Network Governance Theory as Basic Pattern for Promoting Financial Support System of the Poor in Iranian Health System

Manal Etemadi
Iran University of Medical Sciences
Patrick Kenis
Tilburg University
Kioomars Ashtarian (mahila_313@yahoo.com)
University of Tehran
Hannaneh Mohammadi Kangarani
Hormozgan University
Hasan Abolghasem Gorji
Iran University of Medical Sciences

Research Article

Keywords: network governance, financial protection, the poor, health, shared-governance

Posted Date: January 21st, 2021

DOI: https://doi.org/10.21203/rs.3.rs-137010/v1

Abstract

Background: The share of out-of-pocket payments in Iranian families have the greatest burden on the poor and lead to impoverishment caused by catastrophic health expenditures. It increased pressure on households' budget, delayed treatment, distrust of health insurance systems, and rapid poverty growth in Iranian society. In order to improve access of the poor to public resources, it is necessary to create better governance system and effective policy-making. In this article, we are looking for a theoretical framework to overcome the challenges of Iranian health network. Based on network governance theory, the purpose of this study is to improve network effectiveness of Iranian health system and to design a financial protection network for the poor.

Methods: we are using both qualitative and quantitative method with a network analysis approach. To draw an optimal network, we conducted interviews with experts by focusing on the arrangement and relationship among different institutions. The research sample was purposefully selected. We used UCINET software for data analysis and NetDraw software to draw networks.

Results: In this article, the authors propose an optimal network with following characteristics. First, the problem of density of relationships among several central institutions and the isolation of the other institutions have been solved. Second, in our model, the relationships have been distributed in a balanced manner among all institutions in the network. Third, the number of participants has been reduced and consensus on poor people support policies has been achieved in this optimal network. Forth, executive organizations keep their central positions and upper institutions are not at the central position, so that the power is distributed in favor of more balanced governance. However, in order to increase efficiency and to have coherent decision-making, it is necessary to establish a "core" for this optimal network. The "core" has to include the organizations with the most relationship with others.

Conclusion: *The result* revealed that *the usefulness* of network analysis as a tool for proposing an e*ffectiveness* of governance. By strengthening the relationship among the main actors, an organized system of network management can be achieved. The network has to include all actors from different levels, from policy-making to implementation. The network also has to clarify the tasks from identifying the poor to covering costs. From an academic perspective, this study showed the adequacy of network analysis as a tool for policy sciences. Governance in our optimal health financial protection model follows the shared-governance pattern due to its high density, low centralization and distance. The model of network governance can be the source of changes in health governance system. It is a necessary structural condition to provide access to universal health coverage.

Introduction

Poor people bear a greater burden of health costs than the rich, and they don't have adequate access to the health care services (1). One in four low-income families is forced to burden heavy debts or sell its assets for treatment (2, 3). In the absence of a targeted mechanism of government health subsidies for

the poor, the rich are more beneficial than the riche. According to paragraph 10-4 of the policies enacted by the Expediency Council government has the responsibility “to accord special aid to the needy and the low-income deciles.

In “the Health Transformation Plan” this special aid contains franchise reduction for patients in public hospitals, which includes all people and not just the poor; so that the share of the poor has been reduced (4). Iranian experience shows that insurance coverage without targeted mechanisms could lead to Adverse effects on redistribution of resources in the financing of health services and jeopardizes justice in financial access to health services (5). Rationing, by restricting the needy groups' visits only to the university affiliated centers , waiting queues and limiting services due to high referrals in government centers (6). The most important step to provide financial access for poor is to implement reform in health care system with a clear approach to insist on institutional arrangement. Thus, institutional analysis can help for designing a policy network model for supporting the poor (7). Good institutional network can identify effective institutions and key linkages for reducing poverty (8). Policy design is challenging in Iran because of complexities of institutions, Overlapping the roles, diversity of responsibilities, and different methods of implementations. These issues needs to be resolved in the way that the roles and responsibilities of key players be clarified and cooperative structures to be strengthened. In the same way cooperative procedures, management capacity building and consultation process need to be mapped (9).

According to different law and regulations there is 44 organizations/institutions for supporting 27 categories of the poor. This plurality of institutions is unbalanced with regards to their linkages and has created challenges for coordination, responsibility, efficiency, and performance. For instance, for single moms and Orphans there is 19 organizations and for disabled persons 17 organizations are Obliged to cooperate (10, 11). The aim of this research is to map an optimal policy network model for supporting poor. The model will be effective to overcome the challenges of overlapping organizational tasks and legal duties of different institutions.

Network governance

Implementing public policies is a cooperative task and it is impossible to conceive the one organization without others. In a systematic perspective, organizations have different task and organized roles task within a network. Each of them has specific role (12). complex policy problems need collective action and coordinative approach by different players (13).

The literature of public policy suggest that networks are a solution for complex problems. These problems are multicausal and have no clear definitions, our solutions for complex problems can cause side effects and can create conflicts among different governmental sectors. (14).Systemic solutions for complex problems need participation of different stakeholders; so that the necessity of multi-actor approach for policy problems. Recent literature shows a paradigm shift from hierarchical model of delivery service to networks (15). Networks consist of different independent organizations that collaborate to achieve their social goals. These networks can be created by law or by a contract among them. They are considered as a formal collective action mechanism for accomplishment of the goals of

several organizations -governmental as well as non-governmental or non for benefit organizations (16). literature on policy analysis shows that in complex situations, puzzle solving as policy analysis method can discover solutions and designs. As Christopher Winship state policy analysis need a model of analysis to substitute instrumental rationality for resolving conflicting policy goals (17).

