Chapter 3

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E-DOCUMENTATION AS MEDICAL SERVICES QUALITY DETERMIANT ON THE PRIVATE DENTIST'S SURGERY EXAMPLE

Abstract: The paper presents the modern management of health care institutions in the electronic medical document (EMD) context. It has been shown that technological innovation can fundamentally change the quality of the medical services in Poland, making a revolution in the management of budgetary expenditure.

Key words: quality, medical services, e-documentation.

3.1. Quality and patients' satisfaction in the health care

In the contemporary world where competition is such a widely discussed phenomenon, the idea of quality has become an issue of major significance. A modern organization, regardless of its business profile, should be focused on quality, as it is the quality that constitutes the foundation of the effective business running and it is not only the contributor to its success in the market but also the indicator of its culture. Quality understood as something that can be improved (SKRZYPEK E. 2000), has also reached the sector of medical care. The current situation has been forced and at the same time facilitated by the amendment to the Act on the Health Care Centers, the reform of the

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health insurance system and implementation of certain instruments into the Polish market such as ISO standards, quality prizes and accreditation programs.

Health care is one of the basic branches related to health, constituting a part of national economy. A client, in this case, is a patient of a medical care centre who comes in an expectation of receiving a given product which is in fact a solution to his or her health problem. In the field of the health care system, the definition of a product comprises the complete set of services provided, firstly including strictly medical services such as doctors' and nurses' care, but also accompanying services, e.g.: hotel or information services.

Patient as a direct and external client wishes to get a high-quality service provided by the qualified personnel without any complications, in adequate and appropriate conditions. Health care workers being the internal, indirect clients want to provide medical services in accordance with the current, professional knowledge, by using proper apparatus, leading to the improvement of a client's (patient's) health condition. In the contemporary understanding, the quality of the health care services can be reached via the knowledge and skills of the medical personnel, the conditions of hospital rooms, cleanliness, rules for visiting patients, as well as creating an atmosphere of privacy and kindness, which facilitates patients' recovery (WNUK A.A. 2003). It is very difficult to explicitly define the concept of quality in medical services. It may be stated that the quality of medical services is:

- the level of meeting and satisfying patients' needs,
- the level of a service's class in reference to its potential to provide patients' satisfaction,
- the kind of care where the patient's measurable interest is maximized, taking into account the balance between anticipated benefits and losses accompanying the process of care at all its stages.

Nowadays, more and more medical facilities take decisions on implementing quality management systems with the target to introduce effective methods, tools and procedures of activities, which on one hand

would assure that the offered medical services meet patients' expectations with the level of quality and reliability, while on the other hand they would enable such a decrease of costs (by applying a rational economic policy) that the offered service could be competitive in terms of price, dates or improved solutions.

Not only in Poland, clients'/patients' satisfaction has been recognized as one of the essential factors of competitiveness in the health care system, since a proper attention to it in that sector of services is currently a standard of proceeding that has a significant impact on meeting the requirements and expectations of clients/patients, and simultaneously on their loyalty. Satisfaction is the level of meeting consumer's expectations with a given service or product (LISOWSKI J.L. 1999). The concept of satisfaction is strictly connected to quality. Client/patient using medical services anticipates a product compliant with the parameters, which were previously agreed, and with the reproducible quality level.

Irrespective of the level of clients/patients satisfaction, there is always some room for improvement. Therefore, a crucial question always arises: what else can be improved? what needs to be improved first? That is why, apart from the general level of clients'/patients' satisfaction, it is essential to make a detailed analysis of this issue in particular aspects. The client's/patient's satisfaction will depend on the extent to which the received service meets their requirements, and such an evaluation is always an individual and subjective opinion. First of all, the satisfaction comprises three elements:

- the promptness of the reaction to the clients'/patients' needs,
- reliability and quality of providing services,
- proper relations.

The elements of quality, anticipated by the patient, are as follows:

- competence – a client/patient expects professionalism and high qualifications from the medical personnel,
- reliability – a client/patient needs reliable services delivered accurately and diligently, in accordance with the latest standards and ethics.

3.2. Medical documentation

At every institution, independently of its size or also a number of employed there is functioning circulation of medical documentation. In the simplest case it is process completely „analog". Documentation is being created by hand during the visit of the patient in the consulting room. The doctor is writing down the interview, the diagnosis, recommendations and the prescription by hand - similarly to referrals and additional documents (e.g. certifying, the dismissal). After finishing the visit prepared documents are being transferred to the wardrobe, together with files of different patients (PIECUCH P. 2012).

