



Challenges of Budgeting and Public Financial Management in Iran's Health System: A Qualitative Study

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Abstract

Background: Efficient and effective management of budgets and financial resources is critical for health systems to achieve their goals; in this regard, countries may face budgetary and financial challenges owing to the weak prediction of resources and consumptions, and lack of prioritization for their budget. This study aims to identify the most critical policies and events that have affected public financial management and health budgeting and existing challenges in Iran.

Methods: We conducted the present study in 2022 using a 2-stage qualitative method. First, by reviewing upstream documents and laws, we identified evidence related to health budgeting. Then, we conducted 13 semi-structured interviews with informed people in the health budgeting field that led us toward the main challenges through thematic content analysis.

Results: After reviewing 48 upstream documents related to health budgeting, we identified 85 policies. After reviewing the articles, we achieved 11 themes and 71 subthemes. The most critical challenges of the budgeting cycle were as follows: (I) budget formulation, including inappropriate budget structure, conflicts of interest and infringement, lack of financial sustainability, and transparency; (II) budget execution, including a nonexecutable approved budget, complicated allocation process, and ineffective allocations; and (III) monitoring, reporting, and evaluation (MR&E), including fragmentation of MR&E processes, ineffective monitoring and evaluation, weak evaluation of platforms, and inadequate transparency.

Conclusion: Most challenges in the health budgeting system are related to the budget formulation and approval stage that have their roots in implementation, monitoring, and reporting. In addition, Iran's macroeconomic and financial issues have also damaged the budgeting of the health sector. Budget problems affect the goals and outcomes of this sector, especially the health system.

Keywords: Budgeting, Public Financial Management, Budget Formulation, Budget Execution, Budget Monitoring, Budget Evaluation, Universal Health Coverage

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Introduction

The preparation and formulation of public funds and, in general, the issues of Public Financial Management (PFM) are one of the health sector's critical concerns worldwide, which all stakeholders namely the Ministry of Health and the Ministry of Finance should be involved to align reliable budgets with sector needs (1-3). In countries with weak

public budgeting systems, there are obstacles to optimal governance, accountability, and efficiency in implementing government actions, especially in the health sector. Also, poorly formulated budgets have limited implementation capacity, restricted allocation, or little flexibility in using financial resources; as a result, moving toward Universal

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↑What is "already known" in this topic:

Due to budgetary and fiscal concerns in many countries, public and health budgeting reforms have been addressed to accelerate health goal achievements such as Universal Health Coverage in recent years.

→What this article adds:

This study provides a snapshot of the country's challenges in the health budgeting and public financial management cycle by improving the efficiency and effectiveness of resource allocations to achieve its goals over the past half a century.

Health Coverage (UHC) will be at risk (4, 5). Thus, vigorous public budgeting is a necessary prerequisite to facilitate progress in this direction (2, 6).

By applying performance-based planning and budgeting, increasing the approved budget allocation and implementation, as well as having robust PFM systems, we can expect that some progress will be made toward the goals of the health system (7). In this regard, some countries have begun budgetary and financial reforms such as formulating Medium-Term Expenditure Frameworks (MTEFs), strengthening internal mechanisms to track and monitor resources and expenditures at subnational levels, and proper management of accumulated revenues, which is mutually beneficial for both the health sector and public budgeting (8).

In 2020, Iran's current health expenditure (CHE) per capita in US\$ was \$573.4, while this figure for Turkey and Thailand was \$395.2 and \$305.1. And out-of-pocket (OOPS) as % of CHE in Iran, Turkey, and Thailand was 37.1, 16.4, and 10.5, respectively (9). This comparison shows that although Iran allocated more budget to health, it has performed much weaker in several indexes such as UHC (10), which might be due to the low share of the general government health expenditure (GGHE) as current health expenditure (CHE), and the lack of efficiency and effectiveness in the usage and allocation of revenues and fiscal resources (11, 12). In this regard, experts have argued that Iran could achieve better results through health budgeting (HB) and reforms and the correct fiscal policy implementation with the same health expenditure per capita (12-14).

In Iran, the budget is approved in the frame of annual budget laws (15) and budgeting has been combined with all economic, administrative, functional, and program classifications (15, 16). In the last decade, Iran has faced problems such as fiscal deficits and improper monitoring of the health-allocated budget. Also, in recent years, severe economic fluctuations, budget dependence on oil incomes (as an unstable financial source), little measures for tax collection, imposed economic sanctions, budgeting, and PFM problems have intensified (17). In the meantime, to improve the situation, we should first identify these problems by examining the policies carefully and then reduce their negative impacts.

