

## Quality control in outpatient surgery: what data are useful?

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### Abstract

Quality control is mandatory, not only for inpatients but also for ambulatory surgery. We propose a list of indices which respond to the key properties of health care that have been defined by Donabedian. These indices should be part of a computerized quality control program which allows comparative evaluation between different centers. © 1998 Elsevier Science B.V. All rights reserved.

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### 1. Introduction

Quality assessment and measuring quality care have gained importance in most Western societies for several different reasons. Quality control (QC) is not new; every surgeon, every clinic or department and every hospital has for centuries published their results in the form of statistics of mortality and morbidity as well as their success rates. Today, due to the rising costs of health care, politicians, health organizations, insurance companies, patients' associations and any money provider involved in the field of medicine want to have exact data and indicators about the quality of care and the state of the art. These indicators should allow comparisons, better control and follow-up of the status and performance of any single physician or of any medical institution. We can no more say 'we did our best...' but we must be able to prove that 'we did the best today achievable and if not, why?'

This concept gives rise to accreditation systems, to guidelines and to the definition of standards. This concept also allows political authorities to reorientate the health care system, to adapt their funding and to organize hospital-wide surveillance activities.

Quality assessment begins with measuring the patient's access to the health care system and proceeds to involve their experience within the system until discharge.

Quality control means continuous evaluation of structure, process and outcome.

### 2. Key properties of health care

Donabedian [1] defined the key properties of health care that have to be monitored to ensure quality:

**Effectiveness:** the ability to attain the greatest improvements in health now achievable by the best care.

**Efficiency:** the ability to lower the cost of care without diminishing attainable improvements in health.

**Optimality:** the balancing of costs against the effects of care on health (or on the benefits of health care, meaning the monetary value of improvements in health) so as to attain the most advantageous balance.

**Acceptability:** conformity to the wishes, desires and expectations of patients and responsible members of their families.

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**Legitimacy:** conformity to social preferences as expressed in ethical principles, values, norms, mores, laws and regulations.

**Equity:** conformity to a principle that determines what is just or fair in the distribution of health care and of its benefits among the members of a population.

Most of the published data concerns hospital inpatients and hospital stays. There does not appear to be any information concerning only surgical outpatients. We therefore tried, according to these definitions of key properties, to develop some index which may be routinely calculated to control the quality of an outpatient surgical facility. These indices are outlined below.

### **3. To prove the effectiveness of ambulatory surgery in an outpatient facility**

**Number of preoperative and postoperative complications:** these complications should be listed in the anaesthetists' records and in the clinical notes after any surgical procedure. Improvement and QC should help in reducing the incidence of complications to a minimum, ideally nil.

**Number of secondary and unplanned hospitalizations and their reasons:** if a surgical procedure has been planned as an outpatient procedure, every secondary hospitalization means a failure in the selection system or occurrence of a complication. A reduction of the numbers of secondary hospitalizations means improvement in the selection system.

**Time off work and the comparison between inpatients and outpatients operated on for an identical lesion:** we should be able to demonstrate that ambulatory surgery results in a reduced time off work, not only because hospitalization is avoided but also because patient's fears are diminished. Comparison should be established in one institution between all patients, inpatients and outpatients, treated for the same condition.

**Number of postoperative appointments until complete healing:** for one type of surgical procedure, any reduction in the number of postoperative appointments means an increase in security and a better control and prevention of complications.

**Number of postoperative emergency calls:** a reduced number of postoperative emergency calls means that patients were well selected and prepared to undergo surgery as an outpatient.

### **4. To prove the efficiency of ambulatory surgery in an outpatient facility**

**Theatre occupation rate:** a theatre devoted exclu-

sively to outpatient surgery should demonstrate a high occupation rate. Time between two procedures should be as low as possible. Occupation rate, therefore, gives precise information about the quality of management.

**Cancellation rate:** if patients are well selected and well informed about the procedure they will undergo, the cancellation rate will be low.

**Evaluation of the number of inpatients and outpatients operated on for an identical lesion:** one of the aims of ambulatory surgery is to reduce the number of inpatient hospital stays. It is therefore necessary to analyze precisely the number of patients treated for the same condition as inpatients and as outpatients. Any rise in the proportion of outpatients tends to prove the efficiency of such an approach.

**Evolution of a comparative ratio between expenses and billed incomes:** the efficiency of management can be estimated by any reduction in this ratio and also for a given ratio larger than the number of patients treated.

**Number of hospital days saved because of ambulatory surgery:** one of the justifications of ambulatory surgery is that the number of days of hospital stay may be saved. For one surgical procedure, mean hospital stay multiplied by the number of outpatients treated for the same condition gives the number of days of hospitalization which are saved. These numbers may be criticized as patients treated as inpatients are probably in worse condition, frailer and older than the outpatients.

### **5. To prove the optimality of ambulatory surgery in an outpatient facility**

**Comparative costs of ambulatory and inpatient surgery linked to various surgical procedures:** only real costs should be considered and not lump amounts paid by insurances or fees for 1-day-stay. To be exhaustive, the cost for one given procedure should also include the cost of postoperative treatment for outpatients as well as posthospital costs for inpatients and costs resulting from time off work. Optimality of outpatient treatment can be demonstrated if costs are reduced per case as well as for a given case-mix.

### **6. To prove the acceptability of ambulatory surgery in an outpatient facility**

**Number and percentage of non-attending patients:** the number and percentage of patients planned for an outpatient procedure who don't attend the facility should be as low as possible in order to keep the theatre occupation rate as high as possible and to avoid any last minute change in the operative pro-

gram. Patients don't attend for involuntary reasons (intercurrent disease, death, familiar problems, transportation failure, etc.) which are unavoidable and for reasons like patient's fear or incorrect psychological preparation which can be controlled and reduced by better preoperative evaluation and information.

Adequacy of postoperative analgesia: postoperative analgesia is one of the most difficult problems we have to deal with in outpatient surgery as it is very patient related. Could pain be controlled? Was pain bearable? If 'yes' treatment is adequate.

Patient satisfaction index: patient satisfaction may be estimated in different ways. Patient satisfaction does not always equal surgeon satisfaction but is an important component of any quality control program. Telephone follow-up surveys or patient satisfaction questionnaires may be developed to analyze all the different phases of the organization. These should be undertaken continually in order to identify precisely what can be done to improve patient satisfaction.

#### **7. To prove the legitimacy of ambulatory surgery in an outpatient facility**

Family satisfaction index: is the patient's family satisfied by the outcome following outpatient surgery? Was the family able to take care of the patient? Would things be easier for them if the patient had stayed in the hospital? Family satisfaction should be as high as possible and efforts continually made to improve it.

#### **8. To prove the equity of ambulatory surgery in an outpatient facility**

Comparative index of in/outpatient with or without private insurance treated for the same condition: to prove that everybody has easy access to outpatient surgery and that no bias results from the insurance system, we should determine for each condition how many patients with and without private insurance were treated as inpatients and as outpatients. The proportion of patients with or without private insurance should be the same in both groups of inpatients and outpatients if there is no financial bias.

#### **9. Conclusions**

The indices we propose will be part of a permanent computerized quality control program we are developing for our outpatient surgical center. We think that each outpatient surgical center should develop and use some quality control indices in order to compare their own results with those of other centers. It is also important that reliable data and indices help not only the management but also the physicians, nurses and all personnel involved in an outpatient facility to improve outpatient care.

#### **References**

- [1] Donabedian A. Defining and measuring the quality of health care. In: Wenzel RP, editor. *Assessing Quality Health Care*. Baltimore: Williams and Wilkins, 1992:41–64.