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Commentary

From Measuring Performance to Measuring What Matters: Rethinking Quality Indicators in Breast Cancer Care

Comment on "Comprehensive Evaluation of Quality Indicators: Analyzing the Dutch Breast Cancer Audit"

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Abstract

Quality indicators (QIs) are central to benchmarking, accountability, and quality improvement, yet their ability to capture meaningful differences in healthcare quality cannot be assumed. Building on Verheul and colleagues' evaluation of the Dutch NABON Breast Cancer Audit (NBCA), this commentary argues that methodological robustness is necessary but not sufficient for meaningful quality measurement. Breast cancer care involves preference-sensitive decisions for which guideline adherence, treatment rates, and clinical outcomes alone cannot define high-quality care. We propose broadening quality assessment across four complementary domains: clinical quality, patient-reported outcomes, patient experience, and decision quality, including shared decision-making (SDM) and preference concordance. Patient-centred measures used for provider comparison should undergo the same rigorous evaluation as conventional clinical indicators. The next generation of breast cancer QIs should assess clinical standards, outcomes that matter to patients, care experience, informed involvement, and concordance between care and informed preferences.

Keywords: Breast Cancer, Quality Indicators, Quality of Care, Shared Decision-Making, Patient-Centred Care, Patient-Reported Outcomes

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Quality indicators (QIs) have become a cornerstone of contemporary healthcare governance, translating complex dimensions of care into measurable signals intended to support quality improvement, benchmarking, accountability, and, increasingly, public reporting.[1] In breast cancer care, where management requires multidisciplinary coordination across diagnosis, surgery, systemic therapy, radiotherapy, and reconstruction, robust quality measurement is particularly important.[2] Yet the growing reliance on QIs rests on an assumption that deserves careful scrutiny: that what can be measured can also validly, reliably, and meaningfully distinguish differences in quality of care.[1]

The study by Verheul and colleagues provides an important empirical challenge to this assumption.[3] Using nationwide data from the NABON Breast Cancer Audit (NBCA), the authors evaluated its QIs across four complementary dimensions: feasibility, reflecting whether the required data are sufficiently complete for routine measurement; discriminative ability, assessing whether an indicator can identify relevant variation between hospitals; validity, operationalized in their study through the influence of patient and tumour case-mix on QI scores; and reliability, assessed through rankability, which estimates the extent to which observed variation reflects systematic differences between hospitals rather than statistical uncertainty.[3]

Their findings are both reassuring and cautionary. Data completeness was generally high, and several indicators demonstrated meaningful between-hospital variation with limited influence of case-mix. Nevertheless, no indicator satisfied all predefined criteria, and none achieved high rankability (>75%).[3] This limitation was particularly apparent among outcome indicators, which showed poor rankability and generally limited discriminative ability. Conversely, combining data across several years improved rankability, illustrating that an indicator's performance depends not only on what is measured, but also on how and over what timeframe it is operationalized.[3-5]

These findings are especially consequential when QIs move beyond internal quality improvement to provider comparison and public reporting. Observed differences between hospitals are not necessarily equivalent to systematic differences in quality, and unreliable performance estimates may therefore lead to misleading conclusions about provider performance.[3-5] Verheul et al consequently raise a question that extends well beyond the Dutch breast cancer registry: before asking how providers perform on a QI, should we first establish whether

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that indicator is capable of measuring quality fairly and meaningfully?

This question also invites a broader reflection on what QIs are ultimately intended to capture. Quality assessment has traditionally been conceptualized through Donabedian's domains of structure, process, and outcome,[6] an approach that remains central to contemporary breast cancer quality measurement.[2,7] The NBCA includes indicators addressing dimensions such as multidisciplinary organization of care, treatment selection and timing, recommended clinical practices, surgical outcomes, complications, and participation in clinical trials.[3] Such indicators remain essential: they can reveal unwarranted variation, identify opportunities for improvement, and provide a framework for evaluating healthcare performance.[2,6,7] Yet technical performance represents only one dimension of high-quality breast cancer care.

