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Survey on the Use of Electronic Health Records by Occupational Medicine Physicians

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Abstract
The objectives of the current survey study targeted the overall questionnaire-based assessment of EHR functions trialed by occupational medicine physicians, the presence of correlations between observed advantages and disadvantages of the trialed EHR as well as the intention or factors that should stimulate its integration in medical practice. Statistical analysis of questionnaire responses revealed that occupational medicine physicians have an overall appreciative opinion on the application functions and consider that its integration into practice is good. All physicians were interested in applying EHR into practice, most of them intending to use it in the future. Most physicians mentioned the lack of legislation as main obstacle in their EHR use. Advanced knowledge of computer use as well as knowledge of the significance of the term EHR, represent differentiating characteristics of specialists' perception that EHR exploitation will lead to positive changes in the health surveillance of workers.

Keywords: Electronic health records; Occupational medicine, Perception evaluation of an EHR software.

Introduction

In the U.S., even with legislation and national policy supporting the use of EHR in healthcare, the degree of implementation of EHR in clinical practice is still low. EU Directive 2011/24/UE on the application of patients' rights in cross-border healthcare, with all concerns regarding information security, states the need for member States to implement EHR, or at least parts of it, interoperable at the interstate level, by 2020 [1].

In Romania, in absence of legislation that should allow the use of electronic media for medical information, the use of EHR remains a goal. In occupational medicine applications using the patient's Electronic File are strictly oriented towards the satisfaction of current requirements of information management without seeking to meet the functionalities of an EHR, in agreement and for comparison with the requirements of the Certification Commission for Health Information Technology in the United States of America concerning the EHR certification [2].

Objectives

Based on the legal requirements and those related to the certification of Electronic health records and with the purpose of performing a survey on the evaluation of general perceptions of occupational health physicians on the EHR use, we designed MedMun, our own computer application. Medmun evaluation based on actual use by occupational physicians can represent the starting point for its adjustment so as to take into account their views. Between 15.02.2010-30.03.2010, a number of 58 specialists in occupational medicine were contacted and 42 of them agreed to use the MedMun application in medical practice.

Testing the opinions of those who used the Medmun application after a maximum period of one year, i.e. March 2010-2011, based on an eight-item Posttest questionnaire followed essentially two major objectives: overall assessment of EHR functions, presence of correlations between advantages or disadvantages of the EHR under evaluation and the intention or factors that stimulate EHR integration into clinical practice.

Material and Method

The material included in this study was obtained through a questionnaire-based survey of 42 subjects (occupational physicians) through the eight-item Posttest questionnaire (Table1).

Table 1. Posttest Questionnaire

1. Evaluate the performance of the following activities with EHR by circling one variable: 1-it has become more difficult, 2-it has become much more difficult, 3-it has not changed, 4 – it has become easier, 5 – it has become much easier. Questions are presented in Fig.1.
2. Advantages of your own use of EHR were: (Circle the appropriate option: 1 - totally against, 2 - against, 3 - neither for nor against, 4 - agree, 5-totally agree): A. Facilitated access to patient data, B. increased communication in the doctor- patient relationship C. reduced costs, D. increased financial profit, E. improved quality of medical activity, F. reduced time for registration and release of medical forms, G. reduced errors in medical practice, H. diversification of health care provided to patients, I. higher efficiency of information flow in private practice, J. limited access to authorized users, K. possibility of renaming data fields, L. Other (please comment)
3. Conclusions resulting from your use of the electronic health records in medical practice (Circle the appropriate option: 1 - totally against, 2 - against, 3-neither for nor against, 4 - agree, 5-totally agree). Questions are presented in Table 2.
4. **Referring to the functioning of electronic health records in medical practice** (Circle one of the following: 1-rarely, 2-sometimes, 3-frequently): A. The electronic health record provides the exact information needed, B. The EHR reports provided meet reporting requirements; C. EHR performs accurately the selected tasks; D. Electronic health record information is presented clearly, E. Desired information can be obtained quickly and easily in the EHR, F. EHR is structured for ease of use; G. EHR is easy to use;
5. Do you intend to integrate EHR in occupational medicine practice? (Note, the question does not refer to the proposed version but to any further variant. Choose one of the following): A. No, not interested, B. It might interest me in the future but not now, C. I am interested but its implementation is not a concern in the next two years, D. I am interested in EHR implementation in the next 13-24 months; E. I am interested in EHR implementation in the next 12 months; F. Another option.
6. Which of the following would represent facilitating factors for EHR integration in medical practice? (Choose from the following options): A. Involvement of financial incentives (tax discount, cheap credits, etc.) for physicians; B. Change of legislation that should explicitly state the role of electronic health records, C. Software providers should have the obligation to comply with the minimum requirements for certification, D. Implementation projects in this respect at national level involving health policy makers; E . Other; F. I do not know.
7. REMARKS: give examples of deficiencies observed while using the EHR
8. OTHER COMMENTS / SUGGESTIONS.

