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REVIEW

Addressing inequalities in the perioperative care for older adults

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Abstract

Older adults constitute a large proportion of patients undergoing surgery and present with complexity, predisposing them to adverse postoperative outcomes. Inequalities exist in the provision of surgical care across the United Kingdom evidenced by increased waiting times in areas of social deprivation, a disparity in the provision of surgical care across geographic locations as well as a variation in the medical management of comorbidities in surgical patients. Addressing inequalities in the delivery of perioperative care for older adults necessitates a multi-faceted approach. It requires implementation of an evidence-based approach to optimisation of older surgical adults using Comprehensive Geriatric Assessment and optimisation methodology at scale, development of an age-attuned, flexible, transdisciplinary workforce, a restructuring of funding to commission services addressing the needs of the older surgical population and a change in culture and professional and public understanding of the needs of the older surgical patient.

Key words: Comprehensive geriatric assessment; Delirium; Frailty; Geriatric medicine; Health inequalities; Perioperative care; Transdisciplinary team; Waitlist

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Introduction

As of October 2023, the number of people on National Health Service (NHS) waiting lists for hospital treatment has reached over 7.7 million (NHS England, 2023). Of these, over 800,000 patients are waiting orthopaedic procedures, for example knee and hip replacements and nearly 500,000 patients are waiting general surgical procedures, for example hernia repairs and elective cholecystectomies (NHS England, 2023). While national targets are set at treatment for over 92% of patients within 18 weeks from referral, at present 59% of patients have not been treated within this timeline. Delays to treatment can impact a patient's physical and emotional wellbeing. Extended waiting time may result in progression of underlying disease necessitating more complex surgery than originally planned, decompensation of comorbidities, deterioration in functional status and progression of frailty, conferring a greater perioperative risk. These factors are of particular concern with an ageing surgical population where older people contribute disproportionally to surgical workload and these rates are only rising (15% of the total population aged >75% had surgery in 1999; compared to 23% in 2015) (Fowler et al, 2019). More than half (55.3%) of all patients undergoing emergency laparotomies in 2021 were aged over 65 years (NELA, 2023). This is not surprising considering that the majority of conditions requiring elective or emergency surgical intervention (degenerative disease, cancer and/or vascular conditions) increase in incidence with age. The older population are more likely to have age related physiological decline, be living with multimorbidity (Fowler et al, 2023), frailty (Fogg et al, 2022) and often requiring support with activities of daily living (ADLs). These same factors are independent predictors of adverse postoperative outcomes; inpatient complications including hospital acquired deconditioning or delirium, higher rates of 30 and 90-day mortality, longer length of hospital stay and associated healthcare cost. These adverse outcomes generate additional health and social care workload with implications on flow through community and secondary care and can contribute to prolonging waiting lists.

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Surgical care and inequalities

A report by The Kings Fund (Tackling the elective backlog- exploring the relationship between deprivation and waiting times) has shown that waiting lists are growing disproportionately in the most deprived areas of the UK, with waiting list times in areas of economic deprivation increasing by 55% compared to 36% in less deprived areas (The Kings Fund, 2021). In fact, patients living in the most deprived areas were twice as likely to wait over 12 months for treatment compared to those in the least deprived areas of the country. This is of particular concern given older people comprise a significant proportion of those living in areas of socioeconomic deprivation, particularly in rural and coastal areas (ONS, 2018).

The Getting It Right First Time report (GIRFT, 2021) outlined geographical variation in provision of surgical care between NHS trusts. Specifically, variation exists in the provision of day case surgery (36% to 77%), implementation of enhanced recovery pathways as well as the medical management of comorbidities including anaemia and diabetes (GIRFT, 2020; CPOC, 2021) which impact on perioperative morbidity and mortality.

