

THE GLOBAL SURGICAL WORKFORCE

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A surgeon, anaesthetist and obstetrician (SAO) at the district hospital are considered essential staff. In many LMICs the SAO density is less than 5 per 100 000 population. As the SAO number increases, there is a dramatic improvement in key indicators, such as the maternal mortality ratio. However, the benefits plateau beyond 20 SAOs per 100 000 population. By 2030, all LMICs are committed to scaling up their surgical workforce to at least 20 SAO providers per 100 000 population. For all countries to reach this benchmark 1.27 million providers will need to be trained by 2030. Where there is a workforce shortage with a high surgical burden of disease, 'task-shifting' tasks are moved to less is common, whereby appropriate specialised health workers. For example, essential life-saving anaesthesia is a short course for medical graduates to address the specialist anaesthetist shortage in rural areas. In countries where there are still too few medical graduates, task-shifting in both anaesthesia and surgery involves appropriately trained non-medically qualified clinicians or midwives. Ironically, the countries in the world where the fewest children are born have the greatest number of paediatric surgeons. There is much redundancy in human resources and low volumes of surgery in many HICs. In countries with a large burden of surgical disease and large populations, often a single surgeon caters to the surgical needs of many millions of people. However, these global surgical champions have high burnout rates. Healthcare workers, including doctors and nurses, in LMIC settings are often mobile and may choose to migrate overseas, either staying in healthcare or taking up alternative professions (commonly referred to as the 'brain drain'). Twelve per cent of SAOs in HICs have graduated from LMICs and two-thirds of these graduates are from countries with fewer than 20 SAOs per 100 000 population. More surgeons and anaesthetists are needed in LMICs, but the trend cannot be mitigated by simply training more, as the migration rates and the in-country maldistribution of surgeons remain. The answer is starting global surgery units in teaching universities, e-grand rounds, remote specialist support, e-intensive care units, low-cost robotics, online learning platforms, supportive supervision, recognition, peer support and collegiality for upskilling these champions. A surgical system goes beyond a surgeon and a sterile operating theatre. Clearly, it requires a contribution from many other people to make the surgical ecosystem work, both before and after the patient's visit to the operating theatre. Global surgery includes healthcare workers beyond anaesthetists, obstetricians and all surgical specialities. It encourages a multidisciplinary team approach to the profession and acknowledges the important role of physicians, nurses, public health practitioners, health managers, surgical, laboratory, supply-chain specialists, biomedical engineers, radiology and blood bank technicians. The role of community health workers in reducing delays and facilitating the referral pathway is vital in LMICs. Engaged and caring hospital managers are critical.

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