Statistical analyses

For internal consistency of the item (question) scales, Cronbach's alpha index was employed.

Studying if there is a relationship between the observed EHR advantages or shortcomings and its intended use in practice by doctors, associations were made between the first 4 points of the questionnaire and points 5 and 6.

For this, each question from points 5 and 6 of the questionnaire was considered, analyzed and compared to points 1-4 of the same questionnaire. Mann-Whitney tests have been used for statistical comparisons, since the first 4 points have a five options response scale, from 1 to 5.

Results

This section presents the results of statistical analysis of responses to the applied questionnaires.

The following results were obtained for point 1 of the Posttest questionnaire:

- Internal consistency of the scale corresponding to question 1 was confirmed by the value obtained for Cronbach's index $\alpha = 0.847$ ($\alpha > 0.7$). One questionnaire had a missing answer for question 1F. Since perhaps the main aim of occupational medicine practice is not represented by writing prescriptions but by the assessment of work ability, this did not lead to a response. Frequency distribution of response variants 1-5 showed a graphic predominance of variants 4, 5 of the options and expresses positive appreciation of performing respective activities by means of EHR. The questions about making reports, records of employment and occupational risk factors, respectively 1I and 1D had no response indicating increased difficulty of these tasks by using EHR. With a single response indicating increased difficulty, answers to point 1H, encoding records for procedures and diagnosis followed the same favorable trend. Several statistically significant correlations have been found between responses to item 1 of the questionnaire.
- There were no negative correlations at this point of the questionnaire whereas out of the numerous positive correlations, none was extremely good, most of these correlations being however good ones (with r-values ranging between 0.183… and 0.697…).

The following results were obtained for answers to the second question in the Posttest questionnaire:

- Internal consistency of the scale corresponding to question 2 was confirmed by the value obtained for Cronbach's index $\alpha = 0.882$ ($\alpha > 0.7$). At point L, doctors had no specific comments regarding this option of question 2.

We found a significant percentage of indifferent responses to questions indicating as benefit the cost reductions and increased financial profit by using EHR (Figure 1). Regarding the advantage of EHR use, in the doctor/patient communication relationship, although with more affirmative than negative answers, most responders were undecided. Facilitation of doctor/patient communication through EHR had a centrally-located maximum of response frequency (i.e. predominance of 'neither for nor against'). Increased security of medical information by using MedMun application was perceived as a facility, without any negative perception from the specialists. Diversification of health care provided to patients represented a generally indifferent opinion in the group of respondents, without any affirmative or negative bias.

The use of alerts and notifications via electronic media was considered an advantage for clinical practice. Over two thirds of respondents to point 2K chose versions 4 and 5, representing appreciation for the possibility of renaming data fields through the Medmun application.

Results in terms of responses to point 3 of the Posttest questionnaire are presented below:

- Internal consistency of the scale corresponding to question 3 was not confirmed by the obtained value of Cronbach's index $\alpha = 0.56$ ($\alpha < 0.7$) because of the simultaneous presence of questions with a negative character (A, B, C) and those with positive character (D, E, F). (Table 2)

