Family Medicine & Primary Care Review 2023; 25(1): 73–79, https://doi.org/10.5114/fmpcr.2023.125496

ORIGINAL PAPERS

ISSN 1734-3402, eISSN 2449-8580

Key factors in the success of an electronic patient referral system in the family physician programme: what can we do for the future?

FATEMEH TAJARI[1, A–F], GHAHRAMAN MAHMOUDI[2, A, B, D–F], FATEMEH DABBAGHI[2, A–C, E–F],
ORCID ID: 0000-0003-4069-9584 ORCID ID: 0000-0003-3769-4379 ORCID ID: 0000-0003-3481-1322
JAMSHID YAZDANI-CHARATI[3, A, C–E], HAMIDREZA SAFIKHANI[4, A, B, F]
ORCID ID: 0000-0002-4721-225X ORCID ID: 0000-0001-5459-1326

[1] Sari Branch, Islamic Azad University, Sari, Iran
[2] Hospital Administration Research Centre, Sari Branch, Islamic Azad University, Sari, Iran
[3] Biostatistics Department, Health Science Research Centre, Addiction Institute, Mazandaran University of Medical Sciences, Sari, Iran
[4] Economics & Health Management, Strategic Council at National Research Network for Policy Making, Health Economics Association of Iran, Tehran, Iran

A – Study Design, **B** – Data Collection, **C** – Statistical Analysis, **D** – Data Interpretation, **E** – Manuscript Preparation, **F** – Literature Search, **G** – Funds Collection

Summary **Background.** The electronic referral system (e-Referral) is an initial change in the way health care is provided. There are many factors that prevent the spread of such technologies in developing countries.
Objectives. Determining the key factors in the success of the electronic referral system in Iran.
Material and methods. This qualitative study was conducted in two phases (semi-structured interview and expert panel). The research participants included 42 people for the interview and 6 local experts, who were selected via the purposive sampling method (stratified sampling) and had at least three years of work experience. Data was collected using in-depth semi-structured interviews which were continued until data saturation. Next, the content analysis method was used to analyse the data. Validity and reliability of the data were determined based on the Guba and Lincoln including acceptability, transferability, reliability and verifiability. Two professors, as qualitative research experts, also verified the credibility of the data through accurate and stepwise control of the research process. Finally, an expert panel meeting was conducted to refine and improve the categorisation of key factors.
Results. The analysis of collected data resulted in the extraction of 6 main themes, 18 subthemes and 47 codes. The main themes included resource management, information technology management, rules and regulations, stakeholder satisfaction and advocacy, domestication and payment mode. Subthemes included management of financial, human, physical and equipment resources, intelligence, security, information exchange speed, information integrity, data access, judicial and insurance laws, health service guidelines, organisational culture, community culture, performance-based payment, etc.
Conclusions. This study offered rich documentation of the implementation of a successful e-Referral system, the availability of which in an information society is essential and will assist managers and policymakers in the successful implementation of the e-Referral system.
Key words: referral and consultation, electronic health record, health information system, health services.

Tajari F, Mahmoudi G, Dabbaghi F, Yazdani-Charati J, SafiKhani H. Key factors in the success of an electronic patient referral system in the family physician programme: what can we do for the future? *Fam Med Prim Care Rev* 2023; 25(1): 73–79, doi: https://doi.org/10.5114/fmpcr.2023.125496.

Background

The evolving needs of society have made the reform and evolution of health systems a necessity in all countries [1]. A revolution in the field of medicine, techniques, enhancement and knowledge has been impacting all aspects of health care [1, 2]. In the family physician programme (FPP) in Iran, the levelling of services prevents frequent and unnecessary referrals to specialised centres and prevents the loss of material and human resources. Moving along the referral path also results in patients receiving the services they need with better quality at the relevant levels (levels one, two and three) [3]. Paper referral processes suffer specific limitations, such as insufficient information, missing or incomplete paper records, medication errors due to illegible handwriting and the lack of capacity to track referrals, duplicate results and communication or feedback between referral providers and professionals [4]. For addressing such issues, as in other areas, there has been an increasing demand to use information and communication technology in health systems, resulting in electronic referrals to be recognised as one of the best solutions to replace paper referrals [5]. The electronic referral system (e-Referral) has the potential to be a transformative technology in the healthcare system [1]. E-Referral systems have been designed with the dual purpose of decreasing wait times and improving workflow efficiency. Evidence about the clinical and economic value enabled through the use of e-Referral is limited [6–8]. On the other hand, access to specialty care remains a challenge for primary care providers and patients. Implementation of e-Referral or consultation systems provides an opportunity for innovations in the delivery of specialty care [9, 10]. Along with other benefits, the implementation of an e-Referral can certainly improve the country's health economy [11–14]. Adopting and promoting information and communication technology (ICT) [15], as well as Electronic Health

