Evaluation of the clinical pathway for laparoscopic bariatric surgery

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
This study examined the clinical and economic impact of the implementation of a clinical pathway that defined protocols for the care of patients, who were morbidly obese and were undergoing laparoscopic bariatric surgery. The authors concluded that the implementation of the clinical pathway reduced the hospital stay and costs, and the variability in care. There were several limitations to the study validity and the authors' conclusions should be considered with caution.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
This study assessed the cost-effectiveness of a clinical pathway (comprehensive patient care plan) for patients, who were morbidly obese and were undergoing laparoscopic bariatric surgery, compared with no pathway.

Interventions
The clinical pathway for laparoscopic bariatric surgery consisted of three main protocols. One protocol was for treatment and care immediately after surgery; the second protocol was for thrombolytic prophylaxis; and the third protocol outlined the criteria for hospital discharge. All three of these protocols were fully described.

Location/setting
Spain/secondary care.

Methods
Analytical approach:
The analysis was based on a single observational study, with a one-year time horizon. The perspective adopted was not explicitly stated by the authors.

Effectiveness data:
The clinical data were from a prospective comparative study, with a historical control, carried out in a single centre between September 2005 and September 2006. The sample consisted of 49 consecutive patients in the period before the introduction of the clinical pathway and 76 patients following its introduction. The inclusion and exclusion criteria were clearly specified and were the same for both groups of patients. The length of follow-up was limited to the length of hospital stay. The primary clinical endpoints were the average hospital stay, the compliance rate, patient satisfaction, and the number of complications.

Monetary benefit and utility valuations:
Not relevant.

Measure of benefit:
There was no summary measure of benefit.

Cost data:
Accounts data was provided by the institution (J.M. Morales Meseguer Hospital in Murcia) to derive the average cost per procedure. This was the only cost analysed and it comprised staff, materials, laboratory, and surgery costs. All costs were reported in Euros (EUR) and comparisons of the costs between the two groups were conducted using the Student's
t-test.

Analysis of uncertainty:
Not reported.

**Results**
Without the clinical pathway, the mean length of stay was 7.95 days (±3.52) compared with a mean length of stay with the clinical pathway of 5.14 days (±2.48); this difference was statistically significant (p<0.001).

Complications without the clinical pathway were one case of anastomotic leak, two patients with bleeding, and one death. Complications with the clinical pathway were four cases of bleeding, two readmissions, and one death.

Patient satisfaction was measured with the clinical pathway, but not without. With the clinical pathway, 99% of patients felt that the medical attention received was satisfactory and 90% considered that their length of stay was adequate.

The mean cost per procedure was EUR 5,270 (±2,251) without the clinical pathway and EUR 4,532 (±1,753) with the clinical pathway.

**Authors’ conclusions**
The authors concluded that the implementation of the clinical pathway for laparoscopic bariatric surgery in morbidly obese patients reduced the variability in care, the costs, and the hospital stay.

**CRD commentary**

**Interventions:**
The intervention was reported in detail and was compared with the usual practice before its implementation.

**Effectiveness/benefits:**
Observational, before-and-after, studies have some limitations, such as bias and confounding, and these were not discussed nor addressed by the authors. There was no discussion on the comparability of patients at baseline and no demographic and baseline characteristics were presented. The sample was selected using predefined criteria, which were reported, but this does not mean that the groups were comparable.

**Costs:**
The economic viewpoint was not explicitly reported, but appears to have been that of the institution providing the intervention. The required components of an economic evaluation (a comparison of the costs and effects of two interventions) were presented, but this was not the aim of the analysis. The primary aim seems to have been to demonstrate the benefit of the clinical pathway to the department and the costing was superficial and was used as an indication of effectiveness. Only the mean costs were reported, with no breakdown of resources nor unit costs.

**Analysis and results:**
No summary measure was derived and the issue of uncertainty was not addressed. The clinical pathway reduced the variability in care, but the lack of reporting of the clinical comparability of the two groups and of the cost data means that it is not clear that there was a reduction in the costs and hospital stay. There were a number of limitations, and these were not discussed by the authors.

**Concluding remarks:**
There were several limitations to the study validity and the authors’ conclusions should be considered with caution.

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