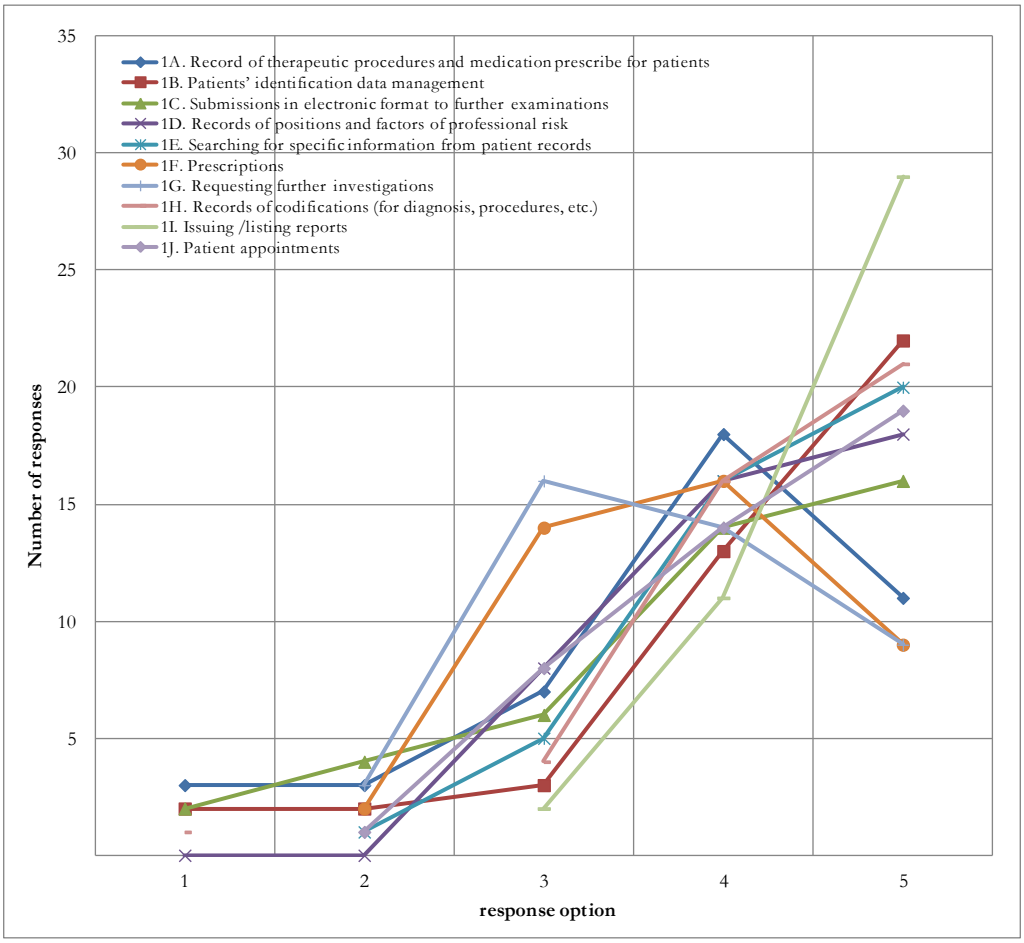

Figure 1. Graphic distribution of frequencies of response to the 5 variants of point 1 of the Posttest questionnaire regarding the ease of EHR use in medical activities

Table 2. Frequency of alternatives chosen for point 3 of the posttest questionnaire

1. Conclusions resulting from your use of EHR in medical practice:	1	2	3	4	5	Total
3A. Data safety is not as high as in the case of paper support security	8	8	11	11	4	42
3B. EHR use during the consultation depersonalizes the doctor-patient relationship	6	14	9	11	2	42
3C. Use of alerts and notifications is sometimes annoying	3	15	11	10	3	42
3D. Employers of companies for which I perform medical services support EHR use	3	2	27	6	4	42
3E. Employees of companies for which I perform medical services are in favor of EHR use	2	1	27	9	3	42
3F. EHR integration in medical practice was extremely good	1	1	12	20	8	42

1= totally against; 2 = against; 3 = neither for nor against; 4 = agree; 5 = totally agree

Over half of respondents answering questions regarding the opinion of employers and workers on the use of EHR by occupational health services gave a vague answer. This distribution of variants in response to point 3 of the Posttest questionnaire indicated a significantly positive frequency only for the overall appreciation of the EHR role in medical service, represented by question F, with only two opinions diverging from the general opinion, thus cumulating about a third of indecisive opinions, had positive opinions in a significant proportion of two thirds of the responses.

