Original Article

Health-care reform implementation challenges at suburban areas in Isfahan province: A qualitative study

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Abstract:

BACKGROUND: Health system reform plan in public health sector in Iran in the first phase focused on improving primary health care in suburban areas in and around big cities. The present study was conducted to assess the implementation process challenges of the reform plan in comprehensive health service centers at suburban areas of Isfahan in 2019.

MATERIALS AND METHODS: This qualitative study with conventional content analysis approach was conducted in 2019. Participants were purposefully selected and interviewed at provincial levels from Isfahan University of Medical Sciences health department and health-care providers of comprehensive health services centers. The saturation point was reached after 21 face-to-face semi-structured interviews. Thematic analysis was employed to analyze transcribed documents assisted by MAXQDA version 10.

RESULTS: The results revealed four main themes; the human resource management, the executive management, the electronic infrastructure, and the resource management.The major challenges in the implementation planning process included: the referral system, monitoring and supervision, electronic services infrastructure in the design and development of the EHR called the SIB system, lack of instructions guide, salaries and benefits, inconsistent financial and human resources and inappropriate allocation of theses resources.

CONCLUSION: Despite the achievements in the development of the Iran health system reform plan, there were many challenges in the implementation planning process. It is recommended that theses challenges be reviewed and amended by health system managers and policymakers.

Keywords:

Health system reform, primary health care, suburban area

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Introduction

The health system missions are to promote health and respond to the needs of their population.[1]

Due to constant changes in economic, social, political, technological, and environmental conditions, health system must adapt and make reform as needed throughout time and their life cycle.[2,3] Evolving public health needs have been multifaceted, complex, and challenging throughout time in the world to which public health systems must respond.[2] Therefore, a constant periodic review and monitoring health system processes, services and information are important factors for reform and improvement of efficiency and effectiveness. Furthermore, sustainable financing and equity should be considered and scrutinized when doing reform.[4]

Public health sector in low- and middle-income countries are responsible for primary health-care (PHC) services. Due to high cost, low quality of services, and limited resources, health policymakers must continuously monitor and make changes

to replace or reform systems and subsystems to meet the health needs of the population in order to reduce the effects of poverty on health.[3,5,6] Many countries in the world have established their health-care systems based on PHC to achieve community justice in access to basic health services.[7-10] The health-care network in Iran was established in the 1990s.[11] Although the model of governmental health networks has been developing in many cities across the country in an *ad hoc* fashion, primary health services and suburban area health management still face many challenges in terms of health facilities and services with undesirable conditions[12-15] One of the key issues in the quantitative and qualitative improvement of PHC in suburban areas is to increase access to healthcare services.[16] It was repoted by Kusuma() and Mathias() there are inadequate access to health- care services in these areas due to high population density and lack of development initiatives.[17,18] Statistical information has shown that more than 76% of the total burden of diseases in Iran is devoted to noncommunicable diseases; therefore, to achieve the prevention of noncommunicable diseases, identifying risk factors, preventing and controlling related causes, preventing epidemics, and also planning and controlling these diseases as much as possible in the area are inevitable.[19]

Based on World Health Organization 2008 report, changes in health system goals and strategies , and the organizational structure of health system in Iran, specially in the periphery of major cities were considered. Due to health system inefficiencies, changes in the disease patterns, demand patterns and the underlying causes of mortality have been implemented in the health system transformation plan.[20]

Studies conducted on the health of suburban area population such as Aleemi *et al*. have reported undesired PHC situation in suburban area in Karachi, Pakistan. This study emphasized inclusion of the population of suburban areas in the national health plan, develop health-care infrastructure near these areas to provide appropriate health-care services and finally to inform and orient the target population about necessity and importance of health-care services utilization.[21] Marcil *et al*. in Bangladesh have assessed the health status of mothers, infants, and children who reported needing serious interventions.[22] Joulaei *et al*. reported poor access to PHC in Shiraz before health-care reform plan.[23]

Implementing the health reform plan in the PHC and promoting the health of suburban area population in Iran has been considered since 2014 to date, and four revisions of the pro-poor health plan have been followed through since then. Few years have passed from the initial implementation of the plan; the present study was conducted to investigate the challenges of implemented reform plan providing PHC services through comprehensive health-care services centers in Isfahan suburban area. The implementation challenges can only be examined from the perspective of the implementers of this plan. Hence, due to novelty of the subject and low research activities in this area in Iran, qualitative research method was used to conduct this study in 2019.