In the 1990s, a new method of network-based governance emerged that expanded the range of management and coordination mechanisms. This method has been accompanied by a critique of the previous two methods, namely market and hierarchy method, and is known for its wide chain of communication, informal organizational forms, and trust-based relationships (18).

For Provan and Kenis, network governance: "involves the use of institutions and structures of authority and collaboration to allocate resources and to coordinate and control joint action across the network as a whole." Therefore, network governance has two related dimensions of governance structure (collaboration structures) and governance mechanism (coordinative tasks in networks). There are three types of governance of networks structures: a shared-governance network (each network member is responsible for decision-making and management), a lead organization (a dominant organization responsible for network management), and a network administrative organization (creating an independent out of the network entity to manage it). (19). After the classification of Provan and Kanis, the core-peripheral governance form was introduced, which is similar to the lead organization form, except that the responsibility of leading of the network lies not with one organization but with a number of network organizations. The logic for this kind of responsibility is that network consists of subgroups of organizations in different areas; it is not necessary for all of them to be involved in decision-making. The core consists representative of different organizations from each subgroup that can manage the network in the same way as a shared-governance form or a lead organization. This type of governance is the most effective form for complex issues that involve various sub-processes (20).

Network analysis has been introduced as a tool to improve the coverage of low-income people and increase the provision of services to them. For example, in the study of the relationship among the organizations in charge of lower socio-economic groups in the city of Waal in Netherlands it was shown that the network structure was weak and many organizations were isolated. The poor in small urban area were supported by more than 50 organizations in a fragmented and chaotic manner. This network structure was not able to provide a comprehensive and integrated service package to the poor people. The first step to strengthen the network was to improve the relationship among members (21).

The aim of this study was to gather social data on the governance of the networks to support the poor in the Iranian health system based on surveys. This type of data gathering in the field is established for social network analysis and has been previously used as a systematic method to describe and analyze the governance network among multiple stakeholders in health system.

A study of stakeholder’s relation in Congo health system has shown that due to active participation among government institutions and non-governmental actors, a network governance has emerged in the country's health sector. Network governance has not fully covered the weakness of the government but

has facilitated the management of people's health needs. The government exercises its power to engage with stakeholders by providing a regulatory framework. The participation of the non-governmental sector is a factor in improving institutional capacity through collaboration with the government to manage the health system and institutional development (22).

Four underlying factors act as key predictors of the effectiveness of network governance performance: the level of trust among members (density and centrality), the number of organizations in the network, the level of consensus on network goals and capacities of the network(23). Network optimization as a policy design can be presented from various perspectives and with different criteria. Although the criteria of efficiency and effectiveness have gradually been challenged in favor of the criterion of democratic participation in policy design (24), designing an optimal network of financial protection for the poor in the health system in Iran can be seen and introduced as a manifestation of democratic and efficient network governance.

Methods

The present study is a quantitative study with a social network analysis approach. Based on legal obligations and conducted interviews with experts, the financial protection network for the poor was drawn. One of the important parts of the survey process was the creation of questions related to the arrangement and communication among mandated institutions. By doing that we tried to prepare a questionnaire of institutional options to draw accurately the optimal network.

The challenges in the legal obligations network, clarifying roles, avoiding overlapping tasks and rework, and optimizing relationships were the basis for designing the questions.

The research sample included 22 well-known experts who were purposefully selected from experts. They had high level of experience in financial support for the poor and had also relationships with different actors in organizational networks including Ministry of Health and Medical Education (MOHME), Ministry of Cooperatives, Labor and Social Welfare (MCLSW), Iranian Health Insurance Organization (IHIO), Iranian Red Crescent Society (IRCS), as insiders, and independent experts, as outsiders. We had equal number of insiders and outsiders in our expert body of research with eleven insiders from four network organizations and other experts from the outside.

Insiders provided detailed information about relationship among actors based on their direct experiences. Similarly, outsiders were beneficial due to their ability to view the entire network without direct involvement and, therefore, without conflict of interest biases. These two groups of informants, insiders and outsiders, provide us the opportunity of additional level of confirmation regarding network data, and also reducing possible biases. The combination of insiders and outsiders and relying on information from internal and external experts balances the biases, widens the perspectives, and validate methodology for incomplete SNA data (25).

To assess the validity of the questions, the questionnaire has been presented to several experts in network analysis and social welfare policy. Then, the questionnaire was given to five experts as a pilot. The accuracy and validity of the questions were reviewed and corrected based on experts' recommendations.

The questionnaire had three sections: demographic information, proposed institutional options, and a commenting section; if desired. A summary of the objectives along with the institutional options for drawing up the optimal network was sent to thirty experts on health financial protection, and they were requested to submit their comments within a maximum of one week. The results were reviewed and analyzed, and the model was developed based on those comments.

A two-dimensional matrix was used to record the data and information collected from the questionnaire; the selected institutions by the experts formed the matrix rows, and the policies and support programs formed the columns. The value of matrix cells indicates the number of tasks each organization performs for different programs. A value of 2 was assigned to the institutions for implementing a program and a value of 1 was assigned to partner institutions. Then, a one-dimensional matrix of institutions was formed to determine which one has the most collaboration and which one has more centrality, power and position due to more collaboration with other institutions. UCINET software was used to enter data and data analysis and NetDraw software was used to draw networks and visual analysis.

