Referral system in rural Iran: improvement proposals

O sistema de encaminhamento de pacientes na zona rural do Irã: propostas para melhorias

Sistema de derivación sanitario en zonas rurales de Irán: propuestas de mejora

Abstract

Because of insufficient communication between primary health care providers and specialists, which leads to inefficiencies and ineffectiveness in rural population health outcomes, to implement a well-functioning referral system is one of the most important tasks for some countries. Using purposive and snowballing sampling methods, we included health experts, policy-makers, family physicians, clinical specialists, and experts from health insurance organizations in this study according to pre-determined criteria. We recorded all interviews, transcribed and analyzed their content using qualitative methods. We extracted 1,522 individual codes initially. We also collected supplementary data through document review. From reviews and summarizations, four main themes, ten subthemes, and 24 issues emerged from the data. The solutions developed were: care system reform, education system reform, payment system reform, and improves in culture-building and public education. Given the executive experience, the full familiarity, the occupational and geographical diversity of participants, the solutions proposed in this study could positively affect the implementation and improvement of the referral system in Iran. The suggested solutions are complementary to each other and have less interchangeability.

Referral and Consultation; Primary Health Care; Family Physicians; Rural Population

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Introduction

Several problems regarding primary health care and health specialists, including ineffective communication between the ones in need for information (referral) and the ones that provide it, inappropriate guidelines, lack of information on the referral and on their respective demands (which leads to the poor transmission of results from the specialist back to the referring health professional), and the use of outdated communication tools and equipment, such as fax-based forms, have been documented in the literature. Evidence shows that electronic health records and e-referral technology can improve the automating work processes and mechanisms to better track the referral’s requests.

The referral system implies a process in which a health professional, when in the lack of resources such as skills, knowledge, drugs, and equipment, searches for expert opinion, additional or different services, and for diagnostic and therapeutic tools from facilities of the same or of higher levels. Informing the initial facility after conducting the required services at the specialized setting is of vital importance. Back referral as a downward referral implies answers to the opened clinical question by providing information on the specific investigations, findings, diagnoses, offered treatments, and follow-up plans. An effective and efficient referral system can play an important role in providing integrated services and continuity of care. There is need to establish methods on bidirectional communication and easy exchange of information between different health service levels.

The demand for considering economic matters and equal access strategies to health services in the health care system have increased the need for developing and implementing effective referral systems. For this reason, some countries have carried out several interventions to improve their referral systems and positive results have been obtained. These results comprise items such as communication improvement between health service providers at different levels, knowledge management improvement, reduction of waiting time, documentation improvement, reduction of the offering of unnecessary specialized services, and increase of access to health services.

After the establishment of Iranian primary health care in 1985, there was the effective implementation of some key strategies in the field. Although the Iran’s upstream-centered laws emphasize the accessibility to specialized services at higher levels through the referral system, the lack of a complete, well-formed, clear, and consistent intra-professional relationship and the existence of contradictory payment methods between primary and secondary health care settings are two of the major weaknesses of the Iranian health care system. Most studies on the referral system of the Iranian health system have merely dealt with the problems in the matter, and have also shown little effort to improve the referral system of rural Iran; with this in mind, this study aims at presenting practices to address this concerns.

Method

Setting and participants

This qualitative study was conducted from February 2015 to January 2016. The purposive sampling approach and the snowball sampling method were used for data collection. Participants included policy-makers of national level and experts of the health system. Family physicians (FPs), specialized physicians (SPs), and insurance organization experts were also selected based on predetermined criteria.

The inclusion criteria were as it follows: a minimum of three years of experience in primary health care and secondary care settings, willingness to describe personal experiences, be interested in the topic, and history of managerial positions in the Ministry of Health, medical schools, and insurance organizations. The exclusion criterion also included the inability to answer questions successfully.

The participants were informed on the aim of the study and on the voluntary nature of their participation. The number of participants was fitted to the data saturation. The interviews were continued until it was apparent that no new information was being produced by the participants.
Data collection

Data was collected from 28 semi-structured interviews and six sessions of focus group discussion (FGD). Additional data was also collected by reviewing documents, several versions of the family physician implementation program, referral systems, and the official website of the Iranian Ministry of Health and Medical Education (MoHME).