To this end and given the importance of HB, to specifying the HB circumstances and then reform them, we conducted the present study to identify the central policies, events, and problems of Iran's HB and PFM and, along with that, to present a critical analysis of these challenges.

Methods

We conducted the present study using the 2-stage qualitative method to identify the most important events and policies through document review, and problems and challenges in the cycle of PFM and HB via interviews in 2022.

A. Entry Criteria for Document Review

We reviewed all upstream documents and laws, including the Constitution, Plan and Budget Law, General Accounting Law, Civil Service Management Law, the Financial and Transactional Bylaws of Medical Universities, 5-Year National Development Plans (NDP), General Policies of NDPs, Universal Health Insurance Act (UHIA), the Comprehensive System Structure Law of Welfare and Social Security, and Permanent Rules of the 5-year NDPs. Also, we considered all policies in the PFM and HB cycle from 48 upstream documents and laws (Appendix 1) in the PFM and budgeting domain to review the upstream documents. Because of the macro-level policy analysis, we did not include annual budgets in the present study. One of the researchers of the present study (T.M.) prepared a complete list. Then, based on the research questions, all researchers determined the entry criteria for inquiry, which are detailed in Table 1.

In the next step, 2 researchers (T.M. and A.A.) independently reviewed and assessed policies and rules using researcher-made forms. During brainstorming sessions and with the consensus of the research team, the initial lists of policies were reviewed, and irrelevant policies were removed. Disagreements were also resolved through consensus, including a third reviewer (M.J.K.) when required. Out of 428 missions, strategies, policies, and actions identified in the PFM and budgeting field, we selected 85 policies that were related to the health sector and the path of achieving UHC in Iran.

B. Selection Criteria of Interviewees

To report this stage, we used the consolidated criteria for reporting qualitative research (COREQ) (18). Our research sample included a group of experts, managers, and key experts who are knowledgeable in organizations and bodies like the Plan and Budget Organization (PBO), Ministry of Health and Medical Education (MoHME), Supreme Audit Court (SAC), and Health Insurance Organizations (HIOs) related to HB and PFM in a purposive (with maximum diversity) and snowball sampling (19). We reached data saturation concerning the number of participants (20). Initially, 16 experts in the field were invited to conduct the in-depth interviews. Meanwhile, 3 of them refused to participate due to overloaded and organizational issues. In the

Table 1. Selection criteria related to budgeting policies

Criteria	Explanations
Level/Type of Document	Each document might be at one of the four levels: vision, strategy, policy, and action. In this study, we only selected the cases as policies.
Implementation	Only policies whose implementation started at the time of the study were included; in this way, the ones that have only been approved or enacted and no activity has been performed to implement them were not included.
Inclusiveness	Only policies at the national level and their implementation that affected the entire country were included. Thus, the subnational policies were excluded.
Purpose or Area of Influence	Only policies which address or affect one or more dimensions of UHC (population, service, or financial dimensions) were included in the study.

Table 2. Characteristics of the participants

Characteristic		Frequency (%)
Gender	Male	11 (85)
	Female	2 (15)
Age	31-40	2 (15)
	41-50	2 (15)
	51-60	8 (62)
	≥ 61	1 (8)
Working Experiences	5-10	1 (8)
	11-15	3 (23)
	16-20	4 (32)
	≥ 21	5 (37)
Educational Qualification	Master	3 (23)
	PhD/Medical Doctor and Specialist	10 (77)
Employers	MoHME and MUs	4 (32)
	PBO	2 (15)
	PRC and SAC	2 (15)
	Social Security Organization (SSO)	2 (15)
	Iran Health Insurance Organization (IHIO)	2 (15)
	Others	1 (8)

end, 13 experts participated. The main researcher (T.M.) conducted all the interviews. She has been working on 2 qualitative studies during her PhD course in Health Policy. Also, she has great skills and knowledge for performing the interviews. The research team has already been in contact with some participants because of their work and research experience. The participants were approached via face-to-face interviews at the participants' workplaces, except 2 by telephone. Each interview lasted between 40 and 75 minutes and the mean time for interviews was 58 minutes. After the eleventh interview, we did not receive any new comments or opinions, and the data collection reached saturation. Table 2 shows the interviewees' characteristics. Also, the criteria for selecting informed individuals were as follows:

Having at least 5 years of work experience related to budgeting, health financing, and general financial management related to the health sector; having an educational qualification, either master's degree or doctorate in the related fields such as health economics, health policy, health services management, financial management, budgeting, and accounting; having at least 1 article related to the subject in domestic or foreign reputable journals; and willingness to cooperate.

