Reflections on the electronic SUS in the dental work process in primary care

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ABSTRACT
The electronic SUS, or E-SUS, is a strategy whose main guideline is to allow the follow-up of each patient by automating the work process and the production of information for professionals in primary care. This strategy is characterized by an electronic SUS to facilitate and collaborate with the organization of the work of health professionals, which directly influences the quality of the service provided. The implementation of the E-SUS has been developed gradually because, being a new tool, it encounters difficulties such as the extension of the country's territory and the availability of the service structure. The positive contribution of E-SUS to the work process of the dental surgeon in relation to the optimization and integration of information is obvious, but several aspects must be considered for its use to be effective for the work process.

Keywords: Information Systems, Information Technology, Unified Health System, Primary Health Care, Dentistry, Informatics Applied to Dentistry.

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INTRODUCTION

The PEC (Electronic Citizen's Medical Record System) and the CDS (System with Simplified Data Collection) are two *software developed* by the Ministry of Health for the use of professionals in public health units. They are the result of an innovative proposal with the objective of consolidating a new Information System and improving the activity of health professionals. Currently, these *softwares* are in the process of being deployed throughout the country.

When innovation, entrepreneurship and the use of technologies are discussed, there is a natural association with the private sectors for the provision of services. It is notorious that the private sector, due to competition and greater investment opportunities, needs to make use of alternatives to increase the visibility of the business, the continuous improvement of the services provided, the increase in revenue, the reduction of costs, the optimization of time and the increase of productivity.

However, the public sector also needs to continuously improve its services. Thus, respecting the differences of each sector, entrepreneurship, innovation and the use of technologies are also part of the universe of public health where all efforts are focused on the effectiveness, efficiency and effectiveness of actions ensuring universal, comprehensive and equitable access to health services to the population.

According to Bueno (2016), entrepreneurship is the search for the identification of problems and innovative solutions capable of generating positive and impactful changes. In this way, a professional who works in any sector, public or private, can be an entrepreneur as long as he is continuously seeking to improve the services provided and collaborating for the good performance of his organization, sector or team.

In relation to innovation, which means doing something new that has not yet been done and/or producing novelties, any sector, public or private, can also develop innovative products or actions. And this will depend, among several aspects, on the availability of budgetary resources.

Public health services are included within a large system: the Unified Health System (SUS). Enacted by the Federal Constitution of 1988 and regulated by Organic Health Laws 8.080/90 and 8.142/90, the SUS is a hierarchical system that obeys levels of complexity of health care: Primary Care, Secondary Care and Tertiary Care. In Brazil, Primary Care is called Primary Care, which is the gateway to the service that, materialized by the Family Health Program (PSF) created by the Ministry of Health in 1994 for its organization, is responsible for the care and resolution of 85% of the population's health problems (COSTA, 2003). Secondary and Tertiary Care are related to specialized and hospital care, respectively.

The FHP is composed of multidisciplinary teams - physicians, dentists, nurses, nursing technicians, oral health assistants, oral health technicians and community health agents - responsible

for health actions in a given geographic territory. The oral health teams in the FHP can be implemented under two modalities: modality 1, which is composed of a dental surgeon and an oral health assistant; and modality 2, which is composed of a dental surgeon, an oral health technician and an oral health assistant. Currently, there are 26,623 oral health teams of the two modalities implemented and distributed throughout the country (BRASIL, 2018).

The dental surgeon who works in the FHP develops both clinical and collective activities aimed at health education and, logically, technological resources such as equipment and materials are necessary for this professional to be able to perform their outpatient care. However, in relation to the specific use of Information Technologies by dentists, the PEC and CDS are being made available through the E-SUS to oral health teams, causing a change in the work process of professionals at the national level.

It is known that health information is an effective tool for diagnosing the social, economic and epidemiological reality, supporting the planning, decision-making and management processes in the SUS. Thus, the E-SUS Primary Care (E-SUS AB or simply E-SUS because it always refers to Primary Care in this text) was created by the Ministry of Health in 2013 to operationalize the Information System for Primary Care (BRASIL, 2013).