Results for responses to question 4 of the questionnaire are presented below.

Internal consistency of the scale corresponding to question 4 was confirmed by the value obtained for Cronbach's index $\alpha = 0.791$ ($\alpha > 0.7$). Response frequencies for the fourth point of the questionnaire showed an overall positive assessment opinion on the issues addressed in the questions for section 4 of the Posttest questionnaire.

Out of the 42 respondents to the Posttest questionnaire, about half of those surveyed believed that the Medmun application was structured for ease of use: 23 responses chose the "frequent" variant, 14 "sometimes" and only 5 chose the answer "rarely".

Likewise, the fact that EHR represented by Medmun application was frequently perceived as easy to use obtained 17 responses, while 18 respondents chose that this application was only sometimes easy to use.

Accuracy and clarity of information presented in this application, the fact that reports cover the necessities of medical practice, and that the execution of tasks by the application under evaluation was precise, have not received negative feedback, while the firm positive responses represented over 4/5 of response variants.

Internal consistency of the scale corresponding to question 5 was not confirmed by the value obtained for Cronbach's index $\alpha = -47$ ($\alpha < 0.7$), due to the simultaneous presence of the questions with negative as well as positive character. Five respondents, i.e. about a tenth, said they used their own versions of EHR in occupational medicine practice. Those who have mentioned explicitly that they would not use EHR in the next two years represented another tenth of respondents.

A fifth of all respondents intended to use such health records in less than one year. There was no physician among the respondents who was not interested in using EHR in medical practice.

The most frequent answers were 5B and 5D each accounting for nearly one third of the respondents: those who have chosen to use EHR in medical practice not immediately but within 2 years, and those who, although not interested in EHR use, did not exclude its use in the future, without specifying the exact moment when they would decide to do so.

Results of the sixth item of the questionnaire show that the most frequent choice, i.e. two thirds, was represented by the lack of legislation stipulating the explicit role of EHR, followed by implementation projects and financial incentives, respectively. Minimum requirements for suppliers to be certified were aspects mentioned by almost half of the doctors. A total of four respondents had their own observations outside of the questionnaire of which three were related to the EHR requirement to be as simple and easy to use as possible and one has mentioned the need for a computer operator in the surgery.

The seventh item of the questionnaire presented 12 specific comments of the doctors regarding the Medmun deficiencies. Three respondents had the same observation regarding the fact that the application does not allow simultaneous viewing of multiple windows.

In this respect, for example, one case mentioned workstations and identity data or medical data of workers that would be ideally viewed simultaneously. Four responses were related to the fact that working on EHR was time-consuming, sometimes difficult, requiring a dedicated person to enter the data in the medical care practice.

Two doctors suggested that there should be a computer operator employed for this purpose. Two doctors found that use of codification was not practical, it rather increased the workload. One of these doctors considered that, for example, occupation and function should be written only as free text.

Another observation mentioned that, within encodings, the fields in the database did not contain sufficient signs and symptoms to cover all the practical possibilities. Another weakness concerned the appearance of application deadlocks such as in cases of introduction of a wrong identification number.

The eighth item on the questionnaire containing the respondents' personal comments and suggestions was completed in 7 cases. An observation found that data entry through encodings was not useful as it was time-consuming and, therefore, it slowed down the activity in the surgery and this task should be assigned to supervisory and control bodies such as the Public Health Department.

According to another suggestion, because currently there exists no legislation on EHR use and EHR's are not absolutely necessary for the usual statistical reports, parallel paper and electronic

records would double the volume of work, also in view of the lack of interoperability with other applications of health care providers.

In two cases the necessity of a simpler, easier to use application was mentioned .Other two claims regarded the need to involve national projects of the Ministry of Health and providing tax incentives or tax deductions for the use of electronic health records.

For point 5, "Do you plan to integrate EHR in the practice of occupational medicine", all occupational medicine specialists had some interest in using EHR, since none of them chose option "A. No, I am not interested". For point B, the statement "I could be interested in the future but not now" tests applied and the sum of ranks, for those with significant responses, are listed in the Table 3.

