

# Realities of Anesthesia Care in Resource-limited Settings

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**T**HE important work of Doctors Without Borders (Médecins Sans Frontières [MSF]) in providing safe anesthesia and, in many low-income countries, providing education and training for local providers, cannot be overstated. "Providing anesthesia care in resource-limited settings: a six year analysis of anesthesia services provided at Médecins Sans Frontières facilities" provides valuable insight into the realities of anesthesia care in many low-income settings, including higher than expected perioperative mortality rates especially with general anesthesia with intubation.<sup>1</sup>

Countries designated as low income by the World Bank have had little or no access to surgical care for more than 25 yr. This unfortunate reality was the result of the burgeoning acquired immunodeficiency syndrome/human immunodeficiency virus epidemic and the fact that contagious disease demanded a majority of the healthcare resources in resource-constrained economies. This resulted in few physicians being trained in anesthesia (in many places, there is not even one anesthesiologist per 1 million people), many anesthesia providers delivering suboptimal care, and a shocking lack of resources such as essential medicines including oxygen, pulse oximeters, and other resuscitation equipment. It should not surprise the readership that the lack of essentials and little focus on patient safety resulted in high perioperative mortality rates, prominently in otherwise healthy patients, including expectant mothers and children.

Only now, in an era of global surgery, with a committed focus on surgery and safe anesthesia by the World Health Organization, World Bank, and others, there is an international commitment to improving anesthesia and surgery



***“Regardless of the complexities involved, if human immunodeficiency virus/acquired immunodeficiency syndrome can be addressed in [low- and middle-income countries] so can surgical care and safe anesthesia.”***

as part of Universal Health Coverage 2016 to 2030.<sup>2</sup> Organizations such as MSF have been leading such efforts long before this era began, and this 6-yr report is an important primer for all those interested in service, training, and education in low- and middle-income countries (LMICs). In the best interest of the many patients awaiting basic surgical care and safe anesthesia, much more needs to be done, as soon as possible.

It is estimated that at least 25% of the global burden of surgical disease could be averted, treated, or improved through the provision of emergency and essential surgical care.<sup>3</sup> Further, and even more shocking, are the estimates that 5 billion people worldwide, two third of the global population, lack access to surgical care.<sup>4</sup> Thanks to the efforts in 2015 from the World Bank, and the Lancet Commission on Global Surgery efforts are underway to address this crisis. Anesthesiology is one focus of these efforts, because anesthesia is central to perioperative and surgical care and is the rate-limiting

step to access and patient safety in LMICs. Goals set by the World Bank and *Lancet* include providing basic surgery and safe anesthesia at community hospitals, where patients can access care within 2 h by foot; increasing the number of surgical, anesthesia, and obstetric providers; and tracking perioperative mortality rates to benchmark improvement and provide quality measures. This may sound obvious and minimal to readers in high-income countries, but these basic and critical steps are what are needed now in countries where resources limit access to emergency C-sections, appendectomy, hernia repair, and 41 other cost-effective procedures.

Many in global health discounted the surgical agenda for decades, claiming that surgery was too expensive and

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“a luxury” in countries suffering from infectious disease. Experts in global health also suggested that surgical disease, which includes every organ system and crosses all age groups and equally impacts both sexes, was “too complicated” to address in resource-constrained environments. All of these historical arguments have been effectively refuted—surgery and safe anesthesia are cost-effective and will prevent disability and premature death,<sup>3</sup> saving families and governments’ billions of dollars if applied responsibly.<sup>4</sup> Regardless of the complexities involved, if human immunodeficiency virus/acquired immunodeficiency syndrome can be addressed in LMICs so can surgical care and safe anesthesia.

As an anesthesia community whose legacy is excellence and patient safety in high-income countries, it is time for us to invest further in increasing and supporting our colleagues and patients in LMICs. We can accomplish this by demanding appropriate and cost-effective technology become available in the short term, essential medicines as defined by the World Health Organization including oxygen and vasopressors be available in every operative area, and patient safety be emphasized as emergency and essential surgery scales up in countries deprived of this critical component of primary care for decades.<sup>5</sup> We can as individuals, departments, and organizations become involved in training and education in LMICs in ways that ensure providers will want to remain in their own country. Our societies and federation can support anesthesia providers in leadership roles and provide continuing medical education in regions where this is too scarce. Of course, in the short term, providing service in resource-limited areas through short-term surgical teams will continue to help patients in need. But as demonstrated by MSF, it is critical to provide this care responsibly and ethically.

It is my sincere hope that many anesthesiologists will read this report and be called to action and that this article will be only one of many published in high-quality, respected international journals whose voice will also contribute to the fate of our colleagues and patients in Africa, Asia, and beyond.

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