The E-SUS is a strategy whose main guideline is to allow the follow-up of each patient by automating the work process and the production of information for professionals, in addition to recording the production of each primary care professional. This strategy is characterized by an electronic SUS to facilitate and collaborate with the organization of the work of health professionals, which directly influences the quality of the service provided. The E-SUS has two *softwares*: the System with Simplified Data Collection (CDS) and the Citizen's Electronic Medical Record System (PEC) that together serve the FHP teams, providing them with all the information about the patients and also the municipality (BRASIL, 2014). Currently, the PEC and CDS have been implemented in the FHP teams throughout the national territory and are perhaps the only Information Technology resources that professionals have access to in Primary Health Care services.

SEARCHING FOR DATA FROM THE LITERATURE

The SUS was established in the country by the Federal Constitution of 1988, incorporating the doctrinal principles of universality, equity, comprehensiveness and popular participation. It is structured in the form of a network of decentralized, hierarchical and regionalized services to meet the health needs of citizens with resolution (BRASIL, 1990).

Primary Health Care (PHC) represents the individual's first contact with the care network within the SUS, and is mainly characterized by the continuity, comprehensiveness and coordination of care within the system (STARFIELD, 2004). In Brazil, PHC is called Primary Care, which, since

1994, has been restructured and reorganized with the implementation of the Family Health Program (PSF) with the objective of improving the health status of the population through the construction of a care model based on health promotion, protection, early diagnosis, treatment and recovery. in accordance with the principles and guidelines of the SUS and addressed to individuals, families and the community (BRASIL, 1994).

With the FHP, the family began to be considered an intervention unit and the premise of reorienting professional practices based on Primary Care in an integral and continuous way was established. The FHP is composed of multidisciplinary teams, including oral health teams, which are assigned to a given number of users. Each of these teams is responsible for a set of very well-defined problems, with planning and execution of actions capable of solving them. Therefore, the FHP advocates the territorialization and delimitation of areas covered by the teams for the identification of health needs and problems and the monitoring of the population's living and health conditions to facilitate the programming and execution of health actions (AQUINO and BARRETO, 2008).

Regarding the prerogatives of the oral health team in the FHP, the dentist develops, with the other members of the team, activities related to oral health, integrating health actions in a multidisciplinary way. In a joint action with the oral health technician (TSB), it defines the epidemiological profile of the population enrolled for the planning of actions in order to develop individual and collective care aimed at health promotion and prevention of oral diseases. It also performs clinical procedures, including emergency care and minor surgeries. The dental surgeon is also responsible for the technical supervision of the OHT and the oral health assistant (ASB) (BRASIL, 2012).

Health work includes three types of technologies: soft, hard, and soft-hard. Soft technologies are those of a relational nature directly associated with the way of acting between the subjects – professionals and patients – involved in the production of health care. The hard technologies are those represented by the instruments and equipment, and the light-hard technologies are those related to technical knowledge, where a hard part (structured) and a light part are identified, which concerns the way each professional applies their knowledge to produce care. The health care model is historically centered on soft-hard and hard technologies (MERHY and FRANCO, 2003) which are where Information Technologies are included.

Information Technology corresponds to a set of individual components such as hardware, software, telecommunications or any other technology that is part of or manages information processing (CRUZ, 2008). They are so important today that companies that actually use information technology correctly are 20% more profitable than their competitors (WEILL and ROSS, 2006). But, for this, the existence of an Information System is fundamental. An Information System is not limited to information technology alone. It is an organized set of people, hardware, software,

computer networks, and data resources that collect, transform, and disseminate information to support the work process and decision-making (O'BRIEN, 2002) including in healthcare (MARIN, 2010).

The Basic Information System (SIAB) was created to manage the SUS Health Information System in 1998. With the use of the SIAB software, the health professionals of the Primary Care fed the system by filling out forms and reports and had access to information on the records of the families, housing and sanitation conditions, health situation and composition of the health teams, facilitating the planning of health actions (BRASIL, 2003). Although the ISPC facilitated decision-making and provided data that streamlined the work process, it became obsolete because there was a need to unify the data, computerize the system, and include other areas of primary care in the information registry (BRASIL, 2014).