Records (EHRs) [16], in healthcare delivery are growing rapidly in most developing countries, including Ghana [17]. In a developing country, the implementation of e-health is associated with the lack of a regulatory policy, high levels of training and culture gap, challenges in using technology and many other factors, such as e-health education before and during the service, the development of e-health performance policies to make the use of e-health mandatory and the challenges of data sharing [18]. The results of the implementation of the electronic referral system in the Greek Public Healthcare Organisation showed that the implementation of an electronic referral system could provide benefits, such as valid information, a faster referral process, improvement in quality of services and minimisation of the risk of misinterpretation due to illegibility of handwriting [19]. In a study conducted by Azamar-Alonso et al., it was shown that improves communication between primary caregivers and specialists and decreases wait times [20]. In another study, it was found that although electronic referrals were touted as a safer solution than paper referrals, security remained a concern. Health centres can influence the acceptance of e-Referrals by encouraging the use of electronic systems [1]. According to the foreword, it is very valuable to have related information in this area for decision-making and policymaking by officials in the field related to medical information technology. Recently, this programme has been used in several provinces of Iran. Experiences in these provinces will be used to explore the most important requisites for successful implementation of Iran's e-referral system. Therefore, this study was conducted with the aim of investigating the key factors in the success of an electronic patient referral system in the family physician programme in Iran.

Material and methods

Study design and setting

This was a qualitative study conducted in two phases (semi-structured interview and expert panel) in 2021 in the Iranian health system. Qualitative studies can explain and predict important phenomena and effectively relate this to the quantitative parts of a larger study to improve health services and develop a health policy. As a systematic method, this scheme was used to provide an in-depth description of the phenomenon which was suitable for evaluating people's experiences on a particular subject, and this is more useful when the theory and studies related to the phenomenon under study are limited [21, 22]. The research team extracted and sub-themes the main data from the interviews in the first phase. In the second phase, the result of the sub-themes was refined and improved through an expert panel meeting.

Phase 1: Semi-structured interview

Study participants and selection

By using a purposive sampling method (stratified sampling) [23], experts were selected from the fields of health policy, health services administration, health economics and senior managers of the Ministry of Health, service providers and recipients. Selection criteria for the sample included knowledge and experience in the field of e-Referral with at least three years of professional experience, and for service recipients, at least one transfer using the electronic referral system. After interviewing 42 people, we reached information saturation.

Data collection

Data was collected using semi-structured in-depth interviews individually in a calm environment until data saturation was reached. In a qualitative study, data collection is necessary until the researcher reaches theoretical saturation. This means that no new information will be obtained as the work continues. All interviews were recorded with the permission of the participants. The duration of the interviews was between 30 and 45 minutes. To analyse the data, recorded interviews were listened to immediately after each interview to gain insight into the participants' experiences. After listening to the audio file of the interview and transcribing the contents, the manuscripts were checked again with the content of the tape.

Data analysis

As Graneheim and Lundman explain, qualitative content analytical approaches focus on analyzing both the explicit or manifest content of a text as well as interpretations of the 'latent content' of texts – that which can be interpreted or interpolated from the text, but is not explicitly stated in it [24]. It suggests five steps to analyse qualitative data, as follows: writing down the whole interview immediately after each interview, reading the whole text of the interview to get a general understanding of its content, determining the content of data and initial codes, categorising the similar initial codes in more general categories and determining the hidden concept of the data [25]. The transcripts of interviews were read several times, and the initial codes were extracted. The initial codes related to each transcript were then merged, and based on the similarities, they formed subcategories, categories and themes. Lincoln and Guba suggested four criteria to ensure trustworthiness in qualitative research: credibility, dependability, confirmability, and transferability; these four criteria parallels the positivists' criteria of internal validity, reliability, objectivity, and external validity respectively [26]. In content analysis, more attention is paid to the hidden themes of the interviews, and inferring and extracting meaning from it is of interest. The researcher attempted to increase the credibility of the research through long-term engagement with the subject and sufficient experience concerning the field under study, as well as through sufficient participation and interaction with the participants, gathering valid information and confirming the information of the participants. Double-step repetition, data collection and analysis and reviews of supervisors, counsellors and experts were performed to increase research dependability.