Micro-indicators such as degree of centrality (identification of dominant actors in the network), betweenness centrality (identification of actors that link between others) (26), were used to show the position of institutions in the network. Several indicators of social network analysis contribute to understand the governance capacities of a system. These features of a system that can be translated into network governance indicators include density (ratio of the number of available links to the total number of possible links in the network), distance (the number of relationships in the shortest possible step from one actor to the another, which is in fact the most optimal or effective communication between two actors) and centralization (to the extent that communication in the network, instead of being evenly distributed among all members, focus on a small number of actors) (27), were calculated in this network.

Findings:

The amount of network indicators of the institutions proposed by the experts, which has been calculated using UCINET software, is presented in Table 1.

Table 1 - Indicators of the optimal network of institutions related to financial protection for the poor

Bonacich's power	Eigenvector Centrality	Betweenness Centrality	Degree Centrality	Institution	
1.611	0.486	0.825	0.372	Welfare Organization (WO)	1
.1.419	0.428	0.825	0.348	Imam Khomeini Relief Committee	2
1.684	0.508	0.825	0.338	Ministry of Cooperative, Labor and Social welfare (MCLSW	3
1.690	0.510	0.825	0.319	Iranian Health Insurance Organization (IHIO)	4
0.633	0.191	0.125	0.177	Charities	5
0.397	0.120	0.825	0.125	Ministry of Health and Medical Education (MOHME)	6
0.285	0.086	0.125	0.086	Municipalities	7
0.188	0.056	0	0.057	Supreme Council of Welfare and Social Security (SCWSS)	8
0.144	0.043	0.125	0.045	Iranian Red Crescent Society (IRCS)	9
0.059	0.018	0.500	0.024	Supreme Council of Health Insurance (SCHI)	10
0.028	0.008	0	0.009	Plan and Budget Organization (PBO)	11

Among 44 institutions identified in the network, the experts suggested only 11 institutions to participate in the optimal network. Legal collaboration between responsible and partner institutions regarding financial protection for the poor in two different optimal and legal networks is presented in Figure 1. The intensity and weakness of communication and the number of common tasks between the two entities are indicated by the thickness of the lines, and organizations with a higher degree centrality are represented by large squares.

The problems in the network of legal obligations, including the density of communication between several central institutions and the isolation of other institutions, have been solved in the optimal network, and relationship has been distributed in a balanced and orderly manner among all institutions present in the network. Network density in a circular arrangement shows better situation in terms of involvement of all institutions. Strengthening and balancing relationship of coordinating bodies (including Supreme Council, Ministries and the Planning and Budgeting Organization) with executive bodies (Imam Khomeini Relief Foundation, Welfare Organization and Iranian Health Insurance Organization (IHIO) on the one hand, and adequate relationship among executive bodies with non-governmental institutions (NGO) on the other hand, shows that in the proposed model relationship is seen in the form of a network. The

strong presence of NGOs reflects the institutional approach to policy-making for financial protection. Balanced distribution of power between these institutions reflects a network of relationships in financial protection policies.

Network's Micro-Indicators

As it shows in Table 1, according to the experts, Welfare Organization should have the most authority in the network and with a very small difference, Relief Foundation, MCLW and the IHIO stand in the next ranks. A noteworthy point is the high centrality of charities, which indicates the increased power of these institutions due to change their position and relations and a democratic approach to policy-making. The position of the Welfare Organization in the optimal network shows a greater tendency towards centrality than the Relief Foundation, which was the most powerful institution in the network of legal obligations.

Betweenness centrality of the institutions is also of balanced distribution, and the Welfare Organization, the Relief Foundation, the MCLW, the MOHME, and the IHIO have been proposed with the most betweenness centrality. The high betweenness centrality of the Supreme Council of Health Insurance has made this council more accessible and more executive than the Supreme Council of Welfare and Social Security. Betweenness centrality distribution is shown in Figure 2.

The IHIO and the MCLW have the most special eigenvector centrality (meaning connection to authority sources in the network) due to the neighborhood with more central institutions, and the Welfare Organization is in the next rank. In the proposed network, the IHIO has the highest Bonacich power due to the centralities of the connected points, and the MCLW and the Welfare Organization are in the next ranks. It is understood that these institutions should have the most important role in formulating strategies as well as executive activities of financial protection.

In an optimal network, there are no cut-off points (entities whose removal from the network causes the network to become two separate parts and can cause or prevent relationship between other entities) and this indicates that the network is optimal in terms of more balanced distribution of power between institutions and better state of relationship between institutions. In general, due to the change in the position of institutions and increasing organizational relationships between them, the deep difference between the maximum and minimum number of relationships and the difference in the centrality of actors in the network of legal obligations has decreased. The cohesion has increased and the distribution of power and relationships has become more rational (figure 3).

Having more centrality means better position of accessibility in the network, which in turn increases collaboration power compared to others. In an optimal network of financial protection for the poor, the Welfare Organization, the Relief Foundation, the MCLW and the IHIO were recognized as the most powerful institutions. The majority of experts have chosen the following tasks and responsibilities for different institutions: the Supreme Council of Welfare and Social Security for policy-making and supervising financial protection policies; the MCLW and the Welfare Organization to identify the poor; the IHIO for basic insurance of the poor and cost-sharing coverage; the Welfare Organization and the Relief

Foundation to cover the costs of services outside the benefit package and referring to health centers; and the MCLW as a single window for division of tasks among institutions. More network connections have been suggested between the Welfare Organization, the Relief Foundation, the MCLW and the IHIO.

