FEATURE

Rationing of orthopaedic surgery in the UK

The global economy has been facing a financial crisis. Healthcare costs are spiraling, and there is projected to be a £30 billion health funding gap by 2020 in the UK.[1] This has prompted a drive for efficiency in healthcare provision in the UK, and in 2012, the Health and Social Care Act was introduced, heralding a fundamental change to the structure of the National Health Service, especially in the way that health care is funded in England.[2]

What is happening in the UK is a reflection of a global problem. Rationing of health care is a topic of much discussion, as unless spending is capped providing health care will become unsustainable. Who decides how money is spent, and which services should be rationed?

In this article we aim to discuss the impact that rationing may have on orthopaedic surgery, and we will discuss our own experiences of attempts to ration local services.[3] We also seek to inform and educate the general orthopaedic community on this topic.

BACKGROUND

The UK economy has faced a number of significant financial challenges over the last ten years. Funding for the NHS, therefore, has been at the forefront of the political and economic agenda. The NHS employs more than 1.6 million people (putting it in the world's top five largest workforces, alongside the US Department of Defence and the Chinese Army) and its budget in 2015/2016 was around £115 billion.[4] Despite this spending, a funding gap of £30 billion is projected by 2020.[1]

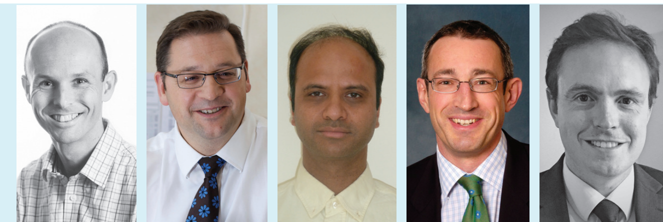
Greater scrutiny has therefore been placed on NHS services to ensure that it offers value for money. This is despite the NHS recently being rated as the best healthcare system in terms of efficiency, quality of care and cost-related access to health care out of the 11 largest Western nations.[5]

The Health and Social Care Act of 2012 was designed to allow local services to be tailored to best treat local populations within the UK.[2] The healthcare spend has become the 'commissioning budget', and is now controlled by 211 Clinical Commissioning Groups (CCGs). Across the NHS, the budget allocated for dealing with orthopaedic pathology is £10 billion.[6] Given the gap in funding and in the context of an ageing population, coupled with a rise in obesity and demand, we are predictably heading into a challenging period with expected rises in waiting times and rationing of procedures. Despite this impending funding threat, there are many high-volume orthopaedic procedures that enjoy some of the best cost-benefit ratios in terms of Quality of Life Years (QALYs). Perhaps, then, greater scrutiny should be placed on the other services the NHS offers in an attempt to gain value for money?

Our unit in Exeter (UK) has recently been exposed to such pressures, and attempts to ration local orthopaedic services have been made. This prompted us to look deeper into the issues; here we aim to discuss some of the challenges we face as orthopaedic surgeons in a changing NHS.

ON WHICH TREATMENTS SHOULD LIMITED RESOURCES BE SPENT?

Surely it makes perfect sense that efficacious treatments are expanded and those that are of questionable reliability be restricted when the



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taxpayer is footing the bill? However, a number of undeniable questions remain: who is going to decide which services are worthwhile? On what basis are they to draw these conclusions? Are any of the screening methods for efficacy, used to date, reliable enough? How are new innovations going to develop if only tried and tested methods are employed? The list goes on, but it is clear that this is a daunting task.

Orthopaedics is a specialty that has seen a steady growth both in patient numbers and expectations, and this is particularly true for joint arthroplasties of the hip and knee.[7] Orthopaedics provides treatments that generally improve the quality of life for our patients, and, as such, keep people at work and active in the economy.

From an outside perspective (such as a commissioner who is responsible for the healthcare spending within a region), it is not difficult to argue that the priority lies with providing core medical services such as emergency care, cancer services and women's and children's health. In the UK, political priorities have also recently addressed improving mental health services and social care. All of these services are inextricably linked, but suddenly providing quality-of-life treatments such as orthopaedic surgery for arthritis has fallen down the list of priorities for those who control the limited resources. In the UK, for the first time in some cases, orthopaedic departments have had to compete with other services in order to secure their funding.

In October 2014 NHS England published its 'Five Year Forward View'.[1] This report primarily discusses how to sustain and improve the NHS. There was little mention of orthopaedic surgery in the report, but of relevance it discusses the option of centralising specialist or complex services to designated hubs within networks, much as the UK's Major Trauma Service has evolved over the last few years. Centralising specialist surgeries into large-volume centres should cut the overall costs. This may be done through minimising the costs of loan equipment and infrastructure, and also by reducing complication rates amongst a cohort who are expensive and difficult to treat.[8,9] This forms much of the backbone of the Get It Right First Time (GIRFT) Report.[6] What this does not answer, though, is how to provide the routine work which is the bulk of orthopaedic expenditure.

