

THE ROLE OF COMMUNICATION IN THE DEVELOPMENT OF THE INFORMATION SYNAPSES OF THE FREE PRACTICE OFFICE

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Abstract

Among the most effective and modern methods to keep patients conveniently and properly informed in the social field are the websites dedicated to the practice office. The approach and use of a properly dimensioned, sufficiently synthetic in data and permanently reliable computer application modernizes and at the same time performs the work program of the health care professional in that it becomes more flexible, efficient and effective in the therapeutic area and but also in the area of economic or financial results or research. It can be unequivocally appreciated that there is a true medical IT world that needs to be properly identified in order to maintain the office in the current information area. Only in this hypostasis do we really know what is happening and especially what can be to anticipate that they will become at certain expectations the highly computerized virtual fields and to what extent they are going to influence the medical knowledge, the diagnosis, the therapeutic practice or the proper recovery of the quality of life. The technical-medical component, in an unprecedented dynamics, as well as the associated medication, have a dynamic trend, sometimes divergent in relation to the skills of the specialist, that compels him to the knowledge and proper use of computer applications. The medical performance and malpractice as tangible realities to this period lie in relation to the patient, to the legal norms and the medical deontology in a much modified philosophy in relation to the benchmarks of the previous decade. As such, for all the iterative aspects, rigorous analyzes are required and applied decisions in connection with the information vector practiced in the field.

Keywords: *mobile computer applications, free practice, medical informatics, virtual fields.*

1. ABOUT THE MEDICAL IT WORLD

At this stage in the development of computer science, it becomes natural the question if the office physician is prepared to understand and organize his work in line with the challenges induced in society's everyday life. And the questions related to the computerization of

medicine at the synthetic or analytical level can continue after increasing rigors in the graph of a geometrical progression.

The adaptation to the new IT requirements will most likely be made in the dynamics of moment or stage imperatives in a relatively short period and in relation to the particularities of the office practice because the software manifests itself as a dynamic vector, through utility and managerial necessity. It will substantially reshape the work of health structures known as traditional, relatively preserved in the area of certain requirements for too many years (LUCHIAN, 2005).

It is certain that in the imminent future there will be substantial changes in attitude, that we will witness major transformations found mostly at the IT endowment level and the management on this basis of the specific medical management activities at the operative level, the area where the need arises, are required, respectively the therapeutic acts are applied (LUCHIAN, 2005).

Consequently, we can appreciate that the basis of all operational activities of the health systems can and will be revolutionized under medical informatics in a relatively short time. These pronounced dynamic transformations will create additional financial resources, meaning they can increase the profits of all lucrative healthcare activities with real beneficial consequences in terms of medical endowment to the anticipated standards and increase the interest for excellence of the medical staff by paying correctly the work done. The implementation of the whole health system through the contribution of computerization will generate positive consequences in terms of

increasing hope and quality of life with corresponding social implications.

2. THE MAIN TRANSFORMATIONS INDUCED BY THE USE OF COMPUTER SCIENCE IN SOME AREAS

Education is heavily influenced by the very diverse and substantial range of information. The student, the student and the teaching staff can also benefit from a vast documentary base, practically planetary. Access, as well as the possibilities of selection and work, are not encumbered or penalized by any criteria or restriction.

In the US and Western Europe, the law enforcement staff are forced to restrict their activity or they lose their traditional jobs because the software in the field promptly advises the interested people, often without any training in the field, with accuracy over 90%, compared to only 70% as specialists with experience at one-time meeting succeed.

In health, computers confirm certain diagnoses much faster and more accurately than doctors. By the 2030's, computers will prevail by numerical presence and net superiority to humans through the promptness and quality of solutions that will be delivered, including in some highly complex medical cases.

If in the immediate aftermath of the specific market launch of 3D-scanning phones, we can appreciate the transformations that will occur at the level of the production of personal material goods, clothing, footwear, practically in all existential areas and unequivocally, these influences will be substantial in medicine too. And then, the more we will ask ourselves the legitimate question if the field as sensitive as that of health in a society with more material financial and cultural availability, progressively larger, will either remain relatively conservative or little changed to the impact computer (Law no. 677/2001).

On this background, the work of the practice office will unequivocally support relationship, cooperation and, above all, computer-related operations changes. It will adapt to the new requirements in full speed. Otherwise, it will record multiple problems, bottlenecks, financial difficulties, or will eventually disappear from the

medical market, becoming practically without real possibilities for recovery to the advantage of receptive entities to the opportunities offered by the information field (Law no. 629/2001; Law no. 677/2001).