Materials and Methods

This qualitative study using conventional content analysis approach was designed to investigate the challenges of the implementation process of health-care reform in suburban areas of Isfahan**.** The study was conducted in 2019. This study received the ethics approval from Isfahan University of Medical Sciences with ethics code IR.MUI.RESEARCH.REC.1396.095. Written participants' informed consent was acquired and assured their anonymity and confidentiality of any information they present during the interviews. The population of the study included all relevant knowledgeable experts in Isfahan health department and health-care workers in the comprehensive health centers of Isfahan University of Medical Sciences. To identify and select key informants related to the phenomenon of interest, purposeful sampling technique with a maximum variation was used. Those with <2 years of experience or those who cancelled the interview meeting more than twice were excluded from the study.

The study data were gathered through face-to-face, semi-structured interviews. We developed an interview guide informed by the research objectives and in-depth interview with one of the key informants in health deputy of the university. To check the validity of the interview guide at first, the questions of interview were discussed among research team with collaboration of one external expert and revised accordingly. Later, the interview guide was tested on first three participants to verify the number and order of the questions in the study. Interviews were carried out in the interviewee's office or any places where the participant suggested by one trained member of the study team (zf). The interviews continued until saturation point in which no additional data collection was necessary. Finally, 21 face-to-face semi-structured interviews were conducted. Each interview time lasted between 25 and 90 min, with an average of 45 min. Most interviews were tape-recorded with participants' informed consent and then transcribed verbatim.

Thematic analysis with an inductive approach was employed for analysis of transcribed documents assisted by MAXQDA version 10 (Germany, 2010).

A step-by-step guide proposed by Braun and Clarke[24] was used to conduct the thematic analysis. The lists of ideas, words, meanings, and concepts from the data were extracted, and initial codes were assigned. The most basic segment and repeated patterns related to each code were identified. After all the data were initially coded and collated, codes were analyzed aiming at combining different codes to inclusive subthemes and themes. The themes were reviewed and refined during a 3-h session with the main members of the research team in which all the accumulated extracts for each theme were read and coherence of their patterns was considered and final naming of themes and subthemes was done.

The credibility and dependability of the research were assessed and confirmed through four trustworthiness criteria suggested by Lincoln and Guba.[25] Credibility was ensured with a prolonged engagement, and for respondent validation, the researchers provided some transcribed interviews to the participants and asked them to ensure that there is a good correspondence between our findings and the perspectives of participants (member check). Transferability of our qualitative findings was enhanced through complete transcriptions and maximum diversity in sampling (our samples were health deputy managers, middle managers, and health workers and experts related to health of suburban). Dependability of the research was adopted by an auditing approach in which the study's colleagues accompanied by an external auditor engaged in complementary comments in coding process and analyzing of interview text and cross-checked the collected data (checking by experts). To increase conformability, we did not allowed our personal values to affect the research and the findings obtaining from it. We also used field note taking to enrich the data.

Results

The study results were extracted and classified after 21 participants were interviewed and we reached data saturation. Interviewees' organizational affiliation, their positions, and educational levels are described in Table 1.

After two stages of data extraction and thematic integration, comprehensive health center challenges included 4 main themes and 11 subthemes. The main themes include challenges related to human resource management (3 subthemes), executive management (4 subthemes), electronic infrastructure (2 subthemes), and inefficient resource allocation (2 subthemes) [Table 2]. The main themes and subthemes along with the participants related comments and cottations are described as follow.

