International
SMART JOURNAL
International SOCIAL MENTALITY AND RESEARCHER THINKERS Journal
e-ISSN: 2630-631X
SmartJournal 2021; 7(40) : 153-161
Doı : http://dx.doi.org/10.31576/smryj.615
Arrival : 17/09/2020
Published : 26/01/2021
Research Article

THE BENEFITS OF DIGITALISM ON HEALTH MANAGEMENT SYSTEMS

Dijitalizmin Sağlık Yönetim Sistemlerine Faydaları

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Cite As: Tavas, A. (2021). "The Benefits Of Digitalism On Health Management Systems", International Social Mentality and Researcher Thinkers Journal, (Issn:2630-631X) 7(40): 153-161.

ABSTRACT

The "revolution" of the Internet through computers, communication media in all its aspects related to the transmission, processing and digitized storage of information, multimedia applications, mass media, communication by telephone, software, hardware, have allowed the acquisition, recording and presentation of information, sometimes in the form of voice, other times of images or data of an acoustic, optical or electromagnetic nature. For all these reasons, there is an interest in studying the impact that its use has had on Worldwide health, and the benefits that citizens have obtained from them.

Keywords: eHealth, ICT, National Health System.

ÖZET

İnternetin bilgisayarlar aracılığıyla "devrimi", bilginin iletimi, işlenmesi ve sayısallaştırılmasıyla ilgili tüm yönleriyle iletişim araçları, multimedya uygulamaları, kitle iletişim araçları, telefonla iletişim, yazılım, donanım, bazen ses, diğer görüntü zamanları veya akustik, optik veya elektromanyetik nitelikteki veriler biçiminde bilgilerin edinilmesi, kaydedilmesi ve sunulması elektronik sağlık sisteminin temelini oluşturur. Bu nedenle, kullanımının dünya sağlığı üzerindeki etkisini ve vatandaşların bunlardan elde ettiği faydaları incelemeye yönelik bir ilgi bulunmaktadır. Bu çalışmada son zamanlarda yapılan çalışmalar incelenecektir.

Anahtar Kelimeler: inovasyon modelleri; Covid19; yapay zeka; teknoloji; sağlık sistemi stratejileri

1. INTRODUCTION

As a consequence of the globalization in which our society is immersed, the relationships between human beings and the societies in which they are integrated have undergone a very important transformation process. One of its consequences, if not the most striking, is undoubtedly the evolution of communications by electronic means, defined in three areas: Electronic, Information Technology and Telecommunications. The "revolution" of the Internet through computers, communication by telephony, multimedia applications, mass media, hardware, software, as well as communication media in all its aspects related to the transmission, processing and digitized storage of information, they have allowed the acquisition, recording and presentation of information, sometimes in the form of voice, other times of images or data of an acoustic, optical or electromagnetic nature (Ducombe 2006). All these technologies provide us with information, tools for their process and communication channels. ICTs, in their social dimension, are management and innovation technologies that are based on systems or products that are capable of capturing multidimensional information, storing it, preparing it, making decisions, transmitting it, disseminating it and making it intelligible, accessible and applicable. in correspondence with the phenomenon to be transformed (COM, 2001). This is what we call the Information Society, which is determined by an extraordinary expansion of telecommunications networks (ICT), and especially the Internet as a vehicle for the transmission and exchange of all kinds of information. The technical progress of recent years has made it possible to achieve achievements that were unimaginable not many decades ago, thus shaping a historical mutation that alters social and cultural reality (Fernández Rodríguez, 2004, p.11). Thanks to their training and the information available to them, citizens are increasingly informed and demand solutions to the problems that arise in their daily lives. The United Nations Organization declared, in its last General Assembly, Health as an essential human right for the full enjoyment of life and the rest of Human Rights. It states that there are currently more than 2.6 billion people in the world who do not have access to basic health care.