Table 3. Mann-Whitney test statistics of significant associations of answers at 1 and 5B of Posttest questionnaire

	1A	1B	1C	1D	1E	1F	1G	1H	1I	1J
p	0.011	0.006	0.254	0.177	0.028	0.092	0.028	0.196	0.018	0.103

Respondents who choose answer 5B, gave a significant response to 1A with lower rank values, signifying that those who might be interested in EHR in the future but currently are not, consider that through the use of this application, evidence of therapeutic procedures and medication applied to patients as a whole has become more difficult.

Similarly, with low rank values of responses, those with the same opinion on the future use of EHR considered that by using this application, activities have become more difficult in terms of identity data management and ease of searching for specific patient information or further investigation.

Regarding the benefits of Medmun application on electronic transfer of employment records, use of encodings, scheduling patient consultations or reports of activity, respondents who might be interested in this electronic tool in the future, although having higher ranks for given responses, in the sense of favorable perception of these benefits, did not have a statistically significant opinion in this respect.

Regarding a correlation with the second point of the questionnaire, i.e. of the advantages of the employed application, the results were as follows: those who responded with high scores of appreciation as advantages deriving from their employment of the application, increased doctor/patient communication, cost reduction, financial profit increase, did not generally choose 5B, this being not statistically significant, however.

Instead, those who considered access to patient data as an advantage ($p = 0.03$), improvement of medical care quality ($p = 0.025$), more efficient flow of information in the private practice ($p = 0.013$), did not choose answer 5B.

Those who chose 5B responded with predominantly negative scores in 4F, 4G, 3B and those who did not choose this option, had predominantly positive scores. Physicians who were interested in the medical use of EHR implementation in the next two years but for whom this did not represent a priority, gave answers that were not significantly associated with any of points 1-4 of the questionnaire.

Among points 1-4 of the questionnaire, only point 4F was significantly associated with an intention to use EHR in the next two years, representing those who considered that the application was structured for ease of use. Other points among 1-4 did not provide statistically significant results.

Comparing the options in points 5E, significant associations were observed with points 2F ($p = 0.033$), 2J ($p = 0.016$) in the questionnaire.

For points 6 of the questionnaire referring to factors that facilitate EHR integration into medical practice activity, of those who choose financial incentives for physicians (Section 6A), significant responses were associated only with paragraph 1G ($p = 0.049$) of all first 4 points in the questionnaire. Those who considered that request for further investigation would become easier by using the application, had significantly higher values of ranks. Those who answered yes to this

question would welcome the involvement of financial incentives as a facilitating factor for the practical integration of EHR.

Instead, doctors who chose legislation change as accelerating factor of their EHR use in medical practice, legislation that should provide explicit role of EHR, had significantly positive responses on their perception of EHR as an advantage through its contribution to reducing errors in medical practice ($p = 0.041$) and limiting access only to authorized users in the surgery ($p = 0.020$). Other answers to point 6B of the questionnaire were not significantly associated with responses to points 1-4.

The mandatory requirement of compliance with minimum requirements for certification of the software providers in this area, seen as a favoring factor for EHR use, significantly associated with favorable responses to perceiving its use as an advantage through the possibility of renaming certain data fields. Those who believed that integration of this application into the medical practice was very good were also significantly in favor of the existence of a minimum scale of Certification for EHR software providers ($p = 0.021$).

EHR implementation projects at national level by work health policy makers, would favor EHR use to those who marked significantly low scores on points 2D ($p = 0.029$), 2H ($p = 0.013$), 3C ($p = 0.032$).

Those who expected national implementation projects in order to use EHR in their practice did not consider financial profit growth and diversification of health care provided to patients as advantages nor did they see the presence of alerts and notifications as annoying.

For point 6E of the questionnaire, i.e. "Other", significant results appeared for those who did not choose other comments at this point, therefore choosing the first variants with clear options on the factors favoring the EHR use.

They were among those who considered that EHR brings benefits through: records of therapeutic procedures and patient medication (1A, $p = 0.025$); patient identification data management (1B, $p = 0.003$); facilitating access to patient data (2A, $p = 0.007$); increased financial profit (2D, $p = 0.003$); reduced errors in medical practice (2G, $p = 0.040$);

EHR was structured for ease of use (4F, $p = 0.002$); EHR was easy to use (4G, $p = 0.001$); employers and workers favored the use of electronic health records (3D, $p = 0.003$; 3E, $p = 0.002$). Only 12 responses including critical observations have been mentioned.

