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Hospital managers' attitude and commitment toward electronic medical records system in Isfahan hospitals 2014

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Abstract:

INTRODUCTION: Electronic medical record system (EMRS) is a valuable system for safe access to the patient's data and increases health care quality. Manpower is one of the requirements for EMRS, among which manager is the most important person in any hospital. Taking into account manager's positive attitude and good commitments, EMRS will be implemented successfully. As such, we decided to assess manager's attitude and commitment toward EMRS in Isfahan hospitals in the year of 2014.

AIM: This article aimed to determine the hospital managers' attitude and commitment toward the implementation of EMRS.

MATERIALS AND METHODS: The present article is an applied analytic study. Research society consisted of the managers of all the hospitals in Isfahan that include hospitals affiliated to Isfahan University of Medical Sciences, private, and social security hospitals. This study was done in 2014. Data collection tools included a questionnaire for which reliability and validity were determined. Data were analyzed by means of SPSS 20.

RESULTS: Average score for the managers' attitude toward EMRS in the city of Isfahan was 77.5 out of 100 and their average score for commitment was 74.7. Manager's attitude in social security hospitals was more positive than the private and governmental ones (83.3%). In addition, the amount of commitment by the managers in social security hospitals was higher than the same in private and governmental hospitals (86.6%).

CONCLUSION: At present, managers' attitude and commitment in Isfahan hospitals toward EMRS are very high and social security hospitals show more readiness in this respect.

Keywords:

Attitude, commitment, electronic medical records system, manager

Introduction

In today's information age,^[1] optimization of healthcare quality is feasible through upgrading information system's quality.^[2] Information system has to be able to protect patient's data in order to increase treatment quality.^[3] Therefore, an electronic information system is required so as to provide allowable users' accessibility to the patient's data all the time.^[4] This system is one of the new healthcare technologies

and applied for quick, easy, and safe access to the patient's data as a valuable system.^[5] Electronic medical record system (EMRS) has a lot of capabilities including support for decision making, possibility to access scientific sources, reminders, and alerts.^[6] As one of the most important hospital requirements, EMRS supplies information to all the relevant departments as like clinic and para clinic.^[7] Upon implementation of EMRS, we would be able to collect, save, restore, and retain the patient's information.^[8,9] Manpower is

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one of the requirements for the implementation of such system,^[10] among whom Chief Executive Officer is the most important person in any hospital.^[11] One of the basic requirements for successful implementation of electronic medical records, is government support. The government referrals to lower levels of the managers.^[12] Nowadays, the period of rapid and constant changes called, attitude and performance of managers in the field of change management is of particular importance.^[13] In order to upgrade application of EMRS in the hospital, it is necessary to identify manager's attitude toward using this system in the hospital.^[13-15] Their positive attitude may lead to the successful running of EMRS, since a positive thinking will increase positive energy regarding the implementation of this system.^[16,17] In addition, present managers do not rely on limited and official regulations anymore, and they are so much obliged^[12] and have deep enthusiasm to upgrade healthcare service quality as well as the information systems.^[18,19] Managers' commitment toward allocation of sufficient manpower and financing as well as the facilities related to EMRS execution will be useful so much.^[20] Therefore, we decided to evaluate hospital managers' attitude and commitment toward the implementation of EMRS in Isfahan hospitals in 2014.

Materials and Methods

The present article is an applied study that has been accomplished analytically. Research society consisted of the managers of all the hospitals in Isfahan ($n = 22$) as the subsidiaries of Isfahan Medical Science University, private hospitals, and those belonging to the social security organization. This study was done in 2014.

Data collection tools included a self-research questionnaire, containing research society demographic data on the one hand and requirements for EMRS implementation on the other hand. These requirements are provided in two aspects, that is, hospital managers' attitude toward EMRS implementation with 12 questions and their commitment on EMRS implementation consisting of 14 questions.

At any stage, there are some default answers in Likert scale including "I totally disagree," "I disagree," "I have no idea," "I agree," and "I totally agree," and the relevant scores consist of 0, 1, 2, 3, and 4, respectively. Tools validity confirmation was accomplished through taking opinion poll from the computer and informatics experts, health information management, and health and treatment services management (totally 14 persons). For reliability, Cronbach's alpha was calculated for the data related to 8 hospitals in Isfahan, by which 90.35% was gained (86.7% for the managers' attitude questionnaire and 0.94% for their commitment

questionnaire). This indicates the suitable reliability of the questionnaire.