This distinction becomes particularly important when several clinically appropriate options exist. Excellent performance on a process indicator does not necessarily imply that excellent care has been delivered from the patient's perspective. Two hospitals may demonstrate comparable adherence to evidence-based standards while differing substantially in whether information is understandable and timely, reasonable alternatives are discussed, individual concerns and preferences are elicited, and patients participate in decisions to the extent they desire. In preference-sensitive decisions, quality therefore cannot be reduced to guideline adherence alone. Appropriateness depends not only on whether an evidence-based intervention was delivered, but also on whether the intervention chosen emerged from an informed process and was concordant with the patient's preferences.[7,8] Importantly, this consideration begins at the level of guideline development. When more than one clinically reasonable option exists and the preferred course depends on an individual patient's values and preferences, guidelines should explicitly acknowledge the preference-sensitive nature of the decision rather than frame delivery of a particular intervention as an unequivocal standard of care. In such circumstances, intervention delivery or treatment uptake alone may be inappropriate as a QI, because variation may reflect informed, preference-concordant choices rather than differences in quality. Quality measurement should instead assess whether patients received the information and decision support needed to make an informed choice and whether the resulting care was concordant with their informed preferences.[9]

The NBCA itself illustrates both the growing recognition that quality assessment should incorporate the patient perspective and the challenge of translating this principle into routine measurement.[3] Patient-reported outcomes are represented within the QI set through a patient-reported outcome measure (PROM) response indicator incorporating validated instruments such as the European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire Core 30 (EORTC QLQ-C30), the breast cancer-specific module (EORTC QLQ-BR23), and the BREAST-Q. However, Verheul et al reported data availability below 1% for this indicator, precluding further empirical evaluation.[3] Thus, formally recognizing patient-reported outcomes as a relevant dimension of quality does not in itself ensure that they can be meaningfully incorporated into quality assessment or provider comparison. Patient-centred data must also be collected systematically and with sufficient completeness, validity, discriminative ability, and reliability to support their intended use.[3]

This implementation challenge should not weaken the case for patient-centred measurement. Rather, it reinforces the central lesson of Verheul et al: measures should be evaluated according to whether they are fit for purpose.[3] The next step in breast cancer quality measurement should therefore not simply be to expand the number of QIs, but to reconsider which dimensions of quality deserve to be measured and how they can be assessed rigorously.

This is particularly relevant because many decisions in breast cancer care are inherently preference-sensitive.[8] Treatment choice may depend not only on clinical factors but also on patients' goals, values, circumstances, and preferences.[10,11] Following mastectomy, for example, women may face decisions regarding whether to undergo reconstruction, its timing, and the reconstructive approach. In such settings, variation in treatment rates cannot automatically be interpreted as variation in quality. Indeed, the NBCA includes indicators measuring breast contour-preserving treatment and immediate reconstruction, and Verheul et al found these indicators to be substantially influenced by patient and tumour characteristics.[3] Their findings illustrate the difficulty of interpreting treatment selection itself as a marker of provider performance.

Case-mix adjustment is essential when patient and tumour characteristics influence QI scores, but it cannot determine whether the treatment ultimately delivered reflected what mattered to the individual patient. A technically appropriate and guideline-concordant treatment does not necessarily imply a high-quality decision.[9] A woman may receive an appropriate intervention while having insufficiently understood the available alternatives, their potential benefits and harms, or how their consequences relate to her priorities. Conversely, a less frequently selected option may represent excellent care when it follows informed deliberation and is concordant with the patient's values.[10,11]

Shared decision-making (SDM) is therefore an important bridge between evidence-based care and patient-centred quality.[11-13] For preference-sensitive decisions, quality should encompass not only what treatment was delivered, but also how that treatment was chosen. Relevant dimensions include whether reasonable alternatives were presented, benefits and harms were communicated in an understandable manner, individual preferences were elicited, and patients were supported in participating at their preferred level.[10,11] Decision quality consequently complements conventional process and outcome indicators by asking whether patients were adequately informed and ultimately received care aligned with their informed preferences.[8,10]

This perspective suggests a more balanced framework for breast cancer quality assessment integrating four