In Spain, the health sector represents 8% of GDP, being a fundamental element in social welfare. The increasingly aging Spanish society encounters citizens who demand more services every day and it is not only that older people require more care, but that this group is increasing and will increase with significant growth rates. The group of people over 65 years of age, which now represents 26.4, is expected to represent 41.2% in 2050. The lifestyle in developed societies that encourages poor diet, high alcohol consumption, together with stress, smoking, sedentary lifestyle, conditions the increase in new pathologies such as diabetes, heart disease, hypertension, which have led to the consumption of health resources as a result of

them. We are faced with the risk of not being able to respond to the growing demand for health services as a result of the aging of the population, changing life habits and therefore this causes:

- ✓ Increase in spending: despite the strong increase in GDP in the last decade, Spanish health spending has increased more than economic wealth, as proof that the percentage of GDP dedicated to this item has increased progressively in the last 30 years. Thus, in 1990 6.5% of GDP was spent on healthcare and in 2004 the figure rose to 8.1%. Forecasts point to 13% in 2020.
- ✓ Medicalization of society: what are actually vital circumstances, such as pregnancy, menopause, aesthetic aspects, unhappiness, aging, etc. are beginning to be considered as "diseases". In this way, some cases that were considered socio-cultural problems become individual diseases.

The European Council, held in Lisbon on 23-24 March 2000, set the ambitious goal of making Europe the most competitive and dynamic economy in the world and recognized the urgent need for Europe to rapidly exploit the opportunities of the new economy and especially the Internet. The eEurope initiative was launched by the European Commission in December 1999 with the aim of bringing Europe online. The different actions of this action plan have been grouped around three fundamental objectives:

1. A faster, cheaper and safer Internet.
2. Invest in people and training.
3. Encourage the use of the Internet through:
   i. Accelerate e-commerce
   ii. Online administration: offering electronic access to public services
   iii. Online healthcare iv. European digital content for global networks
   v. Intelligent transport systems

An operational plan of action based on solutions and focuses on what should be done, by whom and by what timeframe. The Internet is, by its very nature, a reality that encompasses several jurisdictions, since its contents and services are accessible on a universal scale. The Lisbon European Council noted that public administrations at all levels must make a strenuous effort to exploit ICTs and make information as accessible as possible. Only through positive action from this very moment can information exclusion be avoided in Europe.

In addition to creating an infrastructure that can connect citizens, healthcare professionals and authorities online, there are four other aspects that are essential for the full exploitation of online healthcare services:

- ✓ Electronic health services are spreading throughout Europe and the world. Therefore, best practices should be established and disseminated. At the same time, benchmarking criteria need to be prepared.
- ✓ Health information is one of the most requested on the Internet. However, at present, the European citizen has very few resources to assess the quality and authenticity of this vital information.
- ✓ Public spending on telematic tools and devices is a considerable item of health budgets. Despite this, there is currently very little independent technology assessment that can guide the buyer when making a decision. Similarly, healthcare professionals are in need of up-to-date and networked public health information guidance to facilitate decision-making about disease management.
- ✓ Europe currently occupies a prominent position in the nascent eHealth industry, which accounts for approximately 6% of the information technology market. However, a particular uncertainty remains in the healthcare telematics industry regarding responsibility and data protection, and the legality of online diagnostics, as well as about pharmaceutical information and the supply of products online.

1.1. E-Health

In this context, the concept of e-Health arises, as the integral care of the individual, which covers all the stages that can go through throughout his life, both in the European Union and in Spain, there are initiatives to establish a framework of promotion of actions related to e-health, as a means to achieve health systems that react to the individual needs of citizens. E-health becomes a very effective means of reaching all

individuals (fundamental right) and promoting, through quality and personalized information, better health habits. ICTs are a tool that can significantly facilitate the control of the health of citizens as well as the monitoring of the state of public health in order to carry out prevention and health promotion campaigns and early action in case of a health alert. They are conceived today as tools that are put at the service of health in order to improve quality, safety, efficiency and accessibility.