The SIAB was replaced by a new system: the Primary Care Information System (SISAB), which is operated by the E-SUS Primary Care. The e-SUS is a strategy launched by the Ministry of Health through Ordinance No. 1,412, of June 10, 2013 (BERNARDES et al, 2013; BRASIL, 2014) with the proposal of computerizing, qualifying, and enabling the information collected at this level of care (BRASIL, 2013a). To this end, the E-SUS consists of two *softwares*: the Simplified Data Collection System (CDS) and the Electronic Citizen's Record System (PEC). These two systems, in turn, must meet the various scenarios of computerization, connectivity and teams that work in family health units, making it possible to gather all the information of the municipality.

Simplified Data Collection (CDS) is the *software* used to record collective activities and for health services that do not have a computerized system for routine use at work. It consists of forms for the registration of information and the monthly production of each professional, so that they no longer need to use printed forms and reports to record their daily activities (BRASIL, 2014).

In the PEC, the information is maintained electronically and this system also contains the CDS included in its architecture. All health, clinical, and administrative information throughout the patient's life and all procedures performed are stored, allowing quick access to current health problems and interventions, retrieval of clinical information, decision support systems, and other resources (BRASIL, 2016). The adoption of electronic medical records means advances in management practices, as the medical history, which is the property of each subject, must be hosted and managed in such a way that it is accessed by all professionals and, especially, by the patient. Therefore, the electronic medical record represents access to information and, based on this, the health area as a whole has more capacity to reduce costs and waste (PINOCHET, 2011).

The implementation of a new Information System to replace the old and obsolete one, and the development of software to increase the quality of the services provided and improve the performance of the professionals, show an entrepreneurial behavior on the part of the managers and

planners of the services. According to Dolabela (2014), the act of entrepreneurship is defined by the subjects' worldview and their desire to transform it, offering positive value to the collectivity. Entrepreneurship is a way of being and it is necessary to believe that actions can generate transformations.

In relation to the professional service providers, they also show an entrepreneurial behavior. In fact, the correct term would be "intrapreneurial behavior" which is a concept that most organizations intend to develop in all their employees so that they are fully engaged and committed to achieving organizational goals (CHIAVENATO, 2012). That is, the professionals who provide services, such as the dental surgeon, when using the new technologies made available by the management, following the organizational guideline of improving the services provided, improving the quality of their care, increasing patient satisfaction (which would be directly related, in the private service, to customer loyalty) and seeking new ways of using and applying technologies in the service, assume such intrapreneurial behavior.

Unfortunately, the infrastructure offered today by the SUS, depending on the municipal manager, hinders the implementation of the E-SUS in all Primary Health Care units. This makes it difficult to integrate data, improve care and, consequently, the work process. Although Ordinance No. 1,412 of July 10, 2013 determines that the System be adopted in all municipalities in the country, it is still being implemented in health units. The implementation of CDS and PEC software has been developed gradually because, being a new tool in the SUS, it encounters difficulties such as the extension of the country's territory and the availability of the service structure (ALVES et al, 2017).

However, many Brazilian municipalities have already implemented the software, making its use available to primary care professionals. In João Pessoa (PB), the use of the CDS showed benefits in the work process of professionals in relation to the reduction of the amount of forms used in the records of care and procedures. Although it still has limitations, such as the impossibility of editing the information already fed into the System and providing reports that offer few subsidies for monitoring the health situation of the territories, it is expected that this will be resolved with the emergence of future versions of the *software* (OLIVEIRA et al, 2016).

Medeiros et al (2017) also reported that the CDS contributed in an innovative way to the recording and improvement of the quality and consistency of the information produced, thus meeting the world scenario experienced in the field of Computerization Technology and connectivity. The professionals who use the *software* have seen this change, which has generated in each one the desire to incorporate their practices into the immense scope of computerization and health technologies that are so widespread today. However, it was found that the training offered by the managers was insufficient to meet the team's learning needs about the use of the *software*.