By the 2040 horizon, life expectancy should be on average up to 100 years, because every year the average life expectancy in Europe increases by about 3 months. It is estimated that in 2020, 70% of the population will have smartphones and, implicitly, access to prompt, comprehensive and, above all, of genuine quality information. It seems a little credible, but in Africa and Asia phones are already sold with such apps for less than \$ 10.

The sketched reality sums up many concrete aspects that can be analyzed, among which the following are of major importance:

- the modern reconnection to the medical life of a significant number of specialists about whom "in the specific market" accounted the idea that they are simple practitioners and consequently are much less concerned with the managerial or scientific-theoretical aspect of the field;
- better communication with patients, expressly and explicitly personalized, based on opportunity and much more trust;
- rigorous, selective analysis, rigorous scientific criteria, or even the rejection of an information avalanche that proves to be erroneous on the Internet, with negative consequences for the specialist and the patient;
- inter-peer multiple counseling in cases where information is distorted / truncated;
- cooperation between physicians who realize that they cannot solve the entire range of dental work necessary for a patient;
- establishing an explicit, express, clear IT collaboration protocol with the dental technician;
- complete information on the moment, venue and theme of the scientific manifestations.

3. CONCERNS IN THE FIELD AND CONSUMPTION TESTS

Tricorder X will launch in a near span of time a super smart digital device that will be able to analyze through the smartphone the retina,

blood samples and breathing. With this technique launched on the large health market, analysis will be done with great efficiency and at incredibly low costs compared to what has been practiced so far (saving time and substantial money). Basically, a significant part of the medical system related to programming, data collecting and interpretation analysis will disappear, as we have been accustomed for over 30 years.

On the same area of interest, due to the increase in demographic aging, an appreciable number of markers will carry out analysis without misinterpretation and will be able to give a much safer verdict on various diseases on the diagnostic level but also on the opportunity of therapy. As such, it becomes more laborious and truly personal, the process of self-determination of the patient in relation to the actual access to the rights to life and health in the so controversial, medical and legal perimeter. In the selection of the best therapies it can have a much higher percentage if the computer vector intervenes correctly and the subjective influences of the human factor are eliminated, no matter how highly prepared or well documented in his specialization a physician may be.

Any new tool in the computer background has a real life-changing potential, and monitoring the performance trend of medical devices must be in strict consonance with computer science to achieve excellence. The XPrize Foundation, a prominent nonprofit organization in the field, seeks to patent tricorders and transform this hope into a modern, "medical reality" with great accessibility

The Qualcomm Tricorder XPrize competition will award substantial prizes to teams that will make a viable medical diagnosis device. It will have to promptly monitor the basic health indicators of the person and identify with certainty the most serious problems, that, until that moment were not disclosed by the patient.

The technical, economical and functional features of the prototype will approach the following minimum aspects:

- the operative recording of basic vital parameters such as blood pressure, heart rhythm and temperature (at that time, but also later, phased, programmed and continuous for at least 72 hours);

- the identification / diagnosis of important diseases, including diabetes mellitus, hepatitis A, stroke and tuberculosis;
- the creation of additional optional diagnostic areas / capabilities, adjacent to basic operations (for convulsive cough, HIV, melanoma, streptococcus, etc.);
- the tricorder system must operate at a very high clinical level, be safe in continuous form and provide trust for all consumers, etc.

The cost of the complete will have to be modest, accessible to all patients, and the weight insignificant despite all the batteries and the included attachments. The prototypes will be able to safely and confidently send the data collected to a functional center for patients and physicians to be able to access, analyze and decide on diagnosis based on these results.

The teams included in the contest are making rapid progress by developing work prototypes that are tested on real patients. Physicians and competing teams can periodically learn how these devices evolve in the real world.

Predicted post-test consumption tests for the tricorder device follow the function / reliability in the parameters of a real technical-medical advance, consistent with informing and educating users on the level of those requirements.

Compatibility and interaction between the device and the patient should be done in a natural, comfortable, friendly manner. The implementation must not create anxiety or uncertainty due to a demanding, inaccessible or difficult to access the test results. Interaction can create a clear, real state of affection for the patient / user. These devices will need to be inserted into the daily life of the person or family to the extent that they become simpler, smaller in size, comfortable and associated with the daily habitat (LUCHIAN et al., 2012).

Simple and operative access to the optimal therapeutic act has long been one of the basic issues of universal patient rights. Beyond its iteration in strictly legal terms, real access is a pragmatic and stringent issue in which some cheap medical devices in the tricorder range might have real openings in rural areas, known to have less access to health. The composition of the facilities, the operations, the programs or the software available are just marketing issues (eg X

diagnosis, multi-capability, small monitor, fixed bed or mobile device equipped with devices etc.).