After being collected, data were analyzed by SPSS software version 20 (IBM Corp.: Armonk, NY) in descriptive and inferential statistics level (Pearson correlation and one-way analysis of variance).

Results

Demographic data analysis indicated the biggest frequency for the hospitals in Isfahan belonging to government section (68.2%) and the smallest one for hospitals belonging to the social security organization (9.1%). Frequency in the private hospitals was 22.7%.

Managers' average age in Isfahan hospitals was 48 years. In addition, average working background for these people in Isfahan was 22 years. Most of these managers were men with the frequency of 86.4% and the least consisted of women with the frequency of 13.6%. The biggest frequency for their education included bachelor and public doctorate degrees (40.9%) and the smallest one was related to the master's degree (18.2%).

With regard to the comparison of data about the attitude and commitment of managers of the three types of hospitals, achieved the following results:

Data analysis on the managers' attitude also indicated that managers' attitude toward EMRS in any of the hospitals of Isfahan was not negative and 9.1% of hospital managers had no idea, 50% showed agreement, and 40.9% had totally agreement attitude. Major part of the frequency distribution included hospital managers' agreement toward implementation of EMRS with 50%.

Likewise, managers' attitude score for EMRS implementation in the city of Isfahan was 77.5 out of 100, which indicates their positive attitude toward this system in Isfahan.

In addition, findings concerning managers' commitment stated that commitment by these managers toward implementation of EMRS was not little and 27.3% of hospital managers had medium commitment, 31.8% of them had high commitment, and 40.9% of these managers indicated very high commitment. In fact, major part of frequency distribution included the very high commitment toward the implementation of EMRS (40.9%).

In addition, the average score of managers' commitment for EMRS in Isfahan hospitals was 74.7 out of 100, which indicates their high commitment toward the aforesaid system in the city of Isfahan.

As per Table 1, private hospital managers' attitude toward implementation of EMRS is more negative (69.2%) but the same for social security hospitals was more positive than the governmental and private hospitals (83.3%). According to Table 2, the amount of commitment by private hospital managers toward EMRS implementation is less (71%) but the same for social security hospital managers is more (86.6%).

However, Pearson correlation coefficient indicated that a direct relationship exists between managers attitude score toward EMRS implementation in Isfahan hospitals and their commitment score ($r = 0.7$ and $P < 0.001$).

Discussion

To promote the use of EMRS in hospitals is essential to be determined that the managers attitude and commitment, to use of EMRS in hospitals.^[12,14,21]

Taking into account the research findings on private hospital managers' attitude toward implementation of EMRS is the most negative one among three hospital types, and managers' attitude in social security hospitals was the most positive one. However, variance analysis test indicated that average score for managers' attitude in all the three hospitals, that is, governmental, private, and social security sections did not have any meaningful difference.

Although it is true that managers in private hospitals had a smaller score for their attitude than the other hospital managers' toward implementation of EMRS, they also gained a high attitude score with a positive attitude.

In his research, Jebraeeli found that the most important obstacles against the implementation of health electronic record system are the people's attitudinal limitations.^[22]

Table 1: Mean score of managers' attitude toward implementation of EMRS in Isfahan hospitals

Kind of hospital	Score of manager attitude from 100		
	Mean	SD (%)	P
Governmental hospital	79.6	13.01	0.23
Private hospital	69.2	10.03	
Social security hospital	83.3	11.8	

SD = Standard deviation, EMRS = Electronic medical record system

Table 2: Mean score of managers' commitment toward implementation of EMRS in Isfahan hospitals

Kind of hospital	Score of manager commitment from 100		
	Mean	SD (%)	P
Governmental hospital	74.4	17.6	0.59
Private hospital	71	20	
Social security hospital	86.6	16.4	

SD = Standard deviation, EMRS = Electronic medical record system

As per the studies by Asiri *et al.* in Saudi Arabia, Riyadh, average score for the attitudes toward implementation of EMRS was 3.75 out of 4,^[23] which is indicating a conformity to the findings of our study in which there is a positive attitude by hospital managers toward EMRS in Isfahan hospitals.

Rafiei in his research found that users' attitude concerning the application of EMRS is positive with the average score of 66.84 in comparison with the study by Jocelyn Handy with the score of 55.75. The first one is more positive with higher attitude^[24] and conformed to the findings of our research.

