

# What Kinds of Advantages and Disadvantages May Merging Health Insurance Funds Bring About? A Qualitative Policy Analysis from Iran

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## Research article

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# Abstract

**Background:** In countries with health insurance system, the number, the size of insurance funds and the amount of risk distribution among them is a major concern. One possible solution to overcome problems resulting from fragmentation is combining risk pools together to create fewer and larger ones, ideally a single pool. This study aims to realize what kind of advantages and disadvantages merging health insurance funds together may bring about to the health insurance system in particular and health system in general.

**Methods:** In this qualitative study, nesting purposive sampling with maximum variation was used to obtain representativeness and rich data. Sixty face-to-face interviews were conducted. Documentary review was used as supplementary source of data collection. Content analysis using the 'framework method' was used to analyze the qualitative data. For assuring the quality of results, four trustworthiness criteria including credibility, transferability, dependability and confirmability were used.

**Results:** The results of this study indicated that there are diverse positive and negative consequences for merging of health insurance funds in Iran which are categorized into seven categories including governance/stewardship, financing, population, benefit package, structure, operational procedures and interaction with providers. These themes are subdivided further into thirty-seven sub-categories which represent a wide range of different policy aspects which need close attention to deal with the merging of health insurance funds.

**Conclusions:** Implementation of merging health insurance schemes in Iran would be influenced by a wide range of potential merits and drawbacks, so to facilitate the process and lessen the opposition of opponents, policy makers should act as brokers taking into account the contextual factors and adopting tailored policies to maximize the benefits and minimize the potential drawbacks of consolidation in Iran.

## Background

In countries in which health insurance is a main source of health financing, the number, the size of insurance funds and the amount of risk distribution among them is a major concern.(1-3) Health financing experts should bear in mind the degree of fragmentation in health financing as it may lead to inequity in access to health care services for different groups of population.

Fragmentation should not be considered as a problem by itself but differences among health insurance schemes in the following aspects should be taken into account by health policy makers to see whether the situation is satisfactory or not. These criteria include the percent of the whole population under coverage of each health insurance scheme; the extent of differences in the contribution rates, benefit package, quality of health care received by members of different risk pools, and more importantly variations in user charges and amount of out-of-pocket payments paid by different beneficiaries belong to different insurance schemes for the same health services they use(4). The bigger gaps, the more health financing experts should be worried about the health equity impacts of the fragmentation. One possible

solution to overcome problems resulting from fragmentation is combining risk pools together to create fewer and larger ones, ideally a single pool (5-7). Reducing fragmentation provides more financial protection from a given level of prepaid funds, which is the key objective of universal coverage(7).

### *Health Insurance System in Iran and the challenge of fragmentation*

Health insurance Organizations in Iran are divided into 3 groups according to functions they play:

1. **Basic health insurance organizations:** such as Iran Health Insurance Organization (previously it was called Medical Services Insurance Organization) with several separate sub-funds for government employees, rural residents, the self-employed and their dependents, the poor, and other sectors (such as students, some professional associations and so on), Social Security Organization covering all the people employed in the formal private sector and their dependents, and Armed Forces Medical Services Insurance Organization(8)
2. **Institutional organizations:** including about 17 funds such as the municipality, Petroleum Industry Health Organization, the National Broadcasting Organization, banks and other organizations. Each organization provides required insurance services for their own employees individually as a fringe benefit, and(9)
3. **Commercial organizations:** such as Iran, Asia, Alborz, Mellat, Pasargadae, Atieh Sazane Hafez of which the latter group often operates in the form of voluntary supplementary private insurance.(10-15)

Facing chronic problems attributed directly or indirectly to the fragmentation in the Iranian health financing system including inequity in health services utilization and financial protection among different groups of people(13, 16); high out-of-pocket expenditures(12, 13, 17); high occurrence and intensity of catastrophic health expenditures(18, 19); low financial protection against health services for the insured persons(10, 20); population coverage duplication(10, 12), failing to reach universal health coverage and lack of transparency and no reliable data in population coverage and per capita health expenditures and contribution rates(10) made policy makers to pass a law 2010 in order to merge all the existing health insurance funds (basic health insurance schemes and institutional funds) into the Medical Services Insurance Organization aiming to create a single health insurance organization(9, 21).

### **Objectives of the study:**

The aim of this study is to realize what kind of advantages and disadvantages merging health insurance funds together in Iran may bring to the health insurance system in particular and health system in general. Considering this issue is context-sensitive and to date advantages and disadvantages the merging the health insurance has received scant attention particularly in terms of qualitative analyses in the research literature, it may provide important insights into moving toward a decision on the merging health insurance in developing countries such as Iran. Lessons from this study can be applicable for policy makers from other countries, especially those with low- and middle-income, trying to merge existing health insurance schemes in order to strengthen risk pooling.

## Methods

This qualitative study was conducted in 2014-2015. This paper is part of a larger study about “analysis for policy” of merging social health insurance (SHI) funds in Iran.

### *Participants*

Nesting purposive sampling with maximum variation was used to obtain representativeness and rich data by including a wide range of extremes. As the use of maximum variation sampling is a well-established approach to limit the possibility of selecting narrow or few cases from one with wide variation. Reviewing several Iranian qualitative papers in the field of health financing and health insurance; studying the articles of consolidation of SHI Funds Law passed in the Fifth Economic, Social and Cultural Development Plan; and advices of members of the research team familiar with the context of health insurance system in Iran were used to develop the initial list of key informants purposefully for doing interviews. A purposeful sample of key informants with outstanding work and knowledge in the areas of health system, health financing, health insurance, and with relevant education, experiences and researches were selected. Other additional stakeholders and key informants were identified through snowball sampling and information derived from the analysis of interviews and relevant documents. Interviews were continued until no more key informant and stakeholder were identified and saturation was reached. Following stakeholders were identified for the purpose of the study: Ministry of Health and Medical Education (MoHME); The Ministry of Cooperatives, Labor and Social Welfare (MoCLSW); Plan and Budget Organization of the Islamic Republic of Iran; Iran Health Insurance organization; Social Security Organization; Armed Forces Health Insurance; Imam Khomeini Relief Committee; the Parliament of the Islamic Republic of Iran (Majlis); The Medical Council of Islamic Republic of Iran; Health care providers (staffs responsible for reviewing medical records according to different principles of different health insurance funds for reimbursement); medical associations like Pharmacists Association, Association of General Practitioners, and Medical Laboratories Association; and finally minor health insurance institutes such as [Petroleum Industry Health Organization](#), banks, and Tehran Municipality.