4. DEONTOLOGICAL ASPECTS INDUCED BY PROXIMITY TO THE USE OF TRICORDURI

Buying or renting a tricorder device is primarily a marketing problem with upward trends in the area of projection, mass production and sales promotion. The uncertainties in the forecast, the cost / profit, the appeals, or the reliability of the commercial trend are substantial because the tricorders have a long way to go.

The bioethical and deontological component is, to the same extent, a problem, an obstacle and a challenge on the long way from a "cool gadget" in a laboratory to obtaining legal "clearance" in the matter of patient's right, producer's right, the end goal, that is to say, its promotion on the health market, and, not without significance, under what conditions and at what costs.

Synthetically, the sum of problems requires objective responses at least in reference to:

- the ability of these devices to perform analyzes with opportunity and quality;
- how answers can be developed / managed in case of serious diagnoses;
- what the forensic parameters in post-counseling are (therapies, procedures, medication);
- how the relationship with the treating physician is remodeling and whether it has priority in announcing serious results, terminal management and therapies, etc. (LUCHIAN, 2011).

The multiple aspects of medical counseling will unequivocally complicate the ethical and legal level.

Where the diagnosis will be directed and implicitly the role of the physician is a problem with a real weight that will generate sufficient strictly professional discussions, directly from the practice (from the medical competence to the medical specialist's ascendant, the potential aspects or the probability of producing a malpractice, the criteria associated with it, aspects of promptness, operability and quality of the therapeutic act, etc.)

or, by extension, aspects belonging to the related area (social / economic-financial, technical / medical / interdisciplinary / juridical-deontological marketing) (AMBLARD, 1988).

In general, medical teams have substantial training in practice, including adherence to the legal rules in the field, but patients rarely have a solid base of information on potential treatments and even less on the judgment and decision on optimal therapy that need it. In view of introducing innovative medical techniques to the practice cabinet, the situations created will make the patient-patient relationship even more difficult to manage and settle. We can appreciate that certain difficulties will be harder to overcome in the increasingly subtle plan of communication. Trust and, implicitly, the following stages of collaboration can be strangled; the termination of collaboration can be caused without the treatment plan being finalized or even sketched in other cases (Law no. 46/2003; Law no 386/2004).

The success of treatment depends on the degree of information, the behavioral model of the treating physician, the patient's and the way they interact throughout the course of therapy. As a rule, between a specialist and a patient establishing a relationship that frequently transcends the formal framework, the physician becomes a close patient and even his family as an element of greatest importance (Law no.204/1998).

In dentistry, the ability to understand and explain the optimal treatment scheme for a patient is of great importance to the dentist. Virtually all treatments in the field raise great problems through their complexity in the use of a constantly changing information support.

5. THE CONSONANT RELATIONSHIP BETWEEN COMMUNICATION AND MOBILE MEDICAL IT APPLICATIONS

It can be noticed with the convenience that web sites that provide such information as: www.doctoruldedinti.info, www.careersinwhite.com or the mobile application dROOT, and so on. Seek to simplify the process of informing the patient as well as the specialists by providing

them with both a synthetic information platform and references to some analytical data. These are perpetual new challenges for healthcare professionals who have to deal more and more often with the wrong perceptions of uninformed, inadequately informed patients with difficulty in understanding or why not with a certain amount of behavior or truly negative intentions.

Patients are true consumers of information about their own health. That's why their processing can sometimes be erroneous. Lack of knowledge can be immoral and illegal conjugate in the legal field, making the physician's job to correctly inform the patient even more difficult. Despite all these impediments, we expect the digital era to provide more and more effective ways of disseminating information that can be successfully adapted to medicine as well.

Some of the most effective ways to keep patients informed are websites dedicated to the office or staff in the medical area. The use of a properly dimensioned application, sufficiently synthetic and reliable, updates the physician's work schedule by making it more flexible, more effective and efficient. In an effort to communicate with each patient to be treated in a unique, distinct, with utmost care and satisfaction, the degree of understanding and the percentage of acceptance of the optimal treatment plan / scheme are increased (Law no. 150/1999).

Applications that respond to topicality needs must address at least the following office IT management plans:

- direct registration and rapid access to patient data, regardless of location;
- structuring diagnostic data for required therapies;
- patient history, health plans and therapeutic actions taken;
- fully accessing information about medical appointments and alerts;
- immediate reception of patient imagery for the purpose of managing subjective plans.

