

USABILITY OF ELECTRONIC MEDICAL RECORDS IN PRIMARY HEALTHCARE UNITS

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ABSTRACT

The research aimed to evaluate the usability of electronic medical records in primary healthcare units of a south Brazilian city-. Qualitative, descriptive study, with data collected by semi-structured interview in 05 head offices of the regional health from a southern city - Brazil, counting with 20 health professionals, in the period from July to August 2013. The interviews were recorded and transcribed the speeches for data analysis with use of the content analysis technique. As results were identified 03 empirical categories: use of electronic medical records in the work process; access to information - reliability and quality of data; and overall assessment of the electronic medical record and its instruments. The electronic medical record is seen by professionals as a tool that has revolutionized the practice in the units, but the system still needs adjustments to suit the needs of professionals who use it in their daily actions.

Keywords: Nursing informatics. Medical records systems computerized. Nursing. Nursing Records.

INTRODUCTION

The basic attention in the Unified Health System (UHS) has advanced through the implementation of public policies that seek to implement the principles that meet the population's needs. It is considered the main gateway of the health system and has a fundamental role in the appropriate and opportune organization, which results in health conditions⁽¹⁾ that requires from professionals working in this service great diversity of knowledge in different areas of health and management⁽²⁾.

In order to meet the population's health needs, the UHS uses the Health Care Networks (HCN) as a strategy to consolidate the care integrality, which has the basic attention as the ordering piece. The integrality develops in different points of health care in a manner articulated by the reference and counter-reference system of users and information exchanges between the services of these networks at all attention levels⁽³⁾.

For the integration of the services, the collection, organization and storage of data are essential to consolidate the assistance integrality. In this way, the patients' information started to be

stored, uniting all data from different professionals in the Electronic Medical Record (EMR)(4). The International Organization for Standardization (ISO) defines EMR as the collection of computerized information on the health state of a subject, stored and transmitted in complete safety, accessible to any authorized user⁽⁵⁾.

The main purpose of the chart is to ensure integrated health services, continuously, efficiently and with quality, along with prospective, current and retrospective information^(5,6). The EMR is an important tool in the health professionals' work process. It is more than a data record, for it also promotes the sharing of information and is a source of epidemiological researches and studies, helping to identify specific cases, among other functions⁽⁷⁾.

Thus, the EMR implementation needs to meet the current needs of the professionals who use it, because the service and health models have been changing. Therefore, the system usability should be assessed, so that the electronic record is functional for professionals and the management of information can contribute to the care continuity⁽⁵⁾. A research conducted in the United States presents advances in usability evaluation of systems, allowing, for example, assessing whether the

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integration of evidence-based quality indicators with the display of information of users' risk of health services can expedite early interventions and promote improvements in attendance⁽⁸⁾.

The usability evaluation allows relating ergonomics, interface, content and the use itself, to the expectation to perform basic, simple tasks, seeking to identify the problems in order to perform the necessary changes with the team professionals⁽¹⁰⁾. The ISO⁽⁵⁾ defines usability as the effectiveness, efficiency and satisfaction with which the product audiences reach the goals in certain environment.

The need to assess the electronic record usability in health units for the care continuity justifies this study. Thus, this research aimed to evaluate the electronic record usability in basic health units of a Brazilian southern municipality.

METHODOLOGY

In the studied municipality, records were made on paper hindering the management of actions and health services. In 2000, the virtual organization and storage through the Electronic Medical Record, EMR, began, which identifies and allows the registration of users and their actions in health services, ensures data security and provides a more accurate history of each user.

This record contains the modules for medical, nursing and dentistry services. It also contains the compulsory notifications module of the main diseases and injuries of epidemiological interest. Thus, the information on EMR increases the records quality.

This is a qualitative research, of the descriptive type, using a guide for the semi-structured interview. The applied model was the same used in a survey conducted in a large municipality in the Southern Brazil, with the theme "The use of the electronic health record by nurses in Brazilian Basic Health Units"⁽¹¹⁾.

The work target audience were professionals with college degree from the Family Health teams (FHT), of the city five regional health head offices. The number of participants had not been previously set, but, as the collected data and the information saturated, the collection ended. There was interview of 20 professionals (three physicians and 17 nurses), in the period from July to August 2013. All participants documented their acceptance

by signing the Informed Consent Form.

The study inclusion criterion was: physicians or nurses from the family health program. The exclusion criteria were: professionals who were on vacation or on leave due to health problems during the data collection and those who had been working at the service for less than three months. The researcher recorded the interviews and the participants' speeches were fully transcribed and, later, submitted to thematic content analysis⁽¹²⁾, which establishes the pre-analysis stages by organizing the speeches from the floating reading, material exploration, speeches coding, classification and data aggregated into categories and treatment of results where the words are interpreted.