HOW SHOULD TREATMENTS BE DEEMED WORTHWHILE?

Decisions based on the efficacy of treatments must be made using high-quality evidence. Lower limb arthroplasty surgeons have led the way in providing evidence to support their treatments through the use of joint registries supported by patient-reported outcome measures (PROMs), on top of high-quality clinical research. For instance, for the provision of primary hip arthroplasties, the Orthopaedic Device Evaluation Panel (ODEP) was created to provide independent advice on high-quality implants with proven track records.[10] This can be used as another argument that orthopaedic surgeons are acting responsibly.

However, not all subspecialty areas are grounded so solidly, relying more on medical logic and anecdotal evidence. Not all of these complex questions about provision of treatment and efficacy can be answered through randomised controlled trials.[11] Cochrane Reviews and meta-analyses are certainly useful to demonstrate efficacy where individual trials and studies may have weak associations.[12] There are also National Institute for Clinical Excellence (NICE) guidelines that analyse the clinical and economical evidence for treatments and then provide guidance accordingly.[13]

Medical treatments are often rated on quality-adjusted life years (QALYs) which can be used to compare treatments from a health-economic perspective and can be used to compare cost effectiveness across different indications and diagnoses for completely unrelated treatments (for example advice on quitting smoking, and ankle arthroplasty, can be compared). Sadly there is only limited work calculating QALYs in many orthopaedic treatments and interventions. The British Orthopaedic Association (BOA) past-President, Colin Howie, recently established the costs per QALY for both hip and knee arthroplasties at £1372 and £2101, respectively, highlighting that they are among the most cost-efficient procedures available.[14] These figures are well below the threshold value of between £20,000 and £30,000, above which NICE is reluctant to recommend drugs or treatments.[14] For instance, statin use in the UK is now widespread, but recent NICE guidelines state that the cost per QALY for the prevention of heart disease in a 65-year-old man with a 1.5% risk of developing heart disease is £11,200 per QALY gained.[15] Comparatively, therefore many orthopaedic treatments prove to be at least as efficacious using at least a cost-benefit basis as many established medical treatments. Advice to commissioners is already provided by the BOA on conditions such as hip and knee arthritis, as well as lower back pain, the painful deformed great toe and subacromial shoulder pain.[16]

CAN SCORING SYSTEMS BE USED TO RATION SURGERY?

No orthopaedic scoring systems have been validated for the purpose of rationing treatments. Despite this, attempts have been made to ration referral for surgery based upon Oxford Knee Scores, with thresholds varying from 18 to 32, above which commissioning groups argue that patients are not eligible for TKA.[17,18] Dakin identified that not only is there no evidence that a threshold Oxford Knee Score should be used for referral for knee arthroplasty, but also that cost-effective quality of life gains could be made for patients with an OKS of greater than 39.[18] Other healthcare systems such as that in New Zealand have used scoring patients for hip and knee arthroplasty in an attempt within a rationing framework to offer surgery to the most deserving. However, again this style of rationing has been shown to correlate poorly with accepted measures of health status such as the SF-36.[19]

There is good evidence that patients have worse post-operative scores and function if they are made to wait longer for their joint arthroplasty.[20] Pre-operative scores also correlate with the subsequent post-operative outcome.[21] This

essentially means that patients with the lower pre-operative scores achieve the lowest post-operative outcome. Making people wait until they are severely affected does not benefit the population as a whole in the longer term.

RATIONING OF SERVICES BASED UPON LIFESTYLE FACTORS

In late 2014 there was an attempt to ration orthopaedic services (hip and knee arthroplasty) in our region (Exeter, UK) in smokers or those considered obese based on a body mass index (BMI) of over 35. These restrictions were introduced as a response to the local financial situation as cost-cutting measures.[22] Other measures introduced included the provision of only a single hearing aid, suspending IVF treatment and performing cataract surgery in only a single eye.[3] In addition, shoulder surgery was to be appraised and only commissioned where there were proven beneficial outcomes and all non-surgical treatment options had been explored. This judgement was made by the commissioning group (consisting of primary care doctors) rather than experts in the field. These measures had been introduced without the involvement of local orthopaedic departments.