Sixty face-to-face interviews were conducted. Documentary review was used as supplementary source of data collection. The principles of Five-Year National Economic, Social and Cultural Plans; 20 year national vision; history of health insurance developments in Iran including the Obligation Law (1989), Universal Medical insurance Act (1994), Organizing Healthcare Act emphasizing on providing equal benefit packages and centralizing information of all insured groups in a single data bank (2002), purchaser-provider split (2004); TV programs, TV interviews, reports, declarations, newspapers and proceedings of Iran Parliament regarding the Law of Consolidation were among the documents that were examined and analyzed.

## ***Conceptual framework***

A semi-structured interview guide was used to conduct the interviews. For the purpose of the study, to develop the interview guide questions and finding an appropriate conceptual framework to cover all aspects of merging and to organize the findings, a conceptual framework was derived from the World Bank (22). The World Bank framework includes eight elements to design and establish a health insurance system: feasibility of insurance design, financing mechanisms, population coverage, benefits package, provider engagement, organizational structure, operational processes, and monitoring and evaluation. We used the framework to classify the advantages and disadvantages of merging of health insurance schemes in Iran. The interview guide was pilot tested by doing 3 introductory interviews.

### *Data collection*

At the start of each interview, by explaining the purpose of the study and ensuring the confidentiality of the content of the interviews and anonymity, interviews were taped with 2 voice recorders. Interviewees were free to choose where they liked to be interviewed which in all cases, interviews were done in the workplace of the interviewees. Besides the researcher and participants, no one else was attended during the interviews. In three cases, the participants did not allow voice-recording (they were afraid as the topic was political), therefore notes of the main points were taken down. Also field notes were made during and/or after the interviews to get most out of the interviews. The minimum, maximum and average times of interviews were 10, 120 and about 50 minutes respectively. In seven cases, the interviews lasted for two or three sessions because interviewees were busy trying to finish the interview in one session, some of them were eager to give more information, and in some cases the interviewer had to refer again later for more details or to complete omitted information. To collect documents, the list of related documents and their source for collection were identified. Websites of organizations including Majlis, MoHME, Iranian Medical Council, and Health Insurance organizations were reviewed and related in print documents were also collected in person.

### *Data analysis*

Content analysis using the 'framework method' was used to analyze the qualitative data. It is worth mentioning that this method can also be applied in deductive, inductive, or combined types of qualitative analysis.<sup>(23)</sup> The five-stage process of qualitative data analysis was done: understanding (familiarization), identifying a thematic framework (thematic), coding (indexing), charting and mapping and interpretation.<sup>(24)</sup> All the interviews were done, transcribed and initially indexed by one author (MB). Interviews were analyzed with the World Bank framework (both inductive and deductive approach) using MAXQDA12 software.

### *Trustworthiness:*

For assuring the quality of results, we employed four trustworthiness criteria suggested by Lincoln and Guba. Credibility was met with a prolonged engagement whereby the principal investigator (MB)

continuously worked nearly 12 months with the qualitative data. Furthermore, member-checking validation was used by delivering some transcribed interviews to the respective participants and asked them to ensure that there is a good correspondence between their findings and the perspectives of participants. To improve credibility, particularly for the purpose of this study, we focused on the negative and opposite cases to provide a comprehensive picture derived from pros and cons of merging. The research team search for and discuss elements of the data that do not support or appear to contradict patterns or explanations that are emerging from data analysis and deviant cases in findings were incorporated in the analysis process until it can explain or account for a majority of cases. Transferability and reflexivity of our qualitative findings was enhanced through maximum variation sampling technique and thick descriptions of the topic context of health insurance in Iran. Dependability of the research was assured by an auditing approach in which the VYF accompanying by an external auditor engaged in critical comments in coding process and analyzing of transcribed interviews as well as cross-checked the data we collected. To increase confirmability, we employed a methods triangulation approach including document review, interviews with key informants and other informative sources to check out the consistency and complementary of findings generated by different data collection methods.

## Results

The advantages and disadvantages of merging derived from the interviews were classified in the following categories: stewardship, financing, population, benefit package, structure, operational processes, and interaction with providers.

### **Stewardship:**

In 2004, by creating High Council of Health Insurance (HCHI) under the MoCLSW, a purchaser-provider split occurred in the Iranian health system in order to move towards strategic purchasing and boost competition among health care providers. According to the studies, after this separation, incoordination between two ministries effected new challenges for MoHME to devise and implement health reforms without control on financial resources (25). Apart from this, fragmentation in health insurance caused each insurance scheme behave differently and follow different health policies and also implement policies issued by the HCHI differently. According to the interviews, merging can solve these challenges to great extent. According to the findings, merging and creating a single national health insurance can provide a situation in which it is easier to control total health care expenditures and formulate and implement more reliable health policies for the health system.