At each health care facility, medical practice nursing or midwifery is obliged by law to document the healing process and granted in connection with the health services. This obligation to the same extent are the public and private health care facilities. Ministry of Health of 21 December 2010 on the types and extent of medical treatment and how it allows you the freedom to choose the form of medical records conducted. In accordance with Article. 56 the law on health information in all the medical records created after 31 July 2014 by the health care practice: doctors, nurses and midwives, and pharmacies will have to hold an electronic form.

According to the Minister of Health keeping records in the electronic version has been greatly simplified by dispensing with the requirement to use: an electronic signature in the documents, as well as the so-called. timestamps. These changes made it possible to easily and comfortably carry medical records in electronic format using commercially available software to conduct medical practice, without incurring additional costs associated with the redemption of qualified time stamps and stores, electronic signature (STANIEC P. 2012). If a decision on the keeping of records only in electronic form system should be implemented:

- protection against damage or loss of data,

- maintains the integrity and credibility to the documentation,
- allows instant access to documentation and protection of persons entitled–unauthorized access,
- identifying the person providing health care services and registered by it change.

A prerequisite for e-documentation is the computerization of the facility and installing an application program designed to support it. Such a program should provide data security, integrity and credibility of the documents, unequivocal identification of the person providing health care services and registered by it changes, the creation and recorded current medical records and completing the documentation for scanning documents or research (archival documentation), electronic sharing of medical data, the possibility of printing copies and export documentation in electronic form part or all of the data. For an electronic version of medical documents it is necessary to develop security procedures, documentation and processing systems, in particular the procedures for access to medical records. The rules governing the issues related to the conduct of e-documentation of an emphasis on issues of maintaining safety and security of information collected your data against loss, theft or unauthorized use. It will be necessary also to prepare a plan of record keeping in a long time, which is particularly important because of the longer time archiving of medical records for 20 years.

The introduction of medical records in electronic form virtually all processes in a medical facility, from patient registration through the service during the visit, up to the settlement with the insurer. This requires a reorganization of the existing system of work. In the initial stage of documentation in electronic form should anticipate a prolonged operating time, patient and slow down the pace of work.

3.3. Electronic medical records – characteristics

Electronic medical records - the same as in the case of paper documents - must be created for each patient. It has to be updated by recorder on any subsequent visit The documentation must include all documents related to the process of benefits, such as test results, referrals, discharge card, the patient's consent to perform surgery. Medical documentation must also include with each entry:

- the patient's personal details (name, address, Social Security),
- providing information about equipment provision (indicating the appropriate organizational unit),
- description of health status and provided services,
- date of preparation.

Entries in electronic medical records cannot be removed. In the event that the documents kept in electronic form shall be accompanied by documentation created in other forms, including x-rays or records created in paper form, the person must be empowered to perform digital reproduction of this documentation and place them in a computer system to ensure its legibility , access and consistency of documentation. Electronic medical records - like paper - can be made available upon the request of the patient or person authorized by him (or authorized under other legislation - in the case of minors or incapacitated). Patients should be made available as a whole, in the form of integrated, with all necessary documents, and with the personal data. Sharing documents kept in electronic form may be obtained by:

- the transfer of patient information storage medium with recorded documents, such as a CD with photographs of diagnostic imaging studies,
- electronic transmission of documents, such as e-mail to the patient,
- transfer printing paper - where electronic documentation is available in the form of paper printouts, an authorized person confirms their compliance with the documentation in electronic form shall bear his mark.

Documentation should allow identification by providing health care services. If the facility uses templates medical records, they can be extremely helpful in determining the key features of the new system. They contain all the data that must be collected in the patient, and the format developed and approved by doctors working at the resort. It is worth to note that, when collecting information to specification requirements of the new system to gather all the templates that are currently in use. Before preparing the system requirements should also:

- convert all positions at the facility, which will require access to medical records,
- describe doctors working in the establishment of a "relation to new technologies" - find that some doctors will need to create an additional position (nurse / medical secretary) to direct service new system and data entry,
- test the ability of the center in the context of broadband Internet access. This is a very important issue when considering the implementation of the system functioning as a SaaS (Software as a Service - software as a service), as to the proper functioning of such systems have a stable and relatively fast link,
- conduct an inventory of all computer hardware - workstations connected in a network, servers or data servers, printers and other office equipment is connected to the network (including medical equipment),
- consider the long-term development plan of a medical facility. Keep in mind that with the expansion of the medium (e.g., new branches or offices) will have to be extended also ordered a computer system. You must make sure that the software will be procured and development, analyze the processes of circulation of non-medical documentation. It may be that in the area of administrative or financial records, you can enter items, or a complex electronic circuit.

