Research article

Development of an evidence-informed governance and stewardship framework for elderly healthcare in Iran: A qualitative study

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A B S T R A C T

Background: The ageing population poses significant challenges to healthcare systems, necessitating the establishment of high-functioning, integrated frameworks for elderly healthcare. This study aimed to explore the key challenges associated with the stewardship of elderly care in Iran and to develop a holistic stewardship framework.

Methods: For this qualitative study, thirty semi-structured interviews were conducted with key Iranian healthcare stakeholders, utilizing purposive and snowball sampling during 2021–2022. Inductive open coding was utilized to generate new concepts related to key stewardship challenges. The World Health Organization's conceptual framework, outlining the three stewardship tasks, served as the basis for crafting a tailored framework for elderly healthcare stewardship in Iran.

Results: Fourteen main challenges and 38 sub-challenges were identified for elderly healthcare stewardship in Iran, categorized according to the WHO framework's three stewardship tasks. Challenges related to WHO stewardship task 1, involving health policy formulation and vision definition, included challenges in vision definition, planning, policymaking, and intergovernmental institutional superiority. Challenges related to WHO stewardship task 2, delineating governance and stewardship through control and regulation, encompassed issues such as support for the elderly, system responsiveness, behavior of healthcare providers, organizational structure, and cross-sectoral leadership challenges. Challenges associated with WHO stewardship task 3, about the use of collective intelligence, explored stakeholder collaboration, information for

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decision-making, and challenges within the elderly information system, covering data documentation, reporting, analysis, accessibility, distribution, and circulation. Subsequently, a framework was developed, covering areas like defining the vision and direction of health policy, managing information systems, evidence-informed policymaking, and delivering elderly health services with a holistic approach.

Conclusion: The present framework shows how a management information system, guided by evidenced-informed policymaking and the formulation of customized health policies, can facilitate the provision of elderly health services based on identified needs. It presents a governance and stewardship pathway that can be adopted by Iranian health policymakers and similar middle-income countries facing analogous challenges in ageing and aged care system stewardship, serving as a model for developing their own frameworks.

1. Introduction

The well-documented health and economic challenges stemming from rapidly ageing populations [1,2] have prompted governments and supranational organizations to establish and enhance cohesive care systems for the elderly [3,4]. The World Health Organization (WHO), in its 2007 conceptual framework, identified "leadership and governance" as the main building block of the healthcare systems. This foundational element is tasked with steering, organizing, and guiding other components, including service delivery, health system financing, health workforce, health information systems and health technologies and medical products to achieve the main goals of the health system [5]. Similarly, the Australian Health Performance Framework underscores the importance of a well-functioning healthcare system that provides effective, safe, appropriate, efficient, accessible, and sustainable services with continuity of care for both the general population and the elderly [6].

Achieving these goals at national and local levels is contingent upon effective governance and stewardship of the health system. Stewardship as the nuts and bolts of health governance, incorporates the ethical and moral dimensions with managerial principles such as efficiency and effectiveness to ensure the appropriate functioning of the health system for optimal health outcomes [7]. This executive role of the government in promoting population health involves three tasks outlined in the World Health Report 2000: providing vision and direction for the health system, collecting, and applying intelligence, and exerting influence through regulations and supervision [8,9]. Despite being published in 2000, this report continues to be a widely utilized resource for informing national policy action.

Many researchers have delved into the prerequisites of good governance in the healthcare sector. For instance, Derick et al. (2018) emphasized that the health system's governance cannot be strengthened unless the following themes of legal frameworks, institutional arrangements, credible decision-making, sustainable domestic financing, and effective collaboration with global and regional bodies are considered as the significant concept of stewardship in healthcare systems [10]. Additional evidence points to the importance of transparency, accountability, responsiveness, equitability, inclusiveness, and adherence to the rule of law, along with consensus-oriented mechanisms, to establish good governance in health systems [11].

1.1. Description of the context

Iran as a middle-income country in the Middle East with a centralized healthcare system, suffers from various stewardship challenges, particularly in the realm of elderly healthcare. These challenges encompass issues related to policymaking, integrity, coordination for service delivery, continuity of care and the availability and application of technical resources and infrastructure for elderly healthcare [12]. The significance of these challenges is accentuated by the fact that Iran has experienced a notable increase in the proportion of ageing population from 5.4% to 8.6% between 1986 and 2016. Projections indicate that it is positioned to be the second-fastest ageing country globally in terms of the percentage point increase in the population aged 60 years and beyond from 2015 to 2050 [13].

