Leveraging Implementation Science to Improve Delivery of Oncologic Reconstructive Surgery

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A consequence of the rapid technological advancements and sub-specialization of oncology practice we have witnessed during the past two decades is the increased complexity of care delivery. Patients and caregivers now must navigate the care continuum of screening, treatment, survivorship, and symptom palliation with a diverse group of providers across multiple care settings. As a result, effective co-ordination of care for patients with a diagnosis of cancer represents one of the greatest challenges facing contemporary health care systems.

Recognizing the complexity of coordinating stakeholders, both the American Society of Clinical Oncology and the European Society for Medical Oncology have promoted multidisciplinary care as the gold standard and framework for providing optimal cancer treatment.¹ The improved overall survival and patient outcomes associated with multidisciplinary cancer care teams validate this position.^{2–5} Although varying definitions exist for multidisciplinary care, the central tenets are bidirectional communication across disciplines and a shared understanding of a patient-specific comprehensive treatment plan.

The recent article by Retrouvey et al.⁶ draws attention to a crucial but often overlooked topic in the spectrum of cancer care (i.e., the role and utility of reconstructive plastic surgeons). The value of reconstructive surgery in

oncology is increasingly gaining acceptance due to improved oncologic survival and an accompanying shift in focus to functional and quality-of-life outcomes for cancer patients. Currently, many health systems still struggle to identify and operationalize a role for plastic surgeons in an interprofessional collaborative model for oncology care.

Breast reconstruction represents an ideal use case for unpacking this issue given the annual incidence and policy relevance of breast cancer. Through the years, improved psychosocial outcomes (e.g., body image and psychosocial well-being) and quality of life (e.g., physical and sexual well-being) without adverse sequela of oncologic outcomes have been associated with post-mastectomy reconstruction.^{7–9} These gains are heightened for patients with oropharyngeal cancers and extremity sarcomas, with modern reconstructive techniques (e.g., microsurgery, three-dimensional modeling, and customized implants) enabling modest to significant functional recovery (ambulation, speech, and smile). Finally, reconstructive surgery through shared decision-making, allows for more personalized treatment decisions for cancer patients.

Patient access to post-mastectomy reconstruction has received considerable attention during the past few decades. Despite mandated insurance coverage in the United States through the Women's Health and Cancer Rights Act, socioeconomic, geographic, and health care barriers continue to limit access to these procedures.^{10–15} At a local health care level, discussions about reconstruction during the initial consultation with the breast cancer surgeon have been shown to have significant impact on the likelihood of patients receiving reconstruction.¹⁶ From this context, Retrouvey et al.⁶ sought to explore the perceived role of multidisciplinary collaboration in the delivery of these

procedures. Through qualitative interviews with 30 participants (22 physicians and 8 administrators), the authors explored the attitudes, beliefs, and values of key stakeholders in the provision of breast cancer care to patients from six centers across Ontario, Canada. The authors should be commended for this important study, which offers a nuanced understanding of the local contextual factors that have an impact on access to these procedures.

The major findings of the study underscore important challenges to interprofessional collaboration and care coordination. At a physician level, the lack of role clarity, the absence of an explicitly defined leader, and the varying perceptions of the usefulness of breast reconstruction have discouraged collaboration and rendered its delivery more difficult. The authors also discovered inconsistent views concerning the role of plastic surgeons on the oncologic team. Although plastic surgeons considered themselves members of the oncologic team, their colleagues generally disagreed because reconstructive procedures have not been considered cancer-related treatments. Most general surgeons thought it was their responsibility to discuss breast reconstruction as an option with their patients, and administrators appeared to play a key role in the delivery of breast reconstruction conditional on their values and goals.

In the designing of multi-level strategies to improve access to breast reconstruction, the findings from this study might be best served by the framework of the adapted model for the Tailored Implementation in Chronic Diseases (TICD).^{17–19} This model provides a number of potential levers to improve interprofessional collaboration at the local level (i.e., incentives, organization of professional interactions, resources, and capacity for organizational change).

In addressing professional interactions, strategies should focus on improving communication and leveraging these channels with the greatest influence. The National Accreditation Program for Breast Centers has endorsed a standard mandating that surgical oncologists offer a referral for plastic surgery at the time of breast cancer diagnosis. Implementation of this standard in local health care settings must entail regular audits of referral volume and the reversal of any identified disincentives for referral to plastic surgery. Furthermore, resources such as decision-support tools, patient education materials, and establishment of a longitudinal patient navigation program are essential.

Organizational changes may require allocation or reallocation of authority to make referral decisions. It may be helpful to appoint an implementation leader, such as an administrator or clinical champion, to define clear guidelines for deciding who is accountable for initially discussing the option of breast reconstruction with patients

considering mastectomy. The referral process should be transparent, with consideration of individual feedback loops to providers.

The role of health policy in promoting access to breast reconstruction cannot be overstated, although it is uneven because poor access for racial minorities and economically disadvantaged women persist.^{11,12,15} Recognizing barriers posed by communication and referral patterns in access to breast reconstruction, the state of New York enacted Public Health (NY PBH) Law 2803-O in 2010, which mandates that surgeons communicate about reconstructive surgery with patients undergoing mastectomy. Initial policy evaluations have shown that this approach likely reduced racial and ethnic disparities in access to these procedures²⁰.

In conclusion, the challenges posed by care coordination for cancer patients demand thoughtful solutions that leverage principles of implementation science and, in some cases, health policy. Given advances in modern-day reconstructive techniques, nearly all patients with oncologic defects may benefit from consultation and coordination with plastic surgery. Improving interprofessional collaboration between oncologic teams and plastic surgeons represents another important opportunity to advance patient-centered cancer care.

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