To increase data validity, the approval of the faculty members of the university and their additional comments were also used.

Phase 2: Expert panel

After classifying the key factors in the electronic referral system, the research team entered the draft version of the categorisation into the expert panel phase. An expert panel, including 6 local Iranian experts in e-referral systems, reviewed and discussed the content of the categorisation factors. The meeting of the expert panel was arranged in one session and lasted around two hours. The opinions of experts were recorded by a digital audio recorder and then used by the research team to merge, add and remove the factors. For the sake of rigor in this phase, data transferability and reliability were also used from a peer review expert check, and immersion.

Ethical consideration

For conducting the present study, a research ethics code of IR.IAU.CHALUS.REC.1397.025 was obtained from the Research Committees of the target universities. Meanwhile, the participants completed consent forms, granting them the right to withdraw from the study at any stage of the study and observing the confidentiality of their information.

Results

Demographic characteristics

The study sample consisted of 42 stakeholders at different executive levels. Among the 42 study participants, the majority (80.95%) were male, with 24–30 years of work experience (33.33%). The highest percentage (33.33%) of participants held management positions, while 52.38% were medical doctors (Table 1).

Table 1. Demographic characteristics of participants

Variable	Grouping	Frequency (percentage)	Variable	Grouping	Frequency/ (percentage)
Gender	Male	34 (80.95)	Job Position	Manager	14 (33.33)
	Female	8 (19.05)		University faculty member	7 (16.66)
Number of participants	Experts	38 (90.47)		Specialist in hospital	5 (11.90)
	Electronic referral service recipients	4 (9.52)		Medical doctor in the health centre	6 (14.28)
Work experience for experts (years)	3–10	7 (16.6)		Electronic referral service provider	6 (14.28)
				e-Referral service recipient	4 (9.52)
	10–17	12 (28.57)	Workplace	Ministry of Health	4 (9.52)
	17–24	9 (21.42)		University of Medical Sciences	17 (40.47)
	24–30	14 (33.33)		Health centre	9 (21.42)
Level of education	Medical doctor	22 (52.38)		Hospital	8 (19.04)
				Health insurance	2 (4.76)
	BA	4 (9.55)		Management and Social Health Research Centre	2 (4.76)
	MA	4 (9.55)			
	PH. D	12 (28.57)			

Table 2. Components extracted from the experiences of study participants

Theme	Sub-Themes	Codes
Resource management	Human resource management	• Supplying and distributing the required manpower in proportion to the population covered • Increasing the capability of human resources to implement the e-Referral system • Decreasing the workload of employees
	Management of financial resources	• Allocating financial resources • Reducing the administrative costs of the referral system • Using auto stops in electronic referrals to reduce the operating costs of the health system • Allocating research credit to evaluate the performance of the e-Referral system
	Physical and equipment resources	• Supplying the required hardware infrastructure and equipment • Providing the required ICT and software infrastructure
Information technology management	Information security	• Observing patient privacy • Backing up patient information and facilitating the ability to retrieve patient information • Building trust regarding information security with recipients and service providers
	Speed of information exchange	• Reducing referral processing time • Implementing web server standards • Matching data exchange codes between different levels
	Information integrity	• Connecting level one, specialised and paraclinical services to the e-Referral system • Integrating data at service delivery levels • Providing the ability to monitor the referral process in the e-Referral system
	Access to information	• Providing patients with access to their information • Providing access to patient care records • Developing and applying standards for managerial access to information of the e-Referral system at different levels of service delivery
	Data governance	• Designing standard processes and standard graphs of the workflow of the electronic referral system • Reengineering e-Referral system processes based on patient needs assessment
	Process engineering	• Organising data and information in order to increase the efficiency and effectiveness of the e-Referral system • Providing information products using data from the e-Referral system • Using information from the e-Referral system in policymaking
Satisfaction and advocacy of stakeholders related to the e-Referral programme	Satisfaction and advocacy organisations and institutions related to the e-Referral programme	• Developing and implementing strategies to attract the informed participation of managers and policymakers in related public and private organisations and institutions and insurance • Analysing and presenting credible reports for participation in the decision-making of managers and policymakers

