

Actors in conflict of interest in Iran's health system: Ranking and policy recommendations for conflict of interest management

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Abstract

We conducted this study to rank conflict of interest (COI) actors in Iran's health system. Based on a review of relevant literature, we extracted a list of 27 actors within seven categories who play roles in the COI in the health system. We considered three criteria for ranking the actors: the actor's interest, power, and authority concerning COI. Each actor scored one to five on the Likert scale in every criteria. Using descriptive statistics, each actor's mean and standard deviation of its scores were calculated in these three indicators. The actors were ranked using the fuzzy TOPSIS method. The results showed the leading players in abusing the COI in the health system of Iran are the "Food and Drug Organization" and the "Parliament." The role and capacity of civil society and nongovernmental organizations as essential arms of oversight and transparency should not be overlooked. The government needs to enhance its efforts, we envisage, to utilize the capability of these actors by opening a dialog with them and providing the necessary training for COI.

KEYWORDS

conflict of interest, fuzzy TOPSIS, health system, policy actors, Iran

Key points

- The Food and Drug Organization and the Parliament are the leading players in conflict of interest (COI) management in the Iranian health system.
- As the central legislative body in the country, the Parliament might have the most significant effect on

COI management through appropriate and transparent law-making.

- It is necessary to consider mechanisms for selecting people with the least COI in policy and decision-making positions.
- The government needs to foster its efforts to make the best use of the energy and capability of civil society to manage COI.

BACKGROUND

Successful implementation of any policy hinges on good insight and knowledge about stakeholders. Accurate knowledge about the interests, political orientations, methods of influence, and power of each actor will enable the policymakers to develop meaningful and relevant policies (Brugha & Varvasovszky, 2000). Stakeholder analysis provides one or a set of tools for project policy-making, management and implementation processes (Varvasovszky & Brugha, 2000). In general, policymakers may use the results of stakeholder analysis to prevent potential conflicts, maintain fairness in interests, and avoid paying too much attention to a particular group, while overlooking others (Prell et al., 2009).

There are different definitions of stakeholder analysis. In one definition, stakeholder analysis is a process that first defines aspects of the phenomenon that influence individual decisions directly. The next step identifies individuals or organizations that affect or are affected by the phenomenon and prioritizes them, aiming to identify the main actors involved in decision-making (Reed et al., 2009).

On the other hand, stakeholder analysis is a process that aims to collect and systematically analyze qualitative information. The primary purpose of collecting this information is to determine the actors' interests when developing or implementing the policy (Schmeer, 1999). Others consider eight steps for the stakeholder analysis: (1) Planning for the stakeholder analysis process, (2) selecting and defining an appropriate policy, (3) identifying key stakeholders, (4) implementing data collection tools, (5) collecting and recording information, (6) filling in the stakeholder table, (7) analyzing the stakeholder table, and (8) using the collected information (Schmeer, 1999).

Although the approaches and goals of stakeholder analysis have similarities and differences, a key message is that collecting and analyzing data must be replicated. The main reason for this repetition is that the analyst needs to revise and deepen the previous levels of analysis. At each stage of the process, new data is acquired that must be combined and matched with the previous data (Varvasovszky & Brugha, 2000). Using the results of stakeholder analysis enables policymakers and managers to evaluate the knowledge, interest, opportunities, and alliances of key actors, which might help policymakers formulate the right policies (Schmeer, 1999). This process can lead to effective interaction with key actors and increase their likelihood of supporting the developed policies. In this case, one can hope that the policy or program is more likely to succeed (Schmeer, 1999).

Stakeholder analysis is essential for COI management. The Organization of Economic Cooperation and Development (OECD) defines conflict of interest (COI) as a situation in which public employees conflict with their official duties and personal interests (Whitton & Bertók, 2005). In another definition, a COI is present when judgments about professional responsibility are improperly influenced by the interests of an individual or organization (Claxton, 2007). Because COI situations can lead to corruption, the main goal of policymakers is to manage these situations and maintain public confidence in their decisions (Fineberg, 2017).

There are several methods and techniques for undertaking stakeholder analysis, such as standard stakeholder map, stakeholder triage, sociogram (Clayton, 2014; De Vita et al., 2016; Horita et al., 2019; Martikainen et al., 2015; Paletto et al., 2015), and multicriteria decision-making techniques such as fuzzy Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) (Ekmekcioğlu et al., 2021; Nilsson et al., 2016; Ozturkoglu & Turker, 2013). Proposed by Hwang and Yoon (1981), the TOPSIS is one of the most widely used Multi-Criteria Decision Aid (MCDA) or Multi-Criteria Decision Making (MCDM) methods for solving real-world decision problems (Behzadian et al., 2012; Tzeng & Huang, 2011).