The potential of ICT in the health field is recognized by all, hence numerous projects are being launched at the international, European, national and regional levels. These actions are being applied successfully in many areas of health: e-Europe Action Plans, e-Health Action Plans, Community Action Programs in the Field of Health (4), etc. This term has several different interpretations. On the one hand, it refers to the use / application of ICT in the field of health, in order to meet the needs of citizens, patients, health professionals and public administrations. In this sense, ICTs are used as tools at the service of health, in order to improve the quality, accessibility and efficiency of any aspect related to health care (EU, 2003). For Adrouckko (2003) it consists of the use of ICT with the purpose of promoting global health, medical control and assistance, as well as aspects of training, management and research in the field of health (Androuchko, 2003). From the point of view of innovation and research (Columbia University, 2007), its e-health activity tends to be divided into four differentiated activities: “bioinformaTIC” (bioinformatics), “bioimaging” (Medical imaging), “clinical informaTIC ”(clinical informatics or medical informatics) and“ public health informatics ”(public health informatics). In addition, in order to achieve the use of associated technology, special attention is essential in terms of technological acceptance and training in the Information Society for the different agents involved, both citizens and health professionals, institutional agents, etc.

In a broader sense, the term characterizes not only a technological development, but a state, a line of thought, an attitude and a commitment to improve health care locally, regionally and globally, through ICT. (Eysenbach, 2001). This author points out that the "e" present in the word e-health does not refer only to electronics but also to the following terms:

- ✓ Efficiency: one of the promises of health is to increase efficiency in health, thereby reducing costs. One possible way to reduce costs would be through efficient information management to avoid duplication and facilitate patient involvement.
- ✓ Extension of the quality of care - improving efficiency does not only mean reducing costs but increasing quality, for example by comparing different providers, also involving consumers, etc.
- ✓ Evidence: clinical practice should be evidence-based, an area where there is still much work to be done.
- ✓ Empowerment of individuals and patients: medicine focused on the user, allowing users to decide and make them jointly responsible for their health, allowing their medical records to be viewed on the Internet, etc.
- ✓ Establish new relationships between the patient and the professional, where decisions are taken together, a sign of a true "partnership".
- ✓ Online education of professionals; continuous training for professionals and citizens (personalized training on prevention issues)
- ✓ Standardization of information exchanges between the different organizations for the provision of health services.
- ✓ Extension of the sphere of influence of health beyond its traditional borders.
- ✓ Ethics: e-health brings with it new forms of interaction between the patient and the healthcare professional and poses new challenges and threats to ethical issues (informed consent, privacy, equity, etc.).
- ✓ Equity: e-health can promote more equitable healthcare, but at the same time the “digital divide” must be taken into account.

In this article, this definition of e-health will be used, as it is the most ambitious and the one that conceives the context of e-health as the use of ICT in the comprehensive care of the individual, which covers all states that can travel throughout his life,: healthy individual, at risk of suffering a disease, with an acute or mild

pathology, but immersed in the hospital chain of primary, secondary or specialized care, individual / patient with a chronic disease alive Independent; individuals with dysfunctionalities, etc.

An extensive consideration of ethical aspects is necessary, in particular as regards the treatment of personal data. This process must be carefully treated, sending pertinent information to users about the consequences of the processing of their data. In this sense, the current legislation both at the European level (Directives 46/93 on the protection of personal data and 58/2002 on electronic data communication) as well as its transposition into the Spanish framework with the Organic Law on Data Protection and its subsequent normative development, establish that "the files that contain data on (…) health (…) must gather, in addition to the basic and intermediate level measures, those classified as high level.