Network's Macro-Indicators

Network governance indicators including density, centralization and distance between actors in the optimal network were calculated. The density of the legal obligations network of financial protection was 32.7%, which shows that the density among the 44 institutions present in the network is at a weak level and the relationship and collaboration between the institutions is not favorable. On the other hand, this index has reached 90% in the optimal network, which shows that the optimal network has a very high density.

The centralization in the optimal financial protection network is 0.11, which indicates that the network is decentralized and the flow of information is not restricted to a limited number of actors. It also shows that the network is managed by a shared-governance model of the members. The average geodesic distance in the network of legal obligations is 2.2. It indicates that the organizational unity in the field of financial protection for the poor among the institutions involved in the network is weak. When all the actors are directly connected, the average distance will be 1 and the flow of information is expected to be fast. In the optimal network with fewer actors, the distance is 1.09, which indicates that the actors are all in direct contact with each other.

Discussion

Networks describe the pattern of relationship among actors, while the governance perspective on networks raises the question of how these networks achieve their goals and what mechanisms govern their performance. Where market mechanisms and hierarchies are not effective, the network as a structure of governance will be the most appropriate option (28).

In this article, to minimize the weaknesses of the existing legal obligations network, an optimal policy network has been proposed with regard to financial protection policies for the poor in order to access to the health services. In this way, by increasing coordination and balanced distribution of power, and making relationships more effective through shared-governance model, we can design policies for financial protection of the poor in accessing health services. The number of institutions responsible for financial protection of the poor in the proposed optimal network decreased from 44 to 11, and according to the experts, a large number of marginalized institutions were eliminated. The Welfare Organization and the Relief Foundation were designated by the experts as the most powerful institutions in the network.

There is pluralistic institutional diversity with different level of power in the existing network: Supreme Councils as regulation body, Ministry as headquarters, different organizations as the executive body, and para-governmental and non-governmental organizations.

In the existing network, power is dispersed among different actors and network is not centralized on a single actor with unbalanced power, that is why this network cannot function as a leading force. In proposed model all related organizations involved in financial protection for the poor have been seen in the network and therefore there is no need for creating a separate administrative organization.

Key predictors of the effectiveness of the optimal network governance indicate that there is no a lead organization in the existing network. That is because of the small number of members, high consensus on goals, especially through the existence of several upstream laws on financial protection for the poor in the health system, occupying the central position of the network by executive agencies, such as the IHIO, the Relief Foundation and Welfare Organization and non-centralized position of institutions in higher administrative hierarchies in the network such as ministries compared to executive organizations as an important indicator to determine the type of governance structure (29).

Thus, the optimal network governance model of the financial protection for the poor in the health system in Iran is shared-governance. In this model the network is managed by engagement of all members in interaction, decisions are made collectively -which can be simply done by two supreme councils as extra-ministerial institutions-, the power is evenly distributed and the absence of any cut-off points in the network has been achieved. This type of network governance is the optimal way to reach consensus to solve complex problems.

Shared-governance is the most common and simplest form of network governance, especially in health sector. It is highly dense (high inter-organizational relationship) and decentralized, and rely on the collective participation of all organizations to make decisions and manage the network. Decision-making power is distributed among all organizations regardless of their size, resources and performance (30). This type of governance creates a culture of participation among organizations and is therefore able to increase network integrity. Since welfare organizations face heterogeneous target groups that suffer from several problems, this type of governance is necessary to facilitate integration of these organizations (31). Integrity is an essential feature of a network that determines the resource exchange among organizations and network's response to the target groups. Matured shared-governance networks are more integrated than networks without shared-governance (32).

Coordinative meetings -by sharing information, discussing new issues, exchanging resources, increasing collaboration, etc.- are effective tools for achieving shared-governance. The steering comity consisting of 4 or 5 representatives of the member organizations are in charge of the executive affairs. To increase network integrity, this type of governance must improve management strategies such as goal consensus, information exchange, and conflict resolution among organizations (33). Meetings with the presence of representatives of eleven member organizations of the optimal network can be formed with the aim of sharing information, thinking together and policy-making.

Since a simple form of governance is not sufficient to solve a complex problem, and due to the economic crisis and funding problems to adequately support the poor in access to health services, the authors of this article recommend that a core group for the network should be formed within the shared-governance.

It will help more coherent decision-making. Based on social network analysis, this core group includes Relief Foundation, Welfare Organization, MCLW and IHIO which are known to have the most connections with other members of the network. As Cristofoli study has shown, the success of shared-governance networks depends on the presence of network administrators and the use of formal inter-organizational coordination mechanisms. Successful shared-governance networks tend to take more bureaucratic approach to ensure power sharing and management of the network in accordance with established rules and regulations (34).

The study of the structure of Kerman Health and Food Security Council has shown that the shift of relationship from hierarchical and market-oriented to network logic has not yet occurred. This structure is suffered from problems such as large number of members, inability to solve complex problems, and lack of trust, legitimacy, and consensus among members. Therefore, a network management organization is considered as an effective way of governing to solve social problems in the field of health (35).