After initial preparation, you can proceed to the implementation of organizational planning - a process analysis of the circulation of medical information in an institution. To facilitate this, the tracing of the patient

from the moment he crossed the threshold of the center, to the prescription and recommendations by the physician (MYKOWSKA A. 2002, KOZIERKIEWICZ A. 2003, BUKOWSKA-PIESTRZYŃSKA A. 2007, BORKOWSKI S., ROSAK-SZYROCKA J. 2010, STANIEC P. 2012). The introduction of medical records in electronic form entails many costs: both investment typically associated with the purchase of computer hardware, licenses for soft-ware, services-Implementation and training, and organizational: the involvement of people in training and implementation of the new system work, considerable reduce the cost of securing access to electronic records compared with paper documentation (for paper documentation must be closed cabinet and specially protected areas), to obtain a large amount of space occupied by paper files, almost complete reduction of costs associated with the creation of paper documents (paper, toner amortization, printers), the ease of making and storing backups. To further the benefits we can add the following options: performing statistical analysis of medical records in an electronic, automatic generation of statistical and accounting reporting for the CSO and the National Health Fund.

3.4. Benefits of implementing e-documentation

A natural consequence of the introduction into the facility a good computer program and electronic medical records will create a specific regime of organization (the program will not allow the procedural defect), which will significantly facilitate the flow of information. The electronic form of the history of the patient visit, that makes the information it contains are more transparent, clear and structured - this easier to read by another doctor or specialist. The electronic form of documents facilitates information flow between the consulting specialists also allows instant access to complete patient medical history at the touch of a key, without having to go to the registration or archive. Another advantage is the ability to generate printouts of all kinds of referrals (for testing, to

a specialist hospital), judgments, medical certificates using forms ZUS EVIL and prescriptions. Some of the programs to carry out medical practice, as Dr. Eric, are available in the system-to-date information on whether a drug is reimbursed and how much on a specific disease. Built into the program dictionaries ICD-10 codes, medical procedures, ICD-9 codes and territorial TERYT base visits, drugs, and templates to help with typical medical personnel in their daily work, reducing the time needed to complete the documentation. The processing of documents in electronic form shows many advantages. These include:

- faster access to information,
- the ability to instantly send it to another branch or plant,
- the opportunity to do the copy for the patient,
- save space, etc (Poznański D. 2012).

3.5. Implementation of an electronic document in a private medical dental office

E-documents used in private dental practice allows you to manage the entire cabinet of the side:

1) medical (the card also has a specialist orthodontic and cephalometric analysis),
2) reception (up schedules, billing, support for fiscal printers),
3) administration.

E-documentation offers many benefits:

- allows for full service patient in the study by providing records, archival photographs, accounts of visits, patient registration, etc., card and orthodontic periodicals,
- advantage of the program is excellent work in the network, so the program can benefit both the hospital staff - doctors, reception, or administrator,
- program supports fiscal printers and allows for fast printing till receipts what is your great help in the implementation of fiscal policy,

- sharing program on three modules: the doctor's office, reception and administration allows you to adjust the program for small and large offices,
- program provides extensive statistics to monitor the work of all staff from the financial and medical assistance.

3.6. Summary

In summary, the introduction of medical records in electronic form entails many far-reaching consequences. To make this kind of documentation, facility in the initial period must incur considerable expense and reorganize the system of work, but in the long term, the new solution is less demanding and more cost-effective. In return, receives first modernity and security, improving comfort and quality of work, improving the flow of patient information, and most importantly the peace of computerization can expect health care. Advantage of electronic solutions is that the software provider is responsible for follow up on the changes in legislation and adjust the program to the current needs and requirements of the Ministry of Health and Chairman of the NHF. An example of this may be introduced from January 2012, changes in reimbursement. The problem of verifying the degree of drug coverage is no longer good doctors working in the software, such as Dr. Eric. This program automatically verifies this information for the doctor. Another benefit is a measurable reduction of the high cost of creating, maintaining and archiving of medical records and to minimize errors in its creation, the elimination of illegible entries in patient records, especially those leaving the facility (illegible or improperly issued by the medical prescription).

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