*“...I'm really tired of attending in meetings of the family physician and referral system. I've probably attended more than 50 large meetings regarding launching family physician and referral system myself, we saw that the Iran Health Insurance Organization representative wants something different, the Social Security organization' agent speaks differently, and the Armed Forces Insurance Organization'*

*representative was saying something else. If I, as Ministry of Health, want to implement family physician referral system, whose opinion should I accept?..." (P2, Head of high council of health insurance)*

*"...Social Security Organization don't implement whatever approved by HCHI or implement with delay..." (The parliament representative, Nabz, TV program about merging)*

*"...wherever the monopoly is formed, the accountability would be reduced. Because all people have to get their services only from one organization with the same quality and quantity, and this lead to reducing the responsiveness as this organization has no competitor... the same thing that happened to our car industry as a result of monopoly. ..." (P20, A manager from Social Security Organization)*

### **Financing:**

Fragmentation in health financing in Iran has caused each health insurance scheme to follow their own policies and in the long run it has led to differences in contribution rates, out-pocket-payments rates, coinsurance rates, different level of financial protection and also uneven distribution of public subsidies among different groups of insured. Apart from reducing the inequities, interviewees believed that merging can improve the way through it the financial resources are collected, managed, pooled, and allocated to purchase health services for the beneficiaries.

*"... About 23 million rural citizens are covered freely by Iran Health Insurance Organization (IHIO), government pays for them, is there this advantage for the workers? are they not Iranian? is it not discrimination?" (Nabz, TV program about merging, the representative of worker house)*

*"when you have duplication in coverage, more public budget is spent, it means that the government pays twice as employer for a part of population..." (P38, A manager from Plan and Budget Organization of the Islamic Republic of Iran)*

### **Population:**

In the population area the following subjects are the main topics which merging may bring about positive or negative impacts: extending coverage for those without health insurance and removing the problem of duplication in population coverage.

*"... When the supervisory and legislative agencies requested (health insurance schemes for) the number of the insured persons, adding the numbers together, we saw that the result was more than the whole population of the country and at the same time we had ten million people uninsured. ..." (P38, A manager from Plan and Budget Organization of the Islamic Republic of Iran)*

*"... One of the merits of merging is unifying the information of population, now according to the census of the Iranian, 77 million people are known; when you combine and unify all health insurance databases, it will make those people without insurance coverage clear. Why making it clear is not possible now?!"*

*Because they are scattered in 17 databases, merging makes it clear who has several insurance cards and who has no coverage ...” (P26, one of the parliament representative)*

*“... The fragmentation and duplication of health insurance coverage makes it difficult to calculate the per capita expenditures accurately. As a result, the computation of insurance premiums will be blurred. ...” (P17, One of the former general director of IHIO)*

### **Benefit package:**

The first advantage that most of interviewees mentioned in this aspect was providing equitable basic benefit package for all Iranians. According to the interviews, high inequity in benefit packages under coverage of insurance schemes has led to high dissatisfaction among people which is not acceptable and is against national values and constitution. The current differences among different groups of population in terms of the verity of health services they can access, the level of financial coverage provided for each health service, the number and variety of health facilities (public or private health sector) which they can get their services would be removed by creating a single health insurance scheme for all population.

*“... We (health insurance experts in Iran) say we are moving towards public health based services (conserving health status), but what we are doing now is hospital based services...” (A manager from Armed Forces Health Insurance Organization) “...the main focus of some health insurance funds is business, not health...” (The parliament representative, Nabz, TV program about merging)*

### **Structure:**

The main advantages mentioned by the interviewees in this section were related to reducing the administrative and overhead costs as a result of eliminating parallel structures of insurance in the provinces and in turn reducing the number of top managers and employees.

*“... all insurance funds also have their own offices in different provinces. Different insurance companies have their own offices, general directors, secretaries, cars, traveling costs, seminars, and so on. ...” (P7, one of the parliament representative)*

*“... Meanwhile these 18 have created their own specific funds, they pay high salaries for the CEO and board of directors, if merged, instead of having 18 board of trustees including 60 to 70 top managers, we face one board of trustees. ...” (NABZ TV program about merging health insurance funds)*

### **Operational processes:**

Eliminating different instructions applied by health insurance funds to review claims and better supervision and management of health care providers by merging their health profile in a single data base were the main advantages stated by the interviewees.

*"... Overall, fragmentation of insurances has many challenges. One of the challenges is that there are different guidelines and rules, it confuses the providers, it confuses even the medical Association, the regulations that exist in IHIO vary from social security organization (SSO), one covering different/more health services from/than the other one. The depth of coverage of the armed forces is the most. The physician must make several lists for different insurance schemes, which means both he and his secretary should put more time for preparing them, these increase the administrative costs. ..."* (P18, A manager from The Medical Council of Islamic Republic of Iran)

*"... The pharmacy says that when I buy a drug, I get a fee list from the IHIO website, and also I have to check out the fee list of SSO. For example, for Albumin, IHIO accepts 31,000 Tomans, Imam Khomeini Foundation accepts 38,000 Tomans, and Social Security 27,000 Tomans. ..."* (P5, A manager from Imam Khomeini Relief Committee)

### **Interaction with providers:**

Merging and creating health insurance schemes can influence the interaction with health care providers in various ways. Merging can influence the following areas in positive way: competition among health care providers; strategic purchasing and supervising health care providers; reimbursement and moving towards new payment methods; and the principles of contraction with providers.

*"... The next problem is that medical fraud is easier occurred in a fragmented health insurance context because the medical profile of providers is not centralized in a single database. Someone may misuse an insurance schemes and it takes time this fraud to be known by other health insurance schemes. ..."* (P17, One of the former general directors of IHIO)

*"... When the profile of a physician is centralized in one database, you can see how much drugs or paralcinical diagnostic tests they have prescribed, you can supervise them better. Doctors are intelligent; they obey regulations of health insurance schemes with strict rules but they may play game with other schemes. With a single insurance, doctors are reimbursed by a single payer (so you can execute taxation affairs easier), the current fragmented situation is better for those doctors who want to escape from paying taxes"* (P18, A manager from The Medical Council of Islamic Republic of Iran)

## **Discussion**

The successful merge of health insurance funds like other health policies is depended on identifying and dealing with a wide range of different factors rooted in the contextual factors in each country. This issue is of paramount importance particularly in developing countries which are faced with limited sources and different structural, institutional and political conditions. This study set out with the aim of realizing the advantages and disadvantages of moving toward a decision for merger of health insurance funds. The results of this study indicated that there are diverse positive and negative consequences for merging of health insurance funds in Iran which are categorized into seven categories including governance/ stewardship, financing, population, benefit package, structure, operational procedures and interaction

with providers. These themes are subdivided into thirty-seven sub-categories which represent a wide range of different policy aspects to pay close attention to deal with the merging of health insurance funds.