In existing model, according to the law, several institutions are involved in policy making and policy implementation. This has led to overlapping tasks, slowness, and incoherence. The multiplicity of tasks and duties has created a tangle of confusion about the type, amount, and scope of responsibilities among the actors. Distribution of power among financial protection institutions for the poor is not well established, and there is no strong communication between governmental and non-governmental institutions, charities or private institutions in this field.

In the optimal network, charities' position has been strengthened compared to the network of legal obligations. That is why experts in government consider charities as an important bodies to support the poor in the health sector. Charities as non-profit sector are able to effectively address the problems of the poor with a more human-centered and flexible approach. They can reduce injustice and social deprivation (36). Manenti states that NGOs and civil society are sometimes viewed negatively by government agencies and therefore their role becomes limited (37). Our study find that Iranian experts have positive and participatory attitude to involve charities in supporting the poor.

Heo et al. used a network analysis approach to evaluate the relationship between government and non-government sectors and suggest policy-making options to promote the health of poor residents of disadvantaged areas. They showed that among different actors, community-based organizations (with spontaneously organized independent groups of volunteers for health promotion) have played a key role in sharing and controlling information resources for health promotion (38); a role that can be played by charities in the optimal network of financial protection for the poor in Iran.

Conclusion

Using a social network analysis approach as a policy tool to demonstrate the pattern of financial network governance protection for the poor in the health system, this study showed that by strengthening the relationship between the main actors in this field an organized system of network management with a limited number of coordinated actors can be achieved.

The network has to include all actors from different levels; from policy-making to implementation in various fields, and clarifying tasks from identifying the poor to covering costs. This study showed the adequacy of social network analysis as a tool for policy science.

Governance in the optimal health financial protection network for the poor in Iran follows the shared-governance pattern due to its high density, low centralization and distance. The model of network governance can be the source of changes in health governance system. It is a necessary structural condition to provide access to universal health coverage.

Declarations

Consent for publication:

Not Applicable.

Authors 'contributions:

ME, HMK and HAG and contributed to the concept and design of the study. ME and HMK contributed to the analysis and interpretation of the data. ME, PK, KA and HMK contributed to the critical revision of the article and writing of the manuscript. All authors have read and approved the final manuscript.

Funding:

This study was part of a PhD thesis supported by Iran University of Medical Sciences (grant No: IUMS/SHMIS_1394/9221557206). The funder did not have role in any process of the study.

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Ethics approval and consent to participate:

This study was approved by the Ethics Committee of Iran University of Medical Sciences. Written informed consent was obtained from all of participants, all adult, for interviews. The interviews were confidential. All methods were carried out in accordance with relevant guidelines and regulations.

Competing interests:

The authors declare that they have no competing interests.

Acknowledgement:

The authors would like to thank the participants of this study.

References

1. Kruk ME, Goldmann E, Galea S. Borrowing and selling to pay for health care in low-and middle-income countries. Health Affairs. 2009;28(4):1056-66.
2. Kruk ME. Universal health coverage: a policy whose time has come. British Medical Journal. 2013;347:f6360.
3. Yazdi-Feyzabadi V, Bahrampour M, Rashidian A, Haghdoost A-A, Javar MA, Mehrolhassani MH. Prevalence and intensity of catastrophic health care expenditures in Iran from 2008 to 2015: a study on Iranian household income and expenditure survey. International Journal for Equity in Health. 2018;17(1):1-13.
4. Etemadi M, Ashtarian K, Ganji N, Kangarani HM, Gorji HA. Have the poor been considered in the Health Sector Evolution Plan? A qualitative study of the Iranian health system. International Journal of Human Rights in Healthcare. 2019;13(1).
5. Moradi-Lakeh M, Vosoogh-Moghaddam A. Health sector evolution plan in Iran; Equity and sustainability concerns. International Journal of Health Policy and Management. 2015;4(10):637-40.
6. Etemadi M, Abolghasem Gorji H. Trade-off between Efficiency and Equity on the Rationing in Health Insurance System: the Burden on the Poor. Evidence Based Health Policy, Management and Economics. 2019;3(3):162-71.
7. Sjöquist P. Institutions and Poverty Reduction. An introductory exploration. A Discussion Paper for SIDA, Method; 2001.
8. Azfar O. Institutions and poverty reduction. Draft paper prepared for OPPG project, Mimeo. 2005.
9. Hsu J, Majdzadeh R, Harirchi I, Soucat A. Health system transformation in the Islamic Republic of Iran: an assessment of key health financing and governance issues. Geneva: World Health Organization; 2019.
10. Etemadi M, Ashtarian K, Gorji HA, Kangarani HM. Which groups of the poor are supported more by the law? Pro-poor health policy network in Iran. The International journal of health planning management. 2019;34(2):e1074-e86.
11. Etemadi M, Gorji HA, Kangarani HM, Ashtarian K. Power structure among the actors of financial support to the poor to access health services: Social network analysis approach. Social Science & Medicine. 2017;195:1-11.
12. MohammadiKangarani H, Shamekhi T, Ghonchepour D. Network model of natural resources policies in Iran(4th Development Plan) Iranian Journal of Forest. 2015;7(2):179-93.
13. Kapucu N. Introduction: Social Network Analysis Applications in Complex Governance Networks. Complexity, Governance & Networks. 2015;2(1):1-4.
14. Shafritz JM, Russell EW, Borick C. Introducing public administration: Routledge; 2015.
15. Ferlie E, Fitzgerald L, McGivern G, Dopson S, Bennett C. Public policy networks and 'wicked problems': a nascent solution? Public Administration. 2011;89(2):307-24.

