

How providing access to surgery drives global prosperity

July 6 2017, by David Ljungman, John G. Meara And Yihan Lin



Credit: Boston Children's Hospital

Earlier this year, three days after giving birth to her fourth child by cesarean section, [Salome Karwah](#) had sudden convulsions. When she was admitted to a hospital in Liberia, the staff panicked, as she was a famous

Ebola survivor. Karwah, a nurse assistant, died the next day, likely from a easily treatable complication from this surgery.

Her antibodies had helped her to care for countless Ebola patients during the outbreak three years ago, without having to use the common barrier protection, but a broken [health](#) care system may have killed this first responder, who made the list of [Ebola fighters](#) on Time magazine's Person of the Year in 2014.

Unfortunately, Karwah's story is not an anomaly. [The Lancet Commission on Global Surgery](#) estimates that five billion people – five out of every seven human beings – lack access to safe, affordable surgical and anesthesia care when they need it.

There are several reasons thousands of mothers, fathers, sons and daughters suffer and die from lack of access to surgical care every day. Many decision-makers incorrectly assume that surgery is too expensive and too complicated. Seeing health care as a zero-sum game, they presume that spending on surgery depletes money better spent on other priorities.

In fact, emergency and essential surgical care is inexpensive compared with many other common health care interventions. According to the Disease Control Priorities, Third Edition ([DCP-3](#)), the cost of basic surgical care is comparable to the cost for common vaccinations, when measuring improvement in longevity and quality of life resulting from the [intervention](#).

And, it is fair to say that the return on the investment often is substantial. For a young person with a femoral fracture who gets the appropriate treatment, the difference can be a lifetime in the productive workforce instead of lifelong disability.

Current global state of surgery

Global health initiatives have traditionally addressed infectious diseases or maternal and child health – all very important – but the global public health community is now starting to realize the crosscutting nature of surgical disease. We estimate that [one-third](#) of human disease requires surgical treatment.

The current worldwide surge of noncommunicable diseases, including cancer, increases this need – over [80 percent of cancers benefit from surgery](#) at some stage.

Worldwide, nearly [17 million people](#) die annually due to diseases that are treatable by surgery. In economic terms, the value of lost output caused by this death toll totals [1.25 percent of annual world GDP](#), or [US\\$12.3 trillion](#) in low- and middle-income countries by 2030. On the other hand, scaling up infrastructure, service delivery and workforce needs to avoid death and disability from surgery in these countries only costs a fraction of this – [\\$350 billion](#).

A generation of tremendous global health achievements

We live in a time when human health is improving more rapidly than ever. Infectious killers like malaria, tuberculosis and cholera are [decreasing steadily](#). Yet although much progress had been made, there is still a tremendous inequity. The 2014 [Ebola](#) crisis in West Africa and the 2010 [earthquake in Haiti](#) exposed tenuous [health care delivery](#) systems weakened from decades of neglect.

The same health systems are also usually unable to provide surgery. One reason for this is a century of vertical health interventions – that is, ones

that are targeted and disease-specific – by global aid agencies.

The United Nations, as part of its global [sustainable development goals](#), emphasizes [universal health coverage](#) to provide access to quality essential health care services. But to have truly resilient health systems that address these goals, we must eliminate approaches that target only specific conditions and transition to systemwide improvements that benefit a range of services across specialties and conditions, referred to in our field as horizontal system strengthening.

Scaling up health care systems to include surgery brings to bear all the foundational components that make a health care system function properly for other [health care services](#). This includes community health and primary care as well as referral systems, emergency medicine, critical care, radiology, pathology and blood banking.

As an example, a terrorist act victim relies on rapid ambulance transportation to an emergency ward, where, after proper resuscitation by intensivists, undergoes an emergency laparotomy to stop bleeding from abdominal vessels.

After surgery, a functioning intensive care unit is needed to stabilize the patient, who may be suffering from transient renal dysfunction due to earlier blood loss. This is followed by the need for organized rehabilitation and primary care follow-up – all vital parts of a working health care system that provides safe surgical access to its population and becomes resilient as a result.

Moving forward

So if surgery is affordable, saves lives and is an indispensable part of health care, how can we make it happen? It requires an active, coordinated effort from all levels of the [global health](#) community. A

specific set of actions will enable structural changes, and resource allocation of funds from the World Bank and aid agencies will help poor countries pay the bill when devoting a part of their national budget. By doing this, over time, much more money than what is spent will be saved – and more importantly – lives will not be lost:

- Ministries of Health must prioritize surgery as part of an integrated approach to health care delivery. Furthermore, they must start to collect nationwide data on surgical indicators – such as perioperative mortality rate and the proportion of their population who are able to access surgery in a timely manner. From here, they should develop national health policies that are specifically focused on surgical care – [national surgical, obstetric and anesthesia plans](#).
- The World Health Organization must follow through on the [World Health Assembly resolution 68.15](#), "Strengthening emergency and essential [surgical care](#) and anesthesia as a component of [universal health coverage](#)." This includes collection of surgical data, especially the [six core surgical indicators](#) outlined by the Lancet Commission on Global Surgery.
- Academic institutions and professional organizations can work with in-country collaborators to build long-term capacity to provide surgery and incorporate the private sector where appropriate.
- Foundations, industry and governments must recognize [surgery](#) for what it is – a true partner in [health care](#) education, research and delivery. Projects that promote integrating surgical, obstetric and anesthesia care into capacity building at a national and regional scale should be funded.

The president of the World Bank, Dr. Jim Kim, stated that "[surgery is an indivisible, indispensable part of health care](#)." A health system that can cure cancer, treat injuries and perform cesarean sections will not just

save lives. It will boost global prosperity, equity and security; it is both a moral imperative and in our common interest.

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