The floating reading of the material allowed classifying and aggregating the data, which resulted in the identification of three empirical categories.

The research project was referred to the Humans Research Ethics Committee, and was approved under number CAAE 15081513.6.0000.5220 according to the Resolution 466/2012 of the Ministry of Health.

RESULTS AND DISCUSSION

The results are presented in three empirical categories, namely: use of the electronic medical record in the work process; access to information – data reliability and quality and overall assessment of the electronic medical record and its instruments.

Use of the Electronic Medical Record in the work process

The professionals that participated in the research reported using the system in all their activities, which were previously registered manually via the paper record. EMR is a tool that has brought significant changes in the professionals' routine, such as service agility, and that has contributed to the provided assistance and improved the communication between professionals, which can be seen in the participants' speeches and reaffirmed by authors⁽¹³⁾.

It is a very good tool, because, besides allowing the access to previous information, it is a way to register

what you are doing. (Phy. 1)

It fails sometimes, but it is agile... it is a quick system. It registers all information necessary for the patient, so, for me, it is good [...] I do like working with the manager. (Nur. 2)

Another aspect that emerged from the participants' responses was the use of the Electronic Medical Record not only as a consultation tool for daily activities, but also as a tool for planning actions in the activities of the teams and their management support, because it allows the professional to manage its activities better⁽⁴⁾.

For planning the activities, the system provides summarized reports that contain lots of information. (Nur. 3)

The electronic record data are used to plan actions for active search, epidemiological surveillance, data related to the SIAB. (Nur. 4)

The interviewees' answers also show that they believe that the EMR information related to the patient are important to the team, because they allow monitoring users. Regarding this issue, the information stored on EMR does not return completely as reports or tables to the team. Some authors point out that, in the health area, the information needs to occur at the right time, because it provides base for decision-making⁽¹⁴⁾.

[...] the children, you enter the data, weight, stature, it calculates, provides the growth curve instantly [...] For example, the SIAB (Basic Attention Information System) returns, you can analyze the data, it generates a report. So, there are some reports. (Nur. 1)

You have tables, but these tables are normally not available, normally, the nurse is responsible for the password that access them, I mean, you have lots of reports that the physician cannot open, [...] So, you do not have access to a lot of tables you would like to have. (Phy. 1)

Access to information – Data reliability and quality

This category shows that, even though the electronic medical record is very useful in everyday activities as a tool for health planning, it has some flaws. The main flaw reported by the interviewees is the data intersection, namely, the lack of integration with information systems of

other health services. Thus, the EMR basic principle is to integrate information, but the development of a fully integrated system is still a challenge, because, in addition to integrated services, integrated professionals are necessary⁽⁹⁾.

It works very well, the only problem is that we are not interconnected to all units yet, such as the hospital, UPA, especially at the UPA, they are not interconnected yet, nor at the municipal hospital. Only the specialists from the network have access, so it is very hard, it hinders a little, but the places where it is interconnected, it is great. (Nur. 1)

It still lacks integration, but not other things. For example, the municipal hospital still has services that are not interconnected. I think that, as time passes by, the specialty sector will improve to have a counter-reference. The patient leaves here and not always has a reference paper from the doctor. For me, as a nurse, it is not a problem, but, for the doctor, it would be interesting to register its procedures. (Nur. 5)

Another issue the participants reported was the flow of the information recorded in the EMR, and the relationship of the EMR information with other data sources. The professionals also see the data flow as a flaw, because some data sources need to be filled with the same information provided to the EMR, which, according to the reports of the professionals interviewed in this research, hinders their work. It shows a point that needs attention in the record, because the system must meet the flow of the professionals' real needs not to hinder the work process at the units⁽¹⁵⁾.

For example, I can register a child's data on SISVAN, a neonatal nursing data, I register here, then I have to access the Ministry of Health site, and then register on SISVAN, it registers nothing on SISVAN by itself. It does not fulfill anything at Brazil level, it stays here in this city. (Nur. 2)

We are not able to integrate some reports with the one of the Ministry of Health, so you end up doing the job, due to the report, even though we had already provided the data. The Ministry of Health does not accept some reports, for example, the Ministry have launched the prenatal SIS web and we already had ours and, now, we have to make ours twice, because the Ministry of Health have not accepted ours yet, so there is no external connection neither with the State Secretariat, nor with the Ministry of Health... we end up doing the job twice. (Nur. 1)

Regarding EMR use reliability, the interviewed

professionals believe that the system is reliable depending on who uses it, and the way this record is made. To this end, the way the electronic records are made determines the way the information will facilitate the understanding for the communication between the professionals who use it⁽¹⁶⁾.

