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New financial management system for Iran public health sector: A qualitative study

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Abstract:

BACKGROUND: Financial management system acts as a driving force and the first important principle of health sector reform. This study aimed to prepare a framework for new financial management system in Iran health sector.

MATERIALS AND METHODS: This qualitative study was conducted by content analysis approach and 15 key informant participants selected through purposive sampling consisted of three ministers of Ministry of Health and Medical Education (MOHME), three vice-chancellors in the Center of Resource Development and Management, Two members of the Health Assembly of the Islamic Consultative, four Medical Sciences university's presidents, and three managers in Budgeting and performance Monitoring Center of MOHME in 2017. Data were collected through semi-structured interviews and they were analyzed using Atlas T₆ software.

RESULTS: Six main themes were emerged as follow: "legal reform," "removing barriers to set up accrual accounting," "cost price calculation," "operational planning and budgeting," "human resources' organization, recruitment, and moderation," and "financial system output utilization (management accounting techniques) as the base for evidence-based policymaking and decision-making practices."

CONCLUSION: Any efforts for improving the current situation and reducing of mentioned limitations could be useful in providing required space for future phases of reforms and calculation of unit cost, operational budgeting, and management of cost and productivity. This can be achieved through an integrated system of recording and producing standard and accrual financial information. Furthermore, changing the accounting process and the financial system that complies with one single encoding in the country is a key issue.

Keywords:

Financial management, health system reform, Iran, qualitative study

Introduction

Nowadays, reforms in health system have been considered as one of the key strategies and policies in different countries. These reforms generally address these two major axes; structural reform and decentralization and income and expenditure financial reform.^[1] In this regard, financial management system as the most influential component of reform and the first important principle in health

system reform, acts as a driving force along with preserving its relations with the self-regulation and decentralization.^[2] However, what necessitates making reform in financial management is to have transparent financial reporting system and appropriate mechanism. This would increase accountability and responsibility and ultimately improve evidence-based decision-making practices in health system.^[3] Looking at countries with reform experience in financial management system showed

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that they all had six objectives for changes as their common goals. These main objectives include providing opportunity to assess performance management carefully, better financial resources' management, and better understanding of the costs' program. They followed by accessibility improvement to useful information for resource allocation, heightening financial reporting, and finally cash and assess management improvement.^[4] Kabir *et al.* found that there were numerous problems with conducting financial reform despite spending a decade after its implementation in the Iranian health system.^[5] Another study confirmed that fundamental changes need to be made to the accounting and financial reporting system of the Iranian health sector because of problems in the financial management system of the Iranian health sector.^[6]

Financial management system in Iran's health sector

In Iran health system, financial reforms are usually carried out after other reforms such as educational and health care. Coping with these events, the financial system has been undergone a change for responding to that structural or health-care reform (like autonomy in teaching hospitals, board of trustees' hospitals).^[7] Overall, the purpose of these reforms in Iran's health sector was to help resolving the problems and failures of the accounting and financial system deficiencies and also to reduce the heavy financial burden imposed on the Ministry of Health and Medical Education (MOHME) from public and private credits accumulation each year.^[5]

In 1995, the Iranian government started a policy to grant a greater autonomy to teaching public hospitals (hospitals affiliated to MOHME). It aimed to improve the quality of health-care services, hospitals' performance, and more importantly reducing their financial burden on the governmental budget.^[8]

Inevitable consequence of this structural change was revising in accounting and finance management system of the MOHME. This reform was implemented in MOHME as the first state-run institution and it called the new financial management system in health sector. New financial management system was evidently focusing on the technical and practical problems of the financial management system of the health sector including cash registers and receipts and payments records, purchasing registration of properties and assets in the expense headings, weak preparation of financial reports, lack of standard financial statements, and ambiguity dimension in the actual budget performance, based on legal order.^[9]

Considering this situation, the reform in financial management system was proposed in Iran which had four phases; changes in accounting approach

from cash to accrual, the implementation of the costing system and cost price, the establishment of operational budgeting and ultimately, cost-efficiency management (evidence-based decision-making) and the first phase implementation (Accrual Accounting Establishment) has been started in 2005. Since little study has been done in terms of new financial management system in Iran health sector, this study aimed to prepare a framework for new financial management system in Iran health sector.

Materials and Methods

Sample and setting

This study was a qualitative study using content analysis approach aimed to provide a framework for new financial management system in Iran health sector in 2017. In total 15 key informants, participants were selected using purposive sampling method, consisted of three minister of MOHME, three former vice-chancellor in the Center of Resource Development and Management, Two members of the Health Assembly of the Islamic Consultative, four Medical Sciences university's presidents, and three managers in Budgeting and performance Monitoring Center of MOHME.