Generally, participants were policymakers, decision-makers, and government officials in different parts of the health system, such as MoHME and Medical Universities (MUs), PBO, HIOs, Parliament Research Center (PRC), and SAC, researchers, and faculty members who met the above criteria.

We designed the items of the questionnaire according to the research framework and the research team's consensus. Next, we tested this edition through pilot interviews with 3 participants. Before starting the semi-structured interviews (Appendix 2), the main researcher (T.M.) offered some general explanations about the study and its objectives as interview guidance. Then, the informed consent form was presented to the participants or read to them, and their consent was obtained while maintaining confidentiality. Two digital audio recorders recorded the conversations of each interview session. During the meetings, the researcher also took notes and ensured that every issue was explained in

detail. In the next step, the interviews were precisely transcribed.

Initial codes were extracted with MAXQDA (Version 12) to analyze the data. Two researchers (T.M. and A.A.) did the coding independently. In cases of disagreements, a third researcher (H.P.) was consulted. Then, to enhance the transferability of the extracted data, we sent the interview transcriptions with the initial extracted codes to the participants to obtain approval. We ensured the confirmability of the data by interviewing diverse participants and also reviewing the data frequently. We examined the logical relationship between the data; also, we used the thematic content analysis method (21) to group the format of themes and subthemes. To approve the credibility of the data, 2 qualitative research specialists and professors (A.A. and M.J.K.) controlled the research process accurately and step-by-step.

Results

We divided the results of the present study into 2 sections: key policies and events of budgeting and PFM of the health sector, and current challenges and issues in the field.

A. Key Policies and Events

In the document review section, we identified 85 policies of PFM and HB related to UHC in Iran that answer the question of significant policies and events affecting HB and PFM (Figure 1).

As illustrated, the earliest primary occurrence was the enactment of the Plan and Budget Law by the parliament in 1973, according to which the PBO was constructed. Its duties and authorities were stated in the planning and budgeting process nationwide. In addition, a significant part of the budgeting principles, structure, and processes instituted at that time are still retained. The relative evolution of these policies has been gradually seen in other upstream documents such as the General Accounting Law (1987) and the Adjustment Law of Part of Government Financial Regulations (2002), as well as the Civil Service Management Law (2007). And for the first time in the country's legal documents, performance-based budgeting and costing for activities, services, and products were addressed in the Civil Ser-

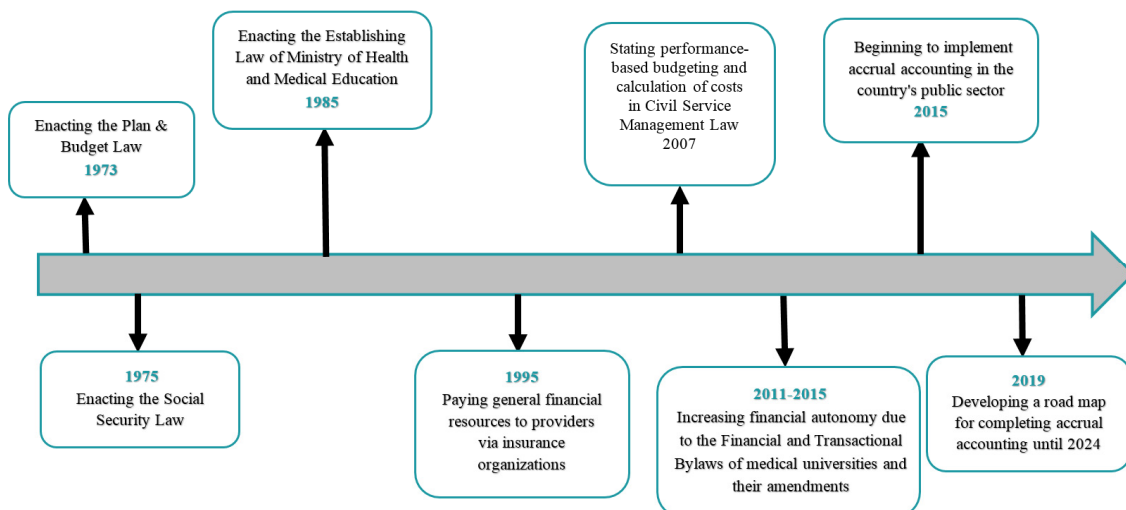


Figure 1. Timeline of the leading HB and PFM policies and events in Iran

vice Management Law, which seriously started a new approach to budgeting.