1.2. Research, Innovation and Diffusion

A distinction is usually made between research -which seeks to obtain new basic or applied knowledge- and innovation -generation of a good or service of commercial value and, in the absence of a market, appreciated by people. Innovating involves applying scientific knowledge to solving specific problems. Thus, the microscope was a technological innovation that using knowledge of optics allowed to see small objects in an enlarged way, while Medline and its PubMed software are innovations that integrate knowledge of documentation, telecommunications and computing to improve the search and access to scientific information. The competitiveness of organizations, and by extension of countries, depends on innovation, although there can be a high research capacity together with a lower innovative ability, as in what is known as the English paradox. The diffusion of technologies usually presents forms of S: it starts prematurely or late; it explodes more or less quickly. Schumpeter appreciated three stages in the impact of technology on well-being: invention, innovation and diffusion. It is the diffusion - generalized use - of a technique that improves well-being. While innovation is a monopoly - protected by a patent - it does not maximize social welfare. But a monopoly phase is the method most used to stimulate innovation, although the incentives introduced by patents lead to fiascos of the caliber of those recently evidenced in the pharmaceutical market.

"For the Frascati Manual, research and experimental development (R&D) comprises the creative work systematically approached with the purpose of increasing knowledge –of man, culture and society- as well as the use of this knowledge to design new applications. The term R&D encompasses three activities: - Basic research: experimental or theoretical work undertaken to acquire new knowledge of the foundations of the observed facts and phenomena, without anticipating any immediate application or use. - Applied research: also original research aimed at acquiring new knowledge although, unlike basic research, aimed at a practical goal. - Experimental development: systematic work, extracted from the knowledge acquired through research and / or practical experience, which is aimed at: the production of new materials, products or devices, the establishment of new processes, systems or services, or the substantial improvement of those already produced or installed. More concisely, experimental development encompasses the set of processes that facilitate the transition from research to innovation.

A useful distinction is generally made between product innovation (e.g. vaccine) and process innovation2 (e.g. surgical technique). Product innovation - which includes both goods and services - can take two main forms:

- ✓ Technologically new product, with technical characteristics or uses that differ significantly from previous products. This type of innovation may involve radically new technologies (eg microprocessors), build on new applications of existing ones (eg Walkman), or it may stem from the use of new knowledge.
- ✓ Technologically improved product, with significantly improved performance or substantially reduced cost (e.g. ABS brakes). The distinction between new and improved product raises difficulties, especially in the area of services. On the other hand, innovation in process implies the adoption of new or significantly improved methods of production. These methods may involve changes in equipment or organization of production (e.g. just-in-time), or a combination of both, and may also derive from the use of new knowledge. Also, the distinction between product innovation and process innovation can be blurred in the case of services. For example, changes in the processes used in telecommunications allow offering new products. Product or process innovation - according to the Oslo Manual: - must be distinguished from organizational innovation that includes:
- ✓ The introduction of significantly changed organizational structures

- ✓ The implementation of advanced management techniques
- ✓ The implementation of new or substantially changed strategic orientations.

Alternatively, we could define organizational innovation as the design of forms of government and institutions (social rules of the game), the implementation of human resource policies, management procedures, and strategies that minimize the sum of transaction and production costs.

The spread of medical innovations over time often results in a reduction in unit costs and an increase in total costs simultaneously. The explanation for this apparent paradox lies in the effects known as substitution and expansion.

2. INNOVATION IN SERVICE ORGANIZATION MODELS

One of the most repeated controversies throughout the last decades and even more so since the appearance of Royal Decree 521/1987, which approves the Regulation on Structure, Organization and Operation of Hospitals managed by INSALUD, has been the raised by the assessment, in terms of efficiency, of vertical versus horizontal organizational structures. The following chapter is intended to illustrate the basic characteristics of the same, without express conclusion about which of the two formulas is really more efficient. It would be convenient, based on the bases set out in this section and given that the current trend is directed from predominantly vertical structures towards the horizontal structure, for the reader to reflect on how change would have to be managed, which would have to be faced in order to carry out a real transformation of the structure. It would also be appropriate to carry out an in-depth analysis of existing experiences, whether these experiences have been evaluated, and, if so, whether the "innovation" has been successful in terms of implementation process and final results.