Individual interviews and group discussions lasted about 45-120 minutes and were conducted in rural health centers, rural health homes, hospitals and other participants’ workplaces. On average, FGDs lasted 1.5 hours and had seven to nine participants per group. The average duration of individual interviews was 60 minutes. The interviews focused on the participants’ solutions and recommendations to promote and improve the referral system in rural areas of Iran where the family physician program has been implemented for more than ten years.

Data analysis

All reports given by participants in interviews and FGDs were recorded, literally transcribed, and then inserted into the MAXQDA 10 qualitative data analysis software (https://www.maxqda.com/). For further familiarization with data, the authors read the transcriptions several times. The initial codes were set according to the interview guide and then gradually modified and adjusted with the emergence and development of new issues. To achieve the necessary consensus, the themes appeared in each of the interviews were repeatedly checked.

Validity and reliability

To strengthen the study validity, the peer debriefing technique was used. According to this technique, a number of unbiased researchers were asked to read and review the study methodology, the handwritten texts, the final report, and also to give their feedback on the study. In addition to prolonged engagement of researchers, the member check technique was also used to enhance data credibility. Using this technique, participants had the opportunity of understanding, assessing, and correcting any interpretations perceived as incorrect. We conducted the interview guide with ten people who were not part of the study to consider the number, the order, and the content of the questions. The study was approved by the Ethics Committee of the Tabriz University of Medical Sciences (approval number 5/95/4389 in December 25, 2014).

Results

We included 74 participants in interviews and FGD sessions. The interviewed participants showed a wide range of working experiences and service locations. Table 1 displays a summary of the participants’ demographic information.

We extracted a number of 1,522 individual codes. From iterative amalgamation and further analysis of data, four main themes emerged from the data. The potential solutions for the Iranian health referral system had four dimensions. The themes and subthemes are in Table 2.

Reform of care system

This theme refers to discussions on strategies, rules and regulations, managerial issues and executive planning, information systems, and development of care and referral guidelines.

• Improvement of policies and strategies

Participants of the study believed that the guidelines of the referral system needed a review and should follow the rules of forensic medicine. They also believed that there should be legal support for clinical guidelines and the doctors that follow it.
Table 1

Characteristics of the participants.

<table>
<thead>
<tr>
<th>Sphere of activity</th>
<th>Gender (Female/Male)</th>
<th>Participants</th>
<th>Years of service</th>
<th>Age in years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Former deputy of the Ministry of Health</td>
<td>M</td>
<td>2</td>
<td>25</td>
<td>48-55</td>
</tr>
<tr>
<td>Chancellor of the University of Medical Sciences</td>
<td>M</td>
<td>2</td>
<td>20-25</td>
<td>50-55</td>
</tr>
<tr>
<td>Vice chancellor for health</td>
<td>M</td>
<td>2</td>
<td>20-30</td>
<td>46-54</td>
</tr>
<tr>
<td>Heads of hospitals</td>
<td>M</td>
<td>2</td>
<td>20-25</td>
<td>45-55</td>
</tr>
<tr>
<td>Family physician</td>
<td>9 F, 9 M</td>
<td>18</td>
<td>15-20</td>
<td>35-57</td>
</tr>
<tr>
<td>Specialized physician</td>
<td>M</td>
<td>7</td>
<td>15-25</td>
<td>40-55</td>
</tr>
<tr>
<td>Insurance organizations</td>
<td>3 F, 12 M</td>
<td>15</td>
<td>17-24</td>
<td>46-55</td>
</tr>
<tr>
<td>Other managerial positions</td>
<td>M</td>
<td>2</td>
<td>16-20</td>
<td>50-55</td>
</tr>
</tbody>
</table>

“The referral guideline should have legal support. When a surgeon follows the guidelines and the patient undergoes a complication or any problem, if, for example, the doctor diagnoses the patient with acute abdomen and appendicitis but further examinations show that the patient has an intestinal or vascular problem, the physician should be backed” (Participant 14, a neonatologist).

