



Achieving consistent and equitable access to post mastectomy breast reconstruction

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One in eight women will be diagnosed with breast cancer in their lifetime and for many the recommended treatment plan will include mastectomy. For many women this can result in loss of femininity, sexual identity and long-term psychosocial impairment. With increasing numbers of women surviving the disease, minimizing the impact of cancer and its treatment has become an important element of the care pathway. Breast reconstruction has been shown to mitigate the adverse effects of mastectomy and improve health related quality of life for breast cancer survivors (1). Although both immediate and delayed reconstruction can be effective, women who undergo reconstruction at the time of mastectomy can be protected from a period of significant psychosocial distress and diminished sexual well-being (2). However, in spite of these proven benefits post mastectomy breast reconstruction (PMBR) is not consistently offered as part of the breast cancer treatment plan.

In their recent publication in the *Annals of the Royal College of Surgeons* in England Ranjeet Jeevan and colleagues summarize an extensive body of work that examines the current use of PMBR in England (3). In a series of studies, the authors provide a comprehensive overview of mastectomy and reconstruction rates based on data from the National Hospital Episode Statistics (HES) database and a prospective national audit (4-8). They report immediate breast reconstruction (IBR) rates in the region of 20% for women undergoing mastectomy in English cancer network hospitals. While there are a number of positive findings such as a steady increase in IBR rates over time and high levels of patient satisfaction with care, the studies identify

significant inequity in the utilisation of IBR across centres. Older women, non-Caucasians and those from economically deprived areas were found to have significantly decreased IBR rates.

The work of Jeevan *et al.* makes an important contribution to the global literature in this field. While there has been significant research interest in the rates of PMBR, the majority of studies come from the United States (US). The rates of IBR in the US do not necessarily reflect those seen internationally and so there is a need for more data from different healthcare models (9-11). American studies have long recognized lower rates of PMBR in non-Caucasian women and those from lower socioeconomic groups (12). They have led the field in implementing strategies that aim to improve access to PMBR. The discrepancies in PMBR rates in the US are often attributed to the inherent inequities in healthcare coverage. Studies demonstrate that while legislation such as the Womens Health and Cancer Rights Act [1998] and the New York State Breast Cancer Provider Discussion Law [2010] have improved rates of IBR among underserved women, significant discrepancies persist (13,14).

Jeevan's work illustrates that even in a National Health Service where all citizens are entitled to free healthcare, there are significant racial and socioeconomic disparities in uptake of reconstructive surgery among women with breast cancer with regional rates ranging from 9–43%. This echoes the findings of a previous Canadian study that reported wide variations in PMBR rates in a Universal Healthcare single-payer system (15). These studies indicate

that discrepancies in utilisation of PMBR are not simply due to the inability to pay for the surgery itself. Women from lower income groups are less likely to have supplementary insurance or employment benefits to cover the additional indirect costs of more complex surgery with extended recovery times. A study examining IBR rates in Department of Defense personnel is one of the few that found no difference between white and black women, suggesting that when women have an equal-access healthcare system combined with a similar level of workplace support, racial disparity can be overcome (16).

Perhaps the most interesting aspect of Jeevan *et al.*'s work is the exploration of the number of women who received an offer of IBR. They report that less than 50% of women are offered IBR with offer rates ranging from 24–75%. Although the National Health Service in England has guidelines in place mandating that IBR should be discussed and offered to all patients unless there is a contraindication, this wide variation in offer rates suggests that this is not uniformly applied. Surprisingly they report no correlation between the offer rate and the IBR rate which is contrary to other studies that found the most common reason patients did not have IBR was that it was not proposed by their surgeon (9).

The studies report that offers were less likely in older women, those with comorbidities, higher tumor burden and the anticipated need for adjuvant radiotherapy.

The studies do not provide any qualitative analysis of how the offer is made. There is a stark difference between providing patients with unbiased information on the risks and benefits of IBR and simply asking them if they want a reconstruction. For the majority of women who have been diagnosed with breast cancer their priority is to have surgical removal of the tumour as soon as possible and they are less likely to pursue IBR if they feel further consultations may delay this process. There are currently no standardised guidelines for how an offer of IBR should be made. In most cases the surgeon who decides that the patient is unsuitable is the surgical oncologist and not the reconstructive surgeon. Patients who do not avail of IBR often later report that they did not receive sufficient information. Ideally all newly diagnosed breast cancer patients should have the opportunity to meet with a plastic surgeon who can provide a specialised opinion on the risks and benefits of IBR in their individual case. This would ensure that patients are provided with adequate information to actively participate in the decision-making process and prevent long-term decision regret.

