



# Three Decades of Healthcare System Reform in Iran from the Perspective of Universal Health Coverage: A Macro-Qualitative Study

Hamid Reza Khankeh<sup>1,2</sup>, PhD;  Kamran Bagheri Lankarani<sup>3</sup>, MD; Nooshin Zarei<sup>4</sup>, MA; Hassan Joulaei<sup>3</sup>, PhD 

<sup>1</sup>Department of Clinical Science and Education, Karolinska Institute, Stockholm, Sweden;

<sup>2</sup>Emergency and Disaster Research Center, University of Social Welfare and Rehabilitation Sciences (USWR), Tehran, Iran;

<sup>3</sup>Health Policy Research Center, Institute of Health, Shiraz University of Medical Sciences, Shiraz, Iran;

<sup>4</sup>Shiraz HIV/AIDS Research Center, Institute of Health, Shiraz University of Medical Sciences, Shiraz, Iran

## Correspondence:

Hassan Joulaei, PhD;  
Health Policy Research Centre, 8th Floor, Building No 2, School of Medicine, Zand Blvd., Postal code: 45794-71348, Shiraz, Iran

**Tel:** +98 9177121762

**Fax:** +98 71 32309615

**Email:** joulaei\_h@yahoo.com

Received: 02 November 2019

Revised: 25 February 2020

Accepted: 07 March 2020

## What's Known

- During the past decades, the healthcare system in Iran has undergone several reforms to achieve the objectives of universal health coverage.
- Despite the significant results achieved through some reforms, there are still concerns about equitable care, financial support, efficiency, and fragmentation of the healthcare system.

## What's New

- Strategies for successful implementation of reforms to achieve universal health coverage in Iran are described.
- Key findings are the recognition and management of situational factors and the use of a comprehensive long-term plan that focuses on primary health care and promotes integrity, quality, and equitable care.

## Abstract

**Background:** The healthcare system in Iran has undergone several reforms to achieve the objectives of universal health coverage (UHC). Some reforms have delivered positive benefits, however, still many challenges remain. Hence, the current study assessed the progress and outcomes of these reforms over the past three decades.

**Methods:** The present nationwide macro-qualitative study was conducted in Iran during 2016-2017. Data were collected through 32 in-depth interviews with 30 high-ranking policymakers and healthcare providers at the national and provincial levels to identify their experiences and perceptions of the reforms. The data were analyzed using the constant comparative analysis method.

**Results:** Analysis of the interview data resulted in two main themes, six categories, and 18 sub-categories. The extracted themes were adverse situational context and the chaotic healthcare system. The results showed that the Iranian healthcare system reforms could be characterized as incoherent and passive, and that these were the main reasons for not achieving the objectives of UHC reforms. It was revealed that the implemented reforms lacked a comprehensive approach and at times were counterproductive. Moreover, the situational context adversely hindered the successful implementation of the reforms.

**Conclusion:** Despite many efforts to improve the Iranian healthcare system through reforms, the situational context and organizational factors have prevented achieving the main objectives. Iran's health policymakers should consider a phased implementation of small-scale reforms based on a comprehensive master plan that takes social, political, and economic factors into account. This approach would minimize potential risks and encourages the cooperation of the main stakeholders.

Please cite this article as: Khankeh HR, Bagheri Lankarani K, Zarei N, Joulaei H. Three Decades of Healthcare System Reform in Iran from the Perspective of Universal Health Coverage: A Macro-Qualitative Study. *Iran J Med Sci*. 2021;46(3):198-206. doi: 10.30476/ijms.2020.84023.1342.

**Keywords** • Delivery of health care • Interview • Qualitative research • Iran

## Introduction

The healthcare sector continuously undergoes reform to promote equitable care and deliver effective and high-quality services. The implementation of health sector reforms (HSR) during the 80's and the 90's, mainly focused on the cost-effectiveness of services by separating the health financial system from the provision of health

care. However, after the introduction of universal health coverage (UHC), healthcare reforms focused on achieving UHC through financial support, enhanced coverage, and the provision of community-based health care services.<sup>1</sup> Iran was no exception and presented its own unique healthcare system in the late 80's. This well-designed system was initially introduced in rural areas and then expanded to urban areas. This endeavor greatly benefited Iranians, especially those in remote and deprived areas.<sup>2</sup> However, the benefits did not penetrate all levels of the healthcare system and were confined to primary health care without effective interaction with other levels of the system.<sup>3</sup> In 2004, the system was extended by introducing the family physician program to improve access to palliative and outpatient care. This program was part of the national health insurance coverage and was expeditiously rolled out in rural areas and small cities. However, its efficiency in preventive and promotive health care services is still being debated.<sup>4</sup> It has been argued that the program did not follow a comprehensive model for its implementation and integration into the existing system, and thus it did not expand beyond the pilot sites.