Studies about COI in Iran are mostly concerned with the legal standards of COI (Milanifar et al., 2011), financial and nonfinancial COI (Khaji, 2015), COI in medical research (Ahmadi & Motevalizade, 2011; Rezaeian, 2010) and COI in the Ministry of Health and Medical Education (MoHME's) job positions (Memari, 2018). No studies have been conducted specifically on COI actors. In this study, we ranked actors whom perceived to abuse the COI situation in Iran's health system.

MATERIALS AND METHODS

This descriptive study aimed to rank the COI actors in the stewardship of Iran's health system. The main questions were: (1) How much interest, power and authority do each of the actors have in abusing the COI?, and (2) What is the rank of each of the actors in abusing the COI in relation to one another? Based on a comprehensive review of relevant literature (Khanjankhani & Takian, 2021), we extracted a list of 53 actors who play roles in the COI. The research team discussed and reduced this list to 27 actors within 7 categories.

To rank the actors, we considered three criteria: the actor's interest (the feeling of wanting to pay attention to something), power (the ability to influence others) and authority (having the moral or legal right or ability to manage people or organizations) to abuse of COI situation. The data collection tool was an online scoring form. We used the RABIT¹ platform to develop the form. Each actor received a score of one to five on the Likert scale in every criteria. We asked respondents to rate each actor based on the "what it is." To rank the actors, we used the opinions of 50 health system experts, with knowledge and practical experiences in COI in public and health policy, and sent them the questionnaire link. 35 experts completed the questionnaire (Table 1). Two participants were excluded from the study due to information deficiencies. In total, 33 questionnaires were included.

We analyzed data using Microsoft Excel. Using descriptive statistics, each actor's mean and standard deviation were calculated in three indicators. We ranked the actors using the fuzzy TOPSIS method, where the best alternative with the shortest distance from the positive ideal solution (PIS) and the farthest distance from the negative ideal solution (NIS) were chosen. Some researchers have extended the TOPSIS method for solving MCDM problems under various fuzzy environments over the last decades (Kutlu Gündoğdu & Kahraman, 2019). Due to its focus on a state other than true and false, fuzzy logic provides very valuable flexibility for reasoning, in which it is possible to consider uncertainties (Dernoncourt, 2013), and its application in policy-making is highly recommended. The fuzzy TOPSIS method comprises the following steps, as shown in Figure 1 (Ansari et al., 2020). The research was approved by the Ethics Committee of School of public health, Tehran University of Medical Sciences, Iran (number: IR.TUMS.SPH.REC.1398.152).

TABLE 1 Number of experts in each specialty or deputy.

The specialty/deputy		Number
Health policy	Specialty	5
Public Policy	Specialty	3
Health economic	Specialty	5
Healthcare management	Specialty	5
Medical ethics	Specialty	1
Deputy of Treatment	Deputy	5
Food and Drug Organization (FDO)	Deputy	4
Deputy of Education	Deputy	3
The National Iran's Health Insurance Organization	Deputy	1
Total	-	35