A BMI of 35 was chosen as a high threshold cut-off figure by the local Commissioning Group (North, East and West Devon).[22] The intention was that patients with a BMI of greater than 35 either had to lose weight to a figure below this, or demonstrate an intention to lose weight by losing 5% of their body weight (i.e. a patient weighing 100 kg would have to lose 5 kg prior to being eligible for surgery). There was no clarification of the support that was going to be offered to help these patients lose weight, nor what would happen if they attempted but failed to lose weight. The current best medical understanding is that weight loss is best achieved through physical activity and reducing food intake through improvements in diet.[23] Asking patients with end-stage arthritis to increase their activity level may be challenging.

Obesity is a national issue and one which needs to be targeted at a public health level. Yet we agree that there is no doubt that in certain cases patients should be referred for consideration for bariatric surgery prior to being offered a joint replacement. While there is evidence that obese patients with a BMI greater than 40 are more likely to develop complications, there is also good-quality evidence that obese patients experience excellent pain relief after joint arthroplasty and benefit as much as non-obese patients.[24-26] There is also recent conflicting research that has suggested that patients who experience large amounts of weight loss prior to joint arthroplasty may go on to have higher complication rates.[27]

While it is an eminently sensible public health policy for the health of the population for those overweight or obese to lose weight, the restriction of surgery to patients with end-stage hip and knee arthritis seems to target the wrong group of patients. It is those with early joint disease who would respond the most successfully to such lifestyle measures.

Our department strongly supports the cessation of smoking in all patients, whether they are undergoing surgery or not. Smoking has been implicated as a risk factor for both medical and prosthesis-related complications after both hip and knee arthroplasty, and cessation of smoking can reduce the risk of complications.[28]

Despite the higher risk of complications, rationing treatments based on smoking status does not sit well with many orthopaedics surgeons, and this is not currently a policy of our department.

The final local commissioning decision was to put in place measures to restrict shoulder surgery, based upon an alleged lack of research demonstrating the efficacy of certain shoulder operations. This local decision was implemented despite published national BOA guidelines on subacromial shoulder pain which detail the evidence base as well as advising specialist units to use a 'quality dashboard' to ensure high standards of care.[29] A temporary drop in referrals to secondary care subsequently occurred. High-level discussions involving local commissioners, orthopaedic surgeons and representatives from the BOA led to a resolution and a withdrawal of the measures.

The delaying of surgery or the refusal of effective treatments based on arbitrary measures may be considered unethical in patients who may well have a deserving symptom and radiological profile.[18] Fortunately for our patients, after discussions with the local commissioners, these measures were withdrawn and there currently exists no rationing of orthopaedic services in our region.

THE ANSWER?

It can be of no doubt that orthopaedic surgeons need to work in partnership with those providing funding for our services. It is the responsibility of all of us to ensure that effective and proven treatments are given to our patients, and where treatments are currently unproven, they should be as part of either a research trial or at a minimum as part of an ongoing audit process. Novel orthopaedic implants are already subject to evaluation by independent groups such as the Orthopaedic Data Evaluation Panel (ODEP) and Beyond Compliance.[10,30] Quality dashboards also give specialist units the opportunity to reassure the fund-holders that orthopaedic services are providing value for money.[31]

In 2012, Professor Briggs released his report, 'Getting it right first time'.[6] This report intended to review the provision of elective orthopaedic services in the UK, reconfiguring services with the aim of improving outcomes while providing cost effectiveness. This bold report tackles aspects such as the costs of loan equipment, the variable cost of implants to purchasers, and centralising specialist services such as revision surgery.

Surgeons and clinical academics must work together to provide an effective evidence base including cost-effectiveness data to support our treatments. Carefully constructed randomised controlled trials to support treatments with a weaker evidence base are needed, along with health economic data. Development of national registries to include a wider range of diagnoses will help provide population-level data, again supporting treatments. As the squeeze on healthcare funding continues, many efficacious treatments will not be acceptable to offer to patients if the current evidence gap is not addressed.

All orthopaedic surgeons have a responsibility to provide a safe and effective service to our patients. We should all strive to provide treatment that works, is cost effective and is performed in an appropriate environment on suitable patients. Orthopaedic surgeons should also take responsibility alongside our primary care teams to improve the general health of our patients through encouraging exercise, weight loss and smoking cessation. We should, however, be firm and scientific when rationing is made in an unjust and unfair way, and patients with end-stage disease who are most likely to benefit from our interventions should not be penalised.

CONCLUSION

Our experience emphasises the importance of active engagement with those that control the budget (the CCG) and close liaison with the national and subspecialty groups in resolving issues. A specific group has recently been set up by the BOA to support engagement with

commissioners, including regional advisors and clinical champions.[32] The support we received during this time certainly helped to resolve our local situation.

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