



Original article

Sustainability of short stay after breast cancer surgery in early adopter hospitals



S.M.C. Ament^{a,b,c,*}, F. Gillissen^{a,b,c}, J.M.C. Maessen^{a,d}, C.D. Dirksen^{a,b}, A.V.R.J. Bell^e, Y.L.J. Vissers^f, T. van der Weijden^{a,g}, M.F. von Meyenfeldt^h

^a CAPHRI, School for Public Health and Primary Care, Maastricht University Medical Centre, Maastricht University, P.O. Box 616, 6200 MD Maastricht, The Netherlands

^b Department of Clinical Epidemiology and Medical Technology Assessment, Maastricht University Medical Centre, P.O. Box 5800, 6202 AZ Maastricht, The Netherlands

^c GROW, School for Oncology & Developmental Biology, Maastricht University Medical Centre, Maastricht University, P.O. Box 616, 6200 MD Maastricht, The Netherlands

^d Department of Quality and Safety, Maastricht University Medical Centre, P.O. Box 5800, 6202 AZ Maastricht, The Netherlands

^e Department of Surgery, Laurentius Hospital, P.O. Box 920, 6040 AX Roermond, The Netherlands

^f Department of Surgery, Orbis Medical Centre, P.O. Box 5500, 6130 MB Sittard, The Netherlands

^g Department of Family Medicine, Maastricht University Medical Centre, Maastricht University, P.O. Box 616, 6200 MD Maastricht, The Netherlands

^h Department of Surgery, Maastricht University Medical Centre, P.O. Box 5800, 6202 AZ Maastricht, The Netherlands

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ABSTRACT

Between 2005 and 2007 a short stay programme for breast cancer surgery was successfully implemented in early adopter hospitals. The current study evaluates the sustainability of this success five years following implementation.

A retrospective audit of 160 consecutive patients undergoing breast cancer surgery was performed five years following implementation of short stay.

The total proportion of patients treated in short stay was 82% (hospital 1 83%, hospital 2 78%, hospital 3 87%, hospital 4 80%) after five years follow-up, which was comparable to the proportion in short stay directly after implementation ($p = 0.938$). Overall compliance to the key recommendations to facilitate short stay after breast cancer surgery increased from 65% directly after implementation to 78% five years after implementation.

This study shows that short stay after breast cancer surgery was successfully sustained in early adopter hospitals five years following implementation.

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Introduction

Breast cancer care is constantly advancing and adapting to new findings and changing needs. As a result, treatments are improving and care is becoming more complex, specialized and given in a multidisciplinary setting [1]. However, further quality and efficiency improvement in breast cancer care is needed, given the fact that the breast cancer incidence is still raising worldwide as a

consequence of the ageing population and increased mammographic screening [2]. As the majority of these patients undergo surgery, the growing breast cancer incidence will continue to put pressure on hospital care. Reducing hospital length of stay is one way to improve efficiency. From 2001 to 2002, a short stay programme for breast cancer surgery was introduced in a pilot study at the Maastricht University Medical Centre (MUMC). This resulted in a significant reduction in mean length of hospital stay. Recently, other implementation studies confirmed that short stay after breast cancer surgery can be effective, efficient and feasible while enhancing the quality of care [3–7]. Unfortunately, these studies addressed only short term effects of implementing short stay in breast cancer surgery care. Currently, it is unknown whether achieved implementation results of short stay in breast cancer surgery care are maintained in the real world.

* Corresponding author. Department of Clinical Epidemiology and Medical Technology Assessment, Maastricht University Medical Centre, P.O. Box 5800, 6202 AZ Maastricht, The Netherlands. Tel.: +31 43 387 1591.

E-mail addresses: stephanie.ament@mumc.nl, stephanie.ament@maastrichtuniversity.nl, sushi.studie@mumc.nl (S.M.C. Ament).

Between 2005 and 2007, short stay after breast cancer surgery was successfully introduced in early adopting hospitals in the Netherlands. The aim of the implementation project was to increase the proportion of patients treated in short stay while maintaining the quality of care as perceived by patients. The short stay programme comprised streamlining the multidisciplinary pathway and improving patient information [8]. Short stay was implemented by means of a hospital tailored implementation strategy, meaning that the strategy was shaped to the specific circumstances and needs of the hospital (staff). Initial implementation results showed that the implementation strategy was successful. The implementation study showed an overall increase from 45% to 82% in uptake of short stay without a negative effect on quality of life or patient satisfaction, number of readmissions and complications [9]. Moreover, mean societal costs decreased €955,- per patient treated in short stay, compared with patients treated in care as usual [6].

