Cutting the queue: the need for evidence-driven surgery

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It is a tricky time for surgeons. Restrictions on elective surgery during the coronavirus disease 2019 (COVID-19) pandemic led to major backlogs on waiting lists. In Australia, 17% fewer people were admitted to public hospital for surgery during 2021–22 than in the preceding year, the result being that 9.6% of people on waiting lists had waited more than a year for treatment, compared with 2.1% in 2018–19.[1] In the United Kingdom, a record 6.4 million people were waiting for surgery in 2023.[2] Meeting the demand for surgery is a major global challenge.

But is this perhaps also an opportunity to revisit the role, benefit, and expectations of surgery? Prioritisation in health care is not new. In 1989, solid organ transplantation in Oregon (for the few) was rationalised in favour of increasing Medicare coverage (for thousands) after gauging public perceptions of value-based health care, disability, and cost utility.[3] While criticisms of the Oregon plan were plentiful, alternative solutions were conspicuously absent. Three decades later, we are armed with detailed information about treatment efficacy based on clinical trials, patient-centred endpoints, disability, and costs; the question is whether we can use this information to harmonise the expectations of all concerned regarding value-based health care.

Pivotal clinical trials have found that some operations may be no more beneficial than sham surgery or non-surgical alternatives, including lumbar fusion surgery and meniscectomy for degenerative disease,[4,5] arthroscopy for knee osteoarthritis,[6] and spinal cord stimulation for low back pain.[7] This problem is not limited to open surgery; some interventions in cardiac and peripheral vascular systems may not be beneficial for people with stable cardiovascular disease.[8,9]

The relentless quest for technological progress and rapid clinical adoption, often driven by commercial interests, has had the concomitant effect of increasing the price of surgery. Robotic surgery has become an aspiration for surgeons, hospitals, and patients for everything from simple hernia operations to complex pelvic surgery.[10] However, this enthusiasm bias is overshadowed by the lack of evidence for significant benefit.[11] Large randomised controlled trials have not found that robotic surgery improves survival, and only moderately better short term peri-operative outcomes come at the expense of considerably increased costs.[12]

How can we balance technological advances and demands with the appropriate direction of our valuable, limited resources? System-wide changes can help, such as the *Getting It Right First Time* initiative that has standardised common procedures and reduced patient stay, costs, and litigation in the United Kingdom.[13] The IDEAL (Idea, Development, Exploration, Assessment and Long-term) surgery guidelines provide a framework for data collection and assessments.[14] A good example is the use of surgical registries for research, exemplified by the Longitudinal Assessment of Bariatric Surgery study. This study, which reported seven-year post-operative outcomes, found that surgery could improve diabetes parameters, dyslipidaemia, and quality of life.[15] Similarly, the Australian and New Zealand Emergency Laparotomy Audit Quality Improvement (ANZELA QI) registry has facilitated shared decision making, with greater recognition and more conservative management of people for whom surgery would be futile.[16]

We also need to consider the patient's perspective. Desire for a cure is a clear objective, but, for example, 10–34% of people are disappointed with long term pain outcomes after total knee replacement,[17] and 15% develop persistent moderate to severe chronic pain.[18] Although most people do benefit from surgery, more individualised approaches are needed to ensure the best outcomes for everyone.

"Sacrilege!", we hear the surgeons scream. But if we are to manage the ever increasing demand for surgery and also restrain health care costs, both clinicians and patients must be confident that their wait and the operation is worthwhile. The expectations of patients must be aligned with surgical realities. As the population ages, and the number of people with multiple health problems increases, paradigms based on younger patients may not always be appropriate. Our traditional dogma of judging success on the basis of 30-day outcomes may be less meaningful for older people than clinical frailty and function at 90 days. Can we regard an operation a success if the patient cannot afterwards return home and live independently?

This raises the question of how to measure success. Patient satisfaction and quality of life assessments can be difficult, but transcend easily collated quantifiable data. Systematically measuring frailty and other risk scores when selecting people for surgery, as well as encouraging surgeons, hospitals, and health services to collect appropriate outcomes data, must be priorities. Formal mortality and morbidity meetings should be required, and governance should take longer term patient outcome measures into account. Only robust follow-up will enable us to accurately determine whether an operation is worthwhile in the longer term.

To reduce the number of people waiting for surgery, we will need to address the thorny question of prioritisation. This will require developing and using standardised comprehensive recovery measures spanning the continuum of care, from the hospital to home and longer term, to enable a more person-centred, outcomes-focused approach. We also need to improve health literacy in the community, empowering people to ask questions of their surgical team: not just "will I survive?", but also "what will my survival look like?" Ultimately, the quest for surgical success begins with understanding what people need throughout their health care journey.

We need to investigate more than which interventions may be better. We also need research in implementation science to use

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everything in the surgical armamentarium to identify how we can improve our patients' lives. This will involve educating patients and their caregivers in primary and secondary care, and providing policy makers with appropriate information on which to base decisions regarding person-centred planning of elective surgical care.

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