Data collection

Data were collected through individual and semi-structure interviews. The interview guideline including open- and closed-ended questions which was designed to address research questions. This was developed based on comparative study review^[10] as well as three in depth interviews. Interviews ranged from 30 min to 1 h (average 40 min). The time and place of interviews were set up as per participants' convenience and most interviews were conducted at their workplace.

Data analysis

Interviews were audio-recorded and transcribed verbatim and two researchers (MA and MJ) analyzed these transcripts, independently according to the Graneheim and Lundman approach.^[11]

First, the text was read several times to understand the core content. Then, it was divided into meaning units, which were condensed and shortened after considering the most important sense. Subsequently, the condensed meaning units were labeled with codes at low level of abstraction, and finally, the extracted codes were classified based on their differences or similarities. The data reduction continued until all the categories and themes were developed. Data were analyzed using content analysis by *Atlas Ti*₆ software.^[12] At the end, the suggestion of the expert panel was used to make the required correction. This expert panel comprises eight members who were executive experts affiliated

to the Finance and Budget Committees of the Ministry of Health and three academic members. The findings were discussed in this panel and finalized based on the panel's comments.

Ethical consideration

Before interviews, the necessary information was provided on the goal of the study to the participants and verbal consent was obtained. Confidentiality was assured to all participants and has been maintained throughout this study. Ethics approval was granted by Iran University of Medical Sciences Ethics Committee (Grant: 642-1391).

Results

Fifteen participants completed semi-structured interviews between August 2017 and November 2018. Analysis of data revealed six main themes and fifty two categories. This framework's dimensions and items were shown in Table 1.

Discussion

Proposed new financial management system framework proposed for Iran public health sector was finalized in six dimensions and 53 items that subsequently discussed.

First theme: Legal reform

Strategic committee formation in order to make legal reform on new financial management system in health sector

The strategic committee formation can play a significant role and as a driving force in advancing the goals of the modern financial system. Based on Article 49 of the Fourth Development Plan, this strategic Committee has focused on preparation and formulation of proposed financial and trading of medical sciences universities throughout the country, and presenting at the university's board of trustees' meetings and drawing attention from all local and international experts of the health sector. It was finally signed by the minister and communicated to all Board of Trustees' meetings, after its five editions were published on the basis of legal requirements and in order to resolve the ambiguities of the law.^[7]

Financial technical committee formation

This committee composed of five elected directors of the medical universities and four experienced financial experts. The committee began its work in accordance with the necessity of the presence of the financial director and the new obligations' description. Pursuant to Article 105 of the Financial and Trading Regulations, the announcement in the meetings of the universities' Board of Trustees; the formation of a committee by this combination, was established to align and coordinate among financial managers. Later, regarding the

requirements for amending the rules of financial and trading and adding the instructions and regulations, regular meetings and the continuous presence and inviting other Handicraftsmen and experts were also established. Updating the financial regulations, instructions, training the university's financial staff, and advising and responding to the legal and technical questions of universities in the field of finance can be very helpful.

Technical budget committee formation of the new financial system in health sector (alongside the financial technical committee)

Based on the previous successful experience, the specialized technical budget directors committee was established in line with the committee of financial managers. This committee aim was updating the budget information tables in accordance with the standard financial data, updating the detailed budget structure, training the budget managers and coordinating the achievements of budget management of universities and medical academies throughout the country. Later, it was legalized in Article 105 of the Financial and Trading Regulations and by convening regular meetings and inviting the experts in and outside the health sector, this situation led to integrated and purposefulness achievements.

Audit committee formation

Given that the presence of auditors in the public health sector was a new and unique experience, the auditors did not have much awareness in this area. Given the successful experience of the committee of budget directors and financial managers, the committee started to work with the aim of updating the audit reporting method at medical science universities, advising and responding to the technical and legal uncertainties of the technical, financial, and budget committees, assuring that the health sector decision makers are in line with the principles and standards of the new financial system. Improving the level of internal control levels, developing a long-term operational plan for auditing, and explaining the results and achievements to other auditors of the health sector are the other duties' of this committee. Formation of an audit committee and establishment of an internal audit unit in the public sector has been confirmed in other studies.^[13-15]

Second theme

Removing barriers to set up accrual accounting

Revision of instructions, adaptation of accrual accounting instructions with public sector standards, changing the public accounting principles to the operational audit approach, changing the direct audit methodology of the public sector regulatory bodies, auditing based on the reports of audit institutions, standardization, and

Table 1: New financial management system's framework proposed for Iran health sector