Human resource management
Human resource management subthemes included challenges in staff training, monitoring, and supervising processes and increased dissatisfaction of the care providers.

Staff training
The staff in-service and continuing education and training process is one of the most important pillars in staff promotion and empowerment. A standard training program requires consideration of all aspects

Table 1: Characteristics of participants

Participant	Organization	Position	Educational level
1	Health department	Health managers	General practitioner
2	Health department	Health managers	General practitioner
3	Health-care network	Health managers	General practitioner
4	Health department	Health managers	General practitioner
5	Health department	Health experts	General practitioner
6	Health department	Health experts	General practitioner
7	Health department	Health experts	General practitioner
8	Health department	Health experts	Undergraduate degree
9	Health-care network	Health experts	Undergraduate degree
10	Health-care network	Health experts	Graduate degree
11	Health-care network	Health experts	Undergraduate degree
12	Comprehensive health center	Health-care worker	Undergraduate degree
13	Comprehensive health center	Health-care provider	Undergraduate degree
14	Comprehensive health center	Health-care provider	Undergraduate degree
15	Comprehensive health center	Health-care provider	Undergraduate degree
16	Comprehensive health center	Health-care provider	Undergraduate degree
17	Comprehensive health center	Health-care provider	Undergraduate degree
18	Comprehensive health center	Health-care provider	Undergraduate degree
19	Comprehensive health center	Health-care provider	Undergraduate degree
20	Comprehensive health center	Health-care provider	Undergraduate degree
21	Comprehensive health center	Health-care provider	Undergraduate degree

Table 2: Themes and subthemes of implementation challenges of the reform plan

Themes	Sub-themes	Codes
HR management	Staff training	1. Uniformity of the training for professional and new employs
		2. Lack of continuous planning for personnel training
		3. Lack of teacher training program
		4. Information bombardment
	Monitoring and supervising	1. Lack of national monitoring checklist
		2. Inconsistency monitoring tool
		3. Manual monitoring package
		4. Users` dissatisfaction with monitoring method
	Increased dissatisfaction of care providers	1. Difference between salaries and benefits of the contracted service centers and public sector
		2. Job burnout
		3. Inconsistency of system expectations with the field of study care provider
		4. Lack of job security in the contracted service center
		5. Inconsistence working hours between public and contracted service centers
Executive management	Lack of standards of services and infrastructure	1. Reduced managerial capacity of the headquarters
		2. Lack of revision of HR chart considering increased services
		3. Loss of financial resources due to inappropriate company contracts
		4.Lack of client visit time schedules
		5. Lack of managerial benefits
		6. In appropriate number population covered by center health-care provider and physician
		7. Lack of pilot plan before implementation
		8. No flexibility in the implementation of the plan
		9. In continuity in providing Nutritional Supplements to the Target Group of the Suburban area
		10. Inappropriate implementation plan
		11. Lack of poor fallow up after initial visit due to lack of needed facilities and services
		12. Focus on quantity rather than quality
	Lack of participation of service receivers	1. Lack of knowledge and awareness of services provided
		2. Service receivers inconsistency in follow-up visits
		3. Service receivers dissatisfaction with the waiting list
	Referral system process	1. Lack of interoperability information system
		2. No feedback from higher level in the referral system
		3. Lack of necessary infrastructure for the referral process
		4. No controlling in referral mechanism for service receivers
		5.Ineffective health network referral measures
	Lack of instructions	1. Noncontagious service process
		2. Lack of stakeholders participation in standards development
		3. Inappropriate standard of physical space.
		4. Poor regional participation in the development of service packages
		5. Lack of research to determine time and motion standards of service delivery
		6. Instability in executive instructions
Electronic infrastructure	Inadequate electronic services	1. Incomplete and noncompliant information system
		2. Slowness of Internet speed and fatigue of users
		3. Not offline electronic services
		4. National electronic records instead of local electronic records
		5. Frequent system updates and changes
	Inappropriate integration and interoperability of information systems	1. Lack of integration with other HISs of the health system
		2. Lack of system service reporting details
		3. Poor of face-to-face communication with clients
Resource management	Facilities and resources	1. Financial resources compare to obligation
		2. Inappropriate allocation of financial resources
		3. Financial resources sustainability at the time of implementation
		4. Loss of financial resources due to downsizing and leaving of trained staff
		5. Poor skill and ability of some staff

Contd...