2.1. Health Systems and their Objectives

Health systems are a complex network of relationships between different agents, agents that we can list in a fundamental way such as governments, citizens, insurers and health service providers, between them there are different levels of interaction to achieve the different objectives that are pursued in the health services of any society, effectiveness, satisfaction, equity and efficiency, although some prevail over others based on the values that prevail in each of them:

Effectiveness, considered as the ability to achieve adequate levels of health and quality of life for people, is the main justification for health systems. Although for several decades it has been maintained that this ability to reduce disease and improve the health level of populations is shared with other factors called health conditioning factors (1) - environment, educational level, work environment, income level and distribution , among the most important - it should not cease to be the main inspiration for all its interventions, especially when sufficient evidence begins to appear showing that many of the health interventions not only do not have positive effects on health, but can be constituted as one of the main health problems and cause of mortality (2).

The satisfaction of the population, of the individuals who use the health systems and of the citizens who finance them with their taxes or insurance fees, has two different perspectives, one with the state of health itself, which includes the measure or self-perception about the capacities or limitations caused by our health and satisfaction with health services, which expresses the degree of conformity with the services received in contrast to our expectations about what a quality service should be. The two visions are based on personal assessments but are important for the collective perception of acceptance and social cohesion.

Equity is the way that the same health care can be achieved regardless of different variables that may interfere, such as sex, age, social condition or place of residence, etc. Equity is a moral and political good that is required of all activities carried out with public resources, especially in countries that, in one way or another, have been affected by the ideological values of the French Revolution.

In the health system, one of the most important dimensions of equity is equality in access or accessibility, although other dimensions of greater importance in terms of health results are also beginning to be considered, which implies a maximum conceptual development, considering that the health system must eliminate or reduce the inequalities in prevalence, mortality or loss of quality that the different variables introduce in the state of health.

In our country, the General Health Law (LGS) recognized as holders of the right to health protection and health care all Spaniards and foreign citizens who had established their residence in Spanish territory,

establishing the general principle of extension of public health care to the entire Spanish population and access to it under conditions of effective equality.

Subsequently, the Law of Cohesion and Quality (3) imposes on public administrations the obligation to prevent discrimination against any group of the population that, for cultural, linguistic, religious or social reasons, has particular difficulty in effectively accessing the health benefits of the System National Health Service (SNS).

The efficiency or way of how the rest of the objectives are achieved with a cost that society can finance and without wasting resources. The population's expectations regarding health and health services are growing, which means that health services must be able to demonstrate their operation in terms of improved results. Healthcare costs are increasingly high and demographic factors sometimes make them difficult to manage. It is necessary to contain and control costs, have a financially sustainable system, while ensuring equity and high-quality services.

Given that the resources that are consumed in a certain activity cannot be applied to another, even if it is more useful or efficient, it is necessary to replace the way in which many health decisions are made that are based almost exclusively on values and Existing resources: this is what is called decision-making based on opinions, and replace them with those evidence derived from research, the so-called scientific factor.

Most of the actions that generate an increase in efficiency are those whose decision is made in and in relation to health services and clinical practice based on scientific evidence, so that the knowledge derived from research can be used to improve the population health (4).

If we consider these four objectives and the four agents, we can also think of four basic functions that govern the interaction processes:

- ✓ The financing of the systems.
- ✓ Regulation.
- ✓ The management.
- ✓ The utilization.

Depending on the different aspects that these variables take, the different health models are generated, some of which we will describe later in more detail. It is easy to understand that depending on the way in which they interact and the preponderance given to each one, they produce different degrees of achievement of the objectives, for example, effectiveness is clearly related depending on whether the services are publicly financed or not. or that the use is universal and free, in the same way that satisfaction can be affected by regulation or efficiency.

2.2. Financing And Insurance

If we analyze the different types of financing, we can think of four large system models:

- ✓ Welfare state system (Beverige and Shemasko model):
- ✓ Tax-funded services.
- ✓ State control.
- ✓ Social Security (Bismarck model):
- ✓ Quotes.
- ✓ Mandatory participation of workers.
- ✓ Voluntary (private) insurance:
- ✓ Participation depends on individual decision.
- ✓ Direct payment of services.