Themes	Sub-themes
Legal reform	Strategic committee formation on new financial management system in health sector Financial technical committee formation Technical budget committee formation Audit committee formation
Removing barriers to set up accrual accounting	Revision and standardization of accrual accounting instructions Adaptation of accrual accounting guidelines with public sector standards Change the basic accounting principles of the formal institutions in public sector (accountability audit approach to short-term operational audits approach) Change the direct audit method of regulatory authorities of the public sector to audit based on the reports of audit firms in long-term Standardizing and making unity of direction in administrative, personnel and financial processes Transfer of accrual accounting experiences from the health sector to other public sectors to improve sustainability of the new financial management system
Cost price calculation	Define a conceptual framework for computing cost price in health sector Operational units identification and defining them clearly Operational units (subordinate departments) independency in financial term (independent financial statement preparation) Identifying the cost centers in independent operational units and coding them Define a special service unit in educational, research, health and medical areas Service's per unit cost identification with appropriate methods in each area (job order costing, process costing, per capita, and DRG) Hoteling cost identification
Operational planning and budgeting	Define a conceptual framework for resources and expenditures in the health sector with creating resources and rationalizing costs approach Reviving the operational planning and budgeting approach for universities and subordinate departments Designing forecasting financial statements for universities and ministry based on the approved operational plans Designing consolidated financial statements (replacing the traditional budgeting with technical and financial committees) for universities Designing standard forecasting financial statements (replacing the traditional budgeting with technical and financial committees) for independent units Designing a standard memorandum between the university headquarters and independent units by technical and financial committees Designing standard operational financial time frame and budget for university and its subordinate departments by technical and financial committees Prepare university's operational program based on the strategic program, approve it by the board of trustees and send it to the subordinate departments by the head of the university Designing and calculating standard forecasting financial statements draft or a memorandum by subordinate's accounting department based on the approved operational plans The necessity of board of director's final approval according to the approved operational program and communicated it to the subordinate departments by the head of the university Preparing of consolidated forecasting financial statements draft by both the budgeting and performance monitoring management and university financial management participation
Organization, recruitment, moderation of human resources	Changing the finance and budget organizational chart in order to implement new financial management system Changing organizational structure of universities and subordinate departments based on strategic and operational programs by using matrix approach Changing the structure of the dismissal and appointment of financial managers at different levels, so that at least their appointment period wouldn't be <4 years and they should be experts and have sufficient experience in financial affairs Recruiting new expert employees or putting them in the place of nonspecialist employees in financial and budgetary departments Designing training packages for managers and other experts according to their needs and requirements for the new financial management system Implementing training course for managers and other target experts in line with their needs and requirements for the new financial management system Ranking teachers and training new teachers for different levels Preparing instruction and training packages for calculating the cost price, planning and budgeting of the operation Creating unity of direction in collecting and analyzing routine documentary data required for reliable standard outputs of the new financial management system Designing and updating web-based reporting mechanisms with the "reporting for evidence-based decision making" approach, such as dashboards of the new financial system, Sajjad systems, detailed budgets, etc., based on the end- user levels need

Contd...

Table 1: Contd...

Themes	Sub-themes
	Designing harmonized form and method for financial reporting by using the “reporting for evidence-based decision-making” approach
	Designing time frames and target groups for reporting system by using the “reporting for evidence-based decision-making” approach emphasizing on the accuracy and timeliness of information
	Designing a framework for the integration and standardization of common healthcare software applications, including HIS, MIS, and other financial, administrative, organizational, and operational software with the “single data entry” approach
	Monitoring performance based on web reports and identifying the deviations from approved programs
	Using RCAs and designing a mechanism for informing and correcting deviations from approved programs
	Designing and installation of convenient manual and software control layers for preventing deviations and errors (Swiss cheese model)
	Establishing a mechanism for linking performance monitoring and resource allocation (performance indicators of the new financial system) to each other
	Improving the university’s allocation committee position by using resource allocation approach based on operational programs and the outcomes of the new financial system
	Coordinating and creating a common language with upstream legal and regulatory authorities
	Tariff’s proposition to the insurance supreme council based on the derived cost from new financial system
	Using the new financial system’s outcome to control the flow of informal money (performance control, adjustment of incoming and outgoing insurance bills)
	Evaluating the university’s behavior and subordinate departments in providing services according to the new financial system’s outcomes and based on comparative items before and after (revenues, expenses, assets and liabilities)
	Identifying and declaring incomes and unconventional costs
	Using the new financial system’s information and output feedback for future planning

RCAs=Root cause analysis

unity of the direction for administrative personnel and financial processes are among the proposed measures for the full deployment of accrual accounting. In this regard, the cascade training method was used in a financial department. While there was not the trainer familiar with the new concepts, the main strategic team informed and trained the selected trainers team, then each trainer provided educational services to a number of the other trainers in the shortest time, Identifying assets and determining debts, code review of the departments, and making financial proposals are the main goals that should be achieved by this method.