In addition, participants also emphasized other issues such as decentralized, participatory management and evidence-based decision-making. They stated that health economics experts and system analysts should contribute to the policy-making of MoMHE.

“We need experts familiar with health economics, different healthcare systems, the global status, and the economic status of our country to produce a plan based on our financial resources” (Participant 15, former deputy of MoHME).

Participants proposed the study of the referral systems of developed countries, the application of the views and comments from experts, and consideration of the local and regional features in the implementation of the referral system. They also emphasized the decisions regarding the establishment of the referral system in Iran should follow successful evidences.

“The referral system should be consistent with our country’s status. We can not execute a successful referral system from a certain country in an exact way. We should adopt successfully implemented models adapted to our culture and medical history. For example, we can not execute the model that has been used in Turkey, Canada or any other country” (Participant 8, an infectious disease specialist).

- Referral system planning

Participants believed that there should be a review of the appropriate number of population covered by family physicians to facilitate the implementation of the referral system.

“The number of households covered by any family physician should be defined, so that both their medical and health issues can be addressed with higher quality” (Participant 5, a neurologist).

Another important issue mentioned by the interviewed ones is the determining of the covered population and the health care map in each area; they emphasized the establishment of health care facilities should be according to the levels and health service zonation.

“There is need to develop a health care map for each area and to determine how these areas are responsible for each other, as this would greatly help in the establishment of the referral system” (Participant 20, an internist).

The participants mentioned the evaluation and monitoring of doctors and other health professionals. They proposed that the evaluation of their performance should be according to on the requirements and guidelines of the referral system.
Table 2

Solutions to improve the Iranian referral process from the perspective of the participants.

<table>
<thead>
<tr>
<th>Themes</th>
<th>Subthemes</th>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reform of the health care system</td>
<td>Improvement of policies and strategies</td>
<td>• Compliance of referral guidelines with the rules of forensic medicine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Strengthening of decentralized and participatory management</td>
</tr>
<tr>
<td></td>
<td>Planning for facilitating the referral system</td>
<td>• Zonation of the covered population</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Establishment and promotion of care facilities appropriate to the health care levels</td>
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<tr>
<td></td>
<td></td>
<td>• Revision and correction of the appropriate number of population covered by family physicians</td>
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<tr>
<td></td>
<td></td>
<td>• Monitoring and evaluation of doctors and other health professionals based on the requirements of the referral system</td>
</tr>
<tr>
<td></td>
<td>Revision and correction of the health information system</td>
<td>• Designing of specific referral forms</td>
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<tr>
<td></td>
<td></td>
<td>• Establishment of a coordination office</td>
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<tr>
<td></td>
<td>Development of care and referral guidelines</td>
<td>• Establishment of a system of surveillance and continuous improvement</td>
</tr>
<tr>
<td>Medical education reform</td>
<td>Reform of the basic medical course</td>
<td>• Revision of the basic medical course and the planning of assistance trainings (shortening of the medical course from 7 years to 5 years)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Clinical education based on the referral system and its guidelines</td>
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<tr>
<td></td>
<td>Establishment of family physician specialty</td>
<td>• Establishment of a specialized department for family physicians</td>
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<tr>
<td></td>
<td></td>
<td>• Provision of areas for outpatient, emergency, and clinical education consistent with family care</td>
</tr>
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<td></td>
<td>Training of general practitioners and specialists</td>
<td>• Attending practical and regular training courses in the department of family physician</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Attending training courses on the referral system and providing feedback</td>
</tr>
<tr>
<td></td>
<td>Training of staff</td>
<td>• Training of health professionals, nurses and others</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Periodic assessment and training</td>
</tr>
<tr>
<td>Reform of payment method</td>
<td>Health-oriented payments</td>
<td>• Per capita payments</td>
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<tr>
<td></td>
<td></td>
<td>• Service fees</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Reward and punishment system</td>
</tr>
<tr>
<td>Culture-building activities</td>
<td>Public education</td>
<td>• Continuous training</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Establishment of centers for trust building and the strengthening of general beliefs in family care and in the referral system</td>
</tr>
</tbody>
</table>

“Insurance organizations should not give unlimited credit to physicians; they should not let them charge how much they want to or do everything they want to. It is not how it works in no place in the world because resources do not allow. I think that insurance organizations are doing it wrong. They should try to improve their surveillance and reduce their costs” (Participant 6, a cardiologist).

