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A clinician's guide to the use of quality terminology

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Introduction

Inevitably the ongoing crusade for quality did also reach the Intensive Care community. Due to their complex organization, their multidisciplinary functioning, the high workforce and technology costs involved, ICUs can even be viewed as model services, reflecting the overall health care situation in an accentuated way [1]. An ever-expanding spectrum of highly developed medical care, paralleled by a constantly increasing demand for its sophisticated services clashes with an economical system whose resources are clearly limited and a society which seems no longer ready to come up for the terrifying costs of this development. Financial restraints presently lead to an increasing pressure on ICUs to prove that their expenses are justified and to demonstrate what quality of services they are offering [2]. In this context, clinicians feel increasingly harassed by discussions about cost-benefit or cost-utility aspects of their work [3]. They are drawn into discussions with people and agencies who would not have dared to contest the doctor's leading role a few years ago and, not enough, they have to struggle with an utterly new vocabulary. Discussions among intensivists themselves are regularly hampered by their diverging use of health care terminology.

It is understandable that many have reacted to the quality debate with frustration or just with plain disinterest [4]. But instead of risking humiliating sanctions by regulatory agencies, intensivists should take the lead and stay in charge of quality improvement. There is little we can do about the existing financial restraints [5],

but we can efficiently and forcefully participate in the ongoing processes around quality improvement and look for evidence that the care delivered and the technology used in our ICUs are indeed effective [6, 7]. For this we have to do our homework. Part of it is to get accustomed to the relevant terminology. This position paper describes some general principles of quality control, distinguishing between the areas structures, processes and results. It then presents the most commonly used terms in the field of quality improvement and health economics [8, 9].

Quality concepts in general

The European Organization for Quality Control has defined 'quality' as: 'The total of features and characteristics of a product or service that bear on its ability to satisfy a given need'. The introduction of quality management principles into the field of medical care was importantly advanced by the work of Donabedian [10]. His already classical definition was formulated in 1980, which says that quality is "that kind of care which is expected to maximize an inclusive measure of patient welfare, after one has taken account of the balance of expected gains and losses that attend the process of care in all its parts." He also proposed seven attributes of a health care system that would define its quality: efficacy, effectiveness, efficiency, optimality, acceptability, legitimacy and equity. Another often cited and probably the most used definition for quality in medicine was suggested 10 years later by Lohr [11]: ".the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge."

According to Donabedian's concepts, overall quality comprises the three areas: structures, processes and results. For each area distinct main instruments to assess and control quality are suggested (Table 1).

Table 1 Relations between quality areas and management tools with their relative importance

	Standards	Guidelines	Indicators
Structures	XXX	X	X
Processes	XX	XXX	XX
Results/outcomes	X	XX	XXX

The appropriate instrument for planning, validating and assuring structural quality is a standard. Fulfilling standards represents a major prerequisite for the good structural quality of an ICU. However, good structures do not necessarily mean that processes run well and that the results are in agreement with the stated objectives. Process quality is mainly ensured by formulating and implementing guidelines for procedures. Medical audits are another important and efficient tool with which to continuously improve processes. Specific indicators are helpful for measuring process quality. Outcome quality is assessed by the use of indicators (e.g. risk adjusted mortality).

Quality improvement basically always follows the same circular pattern, which some prefer to call the audit process or the audit circle:

1. A relevant problem is identified and specified
2. A standard, preferably an accurately measurable one, is set
3. Quantitative data relevant to the problem are collected
4. Comparisons between measurements and objectives are made
5. Findings are implemented and turned into management decisions

From here on, the quality circle starts anew. New, hopefully higher standards and new objectives are set and structures and processes are refined in order to reach the goals.

Definition of terms

Some of the terms most frequently used in the literature about quality improvement are listed in alphabetical order:

Accreditation: A formal status granted to institutions or programs that meet or exceed stated standards of quality. It is usually the consequence of an audit wherein the mandatory improvements were listed and the quality of the service was graded.

Appropriateness: When the clinical benefit obtained outweighs the harms and costs involved.

Audit: A thorough, systematic examination of the processes and results of a health care service.

Capitation: Paying a provider a specific sum of money for the ongoing care of a person or a group of people for a particular period of time. Usually there is not only an arrangement to just buy care, but there are also attempts to manage it.

Case management: Focuses on the entire episode of illness. An established continuity of care gives across all settings in which the patient receives care.

Clinical pathways: Serve as “daily calendars” that allow each team member to know exactly when specific diagnostic tests, treatments, therapies, teaching and discharge planning need to occur.

Continuous quality improvement (CQI): A set of formal quality improvement techniques with focus on employee involvement, customer satisfaction and the continuous planning of action, based on the collection and analysis of data generated in clinical practice in a defined setting. CQI is aimed at identifying and solving problems from inside of the system.

Cost-benefit analysis: A technique comparing the net costs of an intervention (a medical technology or a public health program) with the benefits of that intervention. The results are expressed in a common unit of account, usually in a monetary unit (e.g. the human capital approach, the willingness to pay approach or cost savings).