Sokoist *et al.* studied 223 general practitioners who were applying EMRS and stated that 66% of these people have positive attitude toward the aforesaid system,^[25] which is in conformity with our study findings.

Manager's commitment is also another requirement for the implementation of EMRS in hospitals that will lead to the complete implementation of EMRS including readiness evaluation.^[26] In addition, implementation of EMRS is a big time-consuming project and requires sufficient manpower and financial instruments. Likewise, an undertaker and interested manager is needed during the whole project. In fact, EMRS will not succeed without his/her commitment and support. Manager's support will lead to the project performance optimization, influential project management, and better access to the sources.^[27]

Older organizations had traditional management systems dependent on the formal inflexible programs as well as the official regulations, but the new managers are fully dependent on the commitments.^[12] Commitment is a kind of interest in financial and time investment for a successful execution.^[28] In fact, commitment is considered to be a heartfelt enthusiasm for progress and moving forward, including some of the most important factors such as manager's support, knowledge, experience, motivation, partnership, belief in the content, and change management.^[18,19] In addition, managers' commitment toward personnel consists on training, empowerment, and bonus.^[29]

Amount of managers' commitment in the private hospitals of Isfahan toward EMRS implementation is less than the other two sections (government and social security), but the same in social security hospitals is more than the others. However, variance analysis test indicated that average score for the managers commitment among three hospitals including governmental, private, and social security had no meaningful difference ($P = 0.59$).

Although it is true that managers in private hospitals in the city of Isfahan have a smaller score than the others

regarding EMRS implementation, they also have a high score average in this respect.

Taking into account managers' positive attitude and high commitment as the two important requirements for EMRS implementation in Isfahan hospitals in the year of 2014, implementation of aforesaid system may lead to the increase in health services quality, patient's safety, service providing speed, and reduction of patients' costs.^[5]

Conclusion

Hospital manager as the most important human resource of a hospital is the final decision maker.

If the manager is doing something, positive attitude can be paid to the implementation of the action much easier and without manager commitment, success is not possible. The findings of this study showed that Isfahan hospitals are ready to implement EMRS from the aspect of their managers' attitude and commitment and they have to take preliminary actions in this respect.

Recommendations

- To hold training courses to introduce and understand EMRS
- To form suitable execution group in order to establish EMRS
- To attract supports of the organization's chiefs, concerning EMRS implementation in hospitals.

Research recommendations

- Assessment of managers' attitude and commitment toward implementation of EMRS in polyclinics and clinics
- Assessment of managers' attitude and commitment toward implementation of EMRS in country's hospitals.

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Conflicts of interest

There are no conflicts of interest.

References

1. Moghaddassi H, Hoseini A, Asadi F, Jahanbakhsh M. Application of data mining. *Health Inf Manage* 2012;9:304.
2. Hajavi A, Sarbaz M, Moradi N. *Medical Records* (3) and (4).

Tehran: Electronic Publishing and Information Company Jahan Rayaneh; 2003.