Other foremost events were the enactment of the Social Security Law in 1975 and the UHIA in 1994, by which the current Social Security Organization (SSO) and Iran Health Insurance Organization (IHIO) were established as 2 leading HIOs in Iran, covering up to %90 of the population approximately. The payment to the providers was made by these health companies as a third party.

Further, the approval of the Financial and Transactional Bylaws of MUs (2011) and their amendments continued until 2015, which is a turning point in establishing relative financial autonomy and flexibility in the spending of public financial resources in the health sector. The budget execution, monitoring, and reporting stages were affected by these bylaws. Based on Article 1 of Permanent Rules of the 5-year NDPs (2017), MUs and affiliated centers were exempted from all country's financial and transactional regulations that were subject to their bylaws.

In 2015, the establishment of accrual accounting in the public sector was approved in the upper-hand laws and documents. Considering the significant percentage of the share of public resources of the government in the total health expenditure, it could have a significant impact on the evolution of public budgeting, especially in the health sector. Accrual accounting was decided to be fully implemented in Iran by 2024.

B. Existent Challenges and Issues

We addressed the current challenges and issues in the obtained data from interviews with experts in the HB and PFM. In doing so, we identified a total of 1808 codes and categorized them into 11 themes and 71 subthemes (Table 3).

1. Budget Formulation and Approval

The improper budgeting structure and model is one of the significant groups of problems, including issues surrounding the macro-budgeting and PFM model such as not using

activity-based and performance-based budgeting, unsuitable techniques for estimating costs and resources, and lack of prioritization of budgeting.

I 4: “Even though we have the tools in the country, unfortunately, the country's NDPs have very little impact on our budgeting. I would like to say that the formulation, approval, and monitoring, are the big challenges that we are facing; we don't know what functions and things are important in budgeting.” [She looked distressed.]

To implement reforms, participants from MUs and PBO noted problems and barriers such as conflict of interest, corruption of officials and authorities, the prevailing culture of lobbying and bargaining in the preparation and formulation of budgets, lack of responsibility and accountability, and absence of consensus to modify the PFM and HB models. Moreover, the existence of conflicts of interest means that some of the current laws and regulations related to health budgeting and the healthcare system, in general, have not been fully enforced or have been forgotten. For example, rules related to the right implementation of a well-designed family physician led to the rationalization of costs and the effective use of resources. Of course, part of this corruption is due to issues such as their lack of sufficient awareness and knowledge of decision-makers and top managers.

Furthermore, Iran's unstable condition and its tough economy, as well as the dependence of the government's fiscal resources on the sale of capital assets, make unstable the country's financial resources and, consequently, the health sector. In addition, US-led imposed sanctions have caused a huge cash deficit. Also, issues such as the flow of multiple fund streams and the lack of an integrated and comprehensive information system to access accurate and necessary data in the budget formulation and approval stage have become worsened by weak financial transparency.

I 11: “After knowing about requirements needed for different programs, we have to determine the budget lines, the oldest of which was that whoever had an accident, the insurance organizations claimed that because they had an accident and had auto insurance, we don't pay for it. To