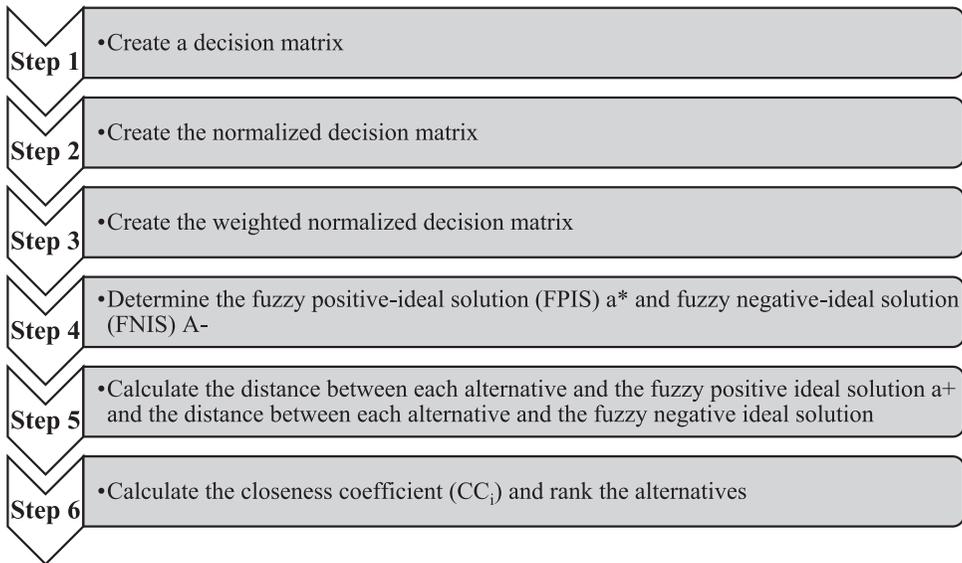


FIGURE 1 The fuzzy TOPSIS method steps.

RESULTS

Table 2 shows the descriptive statistics and TOPSIS results in each category. In the interest criteria, “FDO” (4.44 ± 0.95) and the “NGOs and patient support associations” (2.08 ± 1.26) received the highest and lowest mean. Also, in the power criteria, “FDO” and the “NGOs and patient support associations” scored the highest and lowest averages, respectively (4.64 ± 0.73 vs. 2.17 ± 1.11). Finally, in the authority criteria, “Parliament” (4.48 ± 0.12) and the “NGOs and patient support associations” (2.20 ± 1.40) received the highest and lowest mean. We used fuzzy TOPSIS to rank actors in each category. In the “Actors of the body of MOHME” category, the actors of the “FDO” ($CC_i = 0.69$) and the “Deputy of Cultural and Student Affairs” ($CC_i = 0.25$) were

TABLE 2 The descriptive statistics and TOPSIS results in each category.

Categories	Actors	Descriptive statistics				Fuzzy TOPSIS in each category	
		Interest	Power	Authority	The total average	CC _i	Rank
		Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD		
The MOHME and its affiliated departments	Deputy of treatment	3.91 ± 1.26	4.61 ± 0.81	3.91 ± 1.16	4.14 ± 0.40	0.63	3
	Deputy of nursing	3.26 ± 1.23	3.05 ± 1.15	2.88 ± 1.06	3.06 ± 0.19	0.39	8
	Deputy of education	3.41 ± 1.28	3.88 ± 1.06	3.67 ± 1.17	3.65 ± 0.23	0.52	4
	Deputy of hygiene	2.97 ± 1.35	3.29 ± 1.24	3.58 ± 1.15	3.28 ± 0.30	0.44	7
	Deputy of research and technology	3.26 ± 1.35	3.79 ± 1.06	3.61 ± 1.30	3.55 ± 0.26	0.50	6
	Deputy of development of management, resources and planning	3.94 ± 1.2	4.38 ± 0.85	4.18 ± 1.15	4.16 ± 0.22	0.63	2
	Deputy of legal and parliamentary affairs	3.44 ± 1.43	3.64 ± 1.22	3.44 ± 1.30	3.50 ± 0.11	0.51	5
	Deputy of culture and student affairs	2.29 ± 1.31	2.35 ± 1.12	2.52 ± 1.21	2.39 ± 0.12	0.25	9
	FDO	4.44 ± 0.95	4.64 ± 0.73	4.26 ± 1.05	4.45 ± 0.19	0.69	1
	The average of the category	3.43 ± 0.98	3.74 ± 0.68	3.56 ± 0.83	-	-	-
Affiliated actors with the MOHME	The Iran's Health Insurance Organization	3.39 ± 1.22	3.82 ± 0.90	3.70 ± 1.24	3.64 ± 0.22	0.42	3
	Universities of Medical Sciences	3.64 ± 1.22	3.91 ± 0.96	3.55 ± 1.13	3.70 ± 0.18	0.43	2
	Foreign Exchange Board of Trustees Fund	4.14 ± 1.13	4.5 ± 0.74	4.20 ± 1.14	4.28 ± 0.18	0.58	1
	The average of the category	3.73 ± 1.004	4.07 ± 0.66	3.82 ± 0.92	-	-	-
Related organizations and companies	The Red Crescent	3.23 ± 1.18	3.76 ± 1.04	3.35 ± 1.22	3.45 ± 0.27	0.53	3
	Social Security Organization	3.81 ± 1.07	4.17 ± 0.79	3.79 ± 1.17	3.92 ± 0.21	0.64	2
	NGOs and patient support associations	2.08 ± 1.26	2.17 ± 1.11	2.20 ± 1.40	2.15 ± 0.06	0.25	5
	Health syndicates	3.47 ± 1.30	3.14 ± 1.04	2.67 ± 1.27	3.09 ± 0.39	0.45	4
	Planning and budget organization	3.73 ± 1.30	4.44 ± 0.82	4.08 ± 1.08	4.08 ± 0.35	0.68	1