During 2008, two simultaneous events with major economic consequences occurred in Iran. First, the government introduced economic reforms (so-called Targeted Subsidy Plan), and second, Iran was subjected to comprehensive and targeted economic sanctions by the United States. Both events had an indirect negative impact on Iran's healthcare system, resulting in increased health care costs and reduced availability and affordability of medicines and medical equipment.<sup>5, 6</sup> Consequently, the performance of Iranian hospitals decreased and public satisfaction with the healthcare system dropped. In response to this pressing situation, in 2013, the new government led by President Rouhani initiated the implementation of a costly Health Sector Evolution Plan (HSEP) targeting public hospitals. The main objective was to reduce health care costs for patients, restructure hospital organizations, improve the quality of services, and provide equitable access to inpatient care. The HSEP reform shifted the out-of-pocket payments (OOP) for health expenditure from the inpatient to the outpatient sector.<sup>7</sup> Preliminary studies have shown the positive effects of this reform on patient satisfaction, promoting inpatient services, and improving the quality of hoteling services in public hospitals.<sup>8, 9</sup> Nevertheless, the sustainability and long-term outcomes of the plan are still under discussion.<sup>10</sup>

Iranians continue to suffer from inequities

in health expenditure and accessibility to health care between the rich and poor as well as between rural and urban areas.<sup>11, 12</sup> In this regard, the disparity between marginalized populations and other socio-economic classes is significant.<sup>13</sup> Another indicator of inequity is the high level of OOP expenditure, which is reported to be 50%.<sup>14</sup> Furthermore, the healthcare system in Iran is severely fragmented and each segment plans, designs, and functions autonomously or at best with minimal coordination between different segments.<sup>15</sup>

Evidently, the healthcare reforms did not achieve the objectives as set out in the UHC. To the best of our knowledge, information on the implementation process, outcomes, and influencing factors on these reforms are scarce. Based on the grounded theory, the present macro-qualitative study was designed to clarify how these reforms were developed, identify challenges, and assess the extent to which the outcomes were in line with the UHC objectives. The study was performed at the national level to develop a model for the implemented HSR in Iran over the past three decades based on its process and outcomes.

## Participants and Methods

The present nationwide macro-qualitative study was conducted in Iran during 2016-2017. The target population was Iranian health policymakers at the national level and those who had the first-hand experience with the HSR. The purposive and snowball sampling methods were used to recruit the participants, and the sampling was continued until data saturation (i.e., no new substantive code or new category was acquired). Initially, the primary and open sampling methods were used to recruit participants with maximum diversity. Then, the theoretical sampling was applied by interviewing experienced individuals, who could help the research team to extract themes, categories, and sub-categories. The inclusion criteria were practical experience with HSR and willingness to participate.

### *Ethical Considerations*

The study was approved by the Ethics Committee of Shiraz University of Medical Sciences (Shiraz, Iran) in 2016 with approval number IR.SUMS.REC.1393.S7386. Prior to the interviews, the participants were informed about the study purpose, and the confidentiality of any disclosed information (including the audio recordings) was guaranteed. The participants were permitted to withdraw from the study for

any reason and at any time. Verbal consent was obtained from all the participants.

#### Data Collection

The data were collected through 30 individual in-depth, semi-structured interviews over 13 months. Two interviews had to be repeated for further clarification, bringing the total number to 32 interviews. Each interview lasted about 45 minutes and was held at the participants' workplace. The demographic information of the participants is presented in table 1.

In support of the data analysis process, each interview was recorded using a standard voice recorder and transcribed literatim. In addition, field notes were taken during the interviews. All interviews were conducted by H.J, who had many years of extensive experience with the Iranian healthcare system. To conduct the interviews efficiently, the interviewee followed dedicated courses on qualitative research, data collection, and analysis. To eliminate potential bias, all members of the research team were involved in the process of data interpretation and analysis.

The interviews started with general open-ended questions formulated by the research team during a focus group discussion. Typical examples were "What is your practical experience with the reforms?" and "What were the determinant(s) and/or objective(s) for the reforms?" In line with the process of the theoretical sampling method, probing questions followed to extract more clear

and detailed information.