Despite the dynamic changes in the demographic landscape, Iran faces systematic issues in addressing the healthcare needs of its elderly population. According to Abbasian and Shaghaghi (2020), establishing organizational commitment, adopting an evidence-informed policymaking approach, fostering intersectoral collaborations, and encouraging stakeholders' participation are required as the fundamental elements of an appropriate elderly healthcare system [14]. These components are intricately linked to the stewardship challenges within the Iranian healthcare systems for the older population.

While our focus is on delineating the healthcare challenges specific to Iran based on existing literature, Mills (2014) has similarly identified key constraints in the health systems of low- and middle-income countries (LMICs). Notably, strategic management and policies in the health sector are recognized as significant constraints in the stewardship and governance of healthcare systems in LMICs. This includes issues such as weak and overly centralized planning and management systems, insufficient regulation, fragmented segmentation in the private sector, limited collaborative action and partnership between the government and civic organizations, and a low priority for systems support [15]. This aligns with concerns present in the Iranian context, emphasizing shared challenges in LMICs.

In summary, the present knowledge highlights that "stewardship and governance" are the critical missing links in the Iranian healthcare system for the older population. The available knowledge indicates a diverse array of problems, ranging from stewardship and governance issues to the content and structure of policies, as well as the precise roles and statuses of the various actors and

stakeholders in elderly healthcare [12]. Therefore, this study aims to explore the key challenges related to the stewardship of elderly care in Iran and leverage these insights to develop an evidence-informed stewardship framework with a holistic approach. Such a framework intends to guide policymakers in Iran and other countries with similar contexts in developing their bespoke frameworks and tailoring customized actions regarding resourcing, workforce, and other facets to enhance care for the older population.

2. Methods

2.1. Study setting

The study was conducted during 2021–2022 applying a qualitative research design with a combination of thematic analysis and framework synthesis. This qualitative study conformed to quality guidelines for designing and reviewing qualitative studies [16].

The study setting was defined at the national level including the central structure and organization of the Iranian Ministry of Health (MOHME) and all 63 public governmental universities of medical sciences affiliated with MOHME. The Iranian healthcare system operates within a centralized national network, where MOHME spearheads the development of policies and regulations, while universities are tasked with local implementation. Together, these stakeholders bear collective responsibility for population health, including the provision of care for older individuals [17].

2.2. Study population

The study population included stakeholders from various fields including ageing, elderly health, geriatrics, health policy and health services. Throughout the recruitment period, all participants were affiliated with either the Ministry of Health and Medical Education (MOHME) at either the national or local level, or other organizations engaged in intersectoral collaboration with MOHME, such as the State Welfare Organization of Iran, private healthcare centers specializing in elderly care, or research institutions focusing on healthy ageing.

Participants were selected via purposive sampling, using the following inclusion criteria: at least three years of experience working in elderly healthcare/healthy ageing at national or local levels; and/or education or research in one of the areas of ageing, elderly healthcare, or elderly health policymaking; After initial recruitment of (n = 5) participants using purposive sampling, snowball sampling was used until thematic saturation was reached. In total, 30 individual and face-to-face semi-structured interviews were undertaken by one of the researchers (JB). Table 1 shows the demographic characteristics of participants.

2.3. Data collection

A semi-structured interview guide was applied, involving five major and 12 minor questions. Additionally, appropriate probing questions were incorporated to prompt participants to elaborate on their responses. The interview guide was developed based on published literature [5,7,10] and consulting with two experts in pertinent fields of inquiry. To ensure the meaningfulness and validity of the interview questions, two pilot interviews were carried out with subject matter experts who were not included in the main sample. Following minor adjustments, the final interview guide was produced (see Table 2).

Recruitment occurred via email request and phone call. All potential participants were verbally informed about the study aims and assurances of confidentiality and anonymity were provided. The interviewer also introduced himself and his work as a part of his PhD dissertation briefly during the warm-up section before starting the formal interview. This study was approved by the Shiraz University of Medical Sciences Ethics Committee with the ID of IR.SUMS.REC.1399.902.

All interviews were conducted at participants' workplaces after business hours. The interviews lasted between 50 and 60 min, were digitally recorded, and then transcribed by the first author. The interviewer (JB) took notes from the participants' emphasis and gestures during the interview sections as well.

Table 1
Demographic description of the participants.