- **Revision and correction of health information system**

The exchange of relevant information between health professionals is one of the important features of health information systems and plays an important role in clinical decision-making. According to participants, the exchange of complete information regarding the referrals can contribute to its success. They stated that providing information on the initial diagnosis, on the referral’s demands, the patients’ history, symptoms, initially taken measures, the making of clear clinical questions, etc. is very necessary for referral process. They proposed the design of referral forms for different cases to prove the possibility of complete and relevant information exchange.
“The responsible doctor should write something like this: I know this patient, I have diagnosed him/her with something, I have observed these symptoms, I took these measures, my clinical question is this, the reason of referral is this, etc. We only use the referral sheet, which might be full of mistakes. There is need to redesign the referral form” (Participant 21, a psychiatrist).

The establishment of an office or coordination unit based on the needs of regions and referral levels was another mentioned recommendation. They believed that general hospitals should have a coordination office to set the referral’s necessary arrangements, the time and date of admission, and to provide guidance and care advice to the referring provider.

The participants mentioned the key role of surveillance and of continuous improvement in the implementation of the family physician program and the referral system. They stated that it is necessary to establish an information system to record, report, and analyze the data on the providers’ referral behavior in a continuous way.

“We need an information system with an information platform to help us in the diagnosis of diseases and in prevention and treatment planning. The existence of such information context would allow us to monitor our records intelligently. We have no evidence or documents in our organizations that show what we have done over the past ten years and which are our strengths and weaknesses” (Participant 2, a senior official).

• Development of care and referral guidelines

Participants emphasized the role and importance of local, regional, and executive guidelines developed by FPs, SPs, and insurance organizations. They believed that the consensus between the key stakeholders on developed guidelines is important in the establishment and improvement of the referral system.

“It is not like we just need to send a physician to a village and for them to become a family physician. We should define the regional guidelines for the prevalent diseases of each region rather than developing a general guidelines by the MoHME and promoting its use all over the country. It is not a guideline; it is the mere translation of some guidelines. Currently, there is no localized guideline in this field and this is one of the necessities” (Participant 3, a social medicine specialist).

The participants believed that all working groups should be aware of the referral guidelines, considering this is a factor that strengthens the cooperation between different units and groups.

“A package on the hospitals’ and health service providers’ duties has been provided; it comprises which cases of surgery patients should go from the environmental hospital to the referral hospital, which cases of pregnant women should receive care in their own city, and which cases should go to higher level hospitals. This package is now ready and the university president should inform all units about, which has not been done yet and there are some problems” (Participant 14, a neonatologist).

Medical education reform

Most of the interviewed ones mentioned the promotion of medical education as a key factor in the establishment and improvement of the referral system. Subthemes included the reform of basic medicine courses, the establishment of FP specialty, the training of general practitioners and specialists, and staff training.

• Reform of the basic medicine education course

According to most participants, undergraduate medical education must be 3-5 years; after this time, students would have to chose the field they would like to work at and professional and residency trainings would begin.

“The main problem of our medical education is that we are still following the seven-year course, which is very traditional and outdated. Most countries have found that internship courses are now useless. It was suitable when the content was smaller and several disciplines have not been developed so much. Now the world has changed, service delivery system has changed. The undergraduate medical education has been shortened to five years and some countries are trying to reduce it to three years” (Participant 26, medical training expert).
They also believed that the medical curriculum should include the concepts, requirements, and issues regarding the referral process and that there is need for more clinical training and guidelines rather than textbooks. 

“We should try to direct the medical students towards learning more guidelines rather than mere focusing on theoretical content” (Participant 18, an orthopedist).