In the first model, where the Spanish health system is included, are the systems encompassed in what is known as SNS, which are financed via taxes, where no one can avoid being exempt from financing and, therefore, cannot be excluded in its use, which provides universal and usually free access, although there may be benefits that require additional payment for the use of certain benefits (copayment).

They are under state control, which is what determines the volume of taxes that will be allocated to the system, to finance the various benefits and to regulate the management processes of health centers and access for citizens.

They are known under the Beveridge model in Western society and also the Shemasko model in the old environment of the Soviet countries.

One of its strengths is the relatively easy administration of the system, and the universality that facilitates both social cohesion and effectiveness in health care by reducing barriers to accessibility. Among its weaknesses is the sensitivity towards political interference and competition of economic funds, with the financing of other public services.

The second type of insurance is associated with the withholding of part of the workers' income, these contributions constitute a specific fund only for the welfare provision, of those groups that contribute - workers and their families. Therefore, it has a specific link between contribution and benefits and is independent of other government revenues. They are systems implemented in many Central European and Latin American countries and are known as the Bismarck or Social Security model.

Usually, it allows the choice of insurer or health provider, which incorporates competitive variables between them and, indirectly, facilitates user satisfaction with services.

Logically, it does not enjoy the universal nature of the SNS, it has higher and more complicated administration costs to manage and additionally, as it is part of the labor costs, it can limit or reduce the competitiveness of companies. It is more regressive in nature than the tax contribution, since contributions are usually subject to maximum withholding ceilings in the highest labor income brackets, which is why they have a lower relationship between the level of income and the economic contribution to support of the system.

The last two financing systems fall exclusively on the individual will of the people, either by voluntary insurance or by direct payment for services, and closely related to their ability to pay. Both have a strong relationship between payment and use and a high capacity in choice. In the case of voluntary insurance, it is subject to the risk of adverse selection, so that those who require health care because they have a greater degree of need, may be excluded from the insurance for not finding someone to cover their risk or not having a sufficient economic level. to bear the cost of the policy.

In a comparative study of health systems (5), evaluating their different dimensions such as level of health, satisfaction, spending, etc., Elola determined that the SNS are the ones that provide greater overall efficiency.

2.3. Regulation

The regulatory function exercised by the health authority in its intervention on health systems is related to the definition of the rules and criteria that regulate the interests of the different agents involved, it covers a wide spectrum that goes from aspects of a high strategic level , such as financing, insurance, provision of services, the degree of organizational decentralization allowed for decision-making, payment methods to providers and health professionals, to the organization of professional practice itself, all these measures with effects different on the quality of care, the effort to reduce healthcare costs. López-Casasnovas 8 defines three main sections for the regulation of systems in order to maintain a health system with an informed decision and with the involvement of professionals in the control of health spending:

- ✓ Financing of suppliers.
- ✓ Decentralization of financial risk.
- ✓ The decentralization of insurance management.

Many of the reforms undertaken in neighboring countries are associated with modifying the relationships between the financing, insurance and provision functions, where the State or the regional health authority maintains its role as financier but the provision of services is guaranteed by means of from a range of public, private and voluntary providers.

Depending on the combination of these three aspects and who and how the providers of the services are chosen, two different models of organization of the health systems are made, which have been defined as public competition and internal markets (9).

The planned markets or public competition are characterized:

Due to the absence of private capital, since all providers belong to the public health system.

The patient chooses a doctor and / or center, being the main driver of the reform.

The budget of health centers is flexible and is linked to the market share they have within the system in relation to the volume of patients who have chosen them.

Incentives are introduced from the demand side, giving rise to the famous phrase "money follows the patient."

Existence of multiple providers (public / private) competing for the assignment of contracts.

The engine of change is the manager in the allocation of budgets, buying services from the best health center based on the quality and price offered.

