

## Surgical Innovation

# National Surgical, Obstetric, and Anesthesia Planning in the Context of Global Surgery

## The Way Forward

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### What Is the Innovation?

The human and economic losses from a lack of safe surgery and anesthesia care are too large to ignore. More than 70% of the world's population lacks access to surgical, obstetric, and anesthesia care, and 50% risk financial catastrophe from surgery.<sup>1</sup> By adopting World Health Assembly Resolution 68.15 in 2015, adequate access to safe and affordable emergency surgery and anesthesia has been prioritized for all people worldwide by 2030 as a part of universal health coverage.<sup>2</sup> Surgery is a complex intervention, requiring a functioning health system, which in turn requires strategic planning. However, most national health plans have no significant mention of surgical care.<sup>3</sup> Development of a national strategy to improve surgical care by simultaneously strengthening appropriate infrastructure, a well-trained and well-distributed workforce, efficient service delivery, integrated information management, quality assurance, and adequate financing and governance in low- and middle-income countries is an innovative approach to improve surgical care. Driven by the national government and supporting a wider health strategic plan, a national surgical, obstetric, and anesthesia plan (NSOAP) identifies the current gaps in health care, prioritizes solutions, and provides an implementation framework (specific time-bound, annually prioritized, costed activities to reach each goal), a monitoring and evaluation plan, and projected cost. The NSOAP establishes a unified vision for strengthening of surgical systems and the coordination of efforts required to achieve this.

### What Are the Key Advantages Over Existing Approaches?

Previous models to address the gap in surgical care through vertical, siloed, condition-specific initiatives have had limited sustained effects. The NSOAP aims to bring improvement across the surgical health system by addressing the 6 World Health Organization (WHO) building blocks of health care system strengthening specific to the surgery context.<sup>4</sup> In addition, the NSOAP's inclusion into the health plan elevates surgery to a recognized entity in the broader health system for consideration in all future health planning decisions, making it more sustainable than existing initiatives. Up to this point, little incentive existed to improve surgical care at the facility level. The NSOAP balances a top-down government strategy with empowerment of facility staff to organize, improve, and report, thus shifting governmental and facility incentives. An additional benefit of the NSOAP is its multiple-stakeholder approach, beginning with local priority setting by frontline health care providers, which include governments, civil societies, the private sector, industry, and other relevant stakeholders. By being driven internally, this approach ensures context-appropriate solutions and promotes ongoing advocacy, visibility, and accountability for governance. By recognizing the eco-

nomical losses secondary to surgical conditions and the necessity of addressing surgical care to achieve the sustainable development goals, the NSOAP also provides a business case for coordinated effective domestic and international investment into health systems moving away from fragmented and duplicative efforts. Within the NSOAP, internationally reportable indicators will further allow monitoring of progress on achieving World Health Assembly Resolution 68.15 every 3 years until 2030.

### How Will This Affect Clinical Care?

The NSOAPs aim to bring resources, organization, prioritization, and accountability to the improvement of surgical care. Implementation of the NSOAP should improve access to surgical care through strategic distribution of facilities and placement of surgeons, obstetricians, and anesthesiologists. The NSOAPs help to define standards for essential equipment and supplies needed to perform surgery and allow for advocacy pertaining to quality of these supplies and supply chain management. They promote national data collection practices on surgical indicators to influence future priority setting and monitoring of quality improvement. Finally, the NSOAPs seek to understand the financial burden of surgery on patients and how to mitigate this, while also assessing funding sources to support strengthening of surgical systems. Addressing this global surgical burden at a national level could prevent at least 77.2 million disability-adjusted life-years annually and prevent the \$12.3 trillion economic losses attributed to untreated surgical conditions.<sup>1</sup>

### Does Evidence Support the Benefits of the Innovation?

Formalization of strategic health system plans to guide implementation have long been supported in the literature.<sup>5</sup> Ethiopia is one of the first countries to complete an NSOAP in 2015. As a result, Ethiopia has been able to recruit and coordinate governmental resources and local and international implementing partners to implement the plan for improved surgical care. To date, these coordinated efforts include more than 80 renovated operating rooms, new oxygen plants, essential surgical procedure lists, improved supply chain management, continued medical education to upskill the current surgical workforce, expanded specialist residency training, training of biomedical engineers, surgical quality improvement programs, and surgical innovation grants to facilities, to name but a few.<sup>6</sup> Ethiopia was able to successfully mobilize external funding (GE Foundation) in addition to domestic funds to support these initiatives, exemplifying the way NSOAPs create an investment platform. Ethiopia will begin systematically and prospectively collecting key performance indicators (Lancet Commission on Global Surgery indicators, use of the WHO checklist, etc) to monitor the effect of the plan. In Zam-

bia, domestic funds have been used in NSOAP implementation, thereby doubling the number of incoming students for surgery and obstetrics, adding training centers for theater nurses and nurse anesthetists, and redistributing specialist training to all 8 regions to improve rural retention. Despite this encouraging progress during the past year, a significant amount of work on refining the funding and execution of these initiatives remains.

### What Are the Barriers to Implementing This Innovation More Broadly?

Development of NSOAPs require the political will and skills to complete and implement them. To facilitate this, the WHO is committed to ongoing technical support of NSOAPs. The WHO, in partnership with the Program in Global Surgery and Social Change from Harvard Medical School, Boston, Massachusetts, is holding regional technical workshops for ministry of health officials on NSOAP drafting and implementation and has created multiple tools to further simplify the task. After drafting, financing the activities contained within the plan is the single greatest challenge. The NSOAPs will require a well-established funding mechanism to translate into large-scale expansion of surgical systems while decreasing the out-of-pocket payments for patients. The financial solution will be multifactorial, including domestic governmental resource mobilization and contributions from traditional funding agencies, but also recruitment of new investors, such as the surgical industry, who see the significant potential for shared value in surgical expansion. Agen-

cies to coordinate, leverage, and pool this funding, such as the Global Financing Facility (currently engaged in discussions) will be needed. Finally, as for any initiative, ministries of health face multiple competing priorities for their scarce resources, and government turnover can hinder NSOAP progress. However, as high-quality research in global surgery continues to grow exponentially, it is increasingly apparent that surgical, anesthesia, and obstetric care are not competing priorities. Instead, improvement in surgical, anesthesia, and obstetric care is in fact an essential solution on the pathway to achieve the existing Ministry of Health priorities such as the sustainable development goals, maternal mortality targets, and other economic development objectives.

### In What Time Frame Will This Innovation Likely Be Applied Routinely?

With a directive from the World Health Assembly to expand coverage of surgical care by 350% by 2030, this innovation needs to occur now. A wave of NSOAP development across Sub-Saharan Africa is ongoing, with 4 plans completed in just 2 years, 10 plans under way, and 23 additional countries expressing commitment to developing NSOAPs. The umbrella organization of the Global Initiative for Emergency and Essential Surgical Care is committed to prioritize worldwide scaling up of the NSOAP strategy and to advocate for strong regional leadership organizations such as the African Union and Southern African Development Community to play their part.

#### ARTICLE INFORMATION

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**Submissions:** Authors should contact Justin B. Dimick, MD, MPH, at [jdimick@med.umich.edu](mailto:jdimick@med.umich.edu) if they wish to submit Surgical Innovation papers.

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