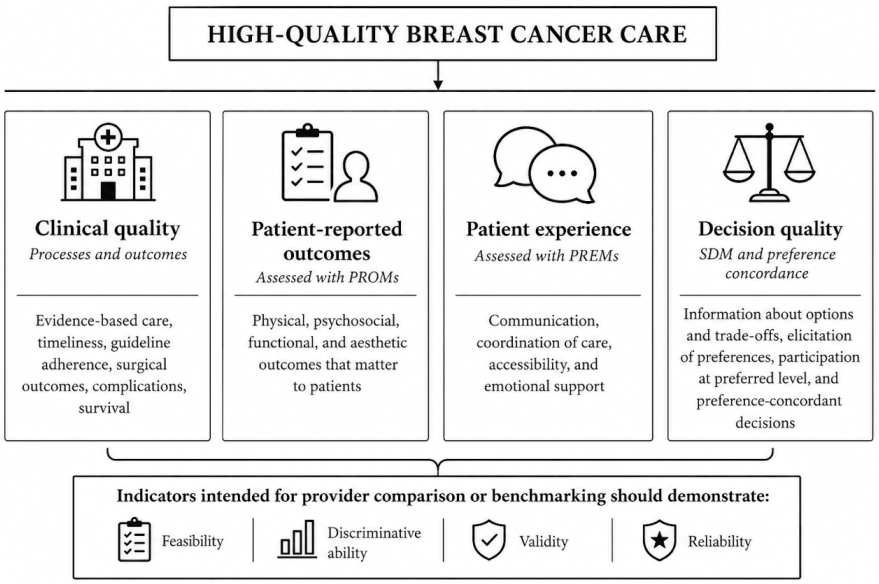

Figure. Key Domains Influencing Tailored Shared Decision-Making in Postmastectomy Breast Reconstruction and the Goal of Achieving Value-Congruent Decisions for Each Individual Woman. Abbreviations: PROMS, patient-reported outcome measures; SDM, shared decision-making; PREMs, patient-reported experience measures.

complementary domains: clinical quality, patient-reported outcomes, patient experience, and decision quality (Figure).

First, clinical quality should continue to encompass evidence-based process and outcome indicators, including timeliness of care, adherence to clinical recommendations, surgical outcomes, and complications.[2,6]

Second, patient-reported outcomes should capture whether care achieves outcomes that matter to patients. PROMs provide information directly from patients on dimensions such as health status, functioning, and health-related quality of life.[14,15]

Third, patient experience should reflect how patients experience the delivery of care. Patient-reported experience measures (PREMs) can capture dimensions of the care process such as communication, access, and coordination.[14,15]

Fourth, decision quality should assess whether patients were adequately informed, reasonable alternatives were discussed, participation reflected their preferred level of involvement, and the resulting decision was concordant with their informed values and preferences.[8,10,11]

These four domains should be regarded as complementary rather than interchangeable. Clinical indicators address whether care meets evidence-based standards and achieves acceptable clinical outcomes. PROMs capture outcomes reported by patients. PREMs assess patients' experiences of care. Decision-quality measures address whether preference-sensitive choices were reached through an informed and preference-concordant process.[8,10,11,14,15] Together, these domains provide a broader account of quality than treatment rates or clinical outcomes alone.

Importantly, broadening what is measured should not mean lowering the methodological threshold for measurement. Patient-centred measures should not automatically become national benchmarking indicators simply because they capture dimensions that are important to patients. As Verheul et al demonstrate, any measure intended for provider comparison should first satisfy rigorous standards of feasibility, validity, discriminative ability, and reliability.[3] PROMs, PREMs, and decision-quality measures should be held to the same methodological standards as conventional clinical indicators. Otherwise, healthcare systems risk replacing one imperfect measurement framework with another.

Building on the findings of Verheul et al, the priority should therefore not be to develop more QIs, but to develop better ones. Expanding indicator sets also increases measurement and data-collection burden, reinforcing the need to prioritize measures that provide meaningful and actionable information. Rather than asking primarily whether a metric can be collected, quality registries should ask whether it identifies meaningful differences in care, whether those differences can be interpreted fairly, and whether the information generated can support quality improvement.[3-5]

Indicators that cannot distinguish providers reliably, are substantially affected by factors unrelated to quality, or provide little actionable information should be reconsidered irrespective of their historical use or intuitive appeal. Conversely, measures that capture patient-centred dimensions should not be adopted for benchmarking until their feasibility and relevant measurement properties have been established. Methodological robustness is therefore not in tension with patient-centred measurement; it is what allows patient-centred measurement to become credible.

The broader contribution of Verheul et al extends beyond the NBCA and beyond breast cancer. Their study demonstrates that the existence of measurable variation should not be equated with meaningful variation in quality and reinforces the importance of evaluating whether QIs are fit for their intended purpose.[3-5] The same principle should guide the development and evaluation of the next generation of patient-centred indicators.

Yet methodological robustness should be regarded as a prerequisite rather than the endpoint of quality measurement. Breast cancer quality frameworks have strengthened our ability

to assess what care was delivered, whether recommended processes were followed, and what clinical outcomes were achieved.[2,3,7] The next generation of quality measurement should complement these questions with a more patient-centred one: Did we deliver the care that mattered to this patient?

Answering that question requires preserving rigorous clinical measurement while incorporating patient-reported outcomes, patient experience, and the quality of preference-sensitive decisions.[8,14,15] The ambition should therefore not be to measure more, but to measure what matters, and to measure it well.

Disclosure of artificial intelligence (AI) use

Not applicable.

Ethical issues

Not applicable.

Conflicts of interest

Author declares that she has no conflicts of interest.

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