Incentives are introduced from the supply side.

If we go from this theoretical conception, on different possibilities and ways of ordering the systems and we carry out a more pragmatic vision of analyzing the aspects that most concern the autonomous communities, for the regulation of health systems, we can see in graph 1, the data from study (11) on the content of the legislation drawn up by the autonomous communities between 2001 and 2003, it is worth highlighting the production of a large number of organizational rules, corresponding to the following subjects: «structure and organization», «personal» and "economic-financial organization". In the health area, the greatest regulatory effort is reflected in the organization of the health system and services, some of them associated with the process of transfer of management to the autonomous communities that took place in 2002.

A group of technologies that are already highly developed are communications technologies. The development of broadband Internet connections has greatly increased the speed at which the user can send and receive information. Wi-Fi, bluetooth, and radio frequency technologies are very useful in inventory management, in the safe identification of patients and, in general, in everything related to the transfer of digital data. Technologies evolve faster than the capacity for acceptance by physicians and patients of the use of these technologies in the health field. In fact, many of the technologies are already available and its implementation is only a matter of time and resources. One of the most important brakes is the economic one, since this represents a significant investment. It is also necessary that the implementation of technologies is carried out not only in health but also at a general level and, since they also have to be available to citizens in their family environment. The process of implantation of new technologies is complex, due to the multitude of factors related to the business world, health professionals, patients and politics in national and international spheres intervene. Parallel to these factors, the way in which innovations are valued when applied is decisive: “there are two very important issues when evaluating the application of new technologies in healthcare. One is the cost-effectiveness relationship in relation to improving the quality of life, and the other is the degree of security and confidentiality in the transmission of information” (Fundación OPTI, 2006).

One of the first steps towards e-Health involves the digitization of patient data. The electronic prescription allows the automation of the prescription, control and dispensing processes of medicines, in addition to the associated administrative process, making use of new information technologies. Its development is carried out in parallel to other closely related actions such as the electronic health card that offers numerous advantages, since it allows better monitoring of a patient's prescription, avoids the generation of errors due to ignorance of the clinical history, It reduces the time dedicated to prescribing and allows making decisions with cost-effectiveness criteria. A large part of the internal processes in any health system have to do with the administrative management of patients. The electronic health card provides fast, simple, confidential and secure access to health-related data through the use of so-called smart cards. An important aspect of digitizing patient data is digitizing images.

The RIS-PACS solutions (acronym for "Radiology information systems-picture archiving and communication system") allow better management of diagnostic imaging services, make the radiographic plate disappear, reduce patient travel to the center, decrease reception of results, the average stay in hospital admissions and help in medical decision-making (FENIN, 2010). Very close to 2D imaging is the development of 3D technology. The general use of this technology is estimated to be available in a few years for diagnosis and later for surgery. With the reconstruction of anatomical structures in 3D, values of the most

relevant anatomical and surgical parameters can be obtained. Currently there are already three-dimensional coronary artery reconstruction systems, for example, that allow the specialist to have all the information they need for fast and accurate work. The availability of all these data by computer will have repercussions on other aspects related to health, such as the training of physicians and the information of the general population.

3. CONCLUSION

One of the most important aspects of hospital use is the variability of the admission rates of the different processes, which occurs both between genders and in the territories of the different autonomous communities. The study of this phenomenon shows that it is fundamentally motivated by the different incentives existing in the health systems 21 and the uncertainty in the use of the different techniques, which reflects an alarming difference in criteria and clinical indication, which opens up an important field of action for health management, to generate clinical evidence and introduce quality clinical practice criteria.

In the analysis of this variability in hospital attendance 22 in the different autonomous communities, it shows that variability is inversely related to attendance, is greater for infrequent diagnoses, as expected, and tends to decrease as it increases. frequentation, in a similar way the certainty about the effectiveness of the procedures acts. When there is more uncertainty about effectiveness, the variability of practice is more likely to be greater.

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