I believe so, if the professional puts all the patient's observations. Now, if the person does not fill it, it is the same as nothing. You have to put all the data. It depends a lot on the professional, on its knowledge to use the tool. Some professionals write it, some not, it depends on the professional. (Nur. 5)

It depends on the way you have these data, if you enter them adequately, the right data. (Phy. 1.)

Nevertheless, even though the EMR data reliability relates to all the professionals who use it, the respondents believe that the information recorded in the chart are unreliable for decision making, because they reflect the reality of their area. Thus, the data recorded in the system should be accurate, because they can build the basis for the professional decision-making process⁽¹⁷⁾.

I believe so, because the same way I put it, everybody does the same thing. At least, it is where I look for something related to my area, I look here. (Nur. 6)

Those that exist (information), yes, but incomplete. (Nur. 9)

The interviewed professionals also reported the need for notebook or tablets to be taken to the health practices in the territory when working outside the units, because they still use charts and notebooks. Mobile devices like smartphones and tablets are tools that bring benefits when used in primary care, however, other authors state that the need for large investments in equipment and training is a disadvantage of the EMR^(17,18).

[...]There's the field work, there's no way we can use the paper. For example, in the home visits we take the paper chart, because we do not have a notebook, the same happens in the group calls to control, we have to use paper. (Nur. 1)

No, not a card. Notebook I take in the HV (home visits), because we do not have tablets ... It would be the essential thing, we still do in the notebook and when we arrive here we pass to the manager. (Nur. 6)

Even in the work in the units, it was noticed that many still make use of notebooks, folders, among other information systems manuals,

because they prefer to have handwritten notes about your area, for the control. However, it is necessary to stress the importance of the written data to be registered also in the PEP, since the records in the official information system not only contributes to the continuity of patient care, communication among the various health professionals, the visibility of the actions of each professional health staff, as well as an instrument of legal protection that converges with the fulfilment of ethical responsibility of nurses⁽¹⁸⁾.

The users' data records go beyond health-related issues, improvement of quality and integration, but also make up ethical and legal issues. According to the Federal Council of nursing, it is the duty and responsibility of nurses registering the data in the patient records, because the information is inherent in the care and management of work processes, necessary for continuity and quality of care⁽¹⁹⁾.

I use a notebook, I use a card, I use a medical record, because it is easier for me because a person who does not have access to the manager and wants to see how many pregnant women I have, can have a look here (in the notebook), you do not need to look in the manager. If the person wants to see in the manager she will find, all my pregnant, but I prefer to leave so, because I see who is the turn, who already was. (Nur.2)

For example, the number of childcare consultations, I do not have this access here (pointed to the computer), if I had access to the report of how many childcare consultations, I could even dispense the notebook. I also use it because I like to write down how many people have come, and how many have been missing, that's how I do my control. (Phy. 1)

Overall assessment of the electronic health record and its instruments

In this category, the participants made an overall assessment of the electronic health record and their instruments, pointing out the limitations and suggestions for the system.

One of the points raised in the responses was the need for training professionals for the use of PEP, the divergence of opinions among the participants. Thus, for the proper use of the electronic health record is necessary for the professionals to receive continuous training and updating, in search of that exploitation of the computer systems' potentialities which may

become a reality for health teams. PEP is a complex system that demands not only the first training, but training and updating of who uses it, so that in this way, the system is an allied tool for the professional practice⁽⁴⁾.

We had, well I had, my team too, when we had the implantation the secretarial staff came here. (Nur. 6)

We had a quick thing, it was more in the day to day that we learned after it was installed, came an explanation of everything. The guy sat there, and look, this is how it works, you press here and here you will open it, this and that. We learn later on the day by day. (Nur. 5)

In general, the electronic health record is seen by professionals as a tool that has revolutionized the care in basic health units and provided agility and practicality to the system. Corroborating with the literature⁽¹⁸⁾, the PEP has become an essential tool for the health team in daily activities.

"A strong point is integration, the patient takes the exam this morning and the afternoon is ready. This is only possible due to the existence of an electronic medical record, before it took a week to receive the result of the examination[...].