16. Provan KG, Kenis P. Modes of network governance: Structure, management, and effectiveness. Journal of public administration research and theory. 2008;18(2):229-52.
17. Winship C. Policy analysis as puzzle solving. The Oxford Handbook of Public Policy. Oxford: Oxford University Press; 2006.
18. Kiss NT. Improving network performance in the health care system: a networkbased analysis of the Hungarian health care services: Corvinus University of Budapest; 2014.
19. Willem A, Gemmel P. Do governance choices matter in health care networks? an exploratory configuration study of health care networks. BMC Health Services Research. 2013;13(1):229.
20. Kenis P, Schol LG, Kraaij-Dirkzwager MM, Timen A. Appropriate governance responses to infectious disease threats: developing working hypotheses. Risk, Hazards & Crisis in Public Policy. 2019;10(3):275-93.
21. Prevo L, Mercken L, Jansen M, Kremers S. With whom are you dealing? Using social network analysis as a tool to strengthen service delivery structures for low socioeconomic status populations. Journal of Public Health Research. 2018;7(2):66-72.
22. Bwimana A. Heath sector network governance and state-building in south Kivu, Democratic Republic of Congo. Health Policy & Planning. 2017;32(10):1476-83.
23. Wegner D, Teixeira EK, Verschoore JR. “Modes of Network Governance”: What Advances Have Been Made So Far? Revista Base (Administração e Contabilidade) da UNISINOS. 2019;16(1).
24. HE L. Policy analysis for democracy. The Oxford handbook of public policy. Oxford: Oxford University Press; 2006.
25. Narayan AS, Fischer M, Lüthi C. Social Network Analysis for Water, Sanitation, and Hygiene (WASH): Application in Governance of Decentralized Wastewater Treatment in India Using a Novel Validation Methodology. Frontiers in Environmental Science. 2020;7.
26. Borgatti SP, Mehra A, Brass DJ, Labianca G. Network analysis in the social sciences. Science. 2009;323(5916):892-5.
27. Blanchet K, James PJ. The role of social networks in the governance of health systems: the case of eye care systems in Ghana. Health policy & planning. 2013;28(2):143-56.
28. Raab J, Kenis P, Kraaij–Dirkzwager M, Timen A. Ex ante knowledge for infectious disease outbreaks: Introducing the organizational network governance approach. Springer series Knowledge & Space. 2020.
29. Maes F, Bursens P. Steering or networking: The impact of europe 2020 on regional governance structures. Politics and Governance. 2015;3(2):100-16.
30. Best A, Willis C, Herbert C, Millar J, Weinstein M, Bitz J, et al. Developing Inter-organizational Networks to Improve Communitybased Primary Health Care. Institute for Health System Transformation and Sustainability; 2013.
31. Raeymaeckers P, Kenis P. The influence of shared participant governance on the integration of service networks: A comparative social network analysis. International Public Management Journal.

2016;19(3):397-426.
32. Raeymaeckers P. From a Bird's Eye View? A Comparative Analysis of Governance and Network Integration Among Human Service Organizations. Journal of Social Service Research. 2013;39(3):416-31.
33. Raeymaeckers P. Should I stay or should I go? A qualitative analysis of legitimacy in a shared participant-governed network. Human Service Organizations: Management, Leadership & Governance. 2016;40(3):267-80.
34. Cristofoli D, Markovic J, Meneguzzo M. Governance, management and performance in public networks: How to be successful in shared-governance networks. Journal of Management and Governance. 2014;18(1):77-93.
35. Khayatzadeh-Mahani A, Ruckert A, Labonté R, Kenis P, Akbari-Javar MR. Health in All Policies (HiAP) governance: Lessons from network governance. Health Promotion International. 2019;34(4):779-91.
36. Manenti A. Health situation in Iran. Medical Journal of The Islamic Republic of Iran (MJIRI). 2011;25(1):1-7.
37. Manenti A. Decentralized Cooperation, a new tool for conflict situations. Geneva: World Health Organization; 1999.
38. Heo H-H, Jeong W, Che XH, Chung H. A stakeholder analysis of community-led collaboration to reduce health inequity in a deprived neighbourhood in South Korea. Global Health Promotion. 2018;27(2):35-44.