The steps to follow in office computing are relatively simple to understand the composition, the reference areas and the functional structure, as follows:

- a. - the general configuration of the system in accordance with the managerial objectives of the cabinet, by fully observing the legal norms and instructions in the field;
- b. the structure of the main reference / work areas:
 - patient records (appointments, diagnoses, personal cards, consent);
 - clinical documentation (activities, periods, specialist fact sheets, questionnaires);
 - determination of parameters / hardware requirements (3D work graphics, procedures);
 - system embedded imaging, divided into patients;
 - relationship with local / central authorities (reports, reports, information, tax records, medical reports and health statistics, etc.);
- c. the completion of the agreed technical-computer support and safely transferring data accumulated up to that point;
- d. contact details (telephone, infobase, emergency, priorities);
- e. system compatibility and communication with various peripheral devices (cash houses, bank extensions, deposits);
- f. mobile computing extensions;
- g. marketing and automatic advertising campaigns (sending of information and services provided by the cabinet, type SMS, e-mail, etc.);
- h. configuring customized areas for each patient;
- i. converting existing data into said user-defined professional system;
- j. validation of safety rescues (entered data to be saved instantly);
- k. automatic updating and periodical archiving of data;
- l integration of the validated system in the area of professional systems (Law no. 150 /1999; Law no. 721/2003).

Online systems occupy larger reference areas in the everyday life of society, practically every person. The same trend is manifested by the office management program that becomes a personalized reflection of the physician's lifestyle through which he confirms his highly technological skills in his personal life and simultaneously in his professional life.

6. ONLINE DEVELOPMENT OF THE PRACTICE CABINET

Addressing a wider range of applications, dialectical setup, and a faster way of working are the future's computing path for a "paperless" office. The modern concept of "paperless office" means the significant reduction until the complete removal of the written or paper-based documentation at the cabinet level. This method allows much more efficient management and use of human, material, and time resources in a more convenient way.

On-line office management requires easy-to-learn software that allows gradual increase in efficiency / effectiveness and allows for substantial reductions in training costs. The value of continuous IT developments depends mainly on the user and his / her work style, skills that will determine the direction and the best outcome of management programs. Consequently, the objective factors of the development of an office program are the users' circle, the IT optimization consulting and application, the work team, the type of marketing and, last but not least, the legal rules on confidentiality, working with the personal data of the patient, identity and real health status.

The model patient is the loyal and active patient who is prompt in accepting / using preventive treatments, promotes well the services received, and at the same time forces his family and friends to follow the same path. But, how many of the patients in the office respect or can promote these relationship values? In a strictly pragmatic approach, the new patient does not automatically mean the growth of the business. But preserving it at a medium level, sustainable as an antecalculating profitability, is a desideratum (without patients, the cabinet does not exist) and the increase in the number of patients implies the unequivocal responsibility of flow management on all its segments and its vectors of influence (Law no. 150 /1999; Law no. 721/2003; Order no. 50/2004).

As such, the continuous development of the office requires the computerized application to be perfected to the same extent for the

simultaneous fulfillment of the following basic attributes:

- accessibility, access to patient data directly from the management system database;
- flexibility, access to patient data through different available devices (eg mobile phones), radiographs received from the imaging center or uploading pictures and documents in relation to it;
- operability, the possibility of recording the patient simultaneously with the picture will allow him / her to connect more easily to the medical communication plan (activating the image brings an affective plus);
- restoring some appointments if they were erased by mistake;
- advanced imaging, image manipulation (rotation, deletion, transfer, comparison) operations that provide greater visibility, deletion and transfer of radiographs that allow ordering and releasing work and storage, and so on.

The mobile applications in an office foster communication with patients. They allow the use of a more consistent dialogue in or outside the cabinet on the so sensitive issue of informed consent and decision-making on the route to be followed, optimal therapy or the reasonable cost of treatment. The conversation on iterative themes or others, as the case may be, have a more lenient content, they can acquire a naturally added note and, most of the time, the diminution or absence of hasty conclusions. Diseases and treatment plan can be widely presented, recorded and communicated in a timely manner to the patient who can decide on his own or with support from the family / supporters in a reasonable time and after the end of traditional therapy sessions. In this particular computer area, the medical communication becomes a real, correct, elaborate and much more complete (Law no. 46/2003; Law no. 721/2003).

The computer communication fluidizes the relationship with the medical team in the same performance parameters, both during and outside the office program, acquiring a new dimension with continuous and consistent manifestations. The physician's requirements can be transmitted directly, supported by

documents, directly or indirectly medical evidence, or in conjunction with therapies to be applied.