The studies suggest that, in most cases an IBR offer is withheld because the surgeon did not consider the patient a suitable candidate. This subjective rather than evidence-based decision making may be strongly influenced by surgeon bias. There was significant discrimination against older women in spite of a large body of evidence demonstrating that PMBR is safe and effective in this population (17). Jeevan *et al.* suggest that surgeons are adhering to current guidelines in England, except with respect to age. However, these guidelines allow for significant subjectivity as they state that IBR should be offered unless there is a clinical contraindication. With advances in surgical techniques there are relatively few absolute contraindications to IBR. While some patients are undoubtedly at increased risk for post-operative complications, in many cases these will be minor and effective breast reconstruction can still be safely achieved. These short-term complications must be balanced against the long-term health related quality of life benefits that IBR can offer. There is a need for more high-quality studies to explore the true relationship between perceived risk factors and clinical outcomes so that evidence-based guidelines can be developed. We need to move away from generalised contraindications towards a more personalised approach where the clinical profile as well as the needs and wishes of an individual patient can be considered, so that the safest and most effective breast reconstruction option can be offered. Validated clinical risk assessment tools can aid pre-operative patient counseling and facilitate more objective patient selection for IBR (18,19).

Though the work of Jeevan *et al.* demonstrates a positive trajectory, IBR rates in the UK and other countries fall far behind those reported in some other studies. While there is no optimal target rate for IBR, this suggests that there is scope for further improvement. A concerted ongoing effort will be required to overcome multifactorial barriers to the routine and equitable integration of IBR into the breast cancer care pathway if rates are to be increased in the future. Patient education is an essential step in this process. Women must be provided with impartial and accurate information on the risks and benefits of breast reconstruction and empowered with an awareness of the options available to them. This information must be delivered in a culturally sensitive and language appropriate manner and be made available to women of all socioeconomic groups and education levels. This information can be overwhelming, especially in the setting of a recent cancer diagnosis and patients will require significant support in the decision-

making process. Decision aids can help women to make the most effective choices in a time sensitive manner, ensuring that the opportunity for long-term gains in health-related quality of life is not lost (20).

Although Jeevan's studies suggest that service or resource issues did not significantly affect the decision to offer IBR the marked regional disparities suggest this may not be the case. Furthermore, IBR rates were shown to be higher in the small number of private institutions that participated. Studies have demonstrated that the financial status of a hospital significantly affects rates of IBR (21,22). Patients are more likely to be offered IBR at teaching hospitals in metropolitan areas with higher numbers of plastic surgeons (23). There is an inverse relationship between the geographical distance to a centre that offers reconstruction and the likelihood of IBR (24). If IBR is to be universally accessible there must be appropriate and uniform infrastructure to support this. Centres that provide mastectomy but do not have reconstructive services should be affiliated to a reconstructive centre and have a standardised protocol for accelerated referral of cases to ensure patients can have IBR without delaying their cancer treatment.

While barriers to IBR are undoubtedly multi-factorial, Jeevan *et al.*'s work suggests that the attitudes of surgeons remain a key area to be addressed. Breast reconstruction must be accepted as an integral part of the cancer care pathway based on strong evidence that it can improve long-term psychosexual well-being. Reconstructive surgeons must work closely with other members of the multi-disciplinary cancer team to ensure that IBR can be offered in an efficient and effective manner without compromising other essential elements of cancer care. Surgical oncologists face many challenges when trying to meet cancer treatment targets and it is understandable that in the face of often limited resources breast reconstruction may not be prioritised. However, we can no longer accept such blatant disparities in the quality of breast cancer care. The National Accreditation Program for Breast Centres in the US endorses a standard of care where surgical oncologists offer all patients a referral to a plastic surgeon at the time of cancer diagnosis. Making this standard practice would help ensure that all women who wish to avail of IBR may have the opportunity to do so irrespective of age, race and socioeconomic status (25).

Jeevan *et al.* are to be congratulated on this significant undertaking that provides important insights into the provision of IBR in England and indeed globally. Studies

such as these are essential if we are to understand and address the factors that prevent women from accessing the benefits of breast reconstruction.

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Footnote

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