Doctors without critical observations regarding the application under evaluation, observations represented by item 7 of the Posttest questionnaire, had high scores which appreciated the application advantages relative to its increasing the doctor/patient communication, reducing the time for registration and release of medical forms, as well as ease of use.

Respondents without any observation, i.e. not necessarily critical comment, (point 8 of the questionnaire) gave significant responses at points 2F ($p = 0.014$), 3F ($p = 0.006$), 4G ($p = 0.008$) showing appreciation for the ease of use, reduced time for registration and release of medical forms, and believed that integration of this EHR in medical activity was extremely good.

In order to see to what an extent the intention of using EHR in the future may be associated with the choice of some of the factors listed that would favor the implementation of these intentions, we sought to connect responses in the two points 5 and 6 of the Posttest questionnaire:

All physicians showed interest for using EHR in the future, answering "No" to question 5A ("Not interested") and 95% of them responded with "No" to 6F as well ("Do not know") regarding factors that would accelerate their use in practice of this type of file, pointing to specific factors that would accelerate their usage.

Studying the possibility of EHR use in the future (no current interest – by choosing response 5B) and the change of this option in the sense of accelerating its implementation through specific national projects from the part of work health policy makers (point 6D) showed a significant, direct association of responses. The association was also present in the affirmative and negative sense ($p = 0.030$).

However, those who did not choose the option "I am interested but implementation during the next two years is not a major preoccupation" (response option 5C) were statistically significant ($p = 0.010$) and were interested in implementation projects at national level for using EHR in their practice (response option 6D).

This association was maintained in that those interested in using EHR in a period of over 2 years (5C) did not consider national implementation projects as an incentive and at the same time they responded more frequently with "I do not know" (6F) at the requirement of stating factors that would accelerate their EHR use ($p = 0.012$). Those interested in EHR implementation in the next two years at most (points 5D and 5E), did not significantly associate response variants in section 6 of the questionnaire.

Discussion

The time interval of up to one year was sufficient for specialty physicians to outline their views on the issues presented. Similar studies showed that such views were formed in about 3 months without further changes [3].

Easier access to patient data was the main advantage perceived by physicians, without exception. There were only two indifferent opinions, while the rest clearly supported this advantage.

This advantage (2A) did not correlate with the legibility of Medmun application (point 4D) and with easy access to data (point 4E), all representing generally favorable doctors' views after their application use in practice. Similar favorable opinions on the use of EHR were found in a survey conducted on a total number of 330 physicians [4].

Improvement of the quality of care through EHR use was perceived by most respondents. These results were consistent with similar results obtained in studies targeting doctors' assessment of EHR benefits on the following two issues: facilitation of access to patient data and improvement of the quality of medical care [5-7].

A generally positive assessment was also observed regarding the reduction of the time period related to filling in and issuing medical records. In this study, specialists in occupational medicine have not seen cost savings and increased financial profit as significant for EHR use, although they appreciated facilitation of access to patient data and improved quality of the medical activity.

This result differs from results of a review of studies analyzing doctors' opinion on the effects of EHR use, where doctors perceived cost decrease and improvement of the quality of medical activity as a result of EHR use [8].

Answers to points 2C, 2E correlated with all other responses in 2. Choice of point 2E, representing increased quality of medical activity was, therefore, a natural result of the simultaneous perception of other benefits through correlation with other points of the questionnaire: 1, 2, 4C, 4E, 4F, 4G.

Although cost reduction associated with a favorable opinion on the benefits of the application, through correlation with 1, 3D, 3F, 4B, 4F, 4G, it appeared that there was no perceived reduction in overall costs due to the use of EHR. Occupational medicine physicians did not perceive the existence of increased financial profit (point 2D) as a result of reduced working time by streamlining information flow in the surgery (point 2I).

With one opinion against, the significant majority of doctors believed that using electronic media provided an improved information flow in the surgery.

A generally positive assessment was also observed on reducing the time related to filling in and issuing medical documents. These responses were consistent with results of studies showing that by using EHR, time did not increase significantly by carrying out additional activities related to data entry and search [9-11].