Participants' demographic characteristics		Frequency	
		N	%
Gender	Female	12	40
	Male	18	60
Occupation	Research and academic	24	80
	Executive	6	20
Level of education	Bachelor	4	13.3
	Master	4	13.3
	PhD/Specialist	22	73.3
Level of responsibility	National	12	40
	Local/State	18	60
Experience (years)	Less than 10	7	23.33
	10–20	13	43.33
	Beyond 20	10	33.33

Table 2
The interview guide of the study.

Main question	Sub-question
What do you think about the governance and stewardship role of MOHME in elderly healthcare?	Who has the main responsibility?
	What are the challenges in and outside the health sector?
	What are the prerequisites? (Structure, culture, resources, other infrastructures)
What are the main facilitators and barriers for such governance and stewardship?	Who do you think are the main stakeholders?
	How can good governance and appropriate stewardship for elderly health be achieved?
What is your opinion about the whole process of elderly healthcare policymaking from formulation, implementation, and evaluation aspects?	What are the main challenges?
	Who is responsible for them?
	How can the gaps be filled, and the challenges will be overcome?
What do you think should be added to the content of the current policies?	Which actors should be considered?
	Which evidence should be more emphasized?
What are the main challenges in the area of information generation and knowledge application for elderly healthcare?	What source of data is needed?
	What are the prerequisites for an elderly information system?

2.3.1. Data analysis

A combination of thematic analysis and framework synthesis was applied. First, thematic analysis was undertaken using an inductive approach and via a process of open coding of the interview transcriptions line by line for organizing and categorizing the open codes into related areas to construct descriptive themes and finally develop the analytical themes [18]. After initial familiarization with the data, the meaningful units of the content according to the research question and the interview guide were highlighted, and the initial open codes that emerged from the data were labelled appropriately. These codes were then reviewed to eliminate duplication and integrate similar concepts to reach the final codes. Categorizing and synthesizing the concepts of the final codes to the higher levels of thematic analysis resulted in forming the sub-themes and main themes at the highest intellectual level [19]. The coding process was implemented by two of the researchers (MAB and PB) separately. Discussions among the authors occurred during the process of refining the key concepts and themes and making an agreement around the final codes. These main themes then were labelled, described, and developed to demonstrate the main challenges of elderly healthcare stewardship in Iran.

The second step of data analysis involved a framework synthesis. For this purpose, the conceptual framework of the WHO Report 2000 [9] was used. The framework illustrates three tasks of the government as the elderly health steward of the population. These stewardship tasks (WHO) were applied to facilitate making and synthesizing a big picture of the Iranian health system's challenges regarding elderly health [20]. The rationale for selecting the WHO framework is grounded in its reported efficacy in ensuring effective stewardship through the interconnectedness and optimal functioning of its three main concepts [21]. Utilizing this framework as the foundation, a deductive generating process of coding was applied to incorporate and triangulate the data. Consequently, a revised and comprehensive conceptual model, featuring additional details and sub-functions about good stewardship and governance in elderly healthcare, was developed and tailored to suit the Iranian context.

2.3.2. Data trustworthiness and robustness

Four criteria suggested by Lincoln and Guba were applied to ensure the robustness and trustworthiness of the data, including credibility, transferability, dependability, and confirmability [22]. To achieve the credibility of the findings, long-term engagement of the research team occurred during the phases of data collection, data transcription and familiarization with the data. Member check was also used to increase the accuracy of the meaning and credibility of the data. For this purpose, the transcripts were returned to each participant for their approval and further comments. It is necessary to mention that the present data were produced in the Persian language the participants' native tongue and then translated to English after finalizing the process of data analysis so, there were potential errors due to translating the quotations from the participants' native language, however, the researchers have tried to keep the authenticity of the participants' statement as close to the original and remain understandable.

To reach dependability, a detailed protocol of data collection, data analysis and data synthesis was prepared in a logical and traceable manner. For the third purpose, transferability of the data, a thick description of the findings was presented. Finally, confirmability was achieved via a comprehensive neutral fair interpretation of the findings which indicates the direct synthesis of the themes from the initial data. All the processes of deductive and inductive coding and theme analysis were implemented by the researchers with qualitative experience and reflexivity. They all worked as academic members around the world and engaged in various qualitative projects in the health services area. Data were analysed, and the results synthesized, by researchers with no conflicts of interest. It is also briefly notifiable that the researchers are all academic faculty members who weren't biased in the design, implementation, and reporting of the study.

3. Ethical consideration

This study was conducted under the approval of the ethics committee affiliated with Shiraz University of Medical Sciences (SUMS) with the ID of IR.SUMS.REC.1399.902.