Table 2: Contd...

Themes	Sub-themes	Codes
		6. Shortage male caregivers
		7. No admission unit for center sub stain
		8. No trained general practitioner or family physician family physician
		9. Lack of adequate number of caregivers in relation to covered population in public sector
		10. Lack of educated related caregivers
		11. Family physician shortage
		12. Inadequate physical space or no standardization of the physical space
	Salaries and benefits	1. Staff salary difference across services
		2. Difference in payment in contracted centers and public centers
		3.Commitment to fee for service payment
		4. Lack of updating salary basis based on labor law
		5. Major computer software problem for fee for service calculation
		6. Poor staff motivation due to reduced salary payments
		7. In proportionate salary payment with services provided
		8. Physician salary difference is across services provider
		9. Lack of bonus payment to senior management

HR=Human resource

of staff needs and the training process. Challenges in this area included uniformity of the trainings for experienced and new employs, in-service raining during the shift, inadequate continuity education and training, lack of planning for personnel training, inadequate national teachers' training program, and information bombardment. To empower the health system employees, in-service training and needs assessment are required for enabling and delivering quality services. Planning and organizing in-service training program is essential for maximum efficiency and effectiveness. As one of the participants pointed out:

"W*hen they prepare and write the training program and the training process, it is better to be determined based on what human resources training needs are, their organizational job positions and university education*" (Interviewee number 1).

In the field of human resources, both in the family physician plan and the general practitioners plan in suburbs the is insufficient training to identify and manage the population under cover.

"*We do not hold a family* physician training *course for a GP, while we are expecting a family doctor performance, I think we should hire a family physician assistant, to be trained from the perspective of a family physician, right from the start so that his/her mind is ready for these expectations*" (Interviewee number5).

Monitoring and supervising
Monitoring is an important part of a project and design, and it pursues the role of the executive in achieving the objectives of the program. Therefore, it is necessary to implement the monitoring tool in accordance with the design program standard. Challenges in this section included lack of appropriate national

monitoring checklist, inconsistent monitoring tool, manual monitoring package, and user dissatisfaction with monitoring method. Given much of services has been implemented in the form of an HER or SIB system, the research participants have suggested the need to develop an electronic monitoring package:

"*Due to the provision of electronic services, it is necessary to make our software package electronic as well as software that monitors and evaluates the system must be linked to the sib system*" (Interviewee number 7).

Increased dissatisfaction of care providers
Human resource is the most important resources and the main capital of the health system**.** Although one of the six goals of implementing the Health Transformation Plan was service provider's satisfaction, Inconsistencies of system expectations from care providers, difference between salaries and benefits of the contracted service centers vs. public sector centers, job burnout, high turnover in the contracted service centers, inappropriate lack of attention to cultural norms in service delivery, inconsistence working hours between public and contracted service centers, multi-job and multi-assignments, care provider unfair workload assignments compared to others, lack of job security in the contracted service centers, health information system adoption and use, and frequent human error occurrences, still exist and causes dissatisfactions .

Personnel dissatisfaction as a result of increased volume of services and having multi-positional tasks has increased the likelihood of medical errors; as one participant stated:

"*Excessive work pressure and high workload will lead to low focus and low quality. You see an elderly person at the same*

time you should vaccinate a 1 year old child. You have to be careful not to make a mistake."

"This is not good, earlier we made mistakes, but now we are doing better" (Interviewee number 17).

In the private sector, due to the corporate nature of the forces, the least favorable performance occurs and the occupational safeties of employees are compromised.