#### Data Analysis

The data were analyzed using the constant comparative analysis in accordance with the process described by Corbin and Strauss, namely open coding, axial coding, and selective coding.<sup>16</sup> Data coding was performed manually by two members of the research team, since they believed data immersion was necessary for an in-depth analysis. In the present study, the content analysis method was used through the conceptual ordering and open coding. During the open coding phase, the research team used a shared coding scheme and *in vivo*, and sometimes *in vitro* coding from the transcriptions was conducted sentence by sentence. To verify the codes, the data were sent to the participants for feedback, and their comments and corrections were implemented by the research team. In addition, the research team continually reviewed the interview process and extracted codes for better management of the analysis and to clarify future actions. Finally, the codes were classified in terms of similarities and differences to define sub-categories, which were then reviewed, compared, and grouped to determine categories and themes.

#### Rigor

The trustworthiness of the data was assessed using the four criteria proposed

**Table 1:** Demographic information of the participants

Variable		N (%)
Age (year)	40-49	9 (30.00)
	50-60	12 (40.00)
	>60	9 (30.00)
Years of experience	5-14	6 (20.00)
	15-30	16 (53.33)
	>30	8 (26.67)
Education level	Master of Science	1 (3.33)
	Doctor of Philosophy	9 (30.00)
	Medical Doctor	1 (3.33)
	Sub-specialist	19 (63.34)
Professional position	Deputy Minister	3 (10.00)
	Ministerial advisor	2 (6.66)
	Chief expert of the Ministry of Health	3 (10.00)
	Member of Parliament	3 (10.00)
	Chief executive of a health insurance company	1 (3.33)
	Chief expert of the Management and Planning Organization of Iran	2 (6.67)
	Former minister	2 (6.67)
	Former deputy minister	3 (10.00)
	University academic member	2 (6.67)
	University chancellor	2 (6.67)
	Hospital manager	3 (10.00)
	Member of the Medical Council	3 (10.00)
	University vice-chancellor for health affairs	1 (3.33)

by Guba and Lincoln, namely credibility, confirmability, transferability, and dependability.<sup>17</sup> The credibility criterion was fulfilled through methodological triangulation by using different types of data sources, in-depth interviews, focus group discussions, and official documents. Additionally, credibility was addressed through semi-structured interviews, field notes, and extensive engagement with the subject matter along with ongoing peer debriefing as well as expert/member checking to strengthen credibility. Confirmability of the data was ensured by the lead researcher, who conducted thorough reviews to gather ideas and concepts from other research teams, and who also kept records of the relevant study documents. Several researchers familiar with the healthcare system and qualitative research performed an audit trail. The transferability of the data was ensured by providing a comprehensive description of the subject, characteristics of the participants, data gathering, and data analysis. Moreover, the use of purposive and theoretical sampling methods enhanced transferability. Dependability was fulfilled through in-depth discussions with experts and a review by the participants and other researchers.

**Results**

A total of 30 well-experienced, high-ranking individuals participated in the study. The participants were recruited with maximum diversity in terms of age, years of experience, education level, and professional position. Analysis of the interview data resulted in two themes, six categories, and 18 sub-categories. The themes were "Adverse situational context" and "Chaotic healthcare system". The results led

us to conclude that HSR in Iran was incoherent and passive, which caused the failure to achieve the objectives of UHC (figure 1).

*Adverse Situational Context*

The intricate social, political, and economic factors proved to be the main obstacles to the effective implementation of the reforms. Analysis of the data showed that the economic crisis, low levels of public satisfaction, and political instability adversely affected the healthcare system in Iran, particularly in the case of recent reforms.