3.1. Findings

The present results lead to the exploration of 14 main challenges related to the triple tasks of the government for elderly health stewardship as follows (Table 3).

Table 3
Main challenges and sub-challenges of elderly healthcare stewardship.

Stewardship tasks (WHO)	Main challenges	Sub-challenges
Defining the vision and direction of health policy	Vision setting challenges	Lack of dedicated comprehensive elderly healthcare strategic planning
		Lack of vision and big picture for the future of ageing
	Challenges of planning and policymaking	Lack of appropriate agenda for elderly healthcare
		Lack of evidence informed policies in elderly healthcare
		Insufficient professional capacities and key performance indicators to evaluate elderly healthcare performance
		Restricted infrastructures and lack of tailored policies in elderly healthcare
	Challenges at the intergovernmental institutional superiority	Indefinite responsibility of the affiliated centers towards elderly healthcare
		Lack of internal collaboration among centers and institutions assigned to elderly healthcare
		Fragmentation, inefficiency, and duplication of duties among centers and institutions assigned to elderly healthcare
Influencing through the control and regulation approaches	Challenges in support and protection of elderly population	Insufficient support for elderly healthcare services by insurance organizations
		Inappropriate laws, legislations and policies for elderly advocacy and support
		Insufficient funding and inappropriate budget allocation for elderly healthcare
		Noncomprehensive coverage of elderly population
	Responsiveness system's challenges	Inefficient performance assessment system for elderly healthcare
		Feedback flow and system supervisory challenges in elderly healthcare processes
		Lack of clarity in organizational relationships and responsibility directions
	Challenges related to the behavior of elderly healthcare providers	Discrimination and inequality in elderly service delivery system
		Stereotype/racism against elderly population from healthcare providers
	Challenges related to the organizational structure of elderly healthcare system	Inappropriate structure of elderly healthcare system at national level
		Nonintegrated national and local policies and strategies for older population
		Elderly healthcare providers' inappropriate structure
	Challenges at the cross-sectoral leadership	Weak inter-sectoral relationships in elderly healthcare area
		Lack of unique leadership among elderly healthcare system
		Conflict of interest among stakeholders and public/private bodies
		Impacts of environmental and extra-sectoral factors on elderly healthcare
Applying collective intelligence	Challenges in stakeholders' collaboration	Poor collaboration of private sectors and NGOs in policy and decision making
		Lack of interaction among research centers and organizational decision makers
		Poor collaboration among community, elderly population, and decision-makers
	Challenges in applying information for decisions and policies	Lack of trust, positive attitude, and skills for applying information in elderly healthcare decision making
		Ignoring knowledge translation and evidence synthesis for decision making in elderly healthcare area
	Challenges in data documentation in elderly MIS[a]	Lack of standards for data collection, data entry and documentation in elderly healthcare area
		Poor and defective data documentation of older population specially at hospital level
	Challenges in data reporting and analysis in elderly MIS	Fragmented and inaccurate data analysis system for older population
		Mal-interpretation of older population's related reports and analysis at different levels
	Challenges in data accessibility in elderly MIS	Lack of on-time access to data and reports by managers and decision-makers
		Non-integrated information system at local and national level (among public/private sector and third parties)
	Challenges in data distribution and circulation in elderly MIS	Out-of-date system for data distribution among centers
		Troublesome process of data collection and data distribution

[a] **MIS:** Management Information System.

3.2. Defining the vision and direction of health policy

In the area of the first task which WHO introduced as "defining the vision and direction of health policy", the present results explore three main challenges as follows: vision-setting challenges, challenges related to planning and policymaking and challenges regarding intergovernmental institutional superiority. As Table 3 demonstrates, the lack of an appropriate vision toward elderly health despite the rapid changes of ageing in the country along with neglecting strategic planning, operational goals, and a big picture of the requirements of elderly health at a macro and national level is among one of the main stewardship challenges related to the first task of WHO. One of the participants declares that:

"… the main purpose of the population policies is to focus on the mechanisms for increasing fertility and number of births. So, with such a perspective, it is expected not to have an applied plan for elderly health or even an achievable vision for the next years" [P_{11}].