"Employees' rights are not properly addressed, if you do not like it and want to go, go ahead. I myself heard saying too much going behind the doors of the centers to replace something or someone, there is little job security put and mental health is being eroded in the workplace" (Interviewee number 12).

Executive management

The second challenge of the implementation of health reform plan in suburban areas is in the field of executive management. This theme includes lack of standards of services and infrastructures, lack of participation of service receivers, shortages in referral system processes, and lack of instructions.

Lack of standards of services and infrastructures

In the field of management, the scope of PHC plan implementation is important both in terms of type of the plan and management behavior. Therefore challenges in this field need to be addressed in order to improve the implementation of PHC provision in the suburban areas. The challenges included reduced managerial capacity of the health networks , lack of revision of organizational chart considering increased services, loss of financial resources due to inappropriate contracts, lack of client visit time schedules, lack of managerial benefits, inappropriate number of population covered by health-care provider and physician, inadequate pilot plan before implementation, no flexibility in the implementation of the plan, incontinuity in providing nutritional supplements to the targeted group of the city Suburb, poor fallow up after initial visit, focus on quantity rather than quality, which all led to lack of full public coverage . Reform plans are implemented with speed without adequate preparation, and the authorities expect rapid and complete reporting; service quality will be affected. According to the research participants, the quality is sacrificed by quantity, for example, *"General standards were well-designed but quality is sacrificed by quantity in the technical dimension in the implementing process. Often we used the move and shove method which is to say, the bulk volume of goodies at any cost"* (Interviewee number 8).

Large-scale projects across the country need to identify ambiguous points, and the project must be scientifically and practically proven. In this context, piloting the project in some smaller areas could identify the shortcomings and one could plan for most of the challenges.

"I think all these problems wouldn't have happened if they had been thinking more maturely and if they had been thinking on this subject through experts. This plan had to be piloted in one corner of the country, two places, three places, and then the pilot results were assessed and not just starting with a new plan and new name and so on" (Interviewee number 7).

Lack of participation of service receivers

The subthemes are lack of knowledge and awareness of services provided, service receivers' inconsistency in follow-up visits, and service receivers' dissatisfaction with the waiting list. Recipients of services are not fully aware of the services provided in the centers, and this may not provide them with the services they need.

"If the reform plan in the village worked well, it was because there was the health house in the villages that everyone knew, but in city we only know one vaccine center, nobody knows these places are centers for health care provision. In other words one of the big problems with this plan is that people don't know about health centers, so we have to raise the awareness of people to be willing to go there" (Interviewee number 5).

Patient satisfaction with the care process is important, and despite the population defined in the plan for each center, often long queues are created.

"The client dissatisfaction is due to a system failure, volumes of services exceed the time limit and the queue will wait" (Interviewee number 10).

Referral system processes

There are also challenges to the referral system, and different levels of health service delivery across programs are not relevant. There is no comprehensive flowchart to define how the levels relate to each other. Furthermore, there are inadequate coordination and inadequate feedback from higher levels due to the use of the SIB system in the primary care services. In this section, the participants' opinions were extracted: lack of interoperability of information system, no feedback from higher level in the referral system, lack of necessary infrastructure for the referral process, no controlling in referral mechanism for service receivers, ineffective health network referral measures, inadequate coordination, and inadequate feedback from higher levels due to the use of the "SIB" system in the field of health. According to some contributors, the SIB system does not provide patient referral and follow-up.

"We should know if the client finally went to a specialist doctor, what they said to him/her? It is not documented unless the patient says himself or herself that the patient may be saying something wrong or make a mistake. Of course, some specialist

prescribe feedback, but it is not done through the electronic system" (Interviewee number 7).

In the referral process, not only government agencies but also all hospitals should establish continuity of care and the importance of health issues must be clear for them.

"In urban areas, you know that we have a lot of challenges. We have a private sector that is now either charitable or completely private or public-private; coordinating these and having the private sector accepting to use the referral system needs some real training and infrastructure preparation" (Interviewee number 3).