Respondents who saw the advantage of medical information flow efficiency by using Medmun application had significant associations of responses with points 4F, 4G, indicating ease of use of this application.

The advantage of using EHR to streamline information in the surgery was also mentioned in a survey indicating lack of ease of use as an obstacle to using it, resulting, therefore, that physicians may perceive the advantage achieved by optimizing information flow even when EHR was not easy to use. This association was not possible in our study due to the application structure and specific law and terminology [12].

Financial incentives, present in the occupational medicine physicians' options as facilitators of

EHR adoption are currently used nationally or regionally, for example in the United States [13,14]. Studies in the USA show the existence of certified EHRs to provide the necessary functionality as incentives for EHR adoption, besides financial incentives [15,16].

Those who might be interested to use EHR in the future but not at present, did not appreciate Medmun in terms of ease of use and did not consider that using the Medmun application during the consultation depersonalizes the doctor-patient relationship.

This result confirmed the theory of Technology Acceptance Model which indicates perception of ease of use as a predictor of the physician's intention to use EHR [17].

Those who appreciated the working time reduction for registration and issuance of medical forms as well as limiting access only to authorized users (points 2F and 2J) as advantages of EHR use, significantly opted for EHR use in less than a year (Section 5E).

This result is consistent with similar data obtained by a survey performed in USA and Sweden and indicates that one of the factors that favors EHR adoption is the doctors' perception that its adoption reduces the working time [18].

The main factor that would stimulate EHR use in clinical practice according to the specialists' opinion is represented by legislation modification that should explicitly state the role of EHR [19].

The fact that treatment records are facilitated by this application was associated with the physicians' opinion on support from employers and workers to use EHR in practice and also with the conclusion that integration into medical practice of this application was very good.

In this study, physicians had an overall favorable opinion on the Medmun application components for electronic prescription (responses to points 1C, 1F, 1I).

However, the answers were significantly associated only through point 1C with increased doctor/patient communication (response to 2B). The general opinion in favor of the electronic prescription component was not associated with the opinion on doctor/patient relationship depersonalization through employment of this application, either.

Occupational medicine physicians appreciated the application functions without linking them to the doctor/patient relationship, the result being different from a descriptive study on the same issue in which physicians, probably due to punctual functional deficiencies they encountered, although valuing the electronic prescription components believed that EHR depersonalizes the doctor/patient relationship, underlining the impact of presence of EHR deficiencies on the overall perception of its effect on the medical care [20].

Conclusions

Occupational medicine physicians have an overall appreciation regarding the application functions, primarily regarding the electronic prescription components, having a favorable opinion on the performance of these activities by using Medmun. Medmun-based reports and records of employment and occupational risk factors received positive feedback from all doctors.

The main advantages perceived by occupational physicians through practical application of Medmun are represented by: facilitating access to patient data, improving the quality of medical care, increased security of information, possibility of renaming data fields, use of alerts and notifications, accuracy and clarity of information presented, reports provided cover both medical practice and precise execution of tasks; however, they do not give great importance to reduced costs or increase of financial profit.

There was an overall good appreciation on integration of this application into medical practice by professional medicine physicians. Their opinion on the acceptance of EHR use by workers and employers is not significant in a specific sense.

There are no uninterested doctors in the use of EHR in medical practice, most of them intending to use EHR in the future.

Most doctors refer to the absence of legislation as the main obstacle in using EHR, with implementation projects and financial incentives representing facilitators. Concern that the workload will increase, lack of communication standards to ensure interoperability with other similar applications, as well as the need for changes in the surgery/clinic activity are other obstacles

in the use of electronic health records.

Observed Medmun application deficiencies include the fact that the application does not allow simultaneous viewing of multiple windows, working in such an EHR being time-consuming. Other deficiencies observed derive from the incomplete assimilation of Medmun application use by doctors, which could be overcome through appropriate training.

Age, work experience, number of workers surveyed, do not represent characteristics that distinguish specialists in their perception of obstacles on EHR use.

Higher level of computer knowledge as well as knowledge of the EHR term favors the perception that its implementation will bring positive changes in the workers' health surveillance.

List of abbreviations

EHR = Electronic Health Records.

Conflict of Interest

The authors declare that they have no conflict of interest.

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