Face-book, Google, the website, the internet and the blogs dedicated to the cabinet can perform unique, special roles in the reference area. If properly used, they will provide the extra exposure necessary for the patient even if they are considered to be "regular" instruments. Certainly, their introduction into the professional work field will bring in the long term but also long-term benefits in all plans of interest to the cabinet. By their conjunction, these changes will make the doctor to be more productive throughout the chart of work.

Virtually all IT tools, including their technical support for communication, can promote excellence, measure and give a new dimension to quality. In the same terms we can measure the interest from the patient's perspective, we can determine what is the factor that raises a therapy to the expected and accepted expectation level.

7. COMPUTER APPLICATIONS SOLIDARIZE THE PHYSICIAN-PATIENT RELATIONSHIP

Increasing the availability of information in the field of dentistry belongs to a much larger area, cantonated in the social space, which has as a fundamental object *the increase of the culture in health* for the patients who face certain pathologies of the oromaxillofacial sphere and want to know more about the respective diseases (treatments, costs, prognosis, etc.) expressed in broad terms, concepts and concepts, based on common, accessible language.

The newly built interface levels the relationship and performs the office precisely through this opening to the big and small problems of patients intermediate computer systems. The open portals with the object of the dental universe on all known levels of practice (prevention, therapy, prosthesis, recovery, etc.) as well as the virtual spaces dedicated to ensuring the need for patient information will really support the community of doctors, students of medicine dental practitioners, assistants and dental technicians to

ensure the patient's relationship with the patient in the medium and long term.

The development of access to information is a desideratum for both debut practitioners and well-known practitioners in the field, animated by the desire to do well, to be recognized through achievements, to set up a dynamic professional community based on the exchange of information, on presentation and problem-solving cases in the field, finalized on definite conclusions or requiring the continuation of observations / experiments in the basic field or related to office practice.

The need for information and lifelong learning is a reality with valences based on ethics and socio-professional deontology from which to exclude illegal interferences, aggressive attitudes and campaigns. The relationship between specialist and patient is neither and should not be a buyer-seller, but one based on full trust and transparency (Law no. 46/2003).

We can appreciate that designing and building a successful image is based on a solid base of information on dental treatments. The fulfillment of this fundamental condition allows for the patient-patient relationship to be easily solidarized and to allow for syncope in terms of communication and trust, fundamental aspects which, in case of viciousness, may result including the termination of collaboration. The success of dental treatment depends on the behavioral patterns of the practitioner, the patient, and especially the way they interact personally but informally.

Patient trust is an innovative component that implies some skill on the part of the doctor. IT correspondence developed by him must be based on convincing medical but lacking eclectic elements that potentially can put the patient in difficulty. Counseling in the field can be run on a time vector in successive sessions (Law no. 796/2003).

Trust is one of the essential characteristics of the doctor-patient relationship, which is often cultivated gradually, being dependent on the level of culture, information and cognitive capacity of the patient. Sources of information about treatments can be multiple and relatively easy to access information. In the past, these sources were mostly available to professionals in the form of written works, specialized courses,

compendies, dictionaries, and so on, but they can now be accessed much easier through new and diverse channels of dissemination of information.

The way patients are informed about the desired treatments gradually alters their attitudes, behaviors, and implicitly reconfigured relationships with healthcare professionals from any specialty. In this context, we appreciate that the information sources of potential patients and the dialogue with them become very important.

The process of initiating the patient with his or her state of health begins with his first contact with a specialist and the information disseminated follows a steady lifetime reporting schedule for counseling, treatment or prophylactic treatment. The relationship overlaps frequently on a long chart due to the overall low level of health education. It currently interferes with the patient's uncertain ability to process objectively and to understand physically the information provided by the physician with an express reference to the actual affections, plans and optimal possibilities of personalized treatment. The sum of these data, the benefits of therapeutic variants, the size and severity of the diagnosis are complex information the patient needs to make an effort to understand and fully understand. In their completeness, the data must be explained in the meaning of the interlocutor, as it should be avoided that the computer support triggers a rigid rejection or actual removal process.

The duty of physicians to involve the patient in the treatment decision, taking into account their apparent desire, may become a barrier sometimes difficult to overcome if it relies solely on IT tools. The patient will emphasize a real concern for knowledge, interaction and interactive information. These are somewhat more recent but more upward challenges for all medical staff.

Patients' obligation to engage and understand in their complexity of a particular treatment, which are sensitive components in the delicate aspect of both interest and personal reactivity,

outlines a much more sensitive professional, legal, ethical, moral and deontological. In practice, informed consent no longer fully covers the professional risk of the attending physician, leaving a space of danger cantoned on an increasing graph that will raise problems more and more complicated in the future and by the more pronounced use of modern computer support.

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