

Implementing robotic surgery in South African training institutions: fiddling while Rome burns

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The Editor of the SAJS invited a commentary on the article “Embracing the future: the necessity of implementing robotic surgery in South African training institutions” by Forgan and Lazarus, in which they defend the decision of the Provincial Government of the Western Cape to purchase da Vinci Robots for both Tygerberg and Groote Schuur Hospitals.¹

The *Lancet Commission on Global Surgery* recognised that novel technologies are key enablers to realise the goal of scaling up and strengthening surgical care worldwide.² Yet, introducing novel, complex, and expensive technology in lower-resourced settings, such as South Africa, requires a carefully considered and detailed evaluation of its potential to improve health outcomes and quality of life, or to offer solutions to unmet medical technology needs.³ In lower-resourced settings, the focus should be on frugal innovation, i.e., doing better with less.⁴ Despite the wide adoption of robot-assisted surgery, the economic efficiency and affordability of robotic surgery in diverse clinical areas have not yet been well documented.⁵

The authors justify the introduction of robotic prostatectomy because it has become the standard of care in North America. Yet they acknowledge the lack of long-term urological or sexual health benefits of robotic vs open radical prostatectomy. They also do not present local data on reported marginal benefits such as reduced hospital stays and fewer post-surgical complications, which could differ from those reported in high-income countries given our different socioeconomic circumstances and patient and disease profiles. They also make no reference to the cost- or time-efficiency of robotic surgery (including setup time) compared to non-robotic surgery, given the large unmet burden of surgical disease in South Africa.

The Provincial Government of the Western Cape spent R76 million on the two robots for Tygerberg and Groote Schuur Hospitals; this excludes additional costs for upgrading the operating rooms. The authors acknowledge the high running costs of robotic surgery (~R65 000 per procedure in 2018). The general operating room complex budget currently covers this expense, thus hollowing out other surgical disciplines’ budgets. Despite the high costs associated with robotic surgery, it was introduced during

a very challenging economic time in South Africa that has necessitated significant budget cuts at Groote Schuur and Tygerberg Hospitals, with reductions of critical staff and calls by management to cut operating room expenses which may potentially impact the care of surgical patients.

The authors quote the distributive justice principle echoed in the UK’s NICE guidelines “to meet population needs by identifying care that is high quality, good value, and provides the best outcomes for people using social care services within the budget available.” However, the key words in this quote are “within the budget available”. South Africa is a middle-income country in a financial crisis with unequal access to even basic care, both in the Western Cape Province and nationally, and is an African country where < 5% of patients have timely access to safe, affordable surgery.⁶

However, the controversy around the appropriateness of high-cost robotic surgery in South African public hospitals should open the door to important and broader debates that must be considered by political leaders, academics, and medical administrators in South Africa, and that occupy the minds of those with global perspectives of healthcare challenges.

We must ask how our academic hospitals can best contribute to healthcare challenges locally, nationally, in Africa, and globally. We need to ask, given our African location and our resource limitations, whether we should aim to be outstanding middle-income country hospitals, or whether we should (try to) emulate high-cost care in high-income countries. We need to question, given our resource constraints, how we prioritise services not only within specialist disciplines but also across disciplines (the purchase price of one robot is equivalent to approximately 10 000 cataract surgeries); how we ethically ration care; and what services we do and do not provide. We need to determine what core services teaching hospitals must preserve to ensure that registrars are equipped with the required clinical skill sets to be fit-for-purpose for South African public hospital medical practice, as will be outlined in the work-based assessment model currently being developed by the South African Committee of Medical Deans. We need to question how we protect the right of access for patients to elective care and how we secure training of specialists in

elective procedures in the face of budgetary constraints and overwhelming burdens of trauma, cancer, and acute care. And we need to debate how we balance the rights of the individual to access high-cost care vs protecting the rights of the broader population simply to access quality care; this will become an increasing challenge with the introduction of novel and costly diagnostic and therapeutic modalities in high-income countries.

The gold standard of care is not cutting-edge care as defined in high-income countries, but it is delivering optimal, cost-effective, time-efficient, and affordable care with the available resources. While the da Vinci Robot, no doubt, represents excellent technology, robotic surgery is currently inappropriate technology for public hospitals in South Africa given its high purchase price and running costs, the financial crisis in our country, and because it does not contribute to addressing our significant unmet and competing medical and surgical needs.

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