Lack of instructions

During the course of PHC reform plan implementation, the plan was revised four times with little or no instructions or orientation. The research participants also had challenging views on guidelines and instructions. Inadequate chronic disease and noncontagious services processes, lack of stakeholder's participation in standards development, inappropriate standard of physical space poor regional participation in the development of service packages, lack of research to determine time and motion standards of service delivery, and instability in executive instructions. Formulation of standards has been generalized without full participation of stakeholders and use of appropriate or relevant data and information. There has been no persuasive discussion in the field of expertise. One of the participants asked:

"One of the challenges was that they said how you want to reform the health system?. How do you formulate standards? Do you have to draw standards in a closed room with special people? Or they need to have documentation and evidence based on which they are designing standards? To summarize, let me say if we have a health care provider in the city for every 2500 people, for example, where does this 2500 came from? Why shouldn't every 1500 people have a health care provider, or every 3500 people have a health care provider or center?" (Interviewee number 1).

In the opinion of some participants, service packages were not standardized and those who developed these packages did not consider regional needs. However, changing standards according to the regional need for localization seems a necessity.

"There are standards for human resources, however for example for how many thousands of people a health care provider, a nutritionist or a psychologist should be hired. We have fully deployed the reform, but it is likely for us to encounter with a high-risk area, and special care such as mental counseling is needed more. The present human resource proportions are not sufficient and the present standards are not right for this region" (Interviewee number 3).

Electronic infrastructures

This theme includes 2 subthemes: lack of electronic services infrastructures and lack of integration and interoperability of information systems. These challenges have posed serious problems for providing health services in suburban areas.

Inadequate electronic services

Establishing electronic health records in general and the use of information technology in the field of recording and maintaining health information in particular are very important. However, after the implementation and use of these systems, it takes time to identify shortcomings and weaknesses. The present information system, "the SIB system," seems to be no exception. The scope of the challenges in this area included noncompliant information system, Internet speed, users' adoption and fatigue, weakness in national and local EHR integration and interoperability and frequent system updates.

It should be noted that the use of Internet systems requires appropriate communication infrastructures such as adequate speed, so that the health team can enter and retrieve information as soon as possible.

Inappropriate integration and interoperability of information systems

The other challenges of electronic system in providing health services in suburban areas were the lack of integration with other information systems, inadequate service and care reporting details, and poor face-to-face communication with clients.

System errors in the "Integrated Health System" (SIB system) which was due to the lack of interaction between the design team and various service groups resulted in that the SIB system not be comprehensive and technical issues such as extraction of key performance indicators were not anticipated. Therefore, some indicators could not be reported; this led to spending extra time to extract and analyze indicators, lack of good understanding, and inappropriate reporting of the organizational performance status. As one of the interviewers stated:

"It seems that they "the authorities" could have done a lot better from the beginning, that is, they notified and required us to collect and put away all paper files in one side, and from the other side, the electronic system the "SIB System" could not respond well to the users and system's needs" (Interviewee number 1).

Resource management

One of the other main themes in implementation of the health reform plan in suburban areas was inefficient resource management. The challenges related to the

resource management included facilities and resources and differences in salaries and benefits . sIn this field, both poor access to resources and inefficient allocation of resources were noted.

Facilities and resources

In general, there is a shortage in the allocation of health per capita compared to the problems of today's society, and on the other hand, it has not been sufficient and on time. Sufficient and on-time funding is essential to the implementation of the project, and this should be possible from sustainable resources. Challenges extracted included: financial resources compare to obligation, inappropriate allocation of financial resources, financial resource sustainability at the time of implementation, loss of human resources due to downsizing and leaving of trained staff, poor skill and ability of some staff, shortage of male caregivers, no admission unit for center, no trained general practitioner or family physician, lack of adequate number of caregivers in relation to covered population in public sector, lack of appropriate educated caregivers, family physician shortage, inadequate physical space, or no standardization of the physical space.

"The main problem is the financial resources for salaries, supplements, preventive items, other personnel benefits and consumables we face a serious challenge." (Interviewee number 2).

