence needs.*

Actions and opportunities— monitoring surgery and anaesthesia for improved health, welfare, and economic development

Include indicators of universal access to safe, affordable surgical and anaesthesia care when needed within national and international monitoring frameworks

Timely treatment of surgical procedures can boost economic development for countries, decrease poverty for families, augment health for individuals, and help realize new global health, welfare, and development goals. Surgical care is needed to reach the proposed health-focused SDG (ensure healthy lives and promote well-being for all at all ages by 2030), and the two World Bank targets for UHC (80% essential health services coverage and 100% financial protection from out-of-pocket payments for health services by 2030).

Global health and development agencies can monitor progress towards these new goals by including the Commission's indicators within their monitoring frameworks, including the World Bank's World Development Indicators and the new Global Reference List of 100 Core Health Indicators. The new post-2015 health and development goals, including the SDGs and those for UHC, should include indicators and targets for surgical care.

LMICs can help realize UHC by including surgery within UHC expansion pathways, using the Commission's indicators to monitor progress towards coverage of essential health services and financial protection from out-of-pocket payments for health care. Tracking these six surgical indicators can further help to signal the wider presence of comprehensive and resilient health systems necessary to combat numerous diseases and health events. *Private providers* working outside of the government to deliver surgical care (including non-governmental organisations), should also collect the six core indicators in order for countries to fully capture surgical care. Countries with more advanced monitoring systems can collect additional disaggregates to allow further sophistication in data analysis.

Incorporate surgical conditions and surgical care within population- and facility-based data collection methods

The burden of surgical conditions is large and growing, and surgical care is needed across all disease subcategories. *LMICs* can increase their knowledge of the health of their populations and health care services provided by including surgical conditions and surgical care within comprehensive population- and facility-based monitoring systems. All *international agencies* using comprehensive household surveys for health – including The World Bank, USAID and UNICEF - can support countries in collecting data about surgical conditions and surgical care by including uniform and validated questions for surgery within household surveys (eg LSMS, DHS, MICS). Facility-based surveys (eg WHO Hospital Assessment Tool) should similarly include consistent and validated questions for surgical care.

Expand accounting frameworks to capture funding flows to global surgery

Scaling up surgical care to meet population needs, alleviate poverty and boost economic productivity will require wide-scale investments, but there is currently no way to track financing for surgery. Monitoring funds for surgery can increase transparency, accountability, and efficiency of financial resource use for health services. LMICs can track funding flows for surgery by following expenditure by intervention or clinical service within their national health accounts. Similarly, Global Overseas Development Assistance or Development Assistance for Health databases (e.g. the OECD DAC and OECD CRS databases) can similarly expand their accounting frameworks to capture funding flows to surgery. The International System of Health Accounts should include and collect surgical data to allow standardised reporting and comparisons of expenditure on surgical care and its financing.

Global Surgery 2030: Evidence and Solutions for Achieving Health, Welfare, and Economic Development was written by The Lancet Commission on Global Surgery, an international multi-disciplinary group of 25 Commissioners, in consultation with collaborators in over 110 countries and all major regions of the world. The Commission is chaired by Dr. John Meara, Dr. Andy Leather, and Dr. Lars Hagander.