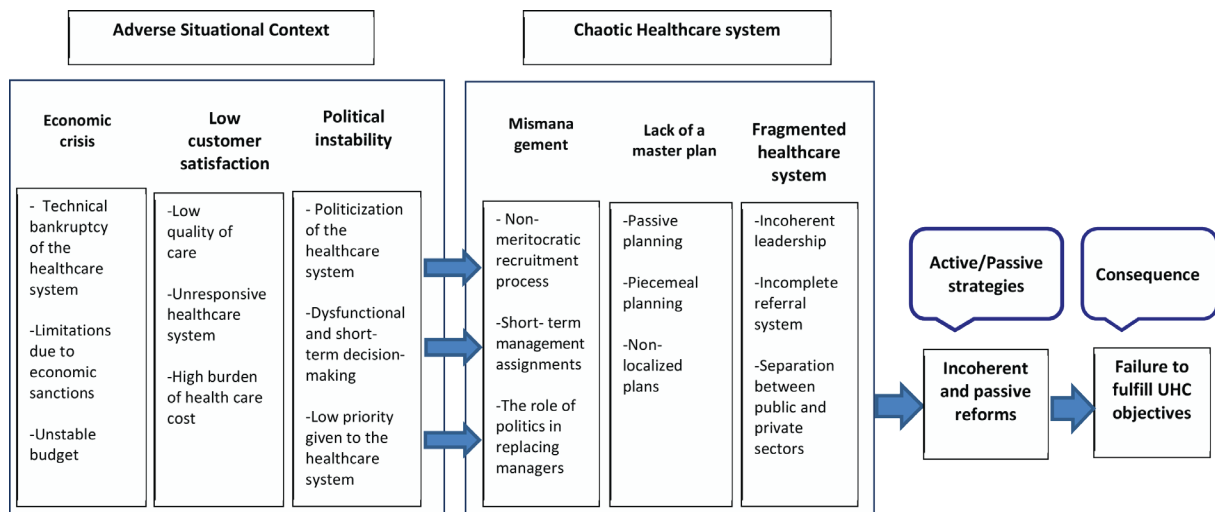
*Economic Crisis*

The participants believed that partial implementation of the targeted subsidy plan combined with US economic sanctions adversely affected budget stability and deepened the financial crisis, which led to the technical bankruptcy of the Iranian healthcare system. As a direct result, health care costs rapidly increased over a short period of time and most patients could no longer afford medications or fully access medical equipment. Three participants stated:

*"Before introducing HSEP, the budget was already insufficient to cover the costs of healthcare providers."* [Hospital manager]

*"The healthcare system faced a financial crisis because of the US economic sanctions and the introduction of the targeted subsidy plan. As a direct result, the priorities defined before the crisis were ignored."* [Chief expert of the Ministry of Health (1)]

*"They started HSEP in the inpatient sector, which is inherently more expensive, which resulted in higher medical tariffs in the public sector. The unpredictability of the financial*



**Figure 1:** The figure shows the extracted themes, categories, and sub-categories from the interview data based on the grounded theory.



*resources will inevitably lead to budget deficits and therefore this plan is not sustainable.*" [Member of Parliament (1)]

#### *Low Customer Satisfaction*

Customer satisfaction in the healthcare sector was already low before the implementation of the HSEP reforms. However, the participants thought that the dissatisfaction is temporary and the public would be satisfied with the inpatient care after the HSEP. The participants stated that the low quality of care, the unresponsive healthcare system, and the high burden of health care costs have exacerbated the dissatisfaction. In addition, limited resources of hospitals and health centers have resulted in a shortage of medicines, medical instruments, and consumables, which meant that patients or their caregivers had to purchase these themselves prior to receiving the required care. Three participants stated:

*"The hospitals are not able to improve the quality of medical and non-medical care. In the long run, this problem would reduce public satisfaction."* [Chief expert of the Management and Planning Organization of Iran]

*"The healthcare sector was about to collapse. The community would not tolerate that situation any longer. They had to buy medical equipment and medicine themselves while it was the hospital's responsibility."* [University chancellor (1)]

*"Out-of-pocket payments (OOP) are still high and it has financial consequences for the patients. For every 1 percent reduction in OOP, we need 790 billion IRR."* [Ministerial advisor (1)]

#### *Political Instability*

The strong politicization of the healthcare system has made the decision-making process very difficult. According to the participants, in such a politicized environment, no one can make a long-term decision or plan far ahead. They also stated that the chaos was partly because many politicians impose their political tendencies and non-technical demands on the healthcare system. In addition, the participants believed that health care has never been the priority of any government unless they were forced to act because of a major health issue or social unrest. Three participants stated:

*"Most reforms have had a political purpose and served only to strengthen political power and achieve public support. They do not support a well-thought-out plan and advice from medical experts."* [Hospital manager]

*"When a new political party comes to power, it will replace the previous leadership team and sets new priorities. That is how the family*

*physician program was suppressed."* [Former deputy minister (1)]

*"As far as I know, the healthcare sector was not a priority of previous governments and it has long been neglected."* [Chief expert of the Ministry of Health (1)]

#### *Chaotic Healthcare System*

The internal factors that adversely affected the Iranian healthcare system were mismanagement, lack of a master plan, and a highly fragmented organization. The participants claimed that the chaos caused by these internal factors has negatively influenced the external factors surrounding the healthcare system.