Table 3. Themes and subthemes of challenges and issues related to HB

Budgeting Phase	Theme	Subtheme	Code Frequency
Budget Formulation and Approval	Inappropriate budget structure	<ul style="list-style-type: none"> • Existence of a traditional budgeting model (not using modern budgeting models such as activity-based budgeting) • Inappropriate techniques for expenditure estimation • Lack of budget prioritization • Poor and unclear connection between development plans and other upstream documents and the annual budgets • Absence of comprehensive and intersectoral overview in budgeting • Shortage of specialized and trained staff needed to change the budget structure • Complex, costly, and time-consuming processes of budget preparedness and approval 	245
	Conflicts of interest and infringement	<ul style="list-style-type: none"> • Existence of conflict of interest between budgeting officials and authorities • Predominance of lobbying and bargaining culture in preparing the budget • Existence of financial and structural corruption • Lack of responsibility and accountability of the government and officials • Absence of consensus to reform/modify the budgeting model • Deficiency of actual participation of all stakeholders, especially from the health sector • Non- or incomplete implementation of some laws and regulations • Lack of knowledge and scientific attitude to budgeting and new methods among decision-makers and top managers 	192
	Lack of financial sustainability	<ul style="list-style-type: none"> • Unrealistic and unscientific estimations of resources and expenses • Obscurity of exact sources of funds in the annual budgets • Instability conditions and the unpleasant economic situation • Failure to calculate the standard costs instead of the actual costs • Dependency highly on the government's financial resources due to the sale of capital assets, such as oil 	151
	Lack of transparency	<ul style="list-style-type: none"> • Multiple <i>funding</i> flows and streams • Numerous budget lines for programs and organizations • Multitudinous responsible and interruptible institutions in this phase • Absence of an integrated and comprehensive information system to access accurate and required data • Diverse enormous laws and legal documents • Lack of transparency in some law and regulation content • Prolonged process of drafting and approving the budget 	211
Budget Execution	Non-executable approved budget	<ul style="list-style-type: none"> • Budget deficit caused by unrealistic approval of resources and expenses (obligations over credit) • Absence of budget prioritization at a fiscal deficit • Inflation and other macroeconomic issues • Unrealistic program budgeting • Interference of processes during the formulation of the budget 	127
	Complicated allocation processes	<ul style="list-style-type: none"> • Innumerable program and budgetary rules at the execution phase • Prominent role of the treasury and other organization institutions at the high level in the allocation process • Rigidity in/between some budget lines • Bargaining during the budget allocation process, especially in a cash shortage • Delay in fund release and sectional or quarterly releases • Acting without regard to the approved budget, especially chancellors of MUs • Multiple allocations to a program or an institution • Financial corruption in spending resources • Absence of an integrated information system for budget allocation 	219
	Ineffectiveness allocation funds	<ul style="list-style-type: none"> • Inappropriate spending of dedicated revenues of service providers and MUs • Waste of resources via construction plans in the conditions of delay in allocations and cash deficit • High share of salary and pension and prioritizing it • Inefficient payment methods to providers • Spent the allocated budget on unnecessary actions, especially at the end of the fiscal year • Lack of accountability of relevant officials and managers for the fiscal resource preservation 	134

help burn and reconstructive surgery and psychiatric hospitals, as well as deprived areas, this was added to another budget line.”

2. Budget Execution

According to a group of interviewees, since budgeting is defined as a cycle, some budget allocation problems are

Table 3. Continued

Budgeting Phase	Theme	Subtheme	Code Frequency
Budget Monitoring, Reporting, and Evaluation	Fragmentation of MR&E processes	<ul style="list-style-type: none"> • Interference of responsibilities between numerous responsible institutions • Lack of direct access to data by audit bodies • Numerous rules and regulations for monitoring and supervision • Absence of intersectoral collaboration in supervision • Lack of comprehensive and integrated reporting system • Need comprehensive supervisory design at the macro level to estimate the number and kind of expertise required 	106
	Ineffective monitoring and evaluation	<ul style="list-style-type: none"> • Absence of performance and outputs monitoring and supervising • Use of inappropriate evaluation methods • Not define acceptable metrics and measures for budget monitoring • Weakness of knowledge and expertise of suitable supervisory methods in responsible bodies • Lack of specialty knowledge of inspectors from the supervised areas • Lack of valid and comprehensive data registration system • Time-consuming preparation of reports due to no access to information • Lack of precise performance data • Lack of preventive approach in budget supervision • Mismatch of the supervision levels with the responsible supervisory bodies • Lack of responsibility and accountability from supervisory institutions (absence of authority to monitor their performance) • Inadequacy of the organizational structures of audit institutions to carry out efficient supervision 	227
	Weak evaluation and audit platform	<ul style="list-style-type: none"> • Unclear relation between the spending of resources and achieving goals in NDPs and other upstream documents • No defining standard audit and evaluation criteria during budget formulation and allocation phases • Failure to record sufficient data or inadequate data quality from of budget execution phase 	128
	Inadequate transparency	<ul style="list-style-type: none"> • Public's Inappropriate access to budget and audit reports • Complex reporting and its procedures about how funds were spent and their results • Irregular publication of budgetary reports 	68

generated from budget preparation and formulation challenges, whose continued effects, even more strongly, can be distinguished. On the other hand, the execution process has many complications, such as the role of an institution like the treasury in the amount and time of allocations to some sectors and bargaining apparatus during the funds' allocation, especially in times of liquidity deficit.