Geographical location also impacts the stage of disease at presentation to healthcare services. People living in the most deprived areas of London have the lowest uptake of breast and bowel cancer screening (Institute of Health Equity, 2022). Emergency and non-elective spending per capita is higher for people aged 65–84 in the most deprived areas in London compared to the least deprived (£97 vs £58; £787 vs £457) (Institute of Health Equity, 2022). This suggests an association between socioeconomic deprivation and uptake of preventive healthcare, with a resultant impact on emergency departments. Certainly, it is now clear that the wider determinants of health have a greater impact on health status than access to healthcare services (Braveman and Gottlieb, 2014). People living in the most deprived areas have higher rates of multimorbidity (Knies and Kumari, 2022), increased rates of polypharmacy (Iqbal et al, 2023) and frailty (Baranyi et al, 2022) compared to those living in the least deprived areas. They are more likely to have poorer levels of health and digital literacy with higher rates of digital poverty. Unsurprisingly, those living in the most deprived areas have a lower life expectancy with a 2.1-year reduction in life expectancy for adults aged 40–85 years; a discrepancy which is increasing (Marmot, 2020).

Addressing inequalities

Age attuned perioperative care services

Older patients who are waiting for or undergoing surgery require a different approach to the traditional surgical model of care, by virtue of their often complex pathophysiological and social needs. They require a systematic approach to screening for conditions that may increase perioperative risk, assessment and diagnosis, followed by an individually tailored plan to ensure the patient is as fit as possible and as informed as possible for a surgical procedure.

To facilitate this, clinicians employ a Comprehensive Geriatric Assessment (CGA) and optimisation. A CGA is a multidomain, multidisciplinary assessment that allows evaluation across medical, functional, cognitive and psychosocial domains prompting development of an individualised, evidence-based management plan. This approach has been used by Perioperative medicine for Older People undergoing Surgery (POPS) services with clinical (Partridge et al, 2017) and cost-effectiveness (Partridge et al, 2021) across elective and emergency and surgical subspecialty settings (Stewart et al, 2023). While the majority of patients being assessed in POPS services proceed to surgery, up to 15% of patients choose not to proceed following shared decision making (SDM). This process considers information gathered through the CGA to inform discussion regarding realistic choice, with a holistic view of benefits, risks and alternatives to surgery (Shahab et al, 2022). Supporting patients to choose a non-operative route is important to deliver a quality, patient centred approach, prevent unnecessary admissions, complications, and healthcare costs, with a potential benefit on reducing surgical waiting lists. The need for such SDM is increasingly apparent, as illustrated through emerging research showing that a non-operative approach can have

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equivalent if not better outcomes for older patients. In a multicentre cohort study, older frailer patients with proximal hip fractures treated non-operatively had similar quality of life measures and reduced adverse events compared to those who underwent operative management (Loggers et al, 2022). Similarly, frail older patients presenting with emergency admissions for appendicitis, gallstone disease, diverticulitis, hernia and obstruction had a higher mean hospital length of stay and fewer days alive outside of hospital after 90 days if they underwent emergency surgery compared to non-emergency surgical strategies (Hutchings et al, 2022).

Despite the proven benefits in terms of clinical and cost effectiveness of this model of care, there is significant national variation in access to and delivery of POPS services. While there has certainly been an increased uptake of POPS services facilitated by the establishment of guidelines and a national scale up programme (CPOC and BGS, 2021; NHS Elect POPS Network, 2023), still only half of NHS trusts provide geriatric medicine services for older surgical patients with 42% of trusts reporting provision of a CGA based preoperative clinic and 48% of trusts providing a postoperative review of older surgical patients (Joughin et al, 2019). In the emergency surgery setting, despite evidence to show that involvement of geriatric medicine teams results in a significant reduction in mortality in both frail and non-frail patients, only 32% of patients aged over 80 or 65 and frail had geriatrician input in 2021; a modest improvement from 27% the previous year (NELA, 2023). Care of older, frail surgical patients is one of the most poorly performing metrics in the National Emergency Laparotomy Audit (NELA) database. Consistent and routine input from geriatric medicine teams remains a recommendation in national guidance and the best practice tariff now provides a financial incentive.

An age attuned workforce

One of the often cited barriers to delivering equitable care for older people undergoing surgery is the shortage of geriatricians (Partridge et al, 2014). Several approaches are underway to address this. Upskilling the workforce to promote a transdisciplinary approach to perioperative medicine facilitates an effective method to deliver holistic, patient centred care. An example of this is the transdisciplinary training programme run by the geriatrician-led POPS service at Guys' and St Thomas' Foundation Trust (GSTT). Foundation doctors (junior doctors in their first and second years in clinical practice) gain experience in acute inpatient and outpatient perioperative medicine, dedicated perioperative medicine teaching and exposure to quality improvement audits/research. The POPS fellowship programme which was established in 2012 provides registrars from multiple specialties (geriatrics, acute/general medicine and critical care) both nationally and internationally with experience in speciality training in perioperative medicine. This programme has facilitated the expansion of perioperative services across the NHS and Australia, with at least 16 of the 28 fellows working as consultant perioperative physicians. The development of an interprofessional programme for advanced clinical practitioners and allied health practitioners has seen the development of a multidisciplinary curriculum in perioperative medicine.