Cost-effectiveness: Whether the intervention, compared with other alternatives, is worth doing from a combined economic and medical aspect.

Cost-effectiveness analysis: An analysis that calculates the costs per specific health effect of a technology or a program (cost per life saved, cost per case of disease avoided). In contrast to cost-benefit analysis, health outcomes are not expressed as monetary values.

Cost-utility analysis: A form of cost-effectiveness analysis addressing different kinds of health outcomes, reflecting the relative different value of outcomes to people. Normally these are the quality of life or the quantity of life. The results are then expressed as units like “cost per quality-adjusted life year”. This technique facilitates comparisons across health care interventions with very different effects.

Effectiveness: The probability of benefit to individuals from a medical technology applied for a given medical problem under average conditions of use.

Effectiveness research: Research efforts aimed at identifying broadly effective care, and efforts to develop and refine methods to support the identification of effective care.

Effectiveness of an intervention: Describes whether including it in the repertoire of health care improves people's health under ordinary conditions. Or whether it generally improves health more than alternative interventions (comparative effectiveness).

Efficacy: The probability of benefit to individuals from a medical technology applied for a given medical problem under ideal conditions of use. Efficacy is usually evaluated in controlled clinical trials. "Effectiveness" and "Efficacy" are often used as synonyms.

Efficiency: Effectiveness of an intervention with respect to the resources used.

Guidelines: Clinical practice guidelines are systematically developed general statements to assist clinical practitioners in decisions about appropriate health care for specific clinical circumstances. Evidence based practice guidelines may improve patient outcomes. Guidelines can be developed with additional goals in mind, such as cost containment.

Health technology assessment: A structured analysis of a health technology or a technology-related issue that is performed for the purpose of providing input to a policy decision.

Indicator: A representative, relevant marker of performance, looking only at a segment of the totality of results.

Managed care: A health care delivery system that uses interventions to control the price, volume, delivery site and intensity of health care provided. "Managed care" is a general term applied to a range of health care delivery systems (e.g. HMOs) or features of health care plans (e.g. utilization review programs) that attempt to control enrollees' use of (and thus control the cost of) services.

Outcome management: The use of knowledge gained from outcome monitoring to achieve optimal patient outcomes through improved decision making.

Outcome measurement: The systematic, quantitative observation, at a point of time, of outcome indicators.

Outcome, health outcome: Any result that stems from exposure to a causal factor, or from preventive or therapeutic interventions.

Patient preferences: The patient's judgment of the desirability of particular outcomes.

Performance measure: A quantitative method of tracking progress towards a goal.

Protocols: Detailed treatment plans that specifically delineate therapeutic steps, thus reducing the variability in care to a minimum. Writing down protocols is a formalized way to implement general practice guidelines.

Provider: A person or organization (physician, hospital, home care agency) that provides health care services.

Quality assurance: Program aimed at providing the consumer with a service that went through a validated and controlled process.

Quality assessment: Collection of data and their comparison with the preset objectives.

Quality improvement: The entire continuous circular process of a quality program: identifying indicators, setting standards, gathering data, comparing them with standards, implementing changes and redefining objectives.

Quality of health care: The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.

Quality-adjusted life years (QALYs): Years of life saved by a technology or service, adjusted to the quality of those lives (as determined by some evaluation process). QALYs are the most commonly used units to express the results of cost-utility analyses.

Re-engineering: A fundamental rethinking and radical redesign of a service. Urges an overhaul of job designs, organizational structures and management systems. Tries to organize the work around outcomes, not tasks of functions.

Risk management: Program and action aimed at identifying and decreasing malpractice and negligence in a company or a hospital and the financial burden inherent to it.

Standard: A preset, clearly defined level of structure and/or performance. Standards and the degree of their fulfillment can be quantified. They are set either externally by regulatory agencies or internally by the employees of a service.

Standardized mortality ratio (SMR): The ratio of the observed number of deaths to the number of deaths predicted by the model.

Social functioning: Change (or lack of change) in the ability of patients to function in society.

Total quality management (TQM): A similar quality management concept as CQI and often used as its synonym. More often applied in industrial settings.

Utility: A concept referring to the desirability of, or preference for, a particular health outcome. Utility is measured in an absolute quantity, it describes how much outcome X is preferred to outcome Y.

Concluding remarks

The authors are fully aware that the above list is no piece of higher lyrics, it rather provides dry, concentrated information. Our readers should take this paper as what it is intended for: A comprehensive collection of

terminology relative to quality issues in intensive care. It is also a proposal of what words to use in discussing quality issues within the European Society of Intensive Care Medicine (ESICM). It ought to make it easier for intensivists to discuss these matters among themselves, but also to understand what their partners in the health care system mean when they use specific terms.

Increasingly, intensivists are becoming involved in difficult negotiations with regulatory agencies about health economics and quality control. If they arm themselves with a thorough knowledge on terminology they can at least make a first stand.

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