Table 2. Components extracted from the experiences of study participants

Theme	Sub-Themes	Codes
Satisfaction and advocacy of stake-holders related to the e-Referral programme	Satisfaction and advocacy service providers	• Attracting the informed participation of service providers to implement the e-Referral system • Attracting the participation of service providers in the preparation of rules, regulations and instructions • Involving service providers at different levels in the design of the payment system
	Satisfaction and advocacy service recipients	• Involving the community in the e-Referral system • Conducting a community needs assessment regarding the e-Referral system
Culturalisation	Culturalisation in related organisations	• Identifying the processes of organisations related to the programme • Involving employees of organisations related to the programme • Observing the levelling and structure of service delivery within the organisations related to the programme
	Culturalisation in service providers	• Having the participation of service providers • Observing the levelling and structure of service delivery within the service providers
	Community culture	• Causing people to believe in the benefits of an e-Referral system • Increasing community ICT literacy to implement an e-Referral system
Rules, regulations and instructions	Health services rules and insurance rules	• Developing and implementing insurance regulations in an integrated and coordinated manner • Codifying e-Referral system rules in upstream documents and country development plans • Developing rules and guidelines for health services (guidelines) for the e-Referral system
	Judicial and legal laws	• Developing and applying judicial laws for the e-Referral system • Observing the right combination of power, encouragement and punishment to guide the owners of the process
Payment system	Payment for performance in the e-Referral programme	• Ensuring the existence of a specific process for paying employees in the e-Referral system • The proportionality of the payment of employees with their performance in order to achieve the goals of the electronic referral system

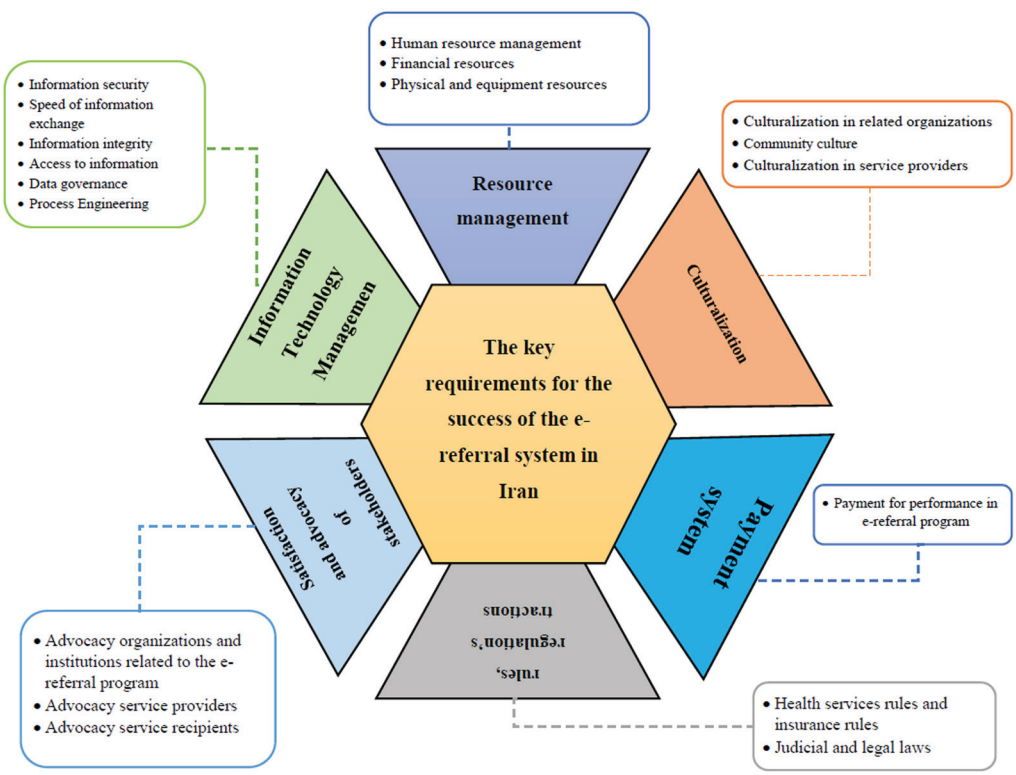

Figure 1. Components extracted from the experiences of study participants

The findings of the study were classified into 6 main themes, 18 sub-themes and 47 codes that comprised the key factors in the success of an electronic patient referral system in the family physician programme in Iran. (Table 2 and Figure 1).