Lack of appropriate agenda and evidence-informed policies accompanied by neglecting professional capacities and key performance indicators in elderly health policies, plans and strategies were among another main challenges related to the first task of stewardship. According to the results the elderly health policymaking cycle suffers from many challenges from the necessity of agenda setting to formulating, implementing, and evaluating the policies and plans. One of the interviewees clarified that:

"One cannot see any obvious target-based policies in this area. The only weak available policies and plans also indicate sophisticated inpatient treatments. It seems that the aspects of rehabilitation and health promotion are completely forgotten for the elderly" [P_{24}].

And finally, the unclarity of the responsibility and lack of a principal steward for elderly healthcare along with the lack of interrelationships among the MOHME's centers and institutions as well as the fragmented inefficient duties with duplicated processes are among the other challenges related to the first task of stewardship. In this area, one participant stated that:

"It seems that due to the formation of the national elderly health council, the governance and stewardship role and power of the Ministry of Health decreased. While the parliament and the whole government recognized the council as the responsiveness of the elderly healthcare, neither the council nor the Ministry has a determinant definite role as the main correspondence" [P_6].

3.3. Influencing through the control and regulation approaches

As Table 3 implies, in the second task which WHO introduced as "influencing through the control and regulation approaches", five main challenges are recognized including challenges in support and protection of the elderly, challenges related to responsiveness of the system, challenges due to the behaviour of elderly healthcare providers, challenges at the cross-sectoral leadership and challenges related to the organizational structure of elderly healthcare system.

Regarding the initial challenge within this category, which pertains to the support and protection of the elderly, it appears that there is a lack of sustainable financial protection mechanisms in place to safeguard the elderly population and mitigate catastrophic health expenditures (CHE). Neither third-party insurers nor the government or MOHME have established a defined system for this purpose. One of the interviewees remarked:

"Iranian Social Security Organization (SSO) as the main social insurance in the country suffers from any kinds of supportive plans and policies for the elderly health. Neither from the aspect of finance and decreasing the out-of-pocket payment and nor from the coverage and healthcare services there is any difference among the elderly with other groups" [P_7].

Challenges concerning the responsiveness of the elderly healthcare system encompass issues such as an ineffective performance assessment system, difficulties associated with feedback mechanisms and system oversight, as well as unclear organizational relationships and ambiguous lines of responsibility. As reported by the participants, the methods employed to evaluate plans and policies in this domain are deemed inadequate. One interviewee highlights:

"Although there are some routine healthcare plans provided for the elderly population, no real evaluation has occurred neither about the quality nor the quantity of the plans and services and the population's satisfaction" [P_9].

Challenges related to the behaviour of elderly healthcare providers are among other challenges in this category that simply refer to some sort of discrimination and inequality in the elderly healthcare delivery system and probable stereotypes or racism against the elderly population from the provider side. About the examples of institutional and interpersonal racism, one of the participants emphasized that:

"Some of the healthcare providers have an inherent guard against old people that reflects in their behaviour and even impacts the sensitivity and accuracy of the services delivered to these groups" [P_{11}].

Or elsewhere

"Some of the private insurers aren't interested in providing the coverage for old population. They may restrict their benefit packages or limit their contracts to few numbers of healthcare centres that both affect the elderly's access" [P12].

Other challenges in this second category of stewardship tasks mentioned by WHO are those related to the organizational structure of the elderly healthcare system. This includes the inappropriate structure of the elderly healthcare system at the national level, lack of integrity among the policies and strategies at the national and local level as well as the complicated structure of elderly healthcare provision. According to the participants, the Iranian organizational structure of the elderly healthcare system is limited, fragmented and inefficient. Appropriate stewardship cannot be expected from such a structure. An interviewee exemplified that:

"When considering the structure of MOHME, one can see the elderly health is a lost chain. With such an unclear limited structure cannot expect strong policymaking and applied plans" [P28].

Another participant also added:

"While there is a national council for elderly health under the supervision of the State Welfare Organisation of Iran with a little collaboration with MOHME and at the same time another structure of elderly health faction under the supervision of Parliament, it is not understandable who is finally responsible for elderly health at national level …" [P13].

Finally, challenges of cross-sectoral leadership as the last explored challenges in this category refer to weak inter-sectoral relationships, lack of unique leadership among the elderly healthcare system, and existing conflict of interest among stakeholders and public and private bodies. The macro inevitable impacts of environmental and extra-sectoral factors on elderly healthcare are also mentioned here. One participant stated that:

"One expects that MOHME should be the main steward of elderly health with a leadership and superiority power, but unfortunately not only there is no collaboration among different organisations who have the responsibility towards elderly health but also some kind of conflict of interest is obvious among their duties and goals" [P15].