#### *Mismanagement of the Healthcare System*

The analysis of interview data showed that mismanagement of the Iranian healthcare system was primarily due to a non-meritocratic recruitment process, short-term management assignments, and the role of politics in replacing managers. The participants were of the opinion that during the recruitment process no clear line was drawn between the political tendencies of managers and their professional merits. They believed that, in many cases, managers were recruited solely because of their political tendencies and regardless of their management and technical qualities. Three participants stated:

*"Usually individuals appointed as Minister of Health are not familiar with the healthcare system and its overall policies. They are mainly clinicians, who have been offered the ministerial position and forced to learn the job on a trial and error basis."* [Former Minister]

*"When new managers enter a workplace, it takes them some time to adjust. But, as soon as they get to know their way around the new environment and have mastered the job, their term as manager ends."* [University vice-chancellor for health affairs]

*"When a new political party comes to power, the previous management team is replaced with a new team and all past policies are overruled."* [Former deputy minister (2)]

#### *Lack of a Master Plan*

Another category of the chaotic healthcare system was the lack of a master plan. According to the participants, the Iranian healthcare system faces three major problems. First is passive planning, meaning that action by policymakers or managers is usually taken after a problem has occurred, which in turn negatively affects the performance of the healthcare system and lessened customer satisfaction. The second issue is piecemeal planning that is inconsistent or even

counterproductive. The third is the implementation of national plans based on the proposal by international agencies or the experiences of other countries without any localization of the plan. The participants believed that these externally driven plans have often been a mismatch with the other programs or were incompatible with some elements of the healthcare system, leading to a waste of workforce and resources. Three participants stated:

*"There are two types of planning, active and passive. We are often forced to formulate an action plan to combat health problems after they have occurred."* [University chancellor]

*"The reform implemented in our healthcare system has lacked a master plan for too long to achieve comprehensive reform."* [Former deputy minister (2)]

*"The majority of the implemented reforms in our healthcare system have been proposed from outside the country without any localization. A typical example is the privatization and hospital autonomy plan, which was initially proposed by the World Bank and blindly implemented by the Ministry of Health."* [Chief expert of the Ministry of Health (2)]

#### *Fragmented Healthcare System*

The sub-categories associated with the fragmented healthcare system were incoherent leadership, an incomplete referral system, and a clear divide between the public and private sectors. The participants frequently emphasized on the lack of effective cooperation between the public and private sectors as the main obstacle to the successful implementation of the reforms. They believed that improper implementation of primary health care, conflict of interest, and inadequacies in the registration system hindered the referral system and in turn, contributed to the fragmentation of the healthcare system. Three participants stated:

*"We started with reforming public hospitals since we do not have any authority over the private sector."* [Ministerial advisor (2)]

*"HSEP will be discontinued due to excessive health care costs if it is not accompanied by a referral system."* [Chief expert of the Management and Planning Organization of Iran (2)]

*"To implement the family physician program, we needed a coordinated policy across all sectors. However, health insurance companies follow their own policies and programs."* [Chief expert of the Ministry of Health (2)]

## Discussion

For the first time, the present macro-qualitative

study investigated the determinants and outcomes of three decades of HSR in Iran. The participants were intentionally selected among healthcare policymakers with the first-hand experience with the reforms. The participants indicated that despite some short-term successes, all healthcare reforms in Iran have so far been fragmented and incomplete. Analysis of the interview data resulted in two themes, namely "Chaotic healthcare system" and "Adverse situational context". These results led us to identify the root cause of failures of the reforms over the last three decades.

An important determinant affecting HSR in Iran has been a chaotic healthcare system. Inherently, any healthcare system is complex both in structure and process. On the one hand, it is influenced by socio-economic factors, and on the other hand, it must meet technical requirements such as service quality, efficiency, and responsiveness.<sup>18, 19</sup> A previous study on the UHC-directed reforms over the past two decades demonstrated the importance of social, political, and economic factors in the success of reforms.<sup>20</sup> In line with the findings of a previous study,<sup>3</sup> and as confirmed by our participants, the decision in 1985 to merge the Medical Education system with the Ministry of Health, and thereby creating the Ministry of Health and Medical Education has complicated the Iranian healthcare system. In this context, reform of the healthcare system is a complex process, which requires sound evidence and analysis, clear vision and values, and a comprehensive policy package.<sup>21-23</sup>