Resource management

Healthcare systems at international levels have limited resources, so the truthful allocation of sources, financial resource

management and equipment resource management are key elements within the decision-making process. "… As an internal medicine specialist, I had to examine about 40 patients and did not have enough time to examine them. Therefore, the quality and quantity of patient care decreases due to the high number of visits and lack of time. Thus, by distributing specialised human resources, it is possible to facilitate the provision of fair and favourable health care … "(P 8). "Our main goals in the electronic referral system are to organise services and to reduce the costs of the health system … "(P 5). "If the referral system is fully implemented, it must provide all the requirements of it. Electronic health systems need a series of tools and infrastructure that are at level 1 and 2 …" (P 9).

Information technology management

Like any other information and communication technology (ICT) systems, numerous problems have been identified in the implementation of the e-Referral system. Topics related to information technology include information security, information exchange rates, information integrity, information access, process design and data management. "In the care provided to the patient and the service provider, access to previous and current data becomes very important …" (P 23). "The lack of security in e-health systems has led to the disclosure of large amounts of personal information, leading to patient dissatisfaction and reduced trust in the e-health system and e-referral services …" (P 18). "One of the achievements of electronic processing is that we collect health information simultaneously so that at least the service provider can plan treatment with knowledge of the individual's background …" (P 3). He also said: "In the service provider, access to previous and recent data becomes very important. With electronic referral, information for patients or the service provider can be accessible …". "The design of standard processes and the existence of standard workflow diagrams and process re-engineering based on patient needs assessment is one of the issues that should be considered in the implementation of the e-Referral system …" (P 30).

Satisfaction and advocacy of stakeholders related to the e-Referral programme

One of the topics mentioned in the interviews is the satisfaction and advocacy of stakeholders, which includes organisations and institutions related to the programme, service providers and service recipients, etc. Advocacy organisations and institutions related to the e-Referral programme are among the sub-themes in the e-Referral system, as mentioned by almost all interviewees (Ministry of Health, service providers and service recipients). "When we want to set up an e-Referral system, we have to see if we already have advocated stakeholders. Have we analysed the stakeholders? Have we given them a role? These are the questions that should be considered in the implementation phase of the e-Referral system …" (P 3). "The most important thing in engaging providers and reducing their resilience is to respond to their needs. If they feel that you, as a health system manager, are addressing their concerns, this results in better cooperation … (P 1). "From the people's point of view, e-Referral is a limitation. Before establishing an electronic referral system, it should be cultured in the community and their support should be obtained and efforts should be made to meet their expectations ..." (P 20).

Culturalization

Today, with the implementation of the e-Referral system, people should use electronic health services to go to medical centres. Culturalisation should take place in organisations related to electronic referrals, service recipients and service providers. Implementing e-Referral may lead to resistance. Participant 21 pointed to the importance of culture building in related institutions and organizations: "In terms of the social aspects of the electronic referral system, we must inform the people that the change in the referral system is in your favor and inform the people about its benefits. This culture building should be done before launching the electronic referral system".

Raising the IT literacy of the society, changing peoples' attitudes and changing their behaviour are some of the issues that should be considered in culture building. "Education and culturalisation should be provided to the community before any change is made …" (P 39).

Rules, regulations and instructions

Developing rules and guidelines, as well as assigning tasks to each level of the health structure, prevent duplication of work and wasting resources. Health services rules, insurance rules, judicial and legal laws were among the sub-areas that were considered by the study participants. "The structure of service delivery should be considered as a principle and priority by the senior government official who is the president, and the High Council of Local Health should approve these policies and announce them that all departments and organisations are obliged to implement it…" (P 2). "The formulation and development and application of judicial and legal laws for the e-Referral system and the correct combination of power, encouragement and punishment to guide the owners of the process in the designated directions in e-Referral can be very effective …" (P 37).

Payment system

A payment system is one of the main tools used to support healthcare reform. In the interview, it was repeatedly mentioned that in order to improve the e-Referral process, it should be accompanied by changes in payment systems. " Payment models should be designed with the help of doctors and specialists. We have to look at the evidence and the experience of the world but, at the same time, review it with the help of experts ..." (P 1).

Discussion

In the present study, using the opinions of experts, 6 main themes, 18 sub-themes and 47 codes were identified as key requirements for the successful implementation of the e-Referral system.