• Establishment of family physician specialty

Most of the interviewed emphasized the establishment of FP specialty and believed that the department of family medicine can improve the role, the function, and the position of general practitioners. They also stated that there is need to establish areas of outpatient, emergency, and clinical training to provide an appropriate care services to families.

“If we want to reform the referral system, we should have a long-term outlook and train the required human resources, especially the FPs and SPs. It will not be possible to modify this referral system without a scientific model by FP, the department of family medicine, and the FP’s specialty. General practitioners are now like soldiers without guns, so we cannot establish a good referral system” (Participant 15, former deputy of MoHME).

• Training of working general practitioners and specialists

Another factor that participants associated with the improvement of the referral system is the training of general practitioners. Participants believed that there is need to evaluate the doctors who work as FP and that they should improve their knowledge and skills by attending regular and practical training courses in family medicine departments. They also reaffirmed the importance of training to give feedbacks and priority in the admission of referred patients.

“Working physicians should always receive trainings. It is also important that specialists and subspecialists be aware of the requirements of referral system and on how to provide feedback. There is need to consider this seriously” (Participant 9, a cardiologist).

• Training of staff

Most participants believed that the auxiliary staff who work with the doctors in the referral process should receive trainings. They stated that health workers, midwives, and nurses who provide services during the referral chain need to undergo evaluations and acquire the skills and knowledge needed to work in the referral network.

“The employees who work with the doctors should receive trainings. For example, they should know how to keep outpatient records, how to provide home care, outpatient care, follow-up, etc.” (Participant 5, a neurologist and hospital head).

Reform of payment method

Participants believed that payment method in Iran’s health system should undergo a shift from disease-oriented payments to health-based payments. Other issues mentioned by the interviewed ones in this regard included per capita payment to the physicians’ family, service fees, and the reward and punishment mechanism.

• Health-oriented payments

Most participants believed that the physicians’ payments are according to a person’s disease. They stated that insurance organizations should reimburse physicians based on the population’s health. Participants emphasized that payment reforms can modify the behavioral pattern of doctors and patients towards the establishment of a proper referral system.

“Currently, our insurance organizations are doing it wrong. We are paying for our diseases and not for our health or the healing of disease. As long as we do not institutionalize the per capita payment method, the finan-

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cial relation between patient and physicians will continue. As far as we have something like fee for services, this situation will continue” (Participant 25, a social medicine expert).

Most participants see that service fees have a significant impact on the establishment of the referral system. They believed that health services fees in Iran are very low and there is no significant difference between the ones of general and specialized services. The interviewed stated that there should be a significant difference between public and private fees, and also between general and specialized services to strengthen the referral system. As a result, higher fees make most people receive the required services through the referral system.

“Insurance organizations should support our referral system, and fees should be completely free in the health system. In many countries, when people use health services out of the referral system, they know that they must pay for the visits, medicines, and paraclinical costs, as insurance does not support them financially. Therefore, they have to use the public system and its fees. When gradually directed towards the FP, they can pay less than those who attend it directly. It is possible to promote the referral system with these measures” (Participant 20, an internist).

Most participants stated that the establishment of a reward and punishment system is necessary to consolidate the referral system. They believed that such system should involve the patients admitted in the health centers and the physicians. In their opinion, there should be financial support for those who attend facilities that use the referral system; those who avoid the referral system should pay a penalty fee.

“The system need to ensure that patients understand that if they go through the referral system, they will pay less and receive high quality services. They should know that if they go out of the referral system, they will have to pay for higher costs” (Participant 11, an orthopedist).

Participants also expressed the need to evaluate the performance of clinical specialists (the prioritized admission of referred patients, the two-way communication, the collaboration with FP, the provision of appropriate feedback, and the observance of guidelines) based on the reward and punishment system.

“I am not saying that everything is financial benefits, but physicians who work in the referral system need some incentives. For instance, when a university professor works in the referral system, they can receive a promotion score of 0.5. If so, they will wait for the referred patients and try to do their best” (Participant 6, a heart specialist).

**Culture-building activities**

This theme approached the social context and ground to establish the referral system. Most participants emphasized culture-building and communication activities on the referral system. They believed that to implement the referral system, it is necessary to have an appropriate cultural context. They stated that there is need to make people aware of the positive aspects of the referral system, so that they can trust it.

