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Global Surgery 2030: 'Myth or Reality?'

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Global Surgery 2030

'*Development of safe, essential, life-saving surgical and anaesthesia care in low-income and middle-income countries (LMICs) has stagnated or regressed*' the Lancet Commission on Global Surgery report April, 2015 [1]. This statement paints a grim picture on the road-map towards achieving Universal Health Coverage (UHC) of surgical care in LMICs.

In January 2014, Dr. Jim Yong Kim (President of the World Bank) described surgery as an '*indivisible and indispensable part of health care*'[##]. This contrasted the general perception of surgery as a primarily curative, individualised and relatively higher-cost and higher-technology form of health care in comparison to primary health care (PHC). Traditionally, public health especially in LMICs tended to focus on predominantly preventive, community-based, relatively lower-cost and lower-technology primary health care measures ranging from general hygiene and sanitation such as hand-washing on the one hand to vaccination and isolation/quarantine of high risk cases on the other hand [2].

Sustainable Development Goals (SDGs)

While remarkable progress has been made in global health in the last quarter-of-a-century, it has not been uniform with both morbidity and mortality from common conditions needing surgery increasing in the world's poorest regions[1].In September 2015, countries under the United Nations (UN) adopted a set of seventeen goals (the SDGs) as part of a new sustainable development agenda[&&]. The third SDG specifically addresses health and well-being, recognising persistent and emerging threats in global health. Prior to this, in December 2005, the World Health Organisation (WHO) convened the Global Initiative on Emergency and Essential Surgical Care (GIEESC) aimed at reducing the global burden of death and disability from conditions that could be treated through surgery focussing mainly at the primary referral levels (districts) in LMICs.So far, six GIEESC meetings have been convened with the last one held in 2015 at Geneva, Switzerland focussing on implementation of the World Health Assembly (WHA) resolution 68.15 '*Strengthening Emergency and Essential Surgical Care as a Component of Universal Health Coverage*'[$$].

Global health challenges have been broadly classified into three major domains: Firstly, is an *unfinished agenda*, focussing mainly on high rates of avertable infectious disease, as well as maternal and child health; secondly, is an *emerging agenda*, focussing on demographic change and the shift in global burden of diseases (GBD) towards non-communicable diseases (NCDs) and injuries; thirdly, is a *cost agenda*, focussing on the high cost of health care, health insurance and impoverishing medical expenses [3]. All these agenda remain relevant for delivery of surgical and anaesthetic health care services which are indeed a pre-requisite for the full attainment of both local and global health goals in diverse areas including cancer, injury, infection, cardiovascular disease, neonatal and child health, maternal and reproductive health *et cetera* [1].

Technology

The Lancet Commission on Global Surgery has set a minimum target of 80% coverage of essential surgical and anaesthesia services per country by 2030 as a measure of progress towards timely access to surgery[1]. Current statistics estimate 5 out of the total 7.6 billion global population (representing 66% of the world population) lack access to safe, affordable surgical and anaesthesia care when needed. The cost agenda becomes even more glaring as this disproportionately affects those in the poorest wealth quintiles within countries of all income groupings[@@]and further majority of the affected global population resides in LMICs. With regard to catastrophic expenditure on health care, the Lancet Commission on Global Surgery targets a 100% protection against catastrophic

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expenditure from out-of-pocket payments for surgical and anaesthesia care by 2030 [1]. In the United States of America (USA), enactment of the Affordable Care Act (ACA) in 2010 provided an opportunity to address challenges related to access, affordability and quality of health care since the creation of Medicare and Medicaid in 1965 [4]. In sub-Saharan Africa (sSA), implementation of surgical task-shifting to address un-met need is still a subject of continual debate [5].

While the formulation of policies and laws tends to follow linear and deliberate efforts, technological advances have been exponential. Notably, the prestigious Nobel Prize in Medicine and Physiology has been awarded to nine surgeons for their ground-breaking innovations [6,7]. However, the introduction of robotic surgery, minimally invasive surgical technologies, tele-surgery, tele-mentoring and incorporation of other forms of artificial intelligence into the operating theatres will have a disproportionately large influence on surgical practice in the future. Surgical robots in current use are controlled either directly or remotely by the operating surgeon [8].

Conclusion

Technological advances continue to influence surgical practice globally and just as the auto-pilot in aviation enhances but does not entirely replace the pilots' role in flying aircraft, the use of technology and artificial intelligence in surgery will enhance efficiency but not entirely replace the role of the surgeon. To reach the target coverage of 80% of the 5 billion world population currently lacking timely access to surgical and anaesthetic care in the next thirteen years, Global Surgery 2030 initiative will have to optimise deployment of technology in training curricula and surgical operations in LMICs.

Footnotes

[##]Kim, JY. Opening address to the inaugural "The Lancet Commission on Global Surgery" meeting. The World Bank. Jan 17, 2014. Boston, MA, USA.

[&&]United Nations Sustainable Development Goals (SDGs). 2017.

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