In line with previous studies, we found that mismanagement of the Iranian healthcare system was caused by non-meritocratic recruitment processes, management incompetence, inefficient education system, and autonomous decision-making processes.<sup>24, 25</sup> Therefore, it should not come as a surprise that a culture of discontinuity of formulated policies, fragmented planning, and lack of commitment to strategic and long-term plans is observed. Several macro policies for the Iranian healthcare system have been suggested, such as the Short-term National Development Plan or the Mega Health Charter 2013 proposed by the Supreme Leader of Iran. As stated by our participants, these plans were intended to establish a general framework and identify general values rather than an unambiguous, integrated, and comprehensive master plan. It was interesting to note that the participants believed that the majority of the recent health care policies were contrary to the general framework of those plans. For instance, the plans emphasized on the nationwide

deployment of the family physician program, while the prime priority of the Ministry of Health was the autonomy of public hospitals.<sup>26</sup>

Due to mismanagement and lack of a master plan, the HSR plan was negatively affected by the formation of single-sector plans, which were at times contradictory.<sup>27</sup> The participants also emphasized that in order to implement a successful reform, all managers in the healthcare system must be committed to a master plan, regardless of their political orientation. Regrettably, this is not the case in the current healthcare system in Iran. For example, the pilot phase and the subsequent expansion of the National Health Network system in the 1980s was initiated as a result of dedication and competence of the managers at the time, as well as the existence of a comprehensive master plan that mainly focused on primary health care and excluded other levels of the system. Unfortunately, the plan was not supported by the healthcare sector and still remains in a premature state despite its excellent achievements in the preventive health care programs.<sup>3</sup>

In line with other studies, fragmentation of the Iranian healthcare system was another concept identified by participants as a major challenge for any reform.<sup>26</sup> Uncontrolled expansion of the private sector, the absence of systematic interaction with the public sector, fragmented health insurance systems, incoherent health information system, but more importantly, incoherent leadership and the absence of universal protocols and guidelines to provide a comprehensive referral system hindered the healthcare system in Iran.<sup>3, 11, 12</sup> The most efficient strategy to address fragmentation in planning and services is to include coherent leadership, integrated health services, and a meaningful referral system through universal protocols and guidelines. However, in line with a previous study,<sup>26</sup> the participants stated that conflict of interest between the involved parties was the main obstacle for the creation of such a referral system.

According to the participants, the other determining factor that had influenced HSR in Iran was economic instability. While this situation also occurred in other countries, the simultaneous introduction of the Targeted Subsidy Plan and the imposition of economic sanctions by the United States caused unsustainable financial resources and thereby adversely affected the success of all reforms. For example, the 2010 National Economic Reform (elimination of governmental subsidy for energy and essential goods) combined with two rounds of US economic sanctions caused high

inflation rates in the healthcare sector, leading to an increase in the total cost of health care and a decrease in equity.<sup>26</sup>

In response to the above conditions, healthcare policymakers only took interim action without an all-inclusive long-term plan. This resulted in an intensification of the long-term chaotic situation of the healthcare system, even though it had positive short-term results. For example, HTP was implemented in 2013 while OOP and catastrophic health expenditure (CHE) were about 55% and 5.75%, respectively. Its primary goal was to improve financial support for people requiring health care against OOP and CHE, and ultimately provide UHC.<sup>14</sup> It has been observed that inpatient services, CHE, and OOP have reduced after the implementation of HTP. However, it failed to achieve the objectives (UHC and reducing inequity) due to unsustainable financial resources, overutilization, delay in payment to healthcare providers, and lack of coordination between different insurance systems.<sup>26</sup> A previous study reported that the mean patients' payment had significantly increased over a single year, e.g., for medication, it was reported at 18.17±7.60 (October 2013) versus 32.52±109.84 (October 2014).<sup>28</sup> According to the participants, mismanagement, the lack of a master plan, initial focus on inpatient services instead of primary health care, and ignoring the situational context were additional flaws of HTP reform.

We conducted the first nationwide qualitative study that examined the process and outcomes of healthcare reforms in Iran. Involvement of senior policymakers was the main strength of the study. However, the main limitation was the difficulty in accessing some eligible key figures, and the short time they could offer for the interviews. This was despite our effort to hold the interviews at their convenient time and place. In certain cases, a replacement for the intended participant was arranged.