(Continues)



TABLE 2 (Continued)

Categories	Actors	Descriptive statistics						Fuzzy TOPSIS in each category	
		Interest		Power		Authority		The total average	
		Mean \pm SD	Mean \pm SD	Mean \pm SD	Mean \pm SD	Mean \pm SD	Mean \pm SD	CC _i	Rank
Decision-making institutions	The average of the category	3.26 \pm 0.88	3.54 \pm 0.58	3.22 \pm 0.90	-	-	-	-	-
	Parliament	4.38 \pm 1.07	4.61 \pm 0.65	4.44 \pm 1.049	4.48 \pm 0.12		0.65	1	
	Supreme councils	3.11 \pm 1.45	3.44 \pm 1.35	3.17 \pm 1.31	3.24 \pm 0.17		0.35	2	
	Planning working groups and specialized committees of the MoHME	3.47 \pm 1.26	3.26 \pm 1.10	2.91 \pm 1.19	3.21 \pm 0.28		0.34	3	
Trade unions and research organizations	The average of the category	3.65 \pm 1.08	3.77 \pm 0.84	3.50 \pm 0.88	-	-	-	-	
	Medical council	4.05 \pm 1.36	3.91 \pm 1.16	3.79 \pm 1.27	3.92 \pm 0.13		0.63	1	
	Nursing council	3.52 \pm 1.23	2.88 \pm 1.00	2.85 \pm 1.23	3.08 \pm 0.38		0.40	3	
	National research institutes and other research centers	3.05 \pm 1.27	2.82 \pm 1.08	2.73 \pm 1.21	2.87 \pm 0.16		0.35	4	
Other actors related to the health system	Scientific associations and specialized scientific boards	3.29 \pm 1.54	3.20 \pm 1.32	2.85 \pm 1.25	3.11 \pm 0.23		0.42	2	
	The average of the category	3.48 \pm 1.06	3.20 \pm 0.83	3.05 \pm 0.95	-	-	-	-	
	Health organizations affiliated with military institutions and other organizations	3.11 \pm 1.34	3.38 \pm 1.23	3.02 \pm 1.35	3.17 \pm 0.18		-	-	
	Public oversight bodies	3.08 \pm 1.40	3.85 \pm 1.30	4.05 \pm 1.30	3.66 \pm 0.51		0.52	1	
Institutions and regulatory mechanisms	Newspapers, radio and social media	3.5 \pm 1.44	3.52 \pm 1.21	3.32 \pm 1.38	3.45 \pm 0.11		0.45	2	
	The average of the category	3.29 \pm 1.15	3.69 \pm 0.90	3.69 \pm 1.23	-	-	-	-	

ranked first and last. This arrangement in the “Affiliated actors with the MOHME” category was related to the two actors of the “Foreign Exchange Board of Trustees Fund” ($CC_i = 0.58$) and “The Iran's Health Insurance Organization” ($CC_i = 0.42$). In the “Related organizations and companies” category, two actors of the “Program and budget organization” and the “NGOs and patient support associations” were ranked first and last ($CC_i = 0.68$ vs $CC_i = 0.25$). In the “Decision-making institutions” category, the “Parliament” ($CC_i = 0.65$) and the “Planning working groups and specialized committees of the MoHME” ($CC_i = 0.34$) were ranked first and last. This arrangement in the “Trade unions and research organizations” category was related to the two actors of the “Medical Council” ($CC_i = 0.63$) and “National research institutes and other research centers” ($CC_i = 0.35$). In the “Institutions and regulatory mechanisms” category, two actors “the Public oversight bodies” and “Newspapers, radio and social media” were ranked first and last ($CC_i = 0.52$ vs. $CC_i = 0.45$).

In addition to ranking actors in each category, all actors were also compared. “Iran's Islamic Consultative Assembly and relevant commissions” was identified as the most influential player in MCOI ($CC_i = 0.77$). The “NGOs and patient support associations” were also identified as the least effective actors in MCOI ($CC_i = 0.22$). See Table 3.