Figures

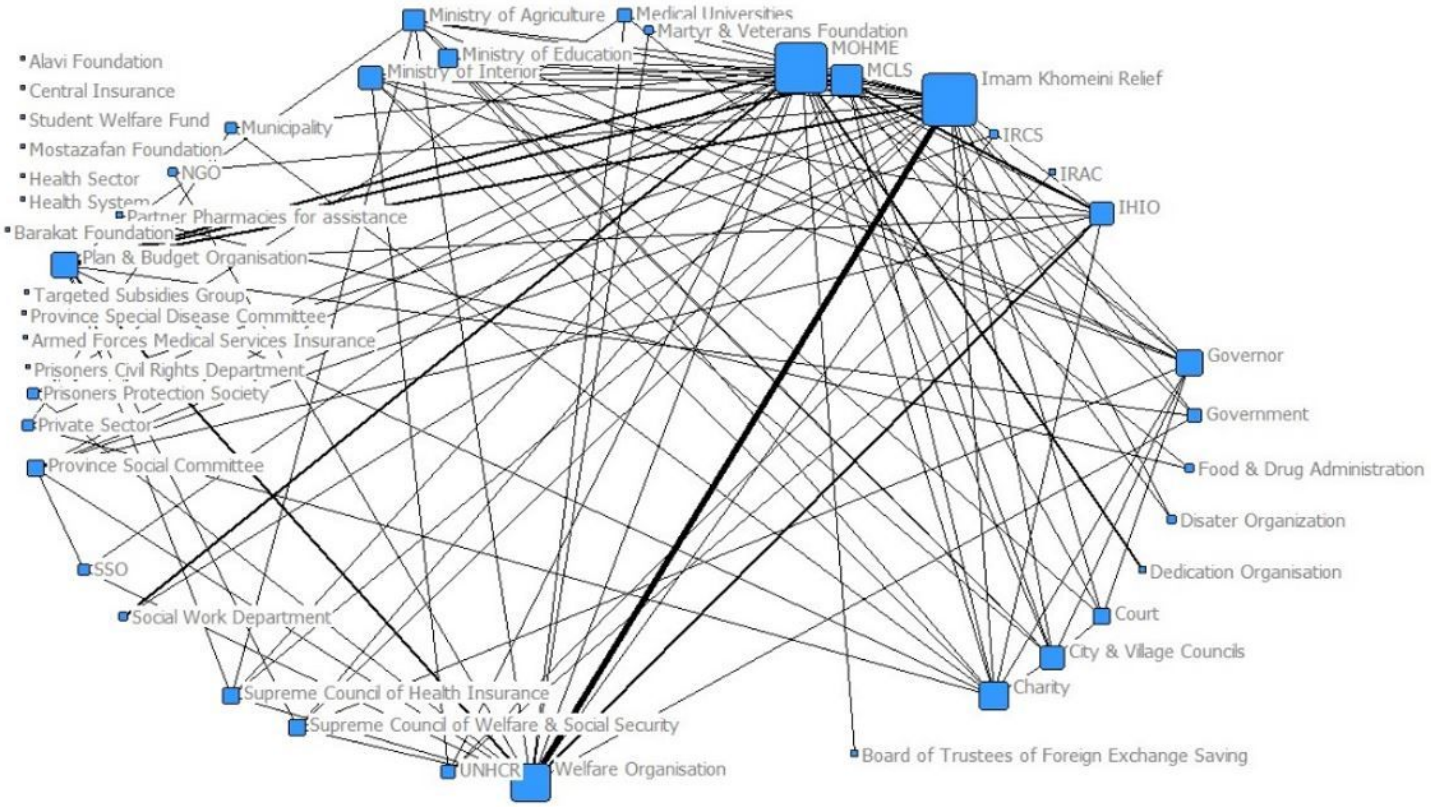

Figure 1

The degree of centrality of the optimal financial protection network (above) and the legal obligations network of financial protection (below)