In order to manage the costs of the health system and the correct implementation of the e-Referral system, proper planning must be done [27]. To gain higher access to the health system, making a proper plan and fair distribution of specialised personnel is critical [17]. In the referral system, electronic coordination and integration of information among healthcare providers, access to patient records and the possibility of tracking referrals can lead to continued care, while the quality of care, clinical decisions and health outcomes are improved [7, 28]. This finding was consistent with the results of the current study.

In terms of access to information, Keely and Liddy's study reported that e-Referrals are promising to help address unfair access in a fragmented and inefficient system, and further development of these services is needed [29]. E-health services reduce the likelihood of unwanted and lost records and ensure that patients' health records and other vital information are available as needed. Data exchange speed and information security were the other components in the e-Referral system in this study.

Concerning information security, Osman et al. emphasised that the problems related to privacy and security, lack of sufficient knowledge and ease of use of such technology, lack of acceptance of new technology, required costs, lack of human resources, lack of motivation, fear of change, convincing patients to accept the existing problems, many other problems in com-

pensating for possible damages, etc. are among the obstacles to the use of e-Referrals [30]. The results of this study indicated that e-Referral systems should ensure that patient records are exchanged and stored via a login password or even electronic biometric sensors. It should also ensure tracking of providers' access to patient information in the system. According to the study participants, laws and regulations should be planned at the national level, and all related organisations, as well as service providers, should participate in the development and implementation phases. Naseriasl et al., in a study, found that the common models of referral systems that have recently been established in developed countries have important features and capabilities, such as the use of referral guidelines, standard referral forms and integration of referral systems in electronic health records [31].

The findings of the current study also indicated the significance of developing laws and regulations, such as electronic referral laws, insurance laws, as well as judicial and legal laws. The results of a study by Mehtarpour and Tajvar also showed that defining standard referral processes and establishing clinical guidelines by both recipients and service providers can help to implement effective strategies, which was consistent with our study [32].

The results of the research also showed that the implementation of an e-Referral system needed the support of all individuals and organisations that were somehow involved in the implementation of this programme, the most important of which were stakeholders, such as service providers, service recipients and organisations related to electronic referral service providers are the main suppliers of electronic health information, and thus they need to be encouraged to cooperate [33]. In this regard, Juliani et al. also mentioned that we often focus on the technology and ignore that service providers plan and act on e-Health [34].

The results of the present study showed that culturalisation in the health system is effective at three levels: health policymakers, providers and people as health recipients. This was in line with the study of Ghanei et al., who stated, "Although taking care of people's health can lead to improving people's health, determining the cultural conditions plays a significant role in promoting people's health". In this regard, the World Health Organization (WHO) has used the concept of social determinants of health [35]. On the other hand, in a study conducted by Sikora et al., it was found that in healthcare systems, little attention had been paid to the organisational culture of healthcare providers, which was very important for both management and service recipients [36]. Based on the results of the study, managers and health policymakers are often concerned that the implementation of e-Referral may change existing practices, resulting in health workers resisting it. In a study, Juliani et al. indicated that we often focus on technology and forget the service providers who use the technology. One of the cost-effective solutions is training and advocacy of electronic referral system service providers so that we can use their capacity to strengthen the electronic referral system [34].

As stated by the respondents in this study, the payment system for service providers should be such that service providers experience an increase in their motivation. Therefore, it is better to design and improve the payment system with the help of specialists and physicians. Kiran et al. indicated that future changes in physicians' pay should be evaluated prospectively to determine their impact on access. Solving the welfare problems of the health team will increase their motivation to provide quality services [37]. This finding was consistent with the results of the present study.

Conclusions

The results of the current study showed that resource management, IT management, culturalisation, development of rules and regulations, payment systems, as well as the satisfaction and advocacy of stakeholders, were important in the successful implementation of e-Referrals. This study provided rich information on key factors in the successful implementation of an electronic referral system in the family physician programme (FPP) in Iran. It is suggested that managers and policymakers of the health system use the results of the present study in planning, establishing and properly implementing the electronic referral system. It is also recommended that the key factors be determined and investigated according to the prevailing local and cultural conditions and the facilities and equipment of each country.

Acknowledgments. The authors are thankful to the Hospital Administration Research Centre of the Islamic Azad University of Sari for its technical and consistent support, as well as the Ministry of Health of Iran and its affiliated universities, chiefly Golestan, in encouraging this project.

Source of funding: This work was funded from the authors' own resources.
Conflicts of interest: The authors declare no conflicts of interest.