DISCUSSION

This study aimed to rank the actors who abuse the COI situation in their stewardship of Iran's health system. Here, we focus discussion on the actors with the highest average score in the three indicators of interest, power (the “FDO”) and authority (the Parliament), and the lowest average score in these criteria (the “NGOs and patient support associations”). In addition, we discuss the actors with the highest (the Parliament) and lowest (the “NGOs and patient support associations”) ratings based on TOPSIS results.

Comparing the average scores of the actors in the indicators of interest and power showed that the FDO has the most interest and power in abusing the COI situation. Due to their decision-making power, high turnover, and numerous advisory committees, the FDAs in all countries can easily find themselves in the COI situations (Arthur et al., 2019; Steinbrook, 2005). The results of studies conducted in Iran show that as a result of its diverse tasks, the FDO is one of the most critical bottlenecks in the COI. The FDO's most important tasks are regulation of the production, import, distribution, and export of medicines, food, medical equipment and cosmetics; Issuance of drug and food licenses and medical equipment; and determining prices for public and private for pharmaceutical and laboratory services (Ashtarian et al., 2020; Memari, 2018). Performing these tasks within a structure provides an excellent opportunity for conflict of structural interests. Our findings also confirmed the FDO's highest power and interest in abusing the COI situation, hence managing the FDO's COI is an essential step for COI management in the entire Iran's health system.

The “Parliament” received the highest average score in the authority index. In comparison ranking between all actors in fuzzy TOPSIS, the “Parliament” was identified as the most influential actor in abusing the COI situation. It is important to note that a fundamental step to COI management is parliamentary intervention in drafting and amending appropriate laws, which may be insufficient without powerful enforcement of such laws by the executive bodies (Mortab et al., 2020). It is crucial that these institutions enjoy a stable political structure to avoid uncertainties and dysfunctions during political changes.

The Iranian Parliament's role in the Iranian legal system is to legislate and to monitor laws implementation (Islamic Parliament Research Center, 2022). The Parliament has two primary functions: legislation and oversight (Islamic Parliament Research Center, 2022).

TABLE 3 The comparative ranking of the actors.

Actors	CC _i	Rank
Parliament	0.70	1
FDO	0.69	2
Foreign Exchange Board of Trustees Fund	0.66	3
Deputy of Development of Management, Resources and Planning	0.64	4
Deputy of Treatment	0.63	5
Planning and budget organization	0.62	6
Medical council	0.59	7
Social Security Organization	0.58	8
Public oversight bodies	0.54	9
Universities of Medical Sciences	0.54	10
Iran's Health Insurance Organization	0.53	11
Deputy of Education	0.53	12
Deputy of Legal and Parliamentary Affairs	0.51	13
Deputy of Research and Technology	0.51	14
Newspapers, radio and social media	0.49	15
Red Crescent	0.48	16
Deputy of Hygiene	0.45	17
Supreme Councils	0.44	18
Planning working groups and specialized committees of the Ministry of Health	0.43	19
Health organizations affiliated with military institutions and other organizations	0.42	20
Scientific associations and specialized scientific boards	0.42	21
Health syndicates	0.40	22
Nursing Council	0.40	23
Deputy of Nursing	0.39	24
National research institutes and other research centers	0.36	25
Deputy of Culture and Student Affairs	0.26	26
NGOs and patient support associations	0.22	27

According to Article 71 of the Constitution, similar to other countries, the Parliament may legislate within the constitutional boundaries. For example, the British Parliamentary system operates in two chambers: the House of Commons and the House of Lords. Both are tasked with legislating, reviewing government work, and discussing current issues. In addition, the House of Commons is responsible for giving the government money by passing bills that increase taxes. In general, decisions made in one chamber must be approved by another. This two-chamber system acts as a control and balance for both houses (The Parliament of United Kingdom, 2022). In Austria, the Parliament is first and foremost responsible for reviewing bills, passing them into laws, reviewing the government's performance, and

monitoring only its most essential tasks (The Parliament of Austria, 2022). In the Netherlands, the House of Representatives and the Senate have the power to carry out their duties effectively. These rights include the right of the Parliament to evaluate the budget, investigate, question the members of the government and present the plan (Government of Netherlands, 2022). In recent years, Iran has taken major steps to COI management, that is, the COI Management Plan (February 2019), the Improving the Administrative Soundness and Combating Corruption Act (June 2020), the COI management in Performing Legal Duties and Providing Public Services Act (June 2020) and the Act to Improve the Administrative Soundness and prevent COI (August 2021) (Madihi, 2022), most of which were not satisfactorily implemented.

