Patient navigation for breast and colorectal cancer in 3 community hospital settings: an economic evaluation

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Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

CRD summary
The study examined cost-effectiveness of breast and colorectal cancer patient navigation programmes compared with standard care in community hospitals that served socio-economically disadvantaged populations. The authors concluded that the programmes provided value for money from the perspective of the health care payer for patients suspected of having breast or colorectal cancers. The analysis used a conventional cost-effectiveness framework that relied on implementation data for patient navigation programmes in three hospitals. The authors’ conclusions appear valid.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
The study examined the cost-effectiveness of breast cancer and colorectal cancer patient navigation programmes compared with standard care in community hospitals that served socio-economically disadvantaged populations.

Interventions
The patient navigation programme for breast cancer and colorectal cancer aimed to improve access to cancer screening, ensure timely delivery of services and eliminate barriers to care. Patient navigation programmes focused on the movement of the patient into and through the continuum of care by ensuring that patient attain resolution in a timely manner after a suspicious finding.

The comparator was standard care at community hospitals.

Location/setting
USA/community hospitals.

Methods
Analytical approach:
This economic evaluation was based on a decision analytic model with a one-year time horizon. The authors stated that the perspective of the health care payer was adopted.

Effectiveness data:
It appeared that data sources were identified selectively. Patient navigation programme data were taken from the implementation of specific programmes at three sites in USA. Standard care data for this patient population came from USA surveillance databases – such as Centers for Disease Control and Prevention (CDC) and National Breast and Cervical Cancer Early Detection Program – which issued guidelines for conventional management of patients. Adherence to cancer screening, loss to follow-up after an abnormal screening and adherence to treatment was a key input of the model.

Monetary benefit and utility valuations:
Not considered.

Measure of benefit:
The summary benefit measure was decrease in time between an abnormal screening and diagnostic resolution.
Cost data:
The economic analysis included programme costs (personnel, materials, supplies, facilities, and additional care provided) taken from reports of the implementation of programmes in three sites in USA. Cancer-attributable costs were based on published sources from a large health maintenance organisation in USA. Costs were in US dollars ($). The price year was 2010.

Analysis of uncertainty:
Univariate sensitivity analyses were carried out to identify the most influential inputs. Ranges of values were based on published sources or conventional estimates.

Results
In breast cancer patients at the three community hospitals under examination the patient navigation programme saved $2,192,805 in comparison with standard care and led to cancer diagnostic resolution in an additional 78 patients; it was a dominant strategy. When excluding costs of medical treatment saved, the incremental cost per diagnostic resolution was $944 (range $511 to $2,080 depending on the model assumptions).

In colorectal cancer patients the patient navigation programme saved $355,587 in comparison with standard care and led to cancer diagnostic resolution in additional 21 patients. When excluding costs of medical treatment saved the incremental cost per diagnostic resolution was $3,567 (range $1,192 to $9,708).

The most influential inputs were personnel costs and efficacy of standard care.

A threshold analysis showed that the programme would need to prevent at least three breast cancer deaths or four colorectal cancer deaths for the intervention to be cost-saving.

Authors’ conclusions
The authors concluded that patient navigation programmes provided value for money from the perspective of the health care payer in comparison with standard care for patients suspected of having breast cancer or colorectal cancer.

CRD commentary
Interventions:
Comparator selection was appropriate as the proposed intervention was compared to usual care. The programme considered was implemented in real practice in USA.

Effectiveness/benefits:
The impact of patient navigation programmes in reducing the time from abnormal screening to diagnostic resolution was based on real estimates from the programme in three large sites in USA and this appeared to be a valid source. The impact of standard care was based on United States guidelines that might not fully reflect the real clinical results (although based on large databases). Sensitivity analysis was made on this parameter.

The benefit measure was specific to the study objective and the strategies compared and did not enable comparisons with other diseases.

Costs:
Types of costs included in the analysis and their sources were consistent with the perspective of the study. The authors pointed out that costs of capital items and start-up costs of the programme were not considered as they were incurred before the time period of the cost analysis. Costs were presented as macro-categories and were not broken down in individual items. In effect, details of unit costs and quantities of resources used were not given. Programme costs were taken from the real implementation of patient navigation programmes in three sites. Cancer costs were taken from health maintenance organisations. These were representative of the authors’ setting. The price year was reported appropriately.

Analysis and results:
Study results were reported clearly for the base case scenarios and the ranges of estimated costs and benefits. The authors pointed out that the time horizon was appropriate to capture the efficacy of the programmes under examination.
A deterministic approach was used to investigate the issue of uncertainty and key findings were reported. Study findings should be considered specific to the USA setting and cannot be transferred to other countries.

Concluding remarks:
The analysis used a conventional cost-effectiveness framework that relied on data derived from the implementation of the patient navigation programmes in three hospitals. The authors’ conclusions appear valid.

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