

260: Developing actionable quality indicators; structure, process, and outcomes in breast cancer care

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Objective:

This study contributes to the development of actionable quality indicators by determining the relationship between structure, process, and medical as well as patient related outcomes, for breast cancer care in the region of the Comprehensive Cancer Centre North, Netherlands.

Methods:

For analysing the relationships between structure, process and outcomes of care, four primary sources of data are used. These sources include the Regional Cancer Registry, a patient satisfaction survey (outcome), a study on the hospital trial of breast cancer patients (process), and data on the internal organisation of hospitals (structure), derived from 'visitatie' (structural peer reviews). 14 of the 17 hospitals in the region of the Comprehensive Cancer Centre North Netherlands (IKN) are included in this study for the period 1998-2001, with 677 female breast cancer patients (BCPs) who filled in the Patient Satisfaction Questionnaire (Ware PSQ III). For 2,774 BCPs waits in days are calculated and for 3,610 BCPs are verified in the Cancer Registry if treatment was according to the guidelines.

The relationship between structure (organisational aspects) and process (waits) is analysed by t-tests. For the relationship between structure and outcomes, chi-square tests are used to determine whether compliance with guidelines differs on different values of organisational aspects of hospitals. We used Pearson correlations to examine the relation between waits and satisfaction of BCPs. For all statistical methods, the significance level was set at p-value <0.05. For the analyses we made a distinction in hospitals by size (number of beds), teaching status and input of BCPs a year.

Results:

- Access time (time from GP referral to first appointment at the outpatient department) as well as throughput time (time from first appointment to surgery), is significantly different on the aspects input, teaching status, and size of hospital. Hospitals with a high input and a teaching status have longer waits; middle-sized hospitals have shorter waits than small and large hospitals. For throughput time, the coordinating oncology nurse plays an important role. In hospitals with guaranteed continuity and a clear job specification of this function, the throughput time is significantly shorter. Also, in the case of an oncological consulting hour, structural meetings of the coordinating oncology nurse with the nursing staff, and clerical support, the throughput time is shorter.
- The percentage of compliance with guidelines differed significantly on the dimensions size of hospital and the number of breast cancer patients treated/year (input). It seems that the larger the hospital, the more patients were treated/year, and the better the guidelines are followed. Also, structural meetings of the oncology committee with the medical board, the presence of an oncological policy plan, and an oncological annual report, lead to a better adherence to guidelines. A well organised multidisciplinary oncology conference made a significantly positive difference in compliance with guidelines.
- On a hospital level, significant correlations were found between waits and satisfaction. Short access time and short throughput time result in better scores on satisfaction for access/availability.

Conclusions:

The results show that relationships between all three elements of quality of care exist. The outcomes (compliance with guidelines and satisfaction) appear to be related to differences in structure and processes of care. The results indicate that structure of care is significantly related to processes of care, which is in turn associated with improved outcomes (satisfaction). Besides that, structure is directly related to compliance of guidelines. This implies that structure of care elements might facilitate improving processes and outcomes of breast cancer care. Therefore, for indicators to be actionable, they need elements of structure and process and not only outcome elements. Input (number of BCPs/year), the teaching status and the size of the hospital, also seem to be important aspects to take into account when organising and structuring breast cancer care.