

Surgery as a public health intervention: common misconceptions versus the truth

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The world's attention has recently been focused on the escalation of violence in north and west Africa. Daily reports of deaths and injuries from the region have raised concerns. What is missing from the picture, however, is the fact that many of these countries lack surgical capacity to treat the injured, and this inability to provide surgical care is contributing to a significant rise in the death toll. A recent World Health Organization (WHO) study found that more than 90% of deaths from injuries occur in low- and middle-income countries.¹ This is not surprising, considering that the poorest third of the world's population receives only 3.5% of the surgical operations undertaken worldwide.² Many hospitals in these countries do not have a reliable supply of clean water, oxygen, electricity and anaesthetics, making it extremely challenging to perform even the most basic surgical operations.³

Despite such a surgical imbalance around the world, surgery is still "the neglected stepchild of global health".⁴ No global funding organization focuses specifically on the provision of surgical care, and none of the major donors are willing to support and acknowledge surgery as an imperative part of global public health. This is largely due to the following common misperceptions about surgery that are not grounded in truth.

First, many people think that surgical care can only address a very limited part of the global burden of diseases and thus is of low priority. In reality, injuries kill more than five million people worldwide each year, accounting for nearly one out of every ten deaths globally.⁵ Many of the victims are primary breadwinners in their households. According to a recent study, one third of injury-related mortalities affect those aged 15–44 years, the most economically productive segment of the population.⁶ Moreover, the role of surgical care extends beyond treatment of injuries. Surgery is one of the key elements of primary care, and includes managing traumatic joint dislocations, treating open fractures to prevent osteomyelitis and draining abscesses. It is also an essential intervention to limit maternal and child mortality.

In a recent report, WHO estimated that approximately 260 000 deaths worldwide were caused by congenital anomalies⁷ and 342 900 deaths were due to maternal mortality.⁸ A significant portion of these deaths could have been avoided by implementing simple, cost-effective surgical care.

Second, there is a common notion that surgical care is too expensive to be implemented as part of public health interventions. However, surgery can be remarkably cost-effective, even in comparison to non-surgical interventions that are commonly implemented as public health measures. The cost per DALY (disability-adjusted life year) of emergency obstetric care at a rural hospital in Bangladesh was \$ 10.93 United States dollars (US\$) per DALY averted.⁹ The same measurement for all surgical care services provided by a hospital in Sierra Leone was US\$ 32.78/DALY averted.¹⁰ This compares favourably to many other primary interventions such as vitamin A distribution (US\$ 9/DALY averted), acute lower respiratory infection detection and home treatment (US\$ 20/DALY averted) or measles immunization (US\$ 30/DALY averted).^{9,10}

Lastly, the focus of the global health community on the issue of surgical imbalance has been largely confined to providing short-term relief through medical missions. While these missions have played and continue to play an important role in providing immediate relief in crisis situations, they cannot substitute for a long-term investment in local health infrastructure and staff training that would allow low- and middle-income countries to develop their own long-term surgical capacity.

In short, surgery can and should be recognized as an important global health intervention. To achieve this goal, it is critical to improve the local surgical capacity in low- and middle-income countries. While the accomplishment of this goal will not be easy it is certainly possible, especially when we join forces with providers and policy-makers that set the direction of a public health movement that has seen a dramatic change and increase in its authority over the past decade.

As Paul Farmer, co-founder of international organization Partners in Health, recently noted, "global health need not be a competitive race for scarce resources...we can build a coherent movement that comes to include surgery."³ WHO should exercise its leadership in advancing the status of surgical care in global health, and should organize action plans to meet the unmet surgical burdens. ■

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