

Inequalities in the Provision of Surgical Interventions: Whose Responsibility?



In some parts of the so-called “developed” world, there is a culture of social responsibility and “fairness.” When translated into healthcare delivery this embraces the equitable provision of effective interventions for all those in the society who are in need¹. That is certainly true of Canada and of many European countries, including the UK, where the state provides healthcare.

However, in both Canada and the UK there is abundant evidence for inequities in the provision of many aspects of healthcare, including major surgical interventions such as cardiac surgery, renal transplantation, and joint replacement. Many studies have shown that older people, women, ethnic minorities, and those of lower socioeconomic status (SES) are all less likely to receive such interventions than well-off, middle aged white males^{2,3,4,5,6,7,8}.

Further evidence for inequality in the provision of joint replacement in Canada is published in this issue of *The Journal*⁹. In a large, community-based, prospective study of people with osteoarthritis (OA), Rahman and colleagues have shown that gender and SES affect the chances of both being referred to an orthopedic surgeon and getting a joint replacement. Age and sex interacted with SES, but after adjustment for age, sex, and comorbidities, they report relatively large and statistically significant effects of SES on both hip and knee joint replacement rates for people with OA. The results in this Canadian study are similar to those recently reported from the UK¹⁰.

Rahman and colleagues⁹ have not gone into the reasons for inequality in the provision of surgical interventions such as joint replacement. They have added a well analyzed and very large data set to the existing, extensive body of evidence, coming from many different countries and subspecialties in medicine, for its existence. But we should be going further than documenting this phenomenon; we should be exploring its determinants, and if we consider it inappropriate (inequitable), we should be looking for interventions that address it.

There may be inequities both in access to healthcare and in the provision of interventions once the system has been accessed¹. Access problems may be caused by the healthcare systems in any given community or country (such as

the need to pay for the service), or to patient-related factors such as a lack of belief in modern biomedicine. Once the patient gets into the state’s conventional system, the reason for any subsequent inequitable provision of care can be difficult to explain. Many authors seem blind to the fact that the system or its healthcare providers might be partly at fault, and put all the “blame” on the patients, citing issues such as comorbidities in those (“unworthy”?) people of low SES, and unwillingness to have a recommended intervention. Willingness and expectations of outcome can certainly be a powerful determinant of who gets a joint replacement¹¹, but the evidence from Canada is that at least in that country people of lower SES had a greater need for arthroplasty and were equally willing to consider it when compared to those with higher SES¹². In both Canada and the UK the “gate-keeper” [the primary care doctor or general practitioner (GP) who refers to an orthopedic surgeon] is less likely to refer women or low SES patients to surgeons^{6,8,11}, and there is evidence from Europe that GPs, like many patients, think the arthritis has to be very severe before arthroplasty can be considered¹³, suggesting that they are indeed partly to blame. And surgeons are less likely to operate on women and minority groups than on middle aged white men, so maybe they are to blame as well^{6,7,8,9,14,15}. Perhaps GPs and surgeons are biased against women, low SES patients, and other minority groups?

But to “blame” a particular group of people is both inappropriate and unhelpful, as we know that most problems in healthcare delivery are due to problems with culture, society, systems, or interpersonal communications, rather than being caused by “bad” individuals. The reasons for inequities in the provision of joint replacement may be both multiple and quite subtle. Any biases that doctors or other healthcare professionals might have against women or disadvantaged groups are unlikely to be conscious ones, but they could be conditioned by the culture that we live in, that might infer for example, that women have less need for a joint replacement, or that they do not get as bad arthritis as men, as has been shown for heart disease¹⁶. Or perhaps it is about communication between doctors and patients. Most healthcare professionals come from high SES groups, and

See Effect of sociodemographic factors on surgical consult and hip/knee replacements in OA, page 503

doctors, by definition, are a highly educated and well paid group of people. They might be better at communicating with, and therefore understanding the problems of, those who are “like them.” Recent research has used qualitative methods to explore the decision-making processes of patients¹⁷ and between patients and surgeons^{18,19}, and this has emphasized the central role of communications in decision-making about joint replacement. Similarly, our measurement and assessment instruments tend to be produced by high SES professionals, and well suited to the needs of people “like them” rather than those with, for example, literacy issues, communication problems, or learning difficulties. Perhaps we do not know how to assess disease severity in disadvantaged groups, and therefore do not realize that they need interventions such as a joint replacement.

The research community needs to share some of the responsibility for this state of affairs as well. If we compare the numbers of publications produced about the design and fixation of joint prostheses with the numbers about the provision of joint replacement, indications for the procedures, or patient-related outcomes, we can clearly see where our research priorities lie. We need to be researching the causes of inequalities and inequities in the provision of major, effective interventions, such as joint replacement or renal transplantation. And we should stop working in silos — in which those thinking about provision of joint replacement rarely talk to public health experts or those interested in the provision of other major interventions such as cardiac surgery or renal transplantation. We also need to design and undertake more trials of interventions that might reduce inequities. A recent review of interventions designed to aid equitable provision of care for people with OA found very few such studies²⁰.