Applying collective intelligence.
Among the third stewardship task defined by WHO, "Applying collective intelligence", six main challenges were explored.

Firstly, challenges in stakeholder collaboration were evident. Stakeholder collaboration in elderly policymaking seems to be very poor. Many of the current policies have been formulated without any serious collaboration of elderly health experts, related research centres, private sector NGOs and community representatives. In this area, a participant clarified:

"Despite many developed countries, in Iran, you cannot find a serious collaboration from private or non-governmental institutions regarding elderly health policymaking. There is no interest in advocacy and a top-down centralized flow of policymaking just worsens the situation as we see the waste of the budget and provision services with any necessity or a real need from elderly population …" [P17].

Secondly, challenges in applying the information for decisions and policies refer to the lack of an integrated comprehensive information system. Such challenges make decision-making vague, slow, and inefficient. At the same time, a lack of trust, a positive attitude, and skills for applying information for decision-making make this process more complicated. For instance, an interviewee pointed to the problem that:

"Unfortunately, there is a poor information system about elderly health. We even don't know which percentage of the old population suffers from systemic and underlying diseases or engages in any kind of disability …" [P1].

About the lack of applying knowledge translation and evidence synthesis for decision-making, another participant declared that:

"Sometimes it may be seen that some sort of evidence has been used for planning or policymaking but frankly saying, such applied evidence does not indicate a completely accurate status of elderly health in the country at the same time, these plans and policies need to be updated and revised according to new evidence about the elderly population increase, change in their style of disease and other demographic and socioeconomic variables" [P19].

The four following challenges in this category focused on the defective and problematic elderly information systems from different aspects of data documentation, data reporting and analysis, data accessibility as well as data distribution and circulation.

Regarding the third challenge, the Iranian elderly health information system doesn't include all the clinical, rehabilitation, and treatment documents for old inpatient referrals. The official and financial documents are also not included in the system. The only significant data document in the current system is related to the general health status of the elderly population. In this regard, one of the participants mentioned that:

"There are no documents on the surgical, treatment or diet interventions prescribed for the old patients. At the same time, no specific process for documentation of the elderly data at the hospital level is available" [P1].

Challenges in data reporting and analysis as the fourth category of challenges underscore the presence of a fragmented and inaccurate data analysis system, coupled with incorrect and insufficient interpretation of the reports and analysis across variable levels. Lack of timely data analysis, prolonged data collection periods, and absence of a unified, integrated approach to data collection and documentation can all contribute to misleading or superficial data analysis, rendering it ineffective for subsequent decision-making processes. One of the participants explained:

> "Our elderly health system looks like an insular system. An elementary prerequisite for a comprehensive analysis is the existence of an integrated information system with access to different levels of data but we see that at the moment each of the parties has their separate system with defective, inaccurate, insufficient and scattered data" [P23].

Next, challenges in data accessibility via the elderly information system due to the lack of integration lead to restriction of policymakers' access to concentrated, on-time and accurate information. About this, one of the interviewees said that:

> "Unfortunately, there are many centres around the country with no systematic relationship as the providers of elderly health services. Each of these public or private providers has its information system with no actual information transaction with each other. So, there is not a rational flow of data and information for a unique planning and the access is restricted based on many formal and informal considerations" [P7].

And finally, challenges in data distribution and circulation were the last theme in this category. It seems that the speed and quality of data circulation and distribution in the elderly information systems are not appropriate and need-based. According to one of the participants:

> "When data could not be circulated and distributed with the appropriate speed and quality the policymakers face many challenges both from the accuracy and timeliness perspective at the time to prompt decisions. Such a correct circulation and distribution of the data cannot occur unless existing an integrated management of information system" [P30].