3. Gozali E, Langarizadeh M, Sadoughi F. A Survey of the Possibility of Electronic Medical Records Implementation in Teaching Hospitals Affiliated to Urmia University of Medical Sciences; 2013. Available from: http://www.unmf.umsu.ac.ir/browse.php?a_code=A-10-1-296&slc_lang=fa&sid=1. [Last accessed on 2014 Jun 12].
4. Sadooghi F, Aminpoor F. Standardization of EMRS. *Teach Med Sci* 2012;11:1143. Available from: <http://www.journals.mui.ac.ir>. [Last accessed on 2014 Jul 12].
5. Esalati A, Tofighi SH, Ebrahimi M. Importance of Electronic Health Record and Requirement of Implementation. *Proceedings of the 2th National Congress Prevention Medicine, Health, Help and Care*. Aja University of Medical Sciences; 8-11 September, 2012, Tehran, Iran. Available from: <http://www.eprints.ajaums.ac.ir/962/1/maghalat44.page205.pd>. [Last accessed on 2014 Jul 03].
6. Ministry of Medical Health, Care and Education. The Center of Statistic and Information Technology. *Evaluation of the Indicators of Hospital Information System*; 2009. p. 13.
7. Carpenter PC. The electronic medical record: Perspective from Mayo Clinic. *Int J Biomed Comput* 1994;34:159-71.
8. Health Information Services. *Electronic Health Record Systems. Electronic Prescription Service, Online Services*. Available from: <http://www.Takfab.hbi.ir>. [Last accessed on 2014 Jul 15].
9. Lessig R. *Documentation for Ambulatory Care*. Ambulatory Care Section. American Health Information Management Association. Available from: <http://www.ahima.org>. [Last accessed on 2012 Apr 20].
10. Otieno GO, Hinako T, Motohiro A, Daisuke K, Keiko N. Measuring effectiveness of electronic medical records systems: Towards building a composite index for benchmarking hospitals. *Int J Med Inform* 2008;77:657-69.
11. Sadoughi F, Taheri AS, Meidani Z, Shahmoradi L. *Management Information Systems*. 2nd ed. Tehran: Jafari; 2011.
12. Sadoughi F, Ghazisaeid M, Mehraji M, Kimiafar KH, Ramezanghorbani N. *Health Information Management Technology*. Tehran: Jafari; 2011.
13. Ketikidis P, Dimitrovski T, Lazuras L, Bath PA. Acceptance of health information technology in health professionals: An application of the revised technology acceptance model. *Health Informatics J* 2012;18:124-34.
14. Holden RJ, Karsh BT. The technology acceptance model: Its past and its future in health care. *J Biomed Inform* 2010;43:159-72.
15. Hu PJ, Chau PY. Physician acceptance of telemedicine technology: An empirical investigation. *Top Health Inf Manage* 1999;19:20-35.
16. Fozounkhah SH. *Designing an Object-oriented Message to Support the Electronic Health Record* [Ph.D Thesis]. Tehran: Iran University of Medical Science; 2004.
17. Hypponen H, Doupi P, Tenhunen E. *eHealth Strategy and RTD Progress in Sweden*. Report in the Framework of the eHealth ERA Project. eHealth Policy and Deployment in the European Union. European Commission Information Society and Media 2007. Available from: <http://www.ehealth-era.org>. [Last accessed on 2014 Jul 12].
18. Dehqan N, Fathi S, Garjamy Svalivand Zamani H. The impact of management commitment, organizational commitment, job satisfaction and performance of employees. *J Manage Stud Res (Improv Evol)* 2013;67:97-128.
19. McCarthy C, Eastman D. *Change Management Strategies for an Effective EMR Implementation*. Chicago: Healthcare Information and Management Systems Society; 2010.
20. Mirani N. *Introduction to Health Data Management*. Zanjan: Zanjan University of Medical Sciences; 2012.
21. Holden RJ, Karsh BT. The technology acceptance model: Its past and its future in health care. *J Biomed Inform* 2010;43:159-72.

22. Jebraeily M, Piri Z, Rahimi B, Ghasemzadeh N, Ghasemirad M, Mahmoodi A. Barriers of Electronic Health Records Implementation. *HIM J* 2012;8:807-14.
23. Asiri H, AlDosari B, Saddik B. Nurses' attitude, acceptance and use of Electronic Medical Records (EMR) in King Abdul Aziz Medical City (KAMC) in Riyadh, Saudi Arabia. *Merit Res J Med Med Sci* 2014; Vol. 2(3) pp. 66-77. Available from: <http://www.meritresearchjournals.org/mms/index.htm>. [Last accessed on 2014 December 6]
24. Rafiei M. Investigating Factors Influencing Users' Acceptance and Use of Electronic Medical Record Based on Technology Acceptance Model at Central Oil Industry's Clinic [Dissertation]. Isfahan: University of Medical Sciences Faculty of Management and Medical Information; 2012.
25. Tavakoli N, Jahanbakhsh M. Opportunities and Threats in Implementation of Electronic Health Record in View of Physicians and Managers in Health Domain in Esfahan in 2009 [Dissertation]. Isfahan: University of Medical Sciences Faculty of Management and Medical Information; 2009.
26. Ray A, Newell S. Exploring information security risks in healthcare systems. In: Rodrigues J, editor. *Health Information Systems: Concepts, Methodologies, Tools and Applications*. USA: IGI Global; 2010. p. 1716-18.
27. International Organization for Standardization. *The ISO 27000 Directory*. 2009. Available from: <http://www.27000.org>. 2011. [Last accessed on 2011 March 26]
28. Department of Health and Human Services. *Health Information Privacy* [Online]. 2011. Available from: <http://www.hhs.gov/ocr/privacy/hipaa/administrative/securityrule>. [Last accessed on 2011 Apr 6]
29. Boyter T. *Planning Your EHR System: Guidelines for Executive Management*, 2006, MHCA/SATVA Task Force, USA.