Typically, introduction of innovations in daily practice is project based with an important role of the change agent, who may be an external stakeholder such as e.g. an academic research group. After the implementation phase, the challenge is to internalize and normalize the change and to sustain achieved quality improvements [10,11]. Sustaining change means maintaining quality improvements for a longer period of time [12,13]. Sustaining quality improvement, however, is not self-evident as it is a dynamic and complex process [14–17]. Embedding multidisciplinary treatment of patients in short stay admission needs, besides restructuring care, for example also a structural change in mindset by professionals and patients. Returning to the old routines would waste the invested money and time while care would remain inefficient. Therefore, a long term approach of holding implementation gains is needed when embedding change. Unfortunately, not much research has been conducted regarding the extent of sustainability once an innovation has been implemented [16].

The aim of this paper is to evaluate the sustainability of a short stay programme in breast cancer surgery care after initially achieved implementation successes. The sustainability evaluation is illustrated by an implementation case focused on short stay after breast cancer surgery in early adopting hospitals. More insight in sustained implementation success in the real world is useful for professionals, managers and researchers who decide to implement innovations.

Materials and methods

Design

Performance regarding breast cancer surgery care was measured prospectively as part of the primary implementation study before implementation (2005–2006, pre-implementation: PRE group) and directly after implementation (2006–2007, early post-implementation: POST group) [8]. In the present study, sustainability of a short stay programme in breast cancer surgery care was evaluated using a follow-up measurement five years following implementation (LATE POST group). The retrospective audit of patient records of the LATE POST group was performed between May 2012 and December 2012. The study protocol has been published elsewhere [18] and the Medical Research Ethics Committee of the University of Maastricht has granted approval, METC 11-4-015.10.

Participants

Hospitals

The same hospitals which participated in the primary implementation study were included in this study, covering four main organizational hospital settings in the Netherlands.

Patients

The same in- and exclusion criteria were used as in the primary implementation study. Patients who were over 18 years old, diagnosed with breast cancer and had undergone breast surgery were eligible. Patient records of the last consecutive 160 patients who had been scheduled for breast cancer surgery (40 patients per centre) were audited, the same number as the PRE and POST measurement.

Variables for sustainability evaluation

There is no uniform definition or method to evaluate the sustainability of healthcare innovations [16]. We defined sustainability in the study protocol as: “Sustainability of change exists when a newly implemented innovation continues to deliver the achieved benefits over a longer period of time, certainly does not return to the usual processes and becomes ‘the way things are done around here’, even after the implementation project is no longer actively carried out, until a better innovation comes along” [18]. Sustainability of a short stay programme in breast cancer surgery was assessed with respect to two sustainability measures: (1) continuation of delivering the achieved benefits in terms of achieved overall proportion of patients treated in short stay and (2) continuation of overall adherence to the key recommendations of the programme to facilitate short stay after breast cancer surgery.

Proportions of patients treated in short stay

The same outcome was used as in the primary implementation study (additional file 1), namely the proportion of patients treated in short stay. Short stay admission comprises treating patients in day admission or in overnight admission (24 h admission). The aim of the primary implementation study was to increase the proportion of patients treated in short stay. In the current study, the primary outcome was assessed as sustained if the overall proportion of patients treated in short stay did not decrease compared to the POST group. Also, the proportion of patients treated in day admission, the proportion of patients planned in short stay, the duration of hospital admission, and the reasons for inpatient care were determined.

Key recommendations to facilitate short stay

Thirteen key recommendations had been developed and implemented in the primary implementation study. The key recommendations were aimed to improve the quality and efficiency of the breast cancer surgery care process. The rationale behind the key recommendations is that a more streamlined care process fits and complements the short stay approach for breast cancer surgery. In this evaluation a selection of the key recommendations was made based on two criteria [8]: (1) adherence to the key recommendation was measured in the primary implementation study and (2) measurement of adherence to the key recommendation was possible by auditing patient files (additional file 2). The following six key recommendations were checked in this evaluation:

- The interval between referral and first visit to the breast unit is five working days or less
- Treatment is discussed in a preoperative multidisciplinary meeting
- The interval between diagnostic tests and informing patients about the results is five working days or less
- The interval between the decision to operate and surgery is fifteen working days or less
- The general practitioner is informed about diagnosis, treatment plan and potential side-effects prior to surgery

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