It is worth to specify that what kind of problems can be solved by consolidation of health insurance schemes in the health system and health financing area. Also, the clear explanation of potential achievements can be effective on supporting the implementation of the program and reducing the resistances by opposing actors.

According to the results, combination and changing financial flows, and in turn the increase of the power of health insurance system, can improve the equity in health financing. Although health equity improvements can't be attributed only to consolidation or reduction in the numbers of health insurance funds, they have been the most important ones. For instance, out-of-pocket share in Turkey accounted for 19% of the total health costs three years after the implementation of the program, which was considered fairly low(26). In South Korea, the same contribution rates were developed for all the self-employed across the country as a result of merger(27).

Bigger funds will improve the economies of scale, which will in turn maximize the benefits provided for the members. According to the findings, reducing administrative costs by reducing the number of health insurance organizations in all provinces and in turn reducing the number of top managers and employees can be attributed to the merger as one of the first advantages which comes to the minds. Similarly in Korea, after the merger of the regional funds of the self-employed with the fund of government employees and school teachers in 1998, 227 insurance funds of the self-employed and 19 funds of the government employees were reduced to 162 regional funds, and the number of personnel was reduced from 10849 to 9073 in December 1999 (27). Reducing administrative costs has been emphasized in international literature as one of the advantages of having fewer risk pools(28-30).

The international experiences show that the single payer system is more powerful and more efficient in controlling the total health care expenditures(31, 32). Regarding risk pooling efficiency and financial stability, the single payer is more preferable (32, 33). The collection of contributions will be integrated with other social insurance funds as a result of merging. In addition to the improvement of equity in contributions and reduction of administrative costs(34), the single-payer system has more power in bargaining with providers through creating a monopolistic purchaser(22, 27). The single insurance has the capacity and inclination to purchase medical care cautiously, which will improve the efficiency of the new system(27, 30). Also, the single insurance system will increase the competition among providers, since the single insurance is the only payer and provides a free choice of providers for the insured(31).

The single insurance system can enhance insurance packages and extend the coverage in favor of the poor and the members of weaker insurances. For instance, it is expected that in Indonesia, the uniform service package for civil servants and the private sector employees will create better clarity, equity, and understanding of the package for providers and members(31).

It is also worth mentioning that experience of other countries moved toward merging shows that the single insurance system can provide an opportunity to highlight some neglected health insurance policy decisions previously in the fragmented health insurance system at a national level(27). According to the interviews, currently the main focus of health insurance schemes in Iran is on hospital based services. Although PHC and primary health care services in Iran are financed by the government and provided by the district health network, but the interviewees criticized the current situation as they believe health insurance system has failed to address public health and preventive services and also preserving health at the first step which in turn has led to high health care expenditures. In the current fragmented situation, health insurance schemes struggle to cover more secondary and tertiary health services, but merging can help focusing on public health services and prevention as a policy to move towards financial resources management by controlling health care expenditures in the long term.

Normally, one of the consequences of the multiple insurances is that despite existing different health insurance organizations alongside each other, a part of the populations is not covered by any insurance for different reasons(35, 36). By creating a single health insurance database, it would be easier to eliminate duplication and identify those who have no coverage which will pay the way moving toward reaching universal coverage.

Beside the positive effects, merging may cause unpredicted side-effects in the health system in the short and long run, which need to be predicted to prevent. A single payer may reduce efficiency due to increasing the bureaucracy and decreasing responsiveness; however, in Iran where people do not have real right to choose between different funds (people are assigned to different insurance funds according to their job status or where they live), the efficiency lost as a result of merging may not be significant(27). In a single payer system, the insured do not have the chance of choosing and changing the insurer when the health services are not satisfactory which can lead to dissatisfaction, especially in rich families. However, we need to know that the right to choose the provider is much more important and significant than the right to choose the insurer. Insurers are only payers, and have little effect on the process and outcomes of the treatment. In the single payer system, the free choice of the provider and increased competition among providers can increase the satisfaction of the beneficiaries(30, 31).

According to the consolidation law in Iran, it is supposed that by merging, all health insurance schemes are responsible for collecting their contributions and allocating their share to IHIO. Some of interviewees were concerned about the unwillingness of SSO to collect premiums as actively as before because the financial resources are not going to be managed and spent by the SSO. In south Korea also health experts concerned that as the financial resources are going to be shared with the whole population, collection of the contributions from the self-employed after merging may not be done as actively as before (27).

In contraction with health care providers, interviewees mentioned that currently each health insurance scheme follows its own regulations for contracting and also for reviewing claims and reimbursement. Apart from increasing complexity, hospitals have to appoint specific employees to deal with different regulations issued by different health insurance schemes which increase administrative costs. By

creating a single insurance, it would be much easier and simpler to work with one insurance and one set of rules. Recently, since the second half of 2019, IHIO has started to launch new projects to review claims and also manage referral system based on an electronic system, although these are good initiatives to increase the speed and accuracy of utilization review process and referral system, other main health insurance such as SSO and Armed forces health insurance organization use non-electronic systems which make it more difficult for health care providers to work with health insurance organizations with different systems.

Interviewees mentioned contradictory ideas about the impact of merging on the reimbursement process. Merging may improve or even worsen the time of reimbursement. Some indicated that currently health insurance schemes behave differently in terms of time of payment and amount of payment for the same health services. Health care providers express their concern about how merging is going to change the process of payment. Health care providers said currently they are paid by several schemes on different periods of time, in the case of delay in payment by one or two schemes, health care providers resort to other schemes with on time reimbursements. But they worry that by creating a single payer, in the case of delay in reimbursement, the financial security of health care providers would be jeopardized.