Developing a transdisciplinary team promotes a flexible workforce who can work collaboratively to deliver efficient acute and community-based care to older people undergoing surgery (Figure 1) (Law et al, 2023).

Funding to support services aligned with the needs of the surgical population

CGA based models of perioperative care are cost-effective. In elective vascular surgery, CGA based care resulted in a mean total cost reduction of over £1000 per patient (Partridge et al, 2021). At present, there are financial incentives embedded into several emergency surgery specialities including orthogeriatric, emergency laparotomy and trauma. These incentives were implemented to reduce clinical variation across the UK and increase the amount of care delivered via 'best practice'. The evidence that these financial incentives improve outcomes at an organisational and patient level is mixed and there is a need to revaluate a more robust funding structure (Marshall et al, 2014; Griffin et al, 2021). A possible way of increasing funding is to engage the Integrated Care Systems (ICS) and the Integrated Care Board (ICB) to restructure organisational funding. ICB, established in July

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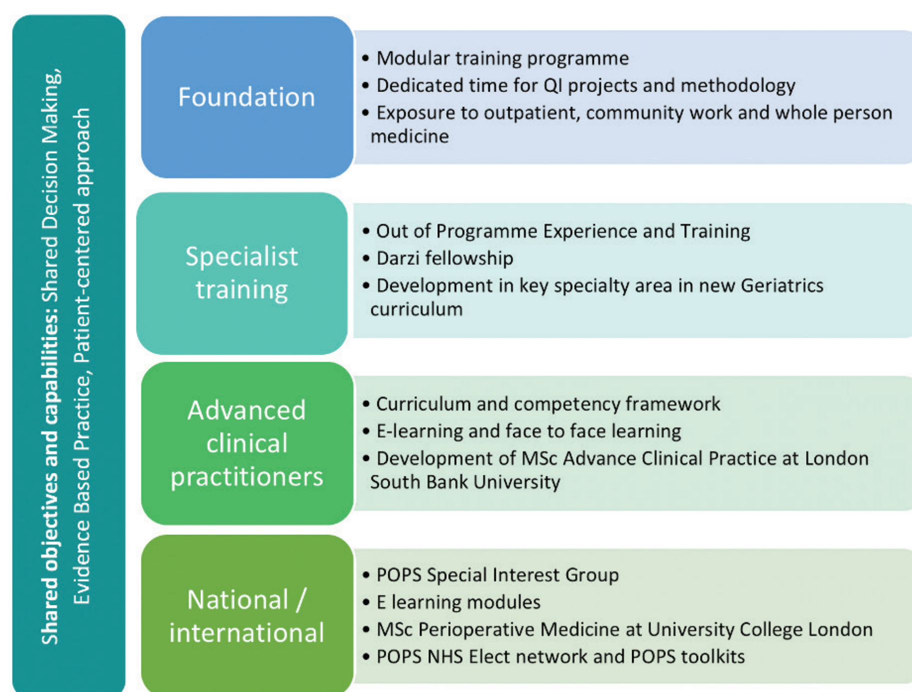

Figure 1. The framework of shared goals and individual learning objectives and methods within each education programme in Perioperative Medicine for Older People undergoing Surgery (POPS) (Reproduced with permission from Law et al, Future Healthc J; published by Royal College of Physicians, 2023. https://doi.org/10.7861/fhj.2022-0148). NHS, National Health Service.

2022 is a statutory NHS organisation responsible for managing the local NHS budget and facilitating provision of health services within an integrated care system. Collaboration with the ICB within trusts to identify areas of need and restructure funding such that funding follows the patient rather than the speciality may help address unwarranted variation and inequalities in perioperative care for older people.