Fig. 1 illustrates the governance and stewardship framework for elderly health. According to the framework, a management information system (MIS) for elderly health considering the data documentation, data circulation and distribution, data reporting and analysis and data accessibility with a mutual collaboration with evidence-informed policymaking (EIPM) act as two mechanisms of intelligence collection and application as an initial task for elderly health stewardship. Then such this is applied, evidence-informed accurate and customised information can be used as the main input for appropriate policymaking and planning. The definition of an achievable and proper vision is also considered another determinant of policymaking for elderly healthcare by the Ministry of Health as the main steward of health for the elderly population. Beyond defining vision and direction, it is imperative to ensure both intergovernmental oversight and governance by MOHME overall all local centers serving as elderly health service providers. Simultaneously, fostering appropriate cross-sectoral relationships, advocacy, and collaboration with other stakeholders and the community
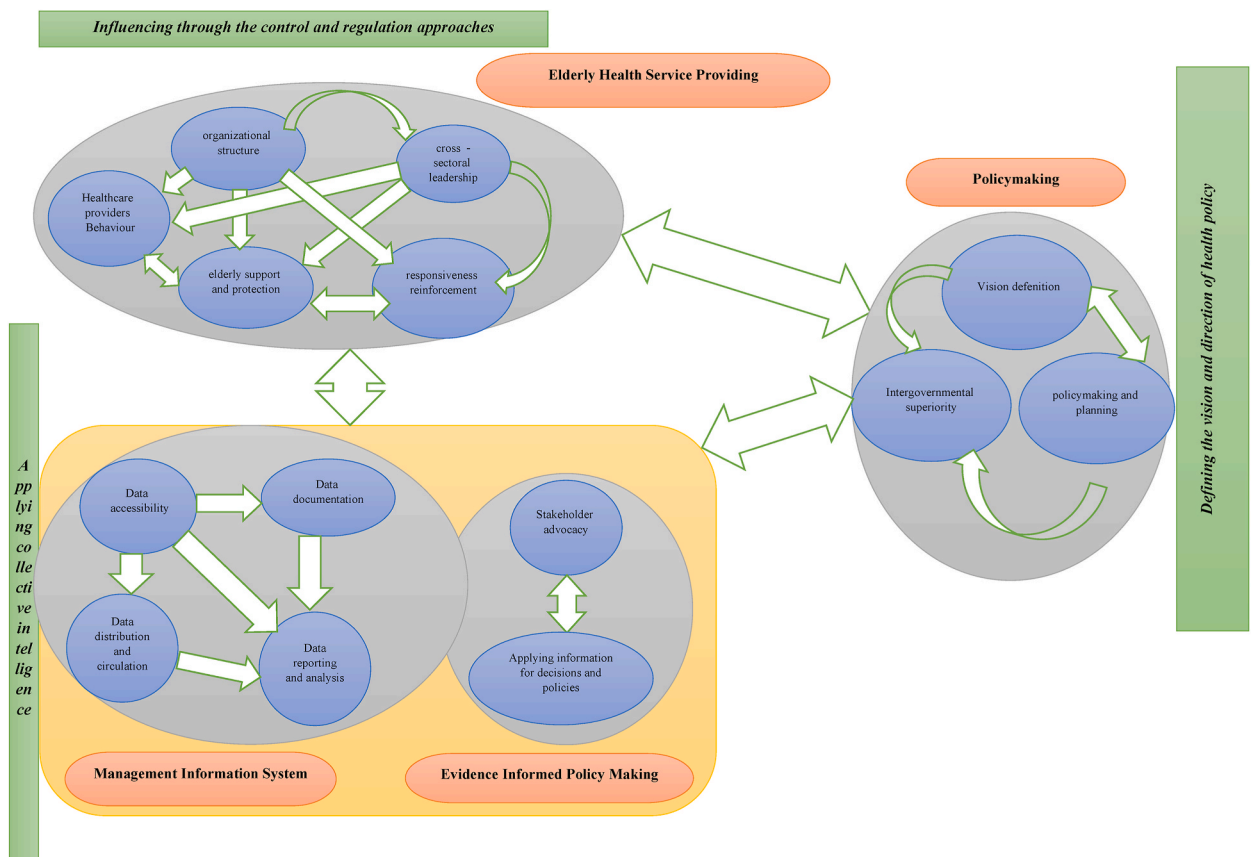

Fig. 1. governance and stewardship framework for elderly healthcare.

are vital. This can be achieved as the third task of stewardship through mechanisms that control healthcare providers' behaviors and regulations aimed at reinforcing responsiveness, providing support and protection, and organizing a well-defined structure.

4. Discussion

Stewardship along with the other three concepts of financing, resource generation, and service delivery are considered the main concepts of the healthcare systems to achieve the population's health [9]. WHO Report 2000 defines three tasks for stewardship they were developed into six sub-functions in 2002 including intelligence generation, formulation of strategic policy direction, preparation of tools for implementation, coalitions and participations, accountability and matching policy objectives, organizational structure, and culture [23]. In this paper, we aimed to customise the WHO framework for elderly healthcare stewardship in Iran.