### **Study Strength and limitations**

A key strength of the present study is that we interviewed with a maximum variation of stakeholders with confirming and disconfirming perspectives about the advantages and disadvantages which may enhance the trustworthiness of results. This helps clarify the path of moving toward implementation of consolidation law in Iran. This study was conducted after passing the Consolidation Law in Iran when the government was mandated to implement the law. Whereas, no action has yet been taken, it provides a natural policy environment in which the expectations of the stakeholders in implementation of the law, as well as their conflicting interests, could be better captured in the study. Of course, these data must be interpreted with caution because it is not certain which advantage or disadvantage mentioned by interviewees may occur in real world after the implementation of the law. Furthermore, in some aspects such as stewardship or financing there were contrasted and opposite opinions mentioned by informants about the advantages or disadvantages of the consolidation. It is not clear which stakeholder correctly points out to the advantages or disadvantages or gives a more accurate interpretation of what will happen in reality. At the same time some of interviewees may have had limitations in expressing their opinions due to political consideration and their day-to-day responsibilities and institutional positions. This means that we also contend that key stakeholders interviewed might have been affected by a social desirability and position bias, which refers that they may have described what they thought we want to hear, rather than the reality. Also, some of them may have provided politically acceptable and satisfactory responses with respect to their roles and responsibilities. In deal with these problems, we used triangulation of data collection methods including interviews and document analysis and some mass media sources and also comparing people with different viewpoints, both opposing and supporting the policy, as triangulation of sources and as well as providing ample opportunities to the interviewees to express their deep understandings of the context, to raise the credibility, confirm-ability and reflexivity of

the results. Last but not least, these findings may be somewhat limited by subjectivity. Although we used different sources of data and analyzed the data by peer debriefing in order to enhance trustworthiness of the results, the interpretations may persist subjective and our results cannot claim a whole truth. As the research philosophical paradigm is a constructive approach rather a positivism one, this situation is unavoidable and is defensible.

## Conclusions

The present study was designed to explore the viewpoints of different stakeholders about advantages and disadvantages of the health insurances funds consolidation law, a law passed but not implemented. The most obvious finding to emerge from this study is that consolidation implementation in Iran may influenced by a wide range of merits and drawbacks in governance/stewardship, financing, population, benefit package, structure of health insurance, operational procedures, and interaction with providers. This study helps to inform policy makers in low resource settings about the potentially expected benefits and detriments when moving toward the implementation of this law. Given all these results is highly context-sensitive and there is trade-off between benefits and drawbacks before and after consolidation, policy makers should act as brokers taking into account the contextual factors and adopting tailored policies to maximize the benefits and minimize the drawbacks of consolidations.

## Declarations

**Ethics approval and consent to participate:** This study has been approved by the ethics committee of Tehran University of Medical Sciences. The consent we obtained from the study participants was verbal as the study was qualitative and we got their verbal consent to participate in the study and to be interviewed. Verbal consent is accepted by the ethics committee.

**Consent for publication:** We got consent of the interviewees to participate and record their voice and for direct quotes from their interviews to be published in this manuscript with protection of their anonymity and confidentiality.

**Availability of data and materials:** All raw data and also the file of thesis have been prepared in Persian (not English). But the corresponding author will gladly provide any supporting materials upon request.

**Competing interests:** Authors declare that they have no competing interests.

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proposed by the research team for several times but they did not participate in collection, analysis, and interpretation of data and in writing the manuscript.

**Authors' contributions:** MB participated in designing the study, gathering data, analyzing and interpreting data and writing the manuscript. AR made substantial contributions to the design and analyzing of all phases of the main study and also the conception and design of the paper. VY and NR worked on the development, editing and finalizing of the draft of the paper. All authors read and approved the manuscript.

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## Abbreviations

SHI: Social Health Insurance

MoHME: Ministry of Health and Medical Education

IHIO: Iran Health Insurance Organization

MHIF: Merging Health Insurance Funds

SSO: Social Security Organization

HCHI: High Council of Health Insurance

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## Table

Table 1: The advantages and disadvantages of merging health insurance funds in Iran derived from interviews

| Theme                         | Sub-theme  | Pros of Merging Health Insurance Funds (MHIF) in Iran in Iran   | Cons of MHIF in Iran  |
|-------------------------------|--|---|---|
| <b>Governance/Stewardship</b> | The accountability of health insurance regarding to the insured' needs and demands | <ul style="list-style-type: none"> <li>Increasing accountability of health insurance system regarding how to generate and how to use financial resources to meet the needs of the insured by creating a single health insurance fund</li> </ul> | <ul style="list-style-type: none"> <li>Risk of objection by workers as they may know Social Security Organization responsive for their treatment</li> <li>The bad memory left from the past relating to Ministry of Health and Medical Education for not being responsive regarding how and where it was spending the health premiums of the Social Security Organization's beneficiaries</li> <li>Reducing accountability by creation of monopoly in health insurance system like what happened in car industry in Iran</li> </ul> |

| Theme | Sub-theme                           | Pros of Merging Health Insurance Funds (MHIF) in Iran in Iran  | Cons of MHIF in Iran |
|-------|-------------------------------------|--|----------------------|
|       | Control of health care expenditures | <ul style="list-style-type: none"> <li>• Multiple health insurance schemes lead to increase in inflation and buying health services at higher prices.</li> <li>• Reducing the cost of the health insurance system by eliminating duplication in insurance coverage and solving the problem of using health insurance cards by those without insurance coverage</li> <li>• Cost control by implementing strategic purchasing</li> <li>• Better supervision of the health care providers by centralizing the profile of providers in a single data base and reducing fraud and controlling the volume of health care services provided by providers</li> </ul> |                      |