- **Continuous training**

Participants believe that the covered population need to be aware of the need for health service zonation and on positive aspects of the referral system and FP. The interviewed ones stated that people’s impressions on FP and the benefits of the referral system need to change through effective communication with individuals and influential institutions.

“Those who can spiritually influence people such teachers, members of local councils, artists, athletes or anyone else who can influence different walks of life should be involved in public education and culture-building for the covered population. People should know the shortest possible path for diagnosis and treatment of their disease is the referral system. We should build this culture. People should be aware of benefits of the referral system and they should be assured that this system can solve their problems” (Participant 11, an orthopedist).
• **Establishment of an excellence center**

Participants believe that to promote culture-building in any system, it is necessary to implement successful models. Selecting health centers to implement the concepts of FP and referral systems in a practical and successful way to promote a favorable image of them can lead to the institutionalization of the referral system.

“We should have a practical example of a family physician that is satisfied with his/her revenue and handle the patients very well. When a sick child goes to a FP and the doctor is able to communicate well and treats him/her cheerfully, this is a good example of culture-building” (Participant 26, medical training expert).

**Discussion**

In this study, it is possible to extract four main themes, including the health care system reform, the medical education system reform, the referral system reform, and culture-building, and the public education reform, in addition to ten subthemes.

The first theme was the health care system reform; specialists focused on the improvement of policies and strategies regarding referral system, the referral system plan, the revision of the health information system, and the development of guidelines for the care and the referral system.

Several studies have focused on strategic plans and supportive rules of governments for referral systems. Countries such as New Zealand, the UK, Norway, Finland, Canada, and Denmark have developed strategic plans, guidelines, and supportive rules for their referral systems.

The study conducted by Greenhalgh et al. confirmed the role of policy context in supporting the Choose and Book System, the referral system in England, which has been a key part of supportive programs of the UK Labor Government. According to Bryant, for the proper functioning of the English referral system, generic guidelines, referrer guidelines, provider guidelines, and commissioner guidelines have been developed. As stated by Pedersen et al., to balance the population covered by any FP, a list system has been developed in Denmark and it has determined that one FP can cover around 1,600 without affecting the quality of health care services.

The referral review has also been considered in different countries as one of the most important stages of the referral process. According to a study conducted by Keely et al. in Canada and in the United States, a referral reviewer evaluates the referrals of professional and specialized levels. Considering the importance of this role, it is essential to designate such a person in Iran’s referral system. This is also consistent with a study conducted by Fischer et al. in Chicago (USA) that has stated the importance of the referral reviewer and its effect on the improvement of the referral process.

Based on the results of study by Kim et al., the referral system of the San Francisco General Hospital (SFGH; San Francisco, USA) has been designed in such a way that it promotes an education relationship from a two-way communication between the referral reviewer and the referring provider. In this case, the SFGH referral system serves as a case-based education tool.

It seems necessary that the medical education reform in Iran should include the reform of the basic medical course, the establishment of FP specialty, the training of general practitioners and specialists, and the training of other staff. According to a study by Haq et al., family medicine has been introduced as a medical specialty in the USA, Canada, China, Vietnam, Thailand and some other countries.

The third main theme was about the payment system, including per capita payments to FP, the significant difference between the fees inside and outside the referral system, the financial support and facilities provided to patients within the referral system, the use of the reward and punishment system, and the establishment of monitoring mechanisms. In a study conducted by Esmaeili et al., they concluded that per capita payments in primary care are the original payment method in many countries and that its establishment would bring beneficial changes to the health system. As stated by Jamison et al., the penalty fee for patients out of the referral network, and a quick and prioritized admission through the referral network are two key solutions to improve and strengthen the referral system.

The use of a reward and punishment system, of financial, institutional and regulatory interventions have been emphasized in the clinical guidelines by Majdzadeh & Seyed. These authors...
believed that improving the FP program and the referral system is an opportunity of applying the clinical guidelines. In this study, we assume the guidelines as key factors to establish and improve the referral system. Therefore, one can argue that, regardless of transposition, each of these items work when associated with each other.