I 5: "At the same time, we say in our budgeting, for example, we can transfer 30% of our revenue between programs and 10% between lines, but for some transfers that the manager wants, like for their construction projects that need a budget to complete them or their progress, they can't transfer money from treatment and service areas that have a budget, even temporarily." [He was very confident]

Ineffective budget allocations are another addressed challenge. The high share of salaries and pensions, their prioritization in payments under any circumstances, and inappropriate spending of the dedicated revenues by health providers and MUs are other examples that show the need for more efficiency and effectiveness in spending resources.

I 13: "The board of trustees of the university says that they don't have the money to pay the salaries of the personnel and workers! Then, the board of trustees approves that we give 30% of the dedicated income to build a new department in a hospital. Next year, they could get more funds, which means the university has no accountability for its

performance!"

3. Budget Monitoring, Reporting, and Evaluation

An expert from SAC and a top manager from MoHME showed that a set of problems, namely the lack of intersectoral cooperation and a comprehensive system for publishing reports are the basis for disrupting the integrity of budget monitoring and reporting.

I 1: "Budget publication system should be designed so that even if individuals don't desire to publish the reports, the reports of their performance or the money they are responsible for will be published."

Some parts of the MR&E difficulties go back to previous issues such as not accurately recording data and not considering standard monitoring criteria at the time of budget formulation and execution. Additionally, the budgetary controls are either small or not effective enough. For instance, there is no preventive approach in budget monitoring, and valid and acceptable metrics for monitoring and evaluation are not defined.

Finally, published reports do not have the desired transparency, meaning that it is not easily accessible or understood by the public, or there is no specific and regular publication schedule.

I 3: "All these institutions receive money from the government, such as ministries or even a small unit like a research center with an independent budget line. Can you

find somewhere on its website where performance reports of the previous year's budget are, for example, how much financial resources it has and what it spent on? So that people and researchers can understand? No, they don't." [He looked surprised.]

Discussion

The findings of the present study indicate relative and sectional achievements and several ups and downs in the historical direction of PFM and HB over the last 52 years. As mentioned previously, during these years, good policies in terms of content were designed and formulated for the access and coverage of health services, namely UHIA and performance budgeting in upstream laws and documents; however, the expected objectives and goals have not still been fully achieved. Iran's health system has faced several budgeting challenges (eg, UHC) in achieving its goals.

The lack of sufficient knowledge and awareness among managers, officials of institutions, and administrative units can be one of the challenges in formulating and implementing the correct and appropriate budget in middle-income countries like Gabon (22). In Iran, there is also a lack of knowledge and scientific attitude to the PFM field that leads to issues such as poor participation of decision-makers and the absence of consensus to determine the right path to reform budgeting. They provide the roots for their resistance to changes and, consequently, the intensification of corruption. One of the main bottlenecks of PFM is the resistance of their budgeting authorities, which often prevents the institutionalization of budgeting reforms (23, 24). Since countries are faced with various budget and fiscal challenges, their reforms are different; thus, no specific method applies to all situations (25).

The weak information infrastructure, absence of accurate data recording, scarcity of free flow of data, and the inappropriate performance of the existing systems (ie, their fragmentation) can be seen in several countries' budgeting stages (3, 22). For example, in South Africa, a middle-income country, the data reporting systems are up-to-date, the budget preparation processes are clear, specific, and structured, and the budget monitoring processes are well-established (26). In Iran, although there is a theoretical similarity in regulations and policies to South Africa, we face several difficulties in practice.

In the present study, the deficiency of a comprehensive assessment and audit system at the national and macro level to estimate the needs (eg, how many people and expertise are required) in the budget monitoring and reporting phase has been raised as one of the main problems in Iran's health sector, which can be seen in the entire budgeting cycle.

Multiple financial flows, the diversity of budget lines for programs and institutions, and the multiple allocations to them in Iran pose significant challenges in budget formulation and allocation and can be difficult to budget monitor and report. Numerous fiscal sources and flows are tied to issues such as fragmented allocation and spending procedures that lead to the complexity of implementing budget reforms (23).

In addition, unsustainable financial resources are one of the critical budgeting challenges due to the dependence on

the government's financial resources such as the sale of national capital assets in Iran (15, 27) and in other countries (28). However, some studies indicated that such resources can be obstacles to achieving UHC due to the unknown amount and time of their sale (28, 29). Unrealistic estimates of funds (overestimated) and expenses (underestimated), low transparency of the exact sources of money, unstable and unpleasant conditions of the country's economy, and the uncalculating standard costing instead of the actual costing are other causes for this financial instability. Mismatching between planning and estimating budgetary needs at the macro level have been stated as one of the upstream causes of budgetary concerns (3). If designed well, macro-financial policies and prioritization of allocation help governments achieve a better health status (30).