This study showed that the “NGOs and patient support associations” get the lowest average score in the interest, power, and authority indicators. Some countries have institutionalized the use of civil society views in the policy-making process with the aim of COI management. For example, the media and citizens in Poland, the Czech Republic, Canada, and the United States comment on specific policies. In Portugal and Slovakia, the employees' associations and NGOs are involved in the policy review process. Studies on the practical implementation of the COI policy in Hungary revealed that government consults civil society organizations in the social dialog process (Whitton & Bertók, 2005). In Thailand, the National Health Assembly (NHA) is one of the most critical social mechanisms for facilitating evidence-based policy-making. The assembly's main emphasis is on inclusive participation as a policy-making process throughout the year. In this assembly, the inclusive participation of the government, universities, the health professions, and the public sector lies throughout this process (National Health Commission Office, 2020). In Iran, the Parliament holds public opinion polls on draft plans and bills, such as public opinion on the bill on COI management in public services, the civil liability bill on nuclear damage, the bill amending the law on engineering system and building control, and sports and athletes protection plan (Asghari, 2021; Islamic Consultative Assembly Research Center, 2021; Mazandaran Construction Engineering Organization, 2021; Samadpoor, 2020). However, little evidence exists to understand how the results of these surveys were used.

Previous experience in Iran shows that granting civil society organizations and the press with some authority might help them play an important role in bridging the gap between citizens and the government (Razmi et al., 2016). These institutions help gather the necessary information from the country's administrative system and hold managers accountable. In addition, they can help consolidate and explain the interests of citizens and strengthen the process of overseeing and holding the government accountable by equipping both the people and members of Parliament (Razmi et al., 2016). In particular, strengthening civil society through enhancing public awareness is important in COI management. The existence of informal oversight can be as necessary as formal oversight of compliance with and enforcement of rules and regulations (Asian Development Bank [ADB], 2007; World Health Organization, 2016). Civil society can increase trust and cooperation through citizen participation and clarify the political rights and duties of the people by increasing political participation and political competition (Plumptre & Graham, 1999). It can also play an important role in strengthening social capital, increasing citizens' empowerment, and making government institutions accountable by creating the necessary channels and information resources. Improving skills such as critical thinking, public relations, bargaining, and forming coalitions are other cornerstones of civil society that could help to advance COI management goals (Weiss, 2000). Therefore, we advocate that governments put the participation of civil society, NGOs, and national associations of local and regional authorities at the forefront, and with their help, provide the necessary training in the field of ethics and COI in the society (Council of Europe, 2018).

CONCLUSIONS AND POLICY IMPLICATIONS

This study showed that the FDO and the Parliament are the most prominent COI abusers in Iran's health system. Comparing all actors revealed that the FDO have the most interest and power, and the Parliament has the most authority in abusing COI. The FDA is prone to various structural conflicts of interest with multiple tasks. It is necessary to manage these conflicts by modifying key processes. On the other hand, due to its unique function, most FDA's decision-makers have several kinds of conflicts of personal interests. Therefore, it is necessary to consider mechanisms for selecting people with the least COI in this institution's policy and decision-making position. As the central legislative body in the country, the Parliament might have the most significant effect on COI management through appropriate and transparent law-making. However, the mere formulation of laws does not guarantee COI management without meaningful involvement of the institutions that oversee the implementation of laws. In the meantime, the role and capacity of civil society and NGOs as essential arms of oversight and transparency should not be overlooked. The government needs to foster its efforts to make the best use of the energy and capability of civil society, which it can do by facilitating dialog and providing the necessary training on how to manage conflicts of interest.

Limitations and bias

Since the situations and actors of COI are very contextual, it is suggested to generalize the findings in the context of the health system of other countries with caution.

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DATA AVAILABILITY STATEMENT

Not applicable.

ETHICS APPROVAL STATEMENT

The research was approved by the Ethics Committee of the School of Public Health, Tehran University of Medical Sciences, Iran (number: IR.TUMS.SPH.REC.1398.152).

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ENDNOTE

ⁱ <https://rabit.kums.ac.ir/login.html>

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