Change in culture

A multidisciplinary team approach to optimisation and management of older surgical patients improves perioperative outcomes and is supported through national guidelines (CPOC, 2023). A change from a specialty-based approach to a patient centred, holistic model of care is required. This is echoed in several surveys which have shown that clinicians involved in the older patient's surgical pathway, including surgical trainees (Shipway et al, 2015), anaesthetists (Partridge et al, 2020) and general practitioners (O'Halloran et al, 2021), believe they lack the adequate training and knowledge to manage older surgical patients. Recognising the need to upskill clinicians involved in the care of older surgical patients in geriatric medicine can facilitate an integrated, holistic approach and may improve outcomes. This change in culture and upskilling in geriatric medicine needs to begin in medical school. Although there has been an increase in the number of medical schools teaching different domains of geriatric medicine, there is a need for more time and emphasis on geriatric medicine. On average medical schools in the UK allocate a median time of 55.5 hours on topics dedicated to ageing and geriatric medicine over a five-year degree (Gordon et al, 2014). This is particularly surprising considering nearly two-thirds of hospital beds are occupied by patients aged > 65 years. The upskilling in geriatric medicine should also extend to our allied health and nursing colleagues who are likely to be caring for older people across various specialties.

A change in culture, shifting from speciality-based models of care to a patient centred, holistic approach means greater collaboration, flexibility in the workforce with the potential to streamline assessments and management of older people and a reduction in redundancy in the system. One way of facilitating this shift is through the resources supplied by the

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Centre for Perioperative Care (CPOC), a UK cross-specialty, inter -disciplinary organisation aimed to provide a unified approach to delivering pathways, guidelines, policy, curricular and training for perioperative care.

Secondly, we need a change in public and professional discourse regarding realistic choice. This can be achieved through improved communication with patients and their families to provide adequate information, empowering them to take ownership of their health and asking the relevant questions in a consultation; all of which helps with shared decision making. Participation in shared decision making is particularly important in our older surgical patient cohort as one in three high risk patients undergoing surgery will experience serious medical complications (RCoA, 2020) often resulting in long term consequences to their health, functional status, and quality of life. Having a clear understanding and awareness of the potential life-changing long-term effects can assist in making informed decisions around surgery.

As part of making informed decisions regarding surgery, the public understanding of multimorbidity and its implications in the perioperative setting needs to change. Appreciating that multimorbidity may require a generalist approach to facilitate coordinated care and consider the impact of psycho-social influence on multimorbidity is important in developing an evidence based yet individualised plan specific to each patient. Furthermore, a better understanding of diagnoses more prevalent in older patients for example frailty and cognitive disorders like dementia can inform decisions surrounding perioperative care. While it may not be easy for patients and their families to accept and acknowledge such significant and life-changing diagnoses, understanding the natural progression and trajectories of these conditions can facilitate open and honest conversations about realistic goals, expectations and outcomes around surgery and in the longer term can help patients and families gain access to the appropriate services in a timely manner.

Conclusion

Significant inequalities exist in perioperative care. These often affect older populations living in areas of socioeconomic deprivation, with multimorbidity and frailty. Health inequalities are not fixed and are not inevitable. A multifaceted approach at a national and organisational level involving patients and the public is required to address the variation in service provision, access to and quality of care in addition to tackling wider determinants of health. By doing so, we can effectively bridge the gap in health inequalities and provide equitable perioperative care for older surgical adults.

Key points

- The number of people on NHS waiting lists is increasing and older people are contributing disproportionately to the high risk surgical workload.
- Inequalities in provision of surgical care exist across the United Kingdom with variation seen in areas of economic deprivation, geographical location and in the medical management of surgical patients.
- Addressing these inequalities requires implementation of innovative models of care, a change in culture to provide holistic patient centred care and the development of an age-attuned workforce.

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Availability of data and materials

All the data of this study are included in this article.

Author contributions

GST, JSLP and JKD were involved in the manuscript conception. All authors were involved in the manuscript draft, revision and final approval. All authors contributed to important editorial changes in the manuscript. All authors read and approved the final manuscript. All authors have participated sufficiently in the work and agreed to be accountable for all aspects of the work.

Ethics approval and consent to participate

Not applicable.

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Conflict of interest

The authors declare no conflict of interest.

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