Impact Surgery

EDITORIAL

Reducing low value elective procedures

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Introduction

High value procedures have proven patient benefit and cost-effectiveness. However, up to 30% of medical care at best delivers no benefit, and at worst exposes patients to considerable harm[1], potentially leaving them worse off than they were pre-treatment[2]. Low value procedures come with significant opportunity cost for health systems which are unable to spend funds on more effective treatments. Self-paying patients who incur catastrophic costs relating to their procedure may face poverty following a procedure that does not benefit them. In the United States, at least $100 billion is spent on unnecessary surgical services each year, including on cardiac stents, back surgery, and knee operations[3].

Identification of low-value surgical procedures must be context specific, avoiding arbitrary binary classification of low versus high value. An example of high value surgery is the early repair of a symptomatic inguinal hernia that not only improves patient quality of life, but also avoids the development of hernia complications that increase the likelihood of requiring expensive, high-risk emergency surgery[4]. In contrast, an example of low value surgery is repair of asymptomatic hernia because this is unlikely to result in patient benefit but does exposes patients to the risk of postoperative complications such as chronic pain.

Surveillance colonoscopy after colorectal cancer resection is high value when performed at evidence-based intervals because this increases the likelihood of identifying cancer recurrence early. However, if surveillance colonoscopy is performed at excessive frequency (e.g. 6-monthly) it becomes low value as the benefit of additional procedures is outweighed by the increased complication risk, waiting list burden, and cost[5]. The spectrum of 'surgical value' is also modulated by patient factors. For example, in patients with severe comorbidities, anaesthetic risk may outweigh any potential benefit of surgery, making an otherwise high value procedure low-value in context. There are examples across all surgical specialties of procedures that can sit at both the low and high value ends of the surgical value spectrum (Table 1)[6].

Identifying and eliminating low value surgical procedures is a global priority but remains challenging. There are powerful barriers to de-implementation of low value care, including financial and organisational factors, particularly in health systems where providers are paid per procedure[7].

A holistic whole-system approach is needed across multiple levels to reduce low value procedures:

1. Evidence-based clinical guidance, that can be implemented by frontline primary and secondary care teams.
2. Tariff systems that support implementation of

guidance and promote efficiency. For example, setting a higher tariff for simple procedures completed as day-cases rather than as overnight admissions). Such tariff systems can be implemented by both government commissioners and private insurers and payors.

3. Value-based surgical networks of surgeons committed to implementing evidence-based guidance and ensuring they deliver high value care.
4. Routine audit and peer review of services to ensure compliance with guidance and identify and reduce low value procedures.

Change will require complex interventions that address knowledge, behaviours, financial systems, and organisational management, but it is possible[8]. To support accelerated change, research is needed to address two key areas. Firstly, strategies are needed to accurately stratify patients by their likelihood of benefiting. For example, identification of those patients least likely to develop complicated gallstone disease could reduce low-value cholecystectomies. Secondly, research around behavioural change and complex intervention development is needed to deliver widescale change.

Many health systems have significant post-COVID elective care backlogs. Elective waiting lists should be reviewed to identify patients unlikely to benefit from elective procedures to prioritise those patients most likely to benefit. A sustained focus on reducing low value procedures would reduce health costs and drive value-based healthcare globally.

Conflict of interest

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Table 1: Examples of markers of potential low and high value procedures

Procedure	Low value	High value
Inguinal hernia repair	Completely asymptomatic inguinal hernia	Inguinal hernia with progressively worsening symptoms
Cataract surgery	Procedure having low impact on visual acuity	Procedure having high impact on visual acuity
Cholecystectomy	Asymptomatic gallstones (e.g. incidental findings)	Repeated episodes of severe gallstone-related pain
Varicose vein surgery	Varicose veins causing cosmetic issues only	Varicose veins causing bleeding, skin changes, or severe pain
Anal skin tags	Skin tags causing cosmetic issue only	Skin tags causing infection, hygiene problems, or pain
Surveillance colonoscopy	High frequency (6-12 monthly) surveillance colonoscopy for all patients	Stratified, interval colonoscopy follow-up in keeping with national guidance
Hip replacement	Patients with hip x-ray changes but only low grade symptoms	Patients with hip x-ray changes and high grade symptoms

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