| Theme | Sub-theme                                 | Pros of Merging Health Insurance Funds (MHIF) in Iran in Iran   | Cons of MHIF in Iran  |
|-------|---|---|---|
|       | The power of health insurance supervision | <ul style="list-style-type: none"> <li>• Better chance for enhancing supervision by reducing delay in payment and reimbursement health care providers on time as a result of merging</li> <li>• Improve service quality with better supervision and higher purchasing power</li> <li>• Improving the supervision by injecting more personnel left as a result of merger into the regulatory area</li> </ul> | <ul style="list-style-type: none"> <li>• The weak role of insurance as a supervisor of health services at the current situation</li> <li>• Failure to envisage the task of supervision for health insurance in the Merger Law in Fifth National Development Plan Act</li> <li>• Reducing the control of other health insurance schemes on how health insurance premiums are spent by IHIO</li> <li>• Risk of increasing the supervision costs for other health insurance schemes in order to follow how their premiums spent by IHIO (The same experience happened in 1983 when a commission was established in all provinces to supervise the quality of treatment for SSO' beneficiaries provided by regional health centers of The Ministry of Welfare and Wellbeing).</li> <li>• Risk of lessening the power to supervise the single national insurance scheme</li> </ul> |

| Theme | Sub-theme                   | Pros of Merging Health Insurance Funds (MHIF) in Iran in Iran   | Cons of MHIF in Iran |
|-------|-----------------------------|---|----------------------|
|       | Management of health system | <ul style="list-style-type: none"> <li>• Better alignment of single insurance scheme with policies of MoHME</li> <li>• Easier establishment of clinical guidelines</li> <li>• Interaction of MoHME with a single insurance with a single set of instructions</li> <li>• Putting an end to following different policies by different insurance schemes in dealing with health problems for instance updating table of medicines prices</li> <li>• Eliminating the problem of multiple health insurance schemes with different regulations as an obstacle the implementation of health reforms such as family physician program</li> <li>• Increasing health financing equity by setting the same health care prices for different group of population</li> </ul> |                      |

| Theme            | Sub-theme  | Pros of Merging Health Insurance Funds (MHIF) in Iran in Iran   | Cons of MHIF in Iran |
|------------------|--|---|----------------------|
|                  | Transparency of health information and policy making           | <ul style="list-style-type: none"> <li>• Better planning and policy making by centralizing health insurance information in a single</li> <li>• More precise prediction of financial resources and annual budget required for health insurance system by transparency in per capita health insurance expenditures</li> </ul>               |                      |
|                  | Policy making and stewardship of basic health insurance system | <ul style="list-style-type: none"> <li>• Increasing the power of health insurance system to devise and follow implementation policies</li> <li>• Easier and faster setting new policies by creating a single scheme</li> <li>• Organizing different health policies and decisions issued by different health insurance schemes</li> </ul> |                      |
| <b>Financing</b> | Health insurance premiums                                      | <ul style="list-style-type: none"> <li>• Reduce premiums as a result of reducing costs</li> </ul>   |                      |

| Theme | Sub-theme                                    | Pros of Merging Health Insurance Funds (MHIF) in Iran in Iran  | Cons of MHIF in Iran   |
|-------|--|--|--|
|       | Ability to create new resources              |  | <ul style="list-style-type: none"> <li>• Other health insurers may lose motivation to collect premiums and transfer it to IHIO (unwillingness of the social security organization to collect insurance premiums from workers)</li> </ul>   |
|       | Per capita premiums and actuary calculations | <ul style="list-style-type: none"> <li>• More reliable calculations of per capita premiums by removing duplication in insurance coverage</li> </ul>                              |  |
|       | Patient cost sharing                         | <ul style="list-style-type: none"> <li>• Equity in cost-sharing for all groups of population</li> </ul>  |  |
|       | Financial inflows and outflows.              | <ul style="list-style-type: none"> <li>• Easier monitoring of accounting and financial processes</li> <li>• More transparent and stable insurance inflows and outflow</li> </ul> | <ul style="list-style-type: none"> <li>• Better transparency in financial flows by multiple insurance.</li> <li>• Currently keeping separate financial accounts for sub-funds under IHIO for higher transparency in revenues and expenses.</li> <li>• Decrease in overall transparency: the creation of separate funds in the Public Insurance Act.</li> </ul> |

| Theme | Sub-theme  | Pros of Merging Health Insurance Funds (MHIF) in Iran in Iran   | Cons of MHIF in Iran |
|-------|--|---|----------------------|
|       | <p>Estimation and management of financial resources in health insurance system</p> | <ul style="list-style-type: none"> <li>• Unable to plan the required insurance credits the following year with a multitude of insurances.</li> <li>• Better estimation of required financial resources for health insurance system and planning according to the financial capacity single national insurance.</li> <li>• Better management of insurance premiums by pooling them in one place</li> <li>• Saving the public budget by removing the duplication in coverage.</li> <li>• be able to define a new role for health premiums by centralizing them in a single fund <ul style="list-style-type: none"> <li>◦ Getting more financial support from government for basic health insurance</li> </ul> </li> </ul> |                      |

| Theme | Sub-theme                               | Pros of Merging Health Insurance Funds (MHIF) in Iran in Iran   | Cons of MHIF in Iran  |
|-------|---|---|---|
|       | Cross subsidies                         | <ul style="list-style-type: none"> <li>• Better transfer of cross subsidies between different groups of population with greater risk pooling.</li> </ul>  |   |
|       | Patient financial protection            | <ul style="list-style-type: none"> <li>• Paying lower premiums for the treatment of low-income people as a result of merging</li> <li>• Expanding benefit packages by saving resources:</li> <li>• Better control of the high cost of health services provided by some providers</li> <li>• Reducing out-of-pocket payments by purchasing health services by lower prices with a single insurance.</li> </ul> | <ul style="list-style-type: none"> <li>• Need to increase premiums and resources to reduce payments out of people's pockets</li> <li>•</li> </ul> |
|       | Financial stability of health insurance | <ul style="list-style-type: none"> <li>•</li> <li>• Single insurance will increase the financial viability of the whole health insurance system</li> </ul>  | <ul style="list-style-type: none"> <li>• Appropriate size of IHIO and SSO at the current situation (no need for consolidation)</li> </ul>         |

