

# Trends in the treatment of breast cancer in Southeast England following the introduction of national guidelines

**Daniela Tataru, David Robinson, Henrik Møller, Elizabeth Davies**

King's College London, Thames Cancer Registry, 1st Floor Capital House, 42 Weston Street, London SE1 3QD, UK

Address correspondence to David Robinson, E-mail: dave.robinson@kcl.ac.uk

## ABSTRACT

There is little published evidence on trends in the treatment of breast cancer in England following the publication of the Calman-Hine report in 1995. Reliable national data are available for women with screen-detected breast cancer, but data on women presenting symptomatically have been difficult to collect. Using data from both a clinical audit database and a population-based cancer register, we show that between 1996 and 2003 the rates of mastectomy and chemotherapy treatment for women with breast cancer in Southeast England have increased marginally, whereas there has been a steady decline in the use of hormone therapy and radiotherapy recorded within 6 months of diagnosis.

**Keywords** breast cancer, treatment, trends, Calman-Hine

## Introduction

There are little published data on trends in the treatment of breast cancer following the recommendations of the Calman-Hine report and subsequent evidence-based guidelines.<sup>1,2</sup>

In the United Kingdom, routine cancer registration data are often seen as insufficiently detailed to monitor clinical practice, and in 1996 the British Association of Surgical Oncologists set up a national audit for this purpose. However, to date, limited national trends for key clinical outcomes and targets are available only for patients identified through the breast-screening programme.<sup>3</sup> The collection of data on patients presenting symptomatically has proved more difficult.

A recent study,<sup>4</sup> based on a comparison of the two diagnosis years 1996 and 2001, found that care for breast cancer has improved in northern Ireland following the recommendations of the Campbell report.

We present an analysis of trends in treatment for women diagnosed with primary breast cancer between 1996 and 2003, using the clinical database of the North Thames Prospective Audit of Breast Cancer and the cancer registration database for all women in Southeast England collected by the Thames Cancer Registry.

## Methods

The clinical database was set up in 1996 to collect data on women diagnosed with primary breast cancer in 29 trusts in the North Thames region. The registration database began in 1960

and currently covers a population of 14 million people living in Southeast England. Data on the date of diagnosis and details of treatment with surgery, chemotherapy, radiotherapy and hormone therapy were extracted from both the databases. Data on oestrogen receptor status were not recorded on the register but were extracted where available from the clinical database. Information on treatment received more than 6 months after diagnosis is not routinely recorded on the registration database, although the clinical database includes data on later treatments. For comparability purposes, only treatments received within 6 months of diagnosis were included in the analysis. Data were available on 18 582 women from the clinical database and 76 644 women from the cancer registration database.

## Results

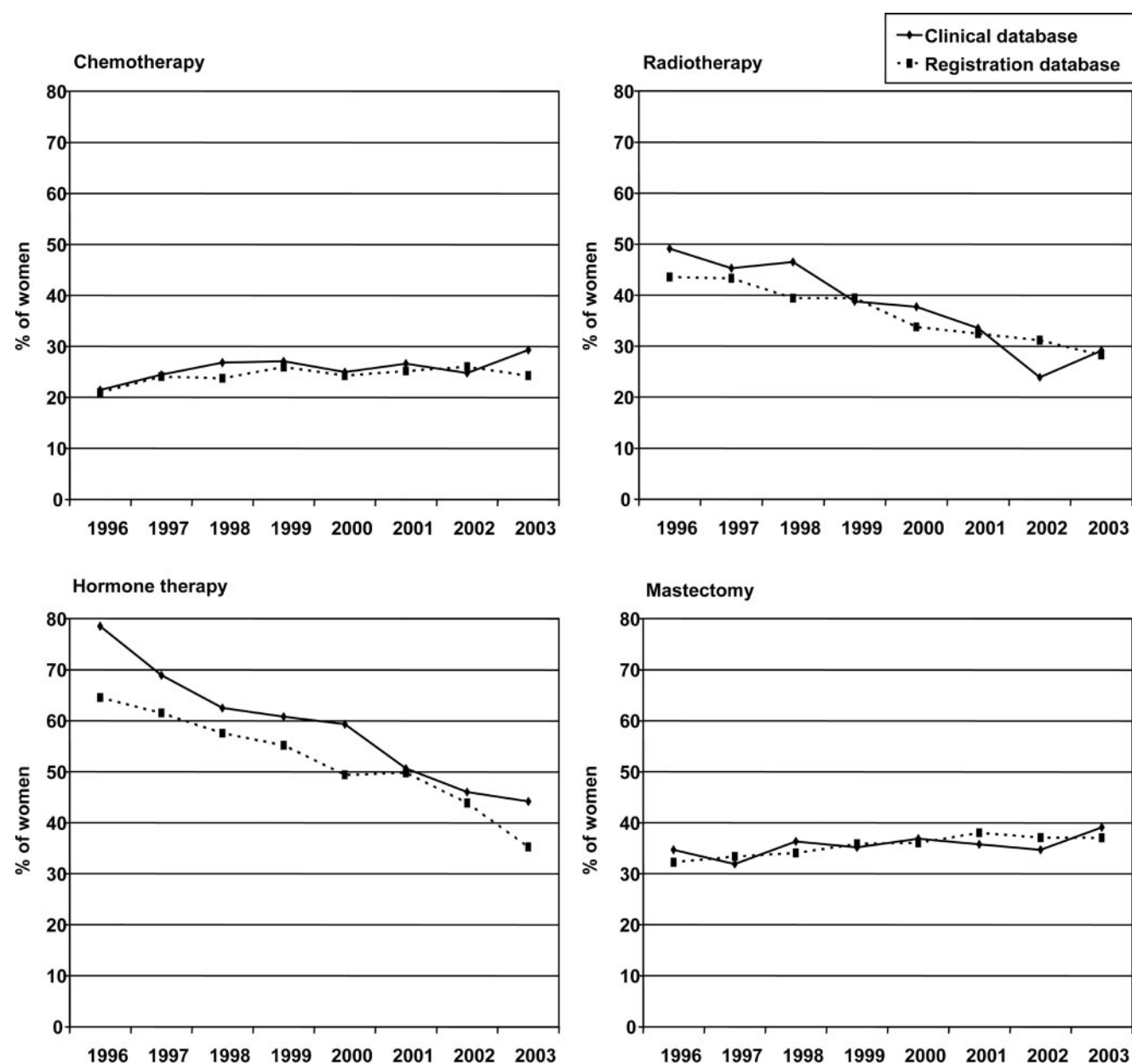
Fig. 1 shows trends in the treatments between 1996 and 2003. In the clinical data, the proportion of women receiving chemotherapy increased from 21% in 1996 to 27% in 1998, remained relatively constant until 2002 and then increased to 29% in 2003. The trend for the registration data was similar, showing a constant proportion at around 25% from 1997 to 2003.