Significant inequities exist in the provision of joint replacement, and the reasons for this are not yet clear. No one is to “blame,” but the responsibility for this unfair state of affairs is a shared one that involves the culture we live in, our healthcare systems, public opinion, and the behavior of patients, professionals and academics.

PAUL A. DIEPPE, MD, FRCP,
Institute of Clinical Education,
Peninsula Medical School,
Universities of Exeter and Plymouth, UK

Address correspondence to Dr. Dieppe. E-mail: paul.dieppe@pms.ac.uk

REFERENCES

1. Chang W. The meaning and goals of equity in health. *J Epidemiol Community Health* 2002;56:488-91.
2. Shaw M, Maxwell R, Rees K, Davidson H, Oliver S, Ben-Shlomo Y, et al. Gender and age inequity in the provision of coronary revascularisation in England in the 1990s. *Soc Sci Med* 2004;59:2499-507.
3. Quatromoni J, Jones R. Inequalities in socio-economic status and invasive procedures for coronary heart disease: a comparison between the USA and UK. *Int J Clin Pract* 2008;62:1910-19.
4. Kjellstrand C. Age, sex and race inequality in renal transplantation. *Arch Intern Med* 1988;148:1305-9.
5. Vamos E, Novak M, Muscsi I. Non-medical factors influencing access to renal transplantation. *Int Urol Nephrol* 2009;41:607-16.
6. Hawker G, Wright J, Coyte P, Williams J, Harvey B, Glazier R, et al. Differences between men and women in the rate of use of hip and knee arthroplasty. *N Engl J Med* 2000;342:1016-22.
7. Young P, Milner P, Paye J, Lewis P, Jennison C. Inequalities in access to knee joint replacements for people in need. *Ann Rheum Dis* 2004;63:1483-9.
8. Juni P, Low N, Reichenbach S, Villiger P, Williams S, Dieppe P. Gender inequity in the provision of care for hip disease: population-based cross-sectional study. *Osteoarthritis Cartilage* 2010;18:640-5.
9. Rahman MM, Kopec JA, Sayre EC, Greidanus NV, Aghajanian J, Anis AH, et al. Effect of sociodemographic factors on surgical consultations and hip or knee replacements among patients with osteoarthritis in British Columbia, Canada. *J Rheumatol* 2011;38:503-9.
10. Judge A, Welton N, Sandhu J, Ben-Shlomo Y. Equity in access to total joint replacement of the hip and knee in England: cross-sectional study. *BMJ* 2010;341:c4092.
11. Hawker G, Wright J, Badley E, Coyte P. Perceptions of, and willingness to consider, total joint arthroplasty in a population-based cohort of individuals with disabling hip and knee arthritis. *Arthritis Rheum* 2004;51:635-41.
12. Hawker GA, Wright JG, Glazier RH, Coyte PC, Harvey B, Williams JI, et al. The effect of education and income on need and willingness to undergo total joint arthroplasty. *Arthritis Rheum* 2002;46:3331-9.
13. Dreienhoefer K, Dieppe P, Sturmer T, Grober-Gratz D, Floren M, Guenter K, et al. Indications for total hip replacement: comparison of assessments of orthopaedic surgeons and referring physicians. *Ann Rheum Dis* 2006;65:1346-50. Epub 2006 Jan 26.
14. Borkhoff C, Hawker G, Kreder H, Glazier R, Mahomed N, Wright J. The effect of patients' sex on physicians' recommendations for total knee arthroplasty. *CMAJ* 2008;178:661-87.
15. Emejaluwe N, Jones A, Ibrahim S, Kwok C. Disparities in joint replacement utilization: a quality care issue. *Clin Exp Rheumatol* 2007;25 Suppl 47:44-9.
16. Emslie C, Hunt K, Watt G. Invisible women? The importance of gender in lay beliefs about heart problems. *Sociology Health Illness* 2001;23:203-33.
17. Sanders C, Donovan J, Dieppe P. Unmet need for joint replacement: a qualitative investigation of barriers to treatment among individuals with severe pain and disability of the hip and knee. *Rheumatology* 2004;43:353-7.
18. Sansom A, Donovan J, Sanders C, Dieppe P, Horwood J, Learmonth I, et al. Routes to total joint replacement surgery: patients' and clinicians' perceptions of need. *Arthritis Care Res* 2010;62:1252-7.
19. Goberman-Hill R, Sansom A, Sanders C, Dieppe P, Horwood J, Learmonth I, et al. Unstated factors in orthopaedic decision-making: a qualitative study. *BMC Musculoskeletal Disord* 2010;11:213.
20. Borkhoff C, Wieland M, Myasoedova E, Ahmad Z, Welch V, Hawker GA, et al. Reaching those most in need: A scoping review of interventions to improve health care quality for disadvantaged populations with osteoarthritis. *Arthritis Care Res* 2010 Sept 14. [Epub ahead of print]

J Rheumatol 2011;38:401–2; doi:10.3899/jrheum.101209