| Theme | Sub-theme  | Pros of Merging Health Insurance Funds (MHIF) in Iran in Iran   | Cons of MHIF in Iran |
|-------|--|---|----------------------|
|       | Saving financial resources                                     | <ul style="list-style-type: none"> <li>• Increase resources and service packages by reducing administrative costs</li> <li>• Better managing scattered governmental resources by merging</li> </ul> |                      |
|       | Equity in distribution of subsidies in health insurance system | <ul style="list-style-type: none"> <li>• The scatter of insurance prevents all people from receiving the same subsidies as the health system transformation plan.</li> </ul>                        |                      |

| Theme      | Sub-theme                   | Pros of Merging Health Insurance Funds (MHIF) in Iran in Iran  | Cons of MHIF in Iran |
|------------|-----------------------------|--|----------------------|
|            | Management of premiums      | <ul style="list-style-type: none"> <li>• Imposing expenditures by non-contract providers.</li> <li>• Payment of insurance for luxury and expensive private hospital services.</li> <li>• Payments without proper mechanism and proper supervision and control.</li> <li>• Necessary use of resources properly with reduced services and unnecessary costs.</li> <li>• High per capita and lack of strategic purchasing in strong and small insurance.</li> <li>• Lack of insurance plans to allocate resources.</li> </ul> |                      |
| Population | Reaching universal coverage | <ul style="list-style-type: none"> <li>• Fragmentation in health insurance system as a barrier to reach universal coverage in the three areas of population, health service and financial protection.</li> </ul>   |                      |

| Theme | Sub-theme                       | Pros of Merging Health Insurance Funds (MHIF) in Iran in Iran   | Cons of MHIF in Iran |
|-------|---------------------------------|---|----------------------|
|       | population coverage duplication | <ul style="list-style-type: none"> <li>• Elimination of duplication in population coverage</li> <li>• Elimination of inequity in access to health services due to duplication in health insurance coverage (using different benefit package with different services and financial protection belonging to various health insurance schemes due to fragmentation).</li> <li>• Centralizing health profile and health expenditures profile in a single database</li> <li>• Reduce the misuse of multiple health insurance cards by health services providers and patients.</li> </ul> |                      |
|       | Number of the insured           | <ul style="list-style-type: none"> <li>• Clear and reliable statistics about the number of the insured by creating a single database and removing duplication</li> </ul>  |                      |

| Theme                  | Sub-theme  | Pros of Merging Health Insurance Funds (MHIF) in Iran in Iran  | Cons of MHIF in Iran |
|------------------------|--|--|----------------------|
| <b>Benefit Package</b> | Focus of health provision (public health or hospital based services) | <ul style="list-style-type: none"> <li>• Neglecting prevention and public health services as a result of fragmentation</li> <li>• Better chance to focus and pay more attention to public health and preventive services by creating a single health insurance</li> </ul>  |                      |
|                        | Distinct between basic and supplementary health insurance.           | <ul style="list-style-type: none"> <li>• Eliminating current interference between basic and supplementary health insurance (In Iran according to the national health laws supplementary are supposed to cover only those health services which are not under coverage of basic health insurance funds).</li> </ul> |                      |

| Theme | Sub-theme                        | Pros of Merging Health Insurance Funds (MHIF) in Iran in Iran   | Cons of MHIF in Iran  |
|-------|----------------------------------|---|---|
|       | Equity in basic benefit package. | <ul style="list-style-type: none"> <li>• Strengthening the benefit package for underprivileged groups by setting the same benefit package for all.</li> <li>• Putting an end to providing generous health services for privileged groups</li> <li>• Currently various funds react differently to the changes in prices of medicines and medical equipment and also changing in benefit package</li> </ul> | <ul style="list-style-type: none"> <li>• Lack of justice due to poor infrastructure in the villages and deprived areas.</li> <li>• No justification for providing the same benefits to all insured (different groups of population with different health needs, expectations, and affordability).</li> </ul>                                    |
|       | Satisfaction of the insured      | <ul style="list-style-type: none"> <li>• Increased satisfaction of the insured by strengthening and upgrading the basic benefit package.</li> <li>• Dissatisfaction among public as a result of disparity and injustice in benefit packages</li> <li>• Increasing satisfaction by improving competition among health services providers Equal access to health care for all insured.</li> </ul>           | <ul style="list-style-type: none"> <li>• Increasing dissatisfaction among population groups enjoying generous benefit package at the current situation</li> <li>• Concerns about sharing privileges with other groups of insured (for instance sharing free of charge health services in health centers and hospitals belong to SSO)</li> </ul> |

| Theme            | Sub-theme  | Pros of Merging Health Insurance Funds (MHIF) in Iran in Iran   | Cons of MHIF in Iran  |
|------------------|--|---|---|
| <b>Structure</b> | Creativity, innovation and dynamism in insurance | <ul style="list-style-type: none"> <li>• Increase the dynamics and creativity with single insurance: No chance to copy creativity made by other health insurance funds</li> </ul>   | <ul style="list-style-type: none"> <li>• Killing the creativity as currently each health insurance fund try to improve the quality of their own services.</li> </ul>  |
|                  | Administrative and overhead costs                | <ul style="list-style-type: none"> <li>• Reducing administrative and overhead costs by removing parallel structures of insurance in the provinces</li> <li>• Reducing the current costs of manpower and high salaries of top managers.</li> <li>• Reducing personnel costs in the long run as all departments and employees in each health insurance fund with the same job description would be merged together and there would be no need to recruit the same number of personnel as before.</li> <li>• Reducing the supervisory costs by unifying the content of contractions with providers.</li> </ul> | <ul style="list-style-type: none"> <li>• No tangible administrative costs reduction in the sort run due to political resistance against downsizing</li> <li>• Emphasizing on reduce administrative costs is an inadequate target for insurance merging.</li> <li>•</li> </ul> |