In 2013, Gonçalves et al. stated that, even with the cost of implementation and the need for professional training, the electronic medical record could reduce the number of papers filed, reduce the occurrence of misconduct, store data for longer, avoid redundancy of procedures and exams, increase service productivity and user satisfaction, and facilitate intercommunication at points of care.

A few years ago, Herrera et al. (2008) evaluated the implementation of an information system for the field of Dentistry to improve the organization of data stored in a private practice and reported an increase in the quality of patient care, office administration and the technological-scientific growth of the dentist himself. As the PEC was created to be used by professionals with the same objectives, it is expected that it can also contribute positively to the work of the dental surgeon in primary care.

POINTS FOR REFLECTION

The positive contribution of E-SUS to the work process of the dental surgeon in relation to the optimization and integration of information is obvious. Optimization relates, for example, to the ease of executing patient schedules and procedure records to generate monthly production reports. The service has become more organized and systematic, optimizing the time of each appointment. Regarding integration, patient information can be easily recorded and accessed by all team members, agreeing with what Medeiros et al. (2012) stated. With the elimination of the need for physical medical records and forms that are often lost or do not allow the reading of data due to illegible handwriting, this fact corroborates the data of Oliveira et al. (2016) who indicated a decrease in the use of printed materials due to the use of the *software*.

However, the professional, in order to use the information for the planning process, must have the guarantee of a system that is constantly updated to avoid errors and be able to generate reliable reports, as warned by Oliveira et al. (2016).

Although almost all Brazilian municipalities already have E-SUS (LACERDA et al. 2020), many health units still do not have connectivity or, when they do, the internet is slow and makes it difficult to manage the *Software* for access to information, registration of procedures, appointment scheduling, etc. This directly affects the agility of the process, causing the professional to waste time during the consultation, also generating patient dissatisfaction. There are also limitations such as the unavailability of *Hardware* for all professionals. In those municipalities that have not yet invested in complete computerization, there is often only one computer in the unit for all professionals to record their procedures and activities in the *Software* generating discomfort and waste of time for everyone.

It is very common for FHP health units to have two chairs in the dental office for the simultaneous work of two oral health teams. Often, there is also only one computer available for the use of the PEC by the two professionals, making it difficult to use it because, in order for each

professional to have access to the patient's medical record and record the procedure performed, the patient must *log in* each time he leaves the system to give the opportunity for the colleague to also access it. Undoubtedly, this generates a great waste of time during the consultation.

Another difficulty that can occur is the lack of availability of printers to print prescriptions, referrals and attendance statements, causing professionals to have to perform a rework, registering such information in the System and filling out forms.

Another point to be remembered is the creation of alternatives for the system to crash in *hardware* or internet access failures. A book for the recording of daily procedures in these situations can be adopted.

We must not forget that there will be a period of adaptation of the professional when starting to use the *software*. Such period of adaptation and the correct and efficient use of *the software* will depend on the degree of resourcefulness of the professional in handling computers and their interest in learning. In this case, there is also a need for supervision by managers to detect errors in data feeding into the System, supervise the handling of *software* by professionals, and offer continuous training as previously pointed out by Medeiros et al. (2012), especially for those professionals with more difficulty in computer science (BARBOSA et al., 2020).

Over time, the professionals will appropriate the various resources offered by the PEC to improve other activities in addition to clinical care, such as the welcoming process. This refers to the concept of intrapreneurship mentioned by Chiavenato (2012), where professionals can show a proactive attitude in an attempt to improve the work process, optimize service time and increase user satisfaction. In relation to the latter, improving the relational process between patient and professional in the public sector is nothing more than ensuring loyalty: Gonçalves et al. (2013) pointed out that the use of electronic medical records can promote patient satisfaction.

The entrepreneurship on the part of the Ministry of Health through the innovative implementation of the E-SUS and the intrapreneurship on the part of dentists by using the PEC and the CDS in a proactive way indicate a modernization in public dental care with the use of Information Technologies. From now on, the challenge for professionals to offer an increasingly effective and efficient service lies in the fact that they require both a process of implementation, evaluation and continuous monitoring of managers to ensure an effective system in the network, as well as keeping up to date, through permanent training, to properly use these technologies.

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