Weakness is a difficulty that we have with integration with the ministry of health, [...] It has to do the service twice. Another weakness is the difficulty of updating, and the updating that takes place during office hours, and as we depend on Electronic Records we are obliged to stop the service as well. Another weak point is that there is no technician in the unit, depending on the case it takes many days to solve and have the solution of the problems. (Nur. 1)

Strong point: area of coverage. Facilitates the follow-up of the patient, facilitates the work of the professional and the team, advancement of health.

Weak point: there are points of attention (specialties that do not have the system. It hinders the continuity of the care process as a whole.. (Nur. 10)

The electronic health record is still new, and need to adapt according to the needs and the professionals' reality, its information helps the whole team and, like all health information system, the use of EHR has positive and negative characteristics^(6, 19).

It is very useful, I think this is the way, I think he came to stay, he just has to improve, but despite the criticism, he improved the work a lot, it's much easier, there's everything there, you go in the digital chart and you can see Everything, I think it's the way. (Nur. 1)

I think it only needs to improve more, go through a re-evaluation, consult the professionals who are working with it, look at how this tool is being used on a daily basis. I think everyone should use this tool.. (Phy. 1)

The lines of research participants consider the electronic patient record a breakthrough in records and point out as functional tool that contributes to the quality of work in basic health units, but also realize their limitations in handling of the possibilities the system can present, which would take advantage of better information for managing their actions. From the perceptions of professionals, as all information, this system needs to be flexible and robust to withstand constant adjustments to the integration among the various levels of attention from health care networks.

FINAL CONSIDERATIONS

The exposed information allows affirming that the record is a document that contains all information essential to the patient, the health team, research and to the institution. Therefore, in general, the participants of this research assessed the EMR as a functional tool, which has revolutionized the professional practice of doctors and nurses at basic health units (BHU). However, the system still needs to undergo adjustments, because it presents gaps that need improvement.

Furthermore, the most notorious difficulty in the EMR use mentioned by the interviewees is the lack of integration of information between departments, whether between the BHU and other hospitals or Emergency Units (UPA in Portuguese), or between the BHU and other official information systems of the Ministry of Health. Further studies should be conducted in order to evaluate information systems, not only in the primary attention, but at all attention levels.

USABILIDADE DO PRONTUÁRIO ELETRÔNICO EM UNIDADES BÁSICAS DE SAÚDE

RESUMO

A pesquisa teve como objetivo avaliar a usabilidade do prontuário eletrônico em unidades básicas de saúde municipais. Pesquisa qualitativa, descritiva, com coleta de dados por entrevista semiestruturada, nas cinco sedes das regionais de saúde

de um município do sul do Brasil, com participação de 20 profissionais de saúde, no período de julho a agosto de 2013. As entrevistas foram gravadas e as falas transcritas para análise dos dados com utilização da técnica de análise de conteúdo. Como resultados, foram identificadas três categorias empíricas: utilização do prontuário eletrônico no processo de trabalho; acesso às informações – confiabilidade e qualidade dos dados; e, avaliação geral do prontuário eletrônico e seus instrumentos. O prontuário eletrônico é visto pelos profissionais como uma ferramenta que revolucionou a prática nas unidades, porém o sistema ainda precisa de ajustes para se adequar às necessidades dos profissionais que o utilizam nas ações diárias.

Palavras-chave: Informática em enfermagem. Sistemas computadorizados de registros médicos. Enfermagem. Registros de Enfermagem.

USABILIDAD DE LOS REGISTROS MÉDICOS ELECTRÓNICOS EN LAS UNIDADES DE ATENCIÓN PRIMARIA DE LA SALUD

RESUMEN

La investigación tuvo como objetivo evaluar la utilidad de la historia clínica electrónica en Unidades Básicas de Salud. Estudio cualitativo, descriptivo, con la recogida de datos a través de entrevistas semi-estructuradas, en cinco escaños de la regional de salud de una ciudad surbrasileña, con la participación de 20 profesionales de la salud, entre julio y agosto de 2013. Las entrevistas fueron grabadas y las líneas transcritas para el análisis de contenido. Como resultados, se identificaron tres categorías empíricas: uso de la historia clínica electrónica en el proceso de trabajo; el acceso a la información - la fiabilidad y la calidad de los datos; y la evaluación global de la historia clínica electrónica y sus instrumentos. La historia clínica electrónica es visto por los profesionales como una herramienta que ha revolucionado la práctica en las unidades, pero el sistema todavía tiene que someterse a ajustes para adaptarse a las necesidades de los profesionales que lo utilizan en sus acciones diarias.

Palabras clave: Informática aplicada a la enfermería. Sistemas de registros médicos computadorizados. Enfermería. Registros de Enfermería.

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