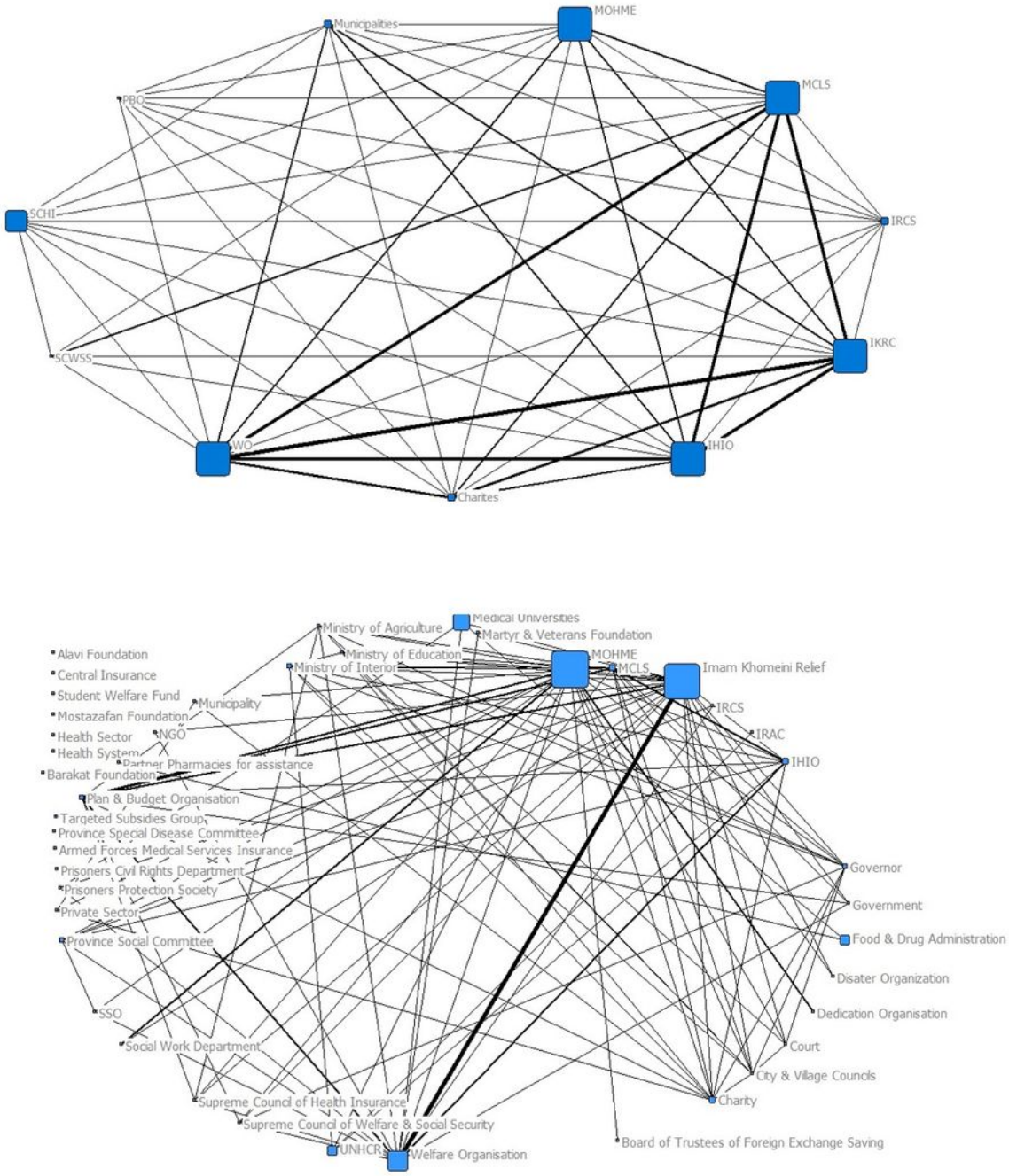

Figure 2

Betweenness centrality of the optimal financial protection network (above) and the legal obligations network of financial protection (below)

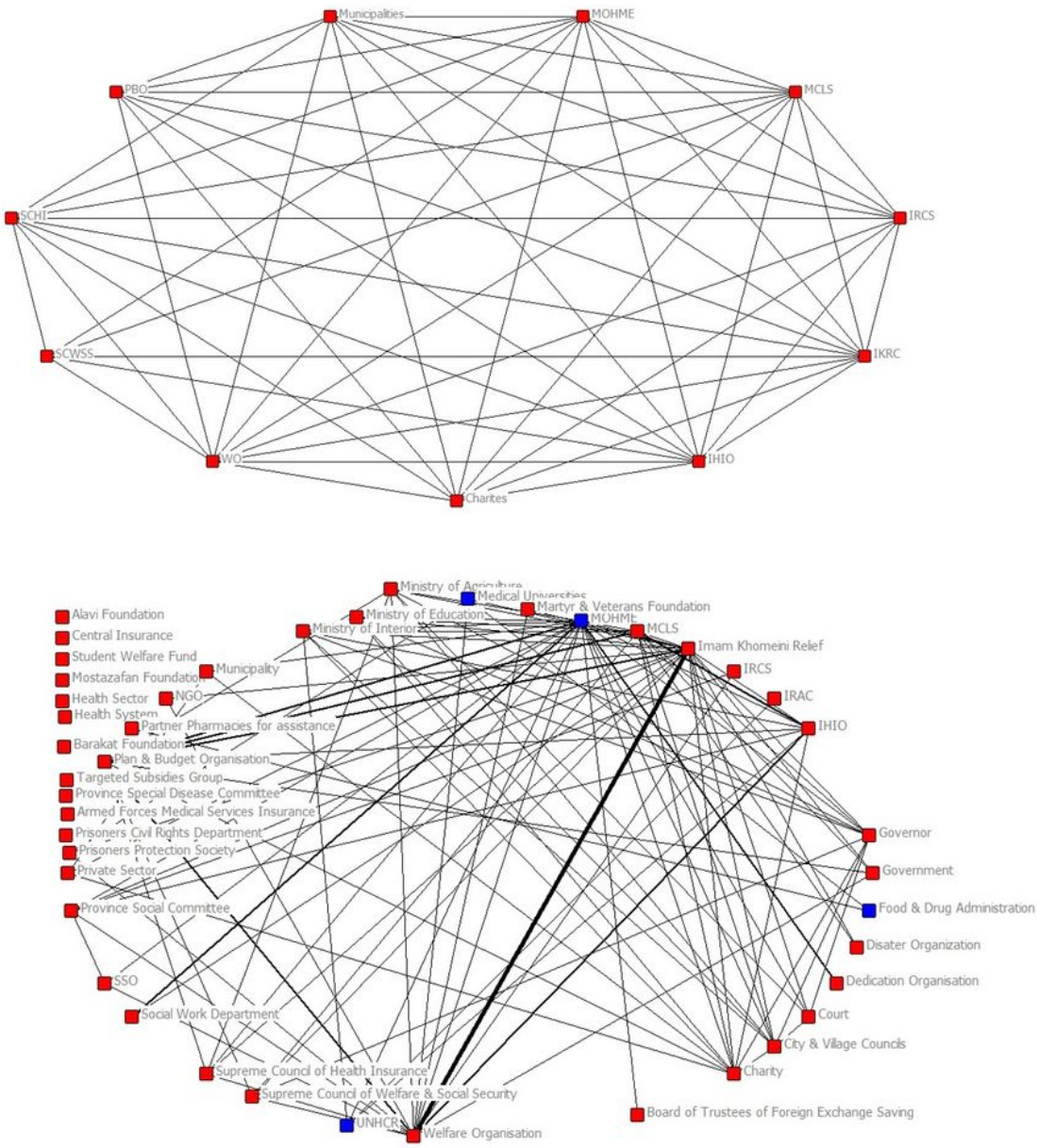

Figure 3

The cut-off points in the optimal network of financial protection (above) and the legal obligations network of financial protection (below)