Third theme

Calculation of the cost price

Several studies emphasized on the calculation of the cost price,^[7,9,16] which has been emphasized on the importance of this dimension. In cost price implementation, a combination of process costing approach at the unit level of service and at the service center level, and a job order costing approach at the patient’s level would be used the cost extraction. Policymakers and other decision makers should consider this aspect as a key structure if they want to use the DRG method in service units, per capita method for each student in education sector. However, using cost price will be defined as the default rules (the law of the fifth program of sociocultural economic development).

Fourth theme

Operational planning and budgeting

Reviving the Planning and Budgeting approach to Universities and subordinate departments, designing

forecasting financial statements, designing consolidated forecasting financial statements, designing standard forecasting financial statements, and identifying a standard internal memorandum between university headquarters and independent units are some of the key aspect in this dimension. Furthermore, the preparation of the strategic plan for the university’s operational program, calculating and drafting of financial statements, the standard forecast, or the memorandum by the finance management accounting department, are among the main criteria in this model. Other researchers emphasized on the leading role of the budgeting operations and the necessity for moving toward it in Iran health system by taking into account the infrastructure and preconditions of the public health sector.^[17-21]

Fifth theme

Organization, recruitment, and moderation of human resources

Human resources caused to the reform failure in health system, especially financial and structural reform such as what had happened in Latin America.^[22] The organizational chart is defined and approved centrally by the Ministry of health and coordinating with the former management and planning organization and current president deputy of strategic planning and control. However, here, there is problem; the actual chart differs from the chart on the paper.^[23] Officials are protected by state laws and regulations. Such a claim is that lack of the human resource management’s authority acts as a barrier which slows down the process of structural reform.^[24] The reform of the organizational structure of

universities and the recruitment of new employees or the replacement of nonexpert employees, and determining training packages that are tailored to the needs and requirements of the new financial management system, should be taken into account in this dimension.

Sixth theme

Financial system output utilization (management accounting techniques) as the base for evidence-based policymaking and decision-making practices

Access to useful information for resource allocation and financial decision-making is important.^[25] Identifying the selected financial ratios for the health sector creates unity of direction for collecting and analyzing routine and documented data. For this reason, in a comprehensive new financial management, this would be very important item if the ultimate goal is effective evidence-based decision-making practices. Hence, this dimension has a significant and critical role in this regard.^[10] Designing and updating web-based reporting mechanisms with the "Reporting for Evidence-Based Decision Making" approach, designing and harmonizing financial reporting formulation with this approach, identifying a framework for merging, and standardizing the commonly used health software applications such as HIS, MIS, and also other financial, administrative, organizational, and operational software with the "single data entry" approach are among the most important aspects in this regard. However, monitoring performance, establishing a mechanism for linking performance monitoring and resource allocation (Performance indicators of the output of the new financial system), tariffs' proposition in proportion to the cost, identification, and declaration of unconventional incomes and costs, and documenting and publishing the achievements of the new financial management system are the other influential aspects of this part in this model.

Investigating the necessities and feasibility of implementing accrual accounting in the financial system of the public sector of the country, modeling resource allocation based on accrual accounting in the health sector and carefully examining the implementation strategies of operational budgeting based on accrual method are some of the recommendation for future studies.

Conclusion

Any efforts for improving the current situation and reducing of mentioned limitations could be useful in providing required space for future phases of reforms and calculation of unit cost, operational budgeting, and management of cost and productivity. This can be achieved through an integrated system of recording and producing standard and accrual financial information.

In order to implement financial reporting system in Iran public health sector, we should pay attention to the financial independence of the service providers to enhance the unit's level availability in decision-making practices. Furthermore, changing the accounting process and the financial system that complies with one single encoding in the country is a key issue but this reform implementation depends on other fundamental changes in finance and budget structure such as the identification system of fixed assets, inventories, cash flow, cost identification, and revenue obligations.

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Conflicts of interest

There are no conflicts of interest.