According to the present customized framework, for good governance and appropriate stewardship of elderly healthcare, a close and constructive coordination of four elements is necessary: management information system, applying evidence and information, policymaking, and elderly healthcare provision of services. At the start point of the framework and as a fundamental determination of good governance and stewardship, access to accurate and timely data through a well-defined integrated information system with a rapid and facilitated mechanism of data distribution and circulation can guarantee applied documentation, analysis, and interpretation of the available data. Despite the importance of the elderly management information system as a foundation for subsequent health decision-making, findings from Sadoughi et al. (2016) showed that the current Iranian elderly health management information system faces challenges. These include a lack of computerized data documentation mechanisms at primary healthcare centers and rudimentary non-automated data flow, resulting in ineffective and delayed data analysis, reporting, and interpretation, ultimately providing no tangible benefits for decision-making [24].

As per the current customized framework, the utilization of evidence and information for policymaking and healthcare programs targeting the elderly constitutes the second essential element. This occurrence is a direct result of implementing a well-defined, integrated management information system. At the same time, the process of knowledge translation and evidence synthesis could be built and facilitated via a mutual collaboration and interaction among research centers, community, elderly population, NGOs and other beneficiary bodies with the organizational and formal decision-makers in the area of elderly health although the significance of trust, positive attitude and social and political confidence to this information system and mechanism of evidence-based decision making should not be neglected. According to Bastani et al. (2022) developing the tools for knowledge translation can be a useful strategy for preparing customized actionable messages for policymakers especially when a rapid policy response is necessary [17]. Abbasian and Shaghaghi have also indicated the significance of an evidence-informed conceptual framework as a necessity of the elderly's health system re-engineering tool for Iranian policymakers [14].

The third element of the present customized framework is policymaking considering a clear definition of vision for elderly health, apparent and need-based agenda, appropriate and evidence-based mechanisms for policy formulation and implementation and defining specific key performance indicators to evaluate the impacts of policies and elderly healthcare programs. As the present results show, Iran suffers from an evidence-informed policymaking process in elderly health. Similarly, Goharinezhad et al. (2016) have also emphasized that there are a lot of policymaking challenges related to elderly care in Iran including the challenges related to elderly health system stewardship and governance, the content of the policies and the engagement of actors and stakeholders [12]. In a suggested policy framework for healthy ageing by Beard et al. (2016) the emphasis is placed on the necessity of key areas of action, tailored systems for long-term healthcare of the elderly, and clearly defined mechanisms for evaluation, measurement, and monitoring [1].

The last element of the customized framework, elderly healthcare provision of the services, considers all the organizational structure, healthcare providers' behaviours, elderly support and protection functions and responsiveness reinforcement. According to Yuan et al. (2017), more than financing the healthcare schemes and developing the coverage, strengthening practices in each governance domain is critical to enable the planning, designing, and implementing of healthcare programs [25]. Healthcare providers' behaviour, including their communication skills, can serve as a control nob to reduce perceived racism and disparities in healthcare access by the elderly population [26].

It should not be forgotten that beyond the previously mentioned sub-functions and elements of governance and stewardship in elderly healthcare, MOHME should concurrently assume a role of intergovernmental superiority for overseeing and evaluating the affiliated centers. Additionally, it should exhibit cross-sectoral leadership by collaborating with other stakeholders and beneficiary parties, whether in the public or private sector, that wield influence over elderly healthcare.

To the best of our knowledge, although this study is unique in the aspect of developing and customizing a dedicated framework for governance and stewardship of elderly healthcare in Iran, it should not be neglected that stewardship and governance of elderly health cannot be separated from the population's general health. Need-based planning based on the evidence and formulating and implementing the policies for this vulnerable group is essential to the core role of MOHME and both the intra-sectoral and intersectoral collaborations of the centers and organizations.

This stewardship framework can reinforce the pathways which other countries with the same context may use for improving elderly healthcare. According to the evidence, public health for the elderly population cannot be achieved without the government's action [27]. The framework may be more considerable for middle-income countries particularly in the Middle East and North Africa (MENA) considering their needs as follows to improve elderly healthcare: long-term planning, national health system assessment, improving the efficiency and equitability of the delivery mechanisms and emphasizing multisectoral partnerships, and governmental commitment [27].

5. Conclusion

Despite various challenges in all three dimensions of defining the vision and direction of health policy, influencing through the control and regulation approaches, and fostering collective intelligence in the Iranian healthcare system, the customized framework presented herein holds the potential to serve as a localized model. This model can be embraced by Iranian policymakers and those in similar contextual settings to attain effective governance and comprehensive stewardship in elderly healthcare. The framework integrates four key concepts