Piatti and Smets's (2019) study showed that the higher the quality of budget management and PFM, the better the health system would perform and prevent the health systems from becoming more expensive to progress toward the SDGs (31). According to the results of this study, one of the major consequences of these budgeting and PFM challenges is increased spending, and consequently, the cost of services and care provided in the country's health system.

On the whole, most of Iran's budgeting challenges are related to complications in the macroeconomic and financial sectors, which affect the health sector. Results of the present study show that the most prominent groups of PFM challenges in the health sector are budget formulation and approval difficulties, which are the main ground of effective budget execution and oversight issues.

Our results also indicate that the HB and PFM cycles have multiple challenges that lead to inefficient utilization of limited health system resources. Considering these challenges, we should design and implement reforms in the health system that might help improve Iran's HB. However, due to the close relationship between general and health budgets, some of this reform will need to be designed and implemented in PFM.

Implications for Research and Study Limitations

The use of diagnostic and assessment tools associated with HB and PFM systems such as PFM in the Health Toolkit appear to be complementary methods to pinpoint appropriate interventions to improve HB (32), which we have proposed in another study. Because the operational levels of the budget are not included in this study (eg, annual budgets), we recommend conducting more quantitative studies to clarify an exact quantitative image. Although this study did not utilize experts from the Ministry of Economy and Finance (MEAF), the involvement of well-informed PBO representatives would have been sufficient. Also, due to the COVID-19 pandemic, 2 interviews were conducted over the phone, and the results may not be as reliable as other interviews.

Conclusion

Iran has numerous and even strong policies on HB. Many of these policies do not take the health system's macro goals

seriously and only mention the technical aspects of budgeting. According to the current processes and policies of HB and PFM in Iran, we first should resolve the principal obstacles and leading challenges of the budgeting cycle, namely the slow and cumbersome HB process, the lack of transparency in all its steps, the absence of integrated financial management information systems (IFMIS), and the resistance to change and modify the budgeting model.

Although topics such as accrual accounting and costing have been in Iran's laws and policies for years, they have not been fully implemented yet. All these issues influence achieving health goals such as UHC and make it impossible to accomplish them in these conditions. One of the most apparent consequences of numerous challenges in HB and PFM is the scarcity of effective and efficient allocation of financial resources and an increase in health expenditures per capita compared with the health outcomes obtained. This concern certainly poses an urgent challenge in attaining goals, especially in low- and middle-income countries like Iran.

List of Abbreviations

Health Budgeting (HB)
 Health Insurance Organizations (HIOs)
 Iran Health Insurance Organization (IHIO)
 Ministry of Health and Medical Education (MoHME)
 Monitoring, Reporting, and Evaluation (MR&E)
 National Development Plan (NDP)
 Parliament Research Center (PRC)
 Plan and Budget Organization (PBO)
 Public Financial Management (PFM)
 Social Security Organization (SSO)
 Supreme Audit Court (SAC)
 Universal Health Coverage (UHC)
 Universal Health Insurance Act (UHIA)
 Medical Universities (MUs)

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Ethical Approval

This study has been approved by the Research Ethics Committee of the Iran University of Medical Sciences (IUMS). The Ethics Code: IR. IUMS. RCE.1399.1191.

Authors' Contributions

T.M. and A.A. designed and organized the study. T.M. conducted the interviews and transcribed them; A.A., M.J.K., and H.P. supervised the interpretation of the data; T.M. and A.A. developed the manuscript draft. S.J.E. revised the manuscript. All authors checked and approved the final version of the manuscript.

Conflict of Interests

The authors declare that they have no competing interests.

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Appendix 1. The upstream documents and laws considered in PFM and budgeting domain; Years of enactment