References

1. Mohammadi E, Raissi AR, Barooni M, Ferdooosi M, Nuhi M. Survey of social health insurance structure in selected countries; providing framework for basic health insurance in Iran. *J Educ Health Promot.* 2014;3(1):116.
2. Jafari M, Habibirad A, Pourtaleb A, Salarianzadeh MH. Health system organizational reform in governing Iranian public hospitals: A content analysis to comprehend the barriers in Board of Trustees' hospitals. *Int J Health Plann Manage.* 2018;33(2):e612-20.
3. Bastani P, Abolhalaj M, Molania Jelodar H, Ramezani M. Role of accrual accounting in report transparency and accountability promotion in Iranian public health sector. *Middle East J Sci Res.* 2012;12(8):1097-101.
4. Eriotis N, Stamatiadis F, Vasiliou D. Assessing accrual accounting reform in Greek public hospitals: An empirical investigation. *Int J Econ Sci Appl Res.* 2011;4(1):153-83.
5. Kabir MJ, Abolhallaje M, Bastani P, Keshavarzi A. Necessary requirements for implementation of financial reform in the Iranian health sector. *Health Scope.* 2017;6(3): e14184.
6. Bahadori M, Ravangard R, Alimohammadzadeh K, Hosseini SM. Plan and road map for health reform in Iran. *Bmj.* 2015;351..
7. Abolhalaj M, Ramazani M. The experience of Iranian Ministry of Health and Medical Education in health new financial reform. *Health Econ.* 2011;1(1):83-92.

8. Doshmangir L, Rashidian A, Jafari M, Takian A, Ravaghi H. Opening the black box: The experiences and lessons from the public hospitals autonomy policy in Iran. *Arch Iran Med*. 2015;18(7):416-24.
9. Abolhallaj M, Ramezani M, Bastani P. Accrual accounting accomplishments in Iranian universities of medical sciences: A mixed method study. *Middle East J Sci Res*. 2012;12 (3):294-300.
10. Abolhallaj M, Jafari M, Seyedin H, Salehi M. Financial management reforms in the health sector: A comparative study between cash-based and accrual-based accounting systems. *Iran Red Crescent Med J*. 2014;16(10):1-5.
11. Elo S, Kääriäinen M, Kanste O, Pölkki T, Utriainen K, Kyngäs H. Qualitative content analysis: A focus on trustworthiness. *SAGE Open* 2014;4(1):1-10.
12. Abolhallaj M, Jafari M, Seyedin H, Salehi M. *Designing a Comprehensive Financial Management System for the Iranian Public Health Sector*. Tehran: Iran University of Medical Sciences. 2014.
13. Babajani J, Babae M. The impact of establishment of audit committee and internal audit unit on improvement of the financial accountability of the universities and research institutions. *J Account Knowl*. 2011; 2(4): 7-28.
14. Babajani J, Khonaka A. The necessity of the establishment of auditing committee and internal auditing unit on promoting the level of accountability of metropolises' municipalities. *Empir Stud Financ Account*. 2013;10(33):39-72.
15. Mahdavi G, Karimi-Pour E. Fifteen solutions to increase effectiveness of auditing system. *J Account Audit*. 2012;1(1):38-51.
16. Abolhallaj M, Ramezani M, Abolhasani N, Salarian Zade H, Hamidi H, Bastani P. Iranian health financing system: Challenges and opportunities. *World Appl Sci J*. 2013;22(5):662-6.
17. Mehrolhassani M, Najafi B, Yazdi Feyzabadi V, Abolhallaj M, Ramezani M. A review of the health financing policies towards universal health coverage in Iran. *Iranian Journal of Epidemiology*. 2017;12(5):74-84.
18. Fatemi M. Accrual accounting and operational budgeting in public sector. *Hesabras*. 2011;13(55):131-2.
19. Najafi M, Ahmadvani A. The advantage of using operational budgeting on governmental organization. *Manage Sci Lett*. 2012;2(1):101-6.
20. Poorzamani Z, Naderi B. A review of the barriers to implementing operational budgeting in Iranian free trade-industrial zones. 2012; 1(1):1-16.
21. Safaei A. Operational budget and infrastructure requirements. *J Audit*. 2007;9(37):48-9.
22. Voegtlin C, Greenwood M. Corporate social responsibility and human resource management: A systematic review and conceptual analysis. *Hum Resour Manage Rev* 2016;26(3):181-97.
23. The Islamic Republic of Iran Employment Law. Parliament (Majles) of IRI.1990:16. available at: <https://rc.majlis.ir/fa/law/show/99612>.
24. Saltman RB, Durán A, Dubois HF. *Governing Public Hospitals: Reform Strategies and the Movement Towards Institutional Autonomy*. European Observatory on Health System and Policies. 2011.
25. Mayne JW. *Monitoring Performance in the Public Sector: Future Directions from International Experience*: Transaction Publisher; 2017.