References

1. Hughes CA, Allen P, Bentley M. eReferrals: Why are we still faxing? *AJGP* 2018; 47(1/2): 51–56, doi: 10.31128/AFP-07-17-4285.
2. Verulava T. Factors influencing medical students' choice of family medicine. *Fam Med Prim Care Rev* 2022; 24(1): 66–70, doi: 10.5114/fmpcr.2022.113017.
3. Safizadehe Chamokhtari K, Abedi G, Marvi A. Analysis of the patient referral system in urban family physician program, from stakeholdersperspective using swot approach: a qualitative study. *J Maz Univ Med Sci* 2018; 28(161): 75–87.
4. Thiong'o FK. *Framework for the implementation of a patient electronic referral system: case study of Nairobi province*. Nairobi: University of Nairobi; 2011.
5. Tian L. Improving knowledge management between primary and secondary healthcare: an e-referral project. *Health Care Inform Rev* [Online]. 2011; 15: 31–37.
6. Azamar-Alonso A, Costa AP, Huebner L-A, et al. Electronic referral systems in health care: a scoping review. *Clinicoecon Outcomes Res* 2019; 11: 325–233, doi: 10.2147/CEOR.S195597.
7. Moosavi A, Sadeghpour A, Azami-Aghdash S, et al. Evidence-based medicine among health-care workers in hospitals in Iran: a nationwide survey. *J Educ Health Promot* 2020; 9: 365, doi: 10.4103/2277-9531.94408.
8. Derakhshani N, Doshmangir L, Ahmadi A, et al. Monitoring process barriers and enablers towards universal health coverage within the sustainable development goals: a systematic review and content analysis. *Clin Outcomes Res* 2020; 12: 459–472, doi: 10.2147/CEOR.S254946.
9. Tuot DS, Leeds K, Murphy EJ, et al. Facilitators and barriers to implementing electronic referral and/or consultation systems: a qualitative study of 16 health organizations. *BMC Health Serv Res* 2015; 15: 568, doi: 10.1186/s12913-015-1233-1.
10. Derakhshani N, Maleki M, Pourasghari H, et al. The influential factors for achieving universal health coverage in Iran: a multimethod study. *BMC Health Serv Res* 2021; 21(1): 1–13.