Salaries and benefits

Payroll issues are often disputed as quality discussions among staff and can lead to negative publicity for the reform plan if not answered. Challenges in this field included staff salary difference across service providers, payment difference in contracted centers vs. public centers, physician salary difference across service providers, commitment to fee for service payment, updating salary basis based on labor law, computer software problems for fee for service calculation, poor staff motivation, lack of bonus payment to senior management. One of the most important issues in this section was salaries, that is, lack of payment to government workers despite the increased workload:

"Important thing is to motivate the forces. Health care workers expected to be paid more and it was discussed, and a coefficient was defined for each service, but there was no payment. Our governmental forces are fully unmotivated and overworked, and still no payment" (Interviewee number 7).

Many sectors related to the Ministry of Health paid the customary fee, and no obligation to pay public sector employees in projects related to suburban areas has caused discontent.

Discussion

The increasing growth of health-care costs around the world has become one of the most important concerns of managers in this field. Sequential development of new and expensive technologies, increasing public expectations of the health system, and a growing trend of chronic diseases in the world seem to be among the most effective reasons for cost increases. This has caused many problems in different parts of the health system. Obviously, all parts of the country's health system are affected by the conditions caused by economic problems. Some of the problems in the health system are due to structural and intra-sectoral problems, while some of the other problems have been imposed upon the health system from governmental agencies. In addition, some of these problems stem from the country's general health system management and policies.[26-28]

In this study, implementation and operational executive challenges were classified into 4 main themes and 11 subthemes. Human resource management is one of the implementation challenges that are related to staff training, monitoring, and supervising and dissatisfaction of care providers. Planning for staff training requires need assessment and course design based on the events in the field. In other words, education and training of health-care providers should be based on need assessment . A study by Damari 2015, which is in line with the findings of our study, reported that the current educational system is insufficient and there is a weakness in updating educational activities and also not using appropriate education and training methods.[29] According to this research, supervision and monitoring is the most important tool for achieving the goals of the program, and in order to unify the results of the monitoring, the development of standard checklists and monitoring package from the national level in all medical universities seems inevitable. In the study by Damari 2015, monitoring and accreditation program for all health services should also be developed.[29] According to Mahdiyan *et al*., 2020, performance assessment of workforce in health system faces many challenges that are in line with the current study.[30]

The findings of the study also indicated that health-care providers' dissatisfaction with health services provided to the marginalized population of Isfahan was mainly due to staff moonlighting, increased workloads, and increased service registration rates. The study of Abedi *et al*. (2018), which is in line with the findings of this study, has shown that defining and determining level of services in the health reform plan in the health sector were done regardless of the opinions of experts, stack holders, and present field personnel, workload level, and needed human resources.[31] A study by Raisi *et al*., 2019,

indicates that although customers were satisfied with some of the health system reform services, there are some weaknesses in this plan that would cause dissatisfaction in caregivers as internal customers.[32]

Another finding of the study showed lack of an efficient executive management. Lack of standards and instructions, weak participation of care receivers, and inefficient referral system are the challenges in this area. The findings showed that there is a lack of interaction, instability, and lack of consultation with stakeholder experts in the design of standards and instruction. The results of the study by Demari in 2015 about pathology of health and health services are similar to the findings of this study. The results of Demari study showed that numerous programs were implemented without prioritization and without compliance with network guidelines at provincial level . These guidelines were developed without the views of health experts and stakeholders. Usually the national guidelines are formulated with consideration to provincial and local needs and their differences.[29]

Challenges of referral system in suburban areas included lack of feedback from specialized levels, inadequate infrastructure, and inappropriate planning strategies of health center network and health network. The results of the study by Nasrollahpour Shirvani 2013 and Chaman *et al*., 2012, are consistent with the findings of this study; it has been reported that in the provision of health services to the public, there are serious problems at levels 1 and 2 with referral systems.[33,34] The other study by Shaarbafchizadeh *et al*. 2020 also shows some problems in communication between health centers and referral system.[35]