The fourth main theme was culture-building and public education, which emphasizes continuous client training, the population covered by health care services, the FP and establishment of centers for confidence-building and strengthening of general beliefs in family care and the referral system. Jamison et al. 28 emphasized the need for communication in the referral system, the people’s access to services, and the allocation of adequate resources to contribute to service provision and to build confidence.

**Conclusion**

Given the executive experience, full familiarity, and occupational and geographical diversity of participants, the solutions proposed in this study can positively affect the implementation and improvement of referral system in rural Iran. The suggested solutions complement each other and show less interchangeability. We recommend the simultaneous appliance of these solutions to improve the referral system of rural Iran.

**Contributors**

A. Janati and A. Amini contributed to the study concept and design, acquisition of data, analysis and interpretation of data, and critical revision of the manuscript for important intellectual content. D. Adham contributed to the acquisition of data, analysis and interpretation of data, drafting of the manuscript, and critical revision of the manuscript for important intellectual content. M. Naseriasl contributed to the study concept and design, acquisition of data, analysis and interpretation of data, and drafting of the manuscript.

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**References**

Resumo

Devido à comunicação insuficiente entre os profissionais de saúde na atenção primária e os especialistas, levando a ineficiências e ineficácias nos desfechos de saúde na população rural, a implementação de um sistema funcional de referência e contra-referência é uma das tarefas mais importantes para alguns países. Com o uso de métodos propositais e de "bola de neve", o estudo incluiu especialistas em saúde pública, gestores, especialistas clínicos e representantes de planos de saúde, de acordo com critérios predeterminados. Gravamos e transcrevemos todas as entrevistas, e depois analisamos o conteúdo através de métodos qualitativos. Inicialmente extraiumos 1.522 códigos individuais. Também coletamos dados complementares através da revisão de documentos. A partir das revisões e resumos, emergiram dados sobre quatro temas principais, dez subtemas e 24 questões. Foram desenvolvidas as seguintes soluções: reforma do sistema de atenção, reforma do sistema de ensino, reforma do sistema de remuneração e melhorias na construção de cultura e no ensino público. Em função da experiência executiva, a familiaridade plena e a diversidade ocupacional e geográfica dos participantes, as soluções propostas pelo estudo poderiam impactar positivamente a implementação e melhoria do sistema de encaminhamento de pacientes no Irã. As soluções propostas se complementam e são menos intercambiáveis.

Encaminhamento e Consulta; Atenção Primária à Saúde; Médicos de Família; População Rural

Resumen

Debido a la insuficiente comunicación entre los responsables de la atención primaria y los especialistas, se producen ineficiencias y falta de eficacia en las condiciones de salud de la población rural iraní. Por ello, implementar un buen sistema de derivación sanitario es una de las tareas más importantes para algunos países. Usando un método de muestreo intencional y de bola de nieve, incluimos a expertos en salud, formuladores de políticas, médicos de familia, especialistas clínicos, y expertos del ámbito de las empresas de seguros de salud en este estudio, de acuerdo con criterios predeterminados. Grabamos todas las entrevistas, transcribimos y analizamos su contenido usando métodos cualitativos. En un principio se seleccionaron 1.522 códigos individuales. También obtuvimos datos complementarios a través de la revisión de documentación. Fruto de las revisiones y puestas en común, se obtuvieron 4 temas principales, 10 subtemas y 24 cuestiones que afloraron de estos datos. Las soluciones desarrolladas fueron: reforma del sistema de atención, reforma del sistema educativo, reforma del sistema de pago, y mejoras en la educación cultural y pública. Dada la experiencia ejecutiva, la gran sinceridad en las respuestas, la diversidad ocupacional y geográfica de los participantes, las soluciones propuestas en este estudio pueden afectar positivamente la implementación y mejora del sistema de derivación sanitario en Irán. Las soluciones sugeridas son complementarias entre ellas, aunque poseen una menor intercambiabilidad entre sí.

Derivación y Consulta; Atención Primaria de Salud; Médicos de Familia; Población Rural

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