- Law on the Establishment of Labor and Social Security Institute; 1971
- Plan and Budget Law; 1973
- Statute of Civil Servants Pension Organization; 1975
- Social Security Law and next amendments and additions; 1975
- Constitution of Iran; 1979
- Legal Bill to Amend the Law on the Formation of the Social Security Organization; 1979
- Establishing Law of Ministry of Health and Medical Education and executive regulations of Article 8 of this law; 1985, 1986
- General Accounting Law; 1987
- Regulations to Monitor the Activities of Non-governmental and -profit Higher Education Institutions; 1988
- Law on the Formation of the Boards of Trustees of Universities and Research Institutions; 1989
- First to Sixth 5-Year National Development Plans (NDPs); 1990, 1994, 2000, 2004, 2011, and 2017
- Labor law; 1990
- Law of Financial and Transactional Affairs of Universities and higher education and Research Institutions; 1991
- Universal Health Insurance Act (UHIA); 1994
- Law of Collection of some Government Revenues and its Consumption in Certain Cases; 1995
- Law of Regulating a Part of the Government's Financial Regulations; 2002
- Financial and Transactional Bylaw of Non-governmental and -profit Higher Education Institutions; 2003
- Iran's 20-Year Vision Plan in the Horizon of 2025; 2003
- General Policies of the Fourth to Sixth NDPs; 2003, 2009, and 2015
- Comprehensive System Structure Law of Welfare and Social Security; 2004
- Law of Tenders; 2005
- National Regulations for Land Use Planning; 2005
- Added Law of some Articles to the Law of regulating a part of the government's financial regulations (1); 2005
- Civil Service Management Law; 2007
- Law on the Implementation of General Policies of Article 44 of the Constitution; 2008
- Law of the Targeting of Subsidies; 2010
- Executive Regulations of Article 16 of the Civil Service Management Law; 2010
- Comprehensive Scientific Map of the Country and Regulations for Implementation; 2011
- Financial and Transactional Bylaws of Medical Universities and their amendments continued; 2011-2015
- General Policies of Resistance Economy; 2014
- General Health Policies; 2014
- Health Transformation Program; 2014
- Added Law of some Articles to the Law of Regulating a Part of the Government's Financial Regulations (2); 2015
- Law on Removing Barriers to Competitive Production and Improving the Country's Financial System; 2015
- Policies and Executive Regulations for Preparedness Higher Education in the Health; 2015
- Permanent Rules of the 5-year NDPs; 2017
- Road Map for Completing Accrual Accounting; 2019
- General Policies of the Legislative System; 2019
- National Document for Land Use Planning; 2021

Appendix 2. Guidance of semi-structured interview for conducting thesis entitled “Analysis of Health Budgeting Policies to Achieve Universal Health Coverage in Iran and Proposing Policy Solutions”

Code: Place of interview: Date of interview:

Dear Expert

In recent years, robust Public Financial Management (PFM) and Health Budgeting (HB) have been a necessary prerequisite and one of the driving factors to facilitate the movement of countries improving their health and efficiency and effectiveness in the health system. This issue, as well as the absence of appropriate and substantiated evidence based on attention to HB policies; from budget formulation and approval to implementation, monitoring, and reporting; in the path of health system goals such as Universal Health Coverage (UHC) in Iran, led this study to analyze and identify the policies and challenges of HB.

I hope it gives a snapshot of what types of challenges are in HB in the country and helps in policymaking and decision-making agenda, especially regarding the economic context of the country over the recent years. I also hope it will be placed on the policymaking priority agenda to improve the HB and PFM cycle.

Thank you for your valuable time and consideration in answering the questions.

Best Regards,

Tayebeh Moradi

Ph.D. Candidate in Health Policy at Iran University of Medical Sciences

Part 1. The demographic characteristics of participants

Name:	Gender:
Age: years	Qualification:
Major:	Position:
Organization:	Years of experience:

Part 2. Questions

Budget Formulation:

- In your opinion, what are the most important policies related to budget formulation and approval? In which laws and documents were they stated?
- In your opinion, what is the budget formulation and approval process in the health sector in the country?
- In your opinion, what is the current budget situation of formulation and approval in the health sector? And what challenges and problems exist in the process of developing and approving the HB?

Budget Execution:

- In your opinion, what are the most important policies related to budget execution and allocation? In which laws and documents were they stated?
- In your opinion, what is the process of budget execution in the health sector in Iran?
- In your opinion, what is the current situation of budget execution in the health sector? And what challenges and problems exist in the execution process of the HB?

Budget Monitoring and Reporting:

- In your opinion, what are the most important policies related to budget monitoring and reporting? In which laws and documents were they stated?
- In your opinion, what is the budget monitoring and reporting process in the health sector in Iran?
- In your opinion, what is the current situation of budget monitoring and reporting in the health sector? And what challenges and problems exist in the process of monitoring and reporting the HB?

- What is your general opinion about HB in Iran (formulation, approval, implementation, and monitoring and reporting of the budget)? Explain your general opinion briefly.

- In your opinion, what are the funding streams and flows in the health sector?
- Do you have anything else to mention? What should you mention that we have not asked?
- Do you suggest another person who is an expert in this field and whose information is helpful for this study?