11. Gower C. *How a government strategy of active performance management has influenced District Health Boards' delivery of publicly funded elective services: An Institutional Logics Perspective*. Wellington: Victoria University of Wellington; 2019.
12. Sarabi Asiabar A, Azami-Aghdash S, Rezapour A, et al. Economic consequences of outsourcing in public hospitals in Iran: a systematic review. *J Health Adm* 2021; 24(1): 68–83.
13. Koohpayezadeh J, Azami-Aghdash S, Derakhshani N, et al. Best Practices in Achieving Universal Health Coverage: A Scoping Review. *Med J Islam Repub Iran* 2021; 35(1): 1320–1354, doi: 10.47176/mjiri.35.191.
14. Nafar H, Tahmazi Aghdam E, Derakhshani N, et al. A systematic mapping review of factors associated with willingness to work under emergency condition. *Hum Resour Health* 2021; 19(1), doi: 10.1186/s12960-021-00622-y.
15. Shephard E, Stockdale C, May F, et al. E-referrals: improving the routine interspecialty inpatient referral system. *BMJ Open Quality* 2018; 7(3): e000249.
16. Faghihi M, Memarzadeh-Tehran G. [Identifying Priorities of Policymaking for E-Health Development in Iran]. *J Health Adm* 2011; 14(43): 43–50 (in Persian).
17. Acquah-Swanzy M. Evaluating electronic health record systems in Ghana: The case of Effia Nkwanta Regional Hospital. The Arctic University of Norway; 2015. Available from URL: https://munin.uit.no/bitstream/handle/10037/8080/thesis.
18. Gregory M, Tembo S. Implementation of E-health in developing countries challenges and opportunities: a case of Zambia. *Science and Technology* 2017; 7(2): 41–53, doi: 10.5923/j.scit.20170702.02.
19. Souliotis K, Mantzana V, Papageorgiou M. Transforming public servants' health care organization in greece through the implementation of an electronic referral project. *Value Health Reg Issues* 2013; 2(2): 312–318, doi: 10.1016/j.vhri.2013.06.003.
20. Azamar-Alonso A, Costa AP, Huebner L-A, et al. Electronic referral systems in health care: a scoping review. ClinicoEconomics and outcomes research: *CEOR* 2019; 11: 325.
21. Allen-Duck A, Robinson JC, Stewart MW. Healthcare quality: a concept analysis. *Nurs Forum* 2017; 52(4): 377–386, doi: 10.1111/nuf.12207 PMC5640472.
22. Shine KI. Health care quality and how to achieve it. *Acad Med* 2002; 77(1): 91–99, doi: 10.1097/00001888-200201000-00021.
23. Palinkas LA, Horwitz SM, Green CA, et al. Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Adm Policy Ment Health* 2015; 42(5): 533–544, doi: 10.1007/s10488-013-0528-y.
24. Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Educ Today* 2004; 24(2): 105–112, doi: 10.1016/j.nedt.2003.10.001.
25. Tucker CM, Marsiske M, Rice KG, et al. Patient-centered culturally sensitive health care: model testing and refinement. *Health Psychol* 2011; 30(3): 42–50, doi: 10.1037/a0022967.
26. Tucker CM, Moradi B, Wall W, et al. Roles of perceived provider cultural sensitivity and health care justice in African American/Black patients' satisfaction with provider. *J Clin Psychol Med Settings* 2014; 21(3): 282–290, doi: 10.1007/s10880-014-9397-0.
27. Tajari F, Mahmoudi G, Dabbaghi F, et al. Effective Factors in the Establishment and Implementation of Patient Electronic Referral System in the Healthcare System: A Qualitative Study. *Iran J Health Sci* 2021; 9(3): 23–24.
28. Janett RS, Yeracaris PP. Electronic Medical Records in the American Health System: challenges and lessons learned. *Cien Saude Colet* 2020; 25(4): 1293–1304, doi: 10.1590/1413-81232020254.28922019.
29. Keely E, Liddy C. Transforming the specialist referral and consultation process in Canada. *CMAJ* 2019; 191(15): E408–E409, doi: 10.1503/cmaj.181550.
30. Osman MA, Schick-Makaroff K, Thompson S, et al. Barriers and facilitators for implementation of electronic consultations (eConsult) to enhance specialist access to care: a scoping review protocol. *BMJ Open* 2018; 8(9): e022733.
31. Naseriasl M, Adham D, Janati A. E-referral Solutions: Successful Experiences, Key Features and Challenges – a Systematic Review. *Materia Socio-Medica* 2015; 27(3): 195–199, doi: 10.5455/msm.2015.27.195-199.
32. Mehtarpour M, Tajvar M. [Policy Analysis of Family Physician Plan and Referral System in Iran Using Policy Analysis Triangle Framework]. *Health Based Research* 2018; 4(1): 31–49 (in Persian).
33. Jahangiri R, Derakhshani N, Raeissi P, et al. Evaluation of the Status of Organizational Culture among Hospital Staff in Iran: A Systematic Review and Meta-Analysis. *Hosp Topics* 2021; 99(3): 107–118, doi: 10.1080/00185868.2020.1870907.
34. Juliani C, MacPhee M, Spiri W. Brazilian specialists' perspectives on the patient referral process. *Healthcare* (Basel) 2017; 5(1): 4, doi: 10.3390/healthcare5010004.
35. Ghanei M, Nazemi M, Javadi A, et al. [Designing the Cultural Paradigm of the Iranian Healthcare System]. *IJHP* 2019; 3(3): 341–348 (in Persian).
36. Sikora T, Kanecki K, Sikora A, et al. Organisational culture as a significant factor of competitive advantage in primary health care units. *Fam Med Prim Care Rev* 2022; 24(1): 83–87, doi: 10.5114/fmpcr.2022.113020.
37. Kiran T, Green ME, DeWit Y, et al. Association of physician payment model and team-based care with timely access in primary care: a population-based cross-sectional study. *CMAJ Open* 2020; 8(2): E328–E37, doi: 10.9778/cmajo.20190063.

Tables: 2
Figures: 1
References: 37

Received: 01.05.2022
Reviewed: 24.06.2022
Accepted: 10.10.2022

Address for correspondence:
Ghahraman Mahmoudi, PhD, Assoc. Prof.
Associate Professor of Hospital Administration Research Center
Sari Branch
Islamic Azad University
Sari
Iran
Tel.: +98 11 34445775
E-mail: ghahraman.mahmoodi@gmail.com