## Conclusion

Despite many efforts to improve the Iranian healthcare system through reforms, the situational context and organizational factors have prevented achieving the main objectives. To achieve UHC, Iranian policymakers should consider the three key findings of the present study. First, managing the adverse effects of social, political, and economic factors on the process and outcome of the proposed reform. Second, it is recommended to implement small-scale rather than major reforms to reduce costs and the risk of failure. The reforms should be

targeted, sustainable, and implemented in multiple phases. The cornerstone of such reforms should promote integrity, quality, and equitable care. Third, establishing efficient primary health care is the most important strategy toward an equitable healthcare system and ultimately UHC. Iran already has the necessary infrastructure, which should serve as the basis for any improvement. In addition, it is recommended to establish a merit-based health management system as the main driver for reforms.

### Acknowledgment

The authors would like to thank the Vice-Chancellor for Research Affairs of Shiraz University of Medical Sciences for financial support (grant number: 7386). We also wish to express our gratitude to all participants for their time and effort.

**Conflict of Interest:** None declared.

### References

- World Health Organization. The world health report: health systems financing: the path to universal coverage. 2010. [cited 2019 April 20]. Available from: <https://apps.who.int/medicinedocs/en/m/abstract/Js20169en/>
- Joulaei H, Lankarani KB, Shahbazi M. Iranian and American health professionals working together to address health disparities in Mississippi Delta based on Iran's Health House model. *Arch Iran Med*. 2012;15:378-80. PubMed PMID: 22642250.
- Heshmati B, Joulaei H. Iran's health-care system in transition. *Lancet*. 2016;387:29-30. doi: 10.1016/S0140-6736(15)01297-0. PubMed PMID: 26766344.
- Hatam N, Joulaei H, Kazemifar Y, Askarian M. Cost efficiency of the family physician plan in fars province, southern iran. *Iran J Med Sci*. 2012;37:253-9. PubMed PMID: 23390331; PubMed Central PMCID: PMC4441970.
- Doshmangir L, Doshmangir P, Abolhassani N, Moshiri E, Jafari M. Effects of Targeted Subsidies Policy on Health Behavior in Iranian Households: A Qualitative Study. *Iran J Public Health*. 2015;44:570-9. PubMed PMID: 26056676; PubMed Central PMCID: PMC4441970.
- Massoumi RL, Koduri S. Adverse effects of political sanctions on the health care system in Iran. *J Glob Health*. 2015;5:020302. doi: 10.7189/jogh.05-020302. PubMed PMID: 26207178; PubMed Central PMCID: PMC4512265.
- Lankarani KB, Ghahramani S, Zakeri M, Joulaei H. Lessons learned from national health accounts in Iran: highlighted evidence for policymakers. *Shiraz E-Medical Journal*. 2015;16:e27868. doi: 10.17795/semj27868.
- Khayeri F, Goodarzi L, Meshkini A, Khaki E. Evaluation of the national health care reform program from the perspective of experts. *Journal of Client-Centered Nursing Care*. 2015;1:37-46. doi: 10.32598/jccnc.1.1.37.
- Moradi G, Piroozi B, Safari H, Nasab NE, Bolbanabad AM, Yari A. Assessment of the efficiency of hospitals before and after the implementation of health sector evolution plan in Iran based on Pabon Lasso model. *Iran J Public Health*. 2017;46:389.
- Moradi-Lakeh M, Vosoogh-Moghaddam A. Health Sector Evolution Plan in Iran; Equity and Sustainability Concerns. *Int J Health Policy Manag*. 2015;4:637-40. doi: 10.15171/ijhpm.2015.160. PubMed PMID: 26673172; PubMed Central PMCID: PMC4594102.
- Rezapour A, Ebadifard Azar F, Azami Aghdash S, Tanoomand A, Ahmadzadeh N, Sarabi Asiabar A. Inequity in household's capacity to pay and health payments in Tehran-Iran-2013. *Med J Islam Repub Iran*. 2015;29:245. PubMed PMID: 26793636; PubMed Central PMCID: PMC4715421.
- Mohammadbeigi A, Hassanzadeh J, Eshrati B, Rezaianzadeh A. Socioeconomic inequity in health care utilization, Iran. *J Epidemiol Glob Health*. 2013;3:139-46. doi: 10.1016/j.jegh.2013.03.006. PubMed PMID: 23932056; PubMed Central PMCID: PMC7320370.
- Joulaei H, Bhuiyan AR, Sayadi M, Morady F, Afsar Kazerooni P. Slums' access to and coverage of primary health care services: a cross-sectional study in shiraz, a metropolis in southern iran. *Iran J Med Sci*. 2014;39:184-90. PubMed PMID: 24753641; PubMed Central PMCID: PMC3993042.
- Homaie Rad E, Yazdi-Feyzabad V, Yousefzadeh-Chabok S, Afkar A, Naghibzadeh A. Pros and cons of the health transformation program in Iran: evidence from financial outcomes at the household level. *Epidemiol Health*. 2017;39:e2017029. doi: 10.4178/epih.e2017029. PubMed PMID: 28728347; PubMed Central PMCID: PMC5675984.
- Bazyar M, Rashidian A, Alipouri Sakha M, Vaez Mahdavi MR, Doshmangir L. Combining health insurance funds in a fragmented context: what kind of challenges should be considered? *BMC Health Serv Res*. 2020;20:26. doi: 10.1186/s12913-019-4858-7. PubMed