**Daniela Tataru**, Information Analyst

**David Robinson**, Honorary Senior Lecturer

**Henrik Møller**, Director

**Elizabeth Davies**, Senior Lecturer



**Fig. 1** Trends in chemotherapy, radiotherapy, hormone therapy (in all women) and in mastectomy (in women treated with surgery) within 6 months of diagnosis for breast cancer patients in Southeast England during 1996–2003, using data from the North Thames Prospective Audit of Breast Cancer clinical database and from the Thames Cancer Registry database.

The proportion of patients receiving radiotherapy declined continuously from 49% in 1996 to 29% in 2003 in the clinical data, with a similar decline from 44 to 28% in the registration data. The decline in the proportion receiving hormone therapy was steeper, with the proportion decreasing from 79% in 1996 to 44% in 2003 in the clinical data and from 65 to 35% in the registration data.

Seventy-five percent of cases in the clinical dataset and 67% of cases in the registration dataset had therapeutic surgery. In these

patients, slight upward trends were observed in both the datasets in the proportion having mastectomy, increasing from 35 to 39% in the clinical data and from 32 to 37% in the registration data.

## Discussion

In both the clinical database and the cancer register, we found that the rates of mastectomy and chemotherapy treatment changed little between 1996 and 2003, but there was a steady

decline in the use of both hormone therapy and radiotherapy for breast cancer within 6 months of diagnosis.

The decline in the use of hormone therapy is likely to be because of increased testing for oestrogen receptor status, leading to better targeting of treatment. The proportion of women in the clinical database with known oestrogen receptor status increased steadily from 0% in 1996 to 67% in 2003 (data not shown). Moreover, of the women with known status who received hormone therapy, the proportion who were receptor positive increased from 68% in 1997 to 96% in 2003. However, even in receptor-positive women, there was a decline from 73 to 61% over this period in the proportion receiving hormone therapy. This may reflect the later prescription of hormone therapy in women undergoing chemotherapy or the prescription of hormone treatment in primary care rather than in hospital. In such circumstances, neither the clinical nor the registration database would capture the initial prescription within the first 6 months after diagnosis.

The observed decrease in the use of radiotherapy may in part be because of an increase in the length of adjuvant chemotherapy courses or the known increase in waiting times for radiotherapy treatment in recent years,<sup>5</sup> both of which would result in an increasing number of women receiving treatment more than 6 months after diagnosis and hence being excluded from our analysis. Indeed, in the clinical dataset, the proportion of women receiving radiotherapy who waited more than 6 months after diagnosis for treatment increased from 6.5% in 1996 to 32% in 2003.

Our findings are similar in some aspects to those from the Irish study,<sup>4</sup> which found that the mastectomy rates increased from 31 to 36% between 1996 and 2001 and that, while the prescribing of hormonal therapy declined from 94 to 76%, there was an increase in the appropriate use of this treatment in relation to receptor status. However, this earlier study found a larger increase in the proportion receiving chemotherapy

(from 26 to 40%) than that observed in our study and also an increase (from 56 to 74%) in the proportion receiving radiotherapy.

The similarity of the trends we have found in both the clinical and the registration datasets suggests that these represent real changes in cancer care in Southeast England. The clinical database, with the more detailed information on breast cancer patients that it contains, should enable us to study these and other trends (e.g. performance against established clinical standards) in greater depth.

## Acknowledgements

We thank the hospitals for providing the audit data and clinical colleagues for their advice. Health authorities in the former North Thames Region provided the funding for the North Thames Prospective Audit of Breast Cancer.

## References

- 1 Cancer Guidance Sub-Group of the Clinical Outcomes Group. *Improving Outcomes in Breast Cancer: Guidance for Purchasers – The Manual*. London: Department of Health, 1996.
- 2 British Association of Surgical Oncology (BASO). Guidelines for surgeons in the management of symptomatic breast disease in the United Kingdom. *Eur J Surg Oncol* 1995;**21**(Suppl. A):1–13.
- 3 Sauven P, Bishop H, Patnick J *et al*. The National Health Service Breast Screening Programme and British Association of Surgical Oncology audit of quality assurance in breast screening 1996–2001. *Br J Surg* 2003;**90**:82–7.
- 4 Monaghan P, Murray L, Donnelly M *et al*. Breast cancer services – a population-based study of service reorganization. *J Public Health (Oxf)* 2005;**27**:171–5.
- 5 Robinson D, Massey T, Davies E *et al*. Waiting times for radiotherapy: variation over time and between cancer networks in southeast England. *Br J Cancer* 2005;**92**:1201–8.