

Chapter 11

Quality in Telemedicine Services

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ABSTRACT

Telemedicine refers to the delivery and provision of health care and consultative services to individual patients and the transmission of information related to care, over distance, using telecommunications technologies. Quality of service is a critical determinant of telemedicine performance. In addition, it can also be a critical factor in determining long-term viability of a telemedicine service provider. Although the term “quality assurance” was, at first, the main term for the experts to deal with, concepts such as “total quality management” and “continuous quality improvement” have come forth and are often used interchangeably. It is crystal clear that telemedicine services should meet the international quality requirements in order to accomplish quality assurance in healthcare provision. Technology advances have brought forward new and evolved services and technical infrastructure that promote and enhance quality healthcare services, such as telepresence and wearable technology. Nevertheless, there are several obstacles in telemedicine performance that need to be resolved.

INTRODUCTION

More and more attention has been given to telemedicine because of the progress that has been achieved in the telecommunications and information technologies. The facility and accessibility to the information is vital for health services in order to succeed in the current competitive environment of health care management.

According to the American Telemedicine Association (ATA), telemedicine is the use of medical information exchanged from one site to another via electronic communications to improve patients' health status (ATA, 2007). The term telemedicine has evolved into telehealth, often considered to have a broader scope towards health promotion and disease prevention (Koch, 2006).

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Telemedicine, in the simplest terms, is an expression that defines the delivery and provision of health care and consultative services to individual patients and the transmission of information related to care, over distance, using telecommunications technologies.

Even so, telemedicine is not merely a simple combination of health care and technology. Telemedicine is also not a service that is processed only at a certain time. Instead, it can be defined as a value-added health delivery system that is formed and delivered through the telemedicine system.

Healthcare services have moral, ethical, social and legal reasons to provide acceptable and guaranteed quality. Quality of service is a critical determinant of telemedicine performance. In addition, it can also be a critical factor in determining long-term viability of a telemedicine service provider. Therefore, assessing the telemedicine user's needs are key factors to the success of modern telemedicine.

QUALITY CONCEPTUAL APPROACHES

Defining quality is a matter of several parameters and according to Thomas Pyzdek (1990:Chapter 1), even the quality experts do not agree on a consistent definition.

According to Dr Joseph Juran, the concept of quality revolves around the concept of "fitness for use". Philip Crosby defines quality in terms of performance that produces "zero defects", whereas Dr. W. Edward Deming defines quality as a "never-ending cycle of continuous improvement" (Crosby, 1994; Crosby, 1996; Deming, 2000).

According to a general definition, quality refers to the degree to which health care services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.

Although the term "quality assurance" was at first the main term for the experts to deal with, concepts "such as "total quality management" and "continuous quality improvement", have come forth.

Quality assurance refers to a program for the systematic monitoring and evaluation of the various aspects of a project, service, or facility to ensure that standards of quality are being met. It merely concentrates on identifying poor providers rather than defective processes.

On the other hand, *Total Quality Management* (TQM) refers to a structured organizational process for involving personnel in planning and executing a continuous flow of improvements to provide quality health care that meets or exceeds expectations.

Continuous Quality Improvement (CQI) refers to programs designed for clinical settings and encompasses quality improvement efforts and philosophies.

These two terms are often used interchangeably (McLaughlin et al., 2006).

Evaluating quality is of key interest to many groups and individuals related to healthcare services. In an attempt to categorize the healthcare users, we would form two groups:

The first group is the one of the *internal users*, which includes the board of directors, individual physicians, clinicians, healthcare managers and employees, while the second is that of the *external users*, meaning the patients and their care givers, private and public purchasers/ payer groups, academic institutions/ researchers and the media.

All of these individuals need to measure or evaluate quality for different reasons. For example, in telemedicine research, the number of controlled variables directly depends on the scientific background of the team carrying out the study, i.e. telecomm variables for engineers, clinical variables for doctors and so on.

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