- PMID: 31915003; PubMed Central PMCID: PMC6950996.
- 16 Corbin JM, Strauss A. Grounded theory research: Procedures, canons, and evaluative criteria. *Zeitschrift für Soziologie*. 1990;19:418-27. doi: 10.1515/zfsoz-1990-0602.
  - 17 Guba EG. Criteria for assessing the trustworthiness of naturalistic inquiries. *Ectj*. 1981;29:75-91.
  - 18 Senkubuge F, Modisenyane M, Bishaw T. Strengthening health systems by health sector reforms. *Glob Health Action*. 2014;7:23568. doi: 10.3402/gha.v7.23568. PubMed PMID: 24560261; PubMed Central PMCID: PMC6951248.
  - 19 Berman P, Bitran R. Health systems analysis for better health system strengthening. [cited 2019 May 8]. Available from: <http://documents.worldbank.org/curated/en/472131468331150352/pdf/659270WP0Healt00Box365730B00PUBLIC0.pdf>
  - 20 Lankaran KB, Khankeh HR, Zarei N, Fararouei M, Saboori Z, Joulaei H. Toward equity under health system reform; a systematic review. *Shiraz E-Medical Journal*. 2017;18. doi: 10.5812/semj.57724.
  - 21 Nunez A, Chi C. Equity in health care utilization in Chile. *Int J Equity Health*. 2013;12:58. doi: 10.1186/1475-9276-12-58. PubMed PMID: 23937894; PubMed Central PMCID: PMC6953849882.
  - 22 Zhou XD, Li L, Hesketh T. Health system reform in rural China: voices of health-workers and service-users. *Soc Sci Med*. 2014;117:134-41. doi: 10.1016/j.socscimed.2014.07.040. PubMed PMID: 25063969.
  - 23 Lagomarsino G, Garabrant A, Adyas A, Muga R, Otoo N. Moving towards universal health coverage: health insurance reforms in nine developing countries in Africa and Asia. *Lancet*. 2012;380:933-43. doi: 10.1016/S0140-6736(12)61147-7. PubMed PMID: 22959390.
  - 24 Lankarani KB, Alinejad ZM, Mooghali A, Joulaei H, Akbari M, Heshmati B. An analytical study of health system managers' decision-making models. *Shiraz E-Medical Journal*. 2015;16. doi: 10.17795/semj31330.
  - 25 Daneshkohan A, Baratimarnani A, Zohoor A, Ebadi FAF. Comparative study of health system management development assessment models in selected countries. *Health Information Management*. 2011;8. Persian.
  - 26 Doshmangir L, Bazayr M, Majdzadeh R, Takian A. So Near, So Far: Four Decades of Health Policy Reforms in Iran, Achievements and Challenges. *Arch Iran Med*. 2019;22:592-605. PubMed PMID: 31679362.
  - 27 Vosoogh Moghaddam A, Damari B, Alikhani S, Salarianzedeh M, Rostamigooran N, Delavari A, et al. Health in the 5th 5-years Development Plan of Iran: Main Challenges, General Policies and Strategies. *Iran J Public Health*. 2013;42:42-9. PubMed PMID: 23865015; PubMed Central PMCID: PMC6953712611.
  - 28 Bagheri Lankarani K, Ghahramani S, Honarvar B. A Study on Hospitalized Patients' Payment in South of Iran after the First Round of Health Sector Reform. *Iran J Public Health*. 2017;46:276-7. PubMed PMID: 28451570; PubMed Central PMCID: PMC695402793.