Another challenge extracted in this study was the lack of electronic infrastructure and integration and interoperability of information systems, such as lack of intersectorial communication and interaction in the field due to inappropriate design of an integrated health information system, namely the SIB system. In other words, this issue can be found in the separation of preventive and the treatment sectors. As was reported in study by Damari 2015, which is similar to the findings of this study, it pointed out that the electronic health record does not coincide with the activities of the medical record system.[29] In a study by Bastani *et al*. in 2016 it was reported that only 9% of university health-care centers around the country use Internet-based scheduling systems which is similar to findings of this study.[36]

The last theme of the challenges of implantation of the health reform plan is inefficient resource management in suburban areas. Lack of financial, human, and physical resources on the one hand and unfair allocation of these scarce resources on the other hand pose serious problems for the provision of health services and affect the quality of services. In a study by Shaarbafchizadeh *et al*., it was reported that lack of human resources and moderation of these resources along with and due to shortage of financial resources are the important challenges of health reform plan in Iran.[35] Providing sufficient and on-time resources to implement the project is a necessity and should be provided through sustainable resources as far as possible. In the study of Abedi *et al*., which is in line with the findings of this study, identified the lack of credits as one of the challenging factors of these sources. One of the major weaknesses of the health reform plan in the area of health is the weakness of financial management in resource allocation, lack of budget allocation, budget deficit, lack of proper credit ceiling, inadequate prioritization of resource allocation, and lack of proper forecasting in resource allocation.[31]

The other important challenges regarding resources management were fringe benefit payment and staff salaries. In a study by AbuAlRub *et al*., which is in line with the findings of this study, it has been shown that better income is one of the main causes of adequate and equitable physician distribution in urban and rural areas. The findings also suggest that financial problems and low incomes are a cause of insufficient physicians' presence in suburban areas.[37]

What is certain is that the implementation of the health reform plan to rectify the chaotic situation of the health sector in cities by 2011 has been a pressing need; although it has been affected by health policy indicators at the outset but due to lack of proper management of resources over time led to chaotic situation .

It seems that for the full realization of the process of reform plan in Iranian health system, it is recommended that the findings of the present study, including the allocation of sufficient and on-time resources, the reform of the fringe benefit and payroll process, the improvement of the quality of services provided, the reform of the referral process and the formulation of instruction guidelines should be considered for the improvement of the reform plan implementation process.

Based on the provincial needs, monitoring of electronic health systems and satisfaction of service providers and recipients with regard to the objectives of phase II of the health system reform plan on the outskirts of the city is essential. Using and considering the findings of the present study can help policymakers and health managers to reduce deficiencies in designing new policy documents. Furthermore, the authors suggest that the policymakers should research more about needs of people in suburban areas and then decide about the variety and the amount

of the services. In addition, there is a need for research in the field of social issues and estimation of financial, human, and physical resources to provide health services in suburban areas in every province in Iran.

There are some limitations because it was performed with a limited number of participants and the results were restricted to a certain geographical region (suburban areas in Isfahan). Furthermore, the results may be useful and applicable only for other provinces of Iran and some underdeveloped and developing countries with a similar context of health.

Conclusion

Given the living conditions in suburban areas, it is very important to pay attention to the health and well-being of the people of these areas. According to the findings of this study, the implementation of the health-care reform plan and participation of the private sector has enable the health system to provide the health services needed by the community, especially in the field of noncommunicable diseases, and also increase access to health services in order to achieve universal health coverage in suburban areas.

Despite the achievements in the implementation of this plan, there are still challenges in the development of executive processes, especially the referral system, monitoring and supervision, lack of electronic services infrastructure and shortcomings in the design of the SIB system, inadequate standards and instructions, differences in salaries and benefits, reduced efficiency with mismanagement of human resources, as well as instability of financial resources and inappropriate allocation that need to be reviewed and corrected by health system's top managers and policymakers.

Conflicts of interest
There are no conflicts of interest.

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