| Theme                  | Sub-theme   | Pros of Merging Health Insurance Funds (MHIF) in Iran in Iran   | Cons of MHIF in Iran |
|------------------------|---|---|----------------------|
| Operational procedures | Monitoring and supervision of health care providers | <ul style="list-style-type: none"> <li>• Drug interactions are better recognized here.</li> <li>• Fragmentation in health insurance funds and in turn fragmentation of centers of utilization review increase the potentiality of abuse and fraud by the provider</li> <li>• Easier monitoring and control of providers by creating a single central profile for each provider</li> </ul> |                      |

| Theme                             | Sub-theme                                 | Pros of Merging Health Insurance Funds (MHIF) in Iran in Iran   | Cons of MHIF in Iran   |
|-----------------------------------|---|---|--|
|                                   | Administrative and financial instructions | <ul style="list-style-type: none"> <li>• Harmonizing the financial and administrative regulations and instructions and reducing the complexity of different regulations for the health care providers.</li> <li>• Unifying the operational instructions make it easier to improve them in order to enhance the performance of the whole health insurance system</li> <li>• Moving towards formulating new regulatory instructions for private health sector by merging</li> <li>• Moving towards formulating new regulations to organize supplementary health insurance market by creating a strong single basic health insurance fund</li> </ul> |  |
| <b>Interaction with providers</b> | Competition in the health system.         | <ul style="list-style-type: none"> <li>• Creating competition among providers by creating a single payer.</li> <li>• No real competition among health insurance funds in the current situation</li> </ul>   | <ul style="list-style-type: none"> <li>• Eliminating competition between basic health insurance schemes</li> </ul> |

| Theme | Sub-theme             | Pros of Merging Health Insurance Funds (MHIF) in Iran in Iran  | Cons of MHIF in Iran   |
|-------|-----------------------|--|--|
|       | Control of providers. | <ul style="list-style-type: none"> <li>• Changing providers' behavior by financial leverage.</li> <li>• Moving towards putting an end to increasing costs imposed by non-contracted providers</li> <li>• Non-compliance of private health care providers due to the scatter of insurance.</li> <li>• Small insurance are forced to contract with a higher price with the provider at they are fragmented.</li> </ul> | <ul style="list-style-type: none"> <li>• Probability of abusing health care providers by misusing the power of monopsony</li> <li>•</li> </ul> |
|       | Bargaining power      | <ul style="list-style-type: none"> <li>• Increasing the bargaining power of insurers by moving from multiple to single payer.</li> </ul>   | <ul style="list-style-type: none"> <li>• Lack of authority of insurance funds to bargain and determine medical tariffs</li> </ul>              |

| Theme | Sub-theme            | Pros of Merging Health Insurance Funds (MHIF) in Iran in Iran   | Cons of MHIF in Iran   |
|-------|----------------------|---|--|
|       | Strategic purchasing | <ul style="list-style-type: none"> <li>• Need for merging to boost strategic purchasing as each insurance follow approach at the current fragmented situation</li> <li>• Increase fund flexibility by financial resources pooling.</li> <li>• Enhance strategic purchasing by improving financial resources and sooner reimbursement.</li> <li>• Improving strategic purchasing by eliminating paying higher payment by the small insurance funds</li> <li>• Better financial resource management by creating a single payer and mass purchasing.</li> <li>• Better control of the private sector by strategic purchasing.</li> </ul> | <ul style="list-style-type: none"> <li>• The need not to subject strategic purchasing to single insurance.</li> <li>• Inability to buy lower prices due to low and unrealistic tariffs.</li> <li>• Unavailability of insurance at affordable prices, single-rate sales by the Ministry of Health.</li> </ul> |

| Theme | Sub-theme                     | Pros of Merging Health Insurance Funds (MHIF) in Iran in Iran   | Cons of MHIF in Iran  |
|-------|-------------------------------|---|---|
|       | Reimbursement to the provider | <ul style="list-style-type: none"> <li>• Improvement and timely reimbursement of providers</li> </ul>   | <ul style="list-style-type: none"> <li>• Risk of putting more financial pressure on the providers in case of delay in reimbursement by the single payer (currently providers reimbursed by different insurance funds with different time periods)</li> <li>• Risk of putting more financial pressure on the providers by emphasizing on financial management</li> </ul> |
|       | Modifying the payment system  | <ul style="list-style-type: none"> <li>• Better opportunity to move toward designing and implementing new payment methods by single insurance fund</li> </ul> |   |

| Theme | Sub-theme   | Pros of Merging Health Insurance Funds (MHIF) in Iran in Iran   | Cons of MHIF in Iran |
|-------|---|---|----------------------|
|       | Interaction between health insurance and health care providers and medical centers. | <ul style="list-style-type: none"> <li>• Formulating new single instructions for providers and finishing different complex details of regulations of multiple insurance funds</li> <li>• No need to appoint different staff to audit different medical health records belong to different health insurance funds.</li> <li>• Unify the regulations of purchasing health care services from providers.</li> <li>• Unifying the details of basic benefit package (the same services, the same medical tariffs and prices, the same exceptions, the same coinsurance rates for different services and different kinds of patients, etc) for all hospitals.</li> <li>• Reducing transaction costs and preparing different insurance bills.</li> </ul> |                      |

| Theme | Sub-theme                        | Pros of Merging Health Insurance Funds (MHIF) in Iran in Iran   | Cons of MHIF in Iran |
|-------|----------------------------------|---|----------------------|
|       | Organizing private health sector | <ul style="list-style-type: none"> <li>• Currently private health care providers are not willing to contract with basic health insurance funds due to low and delay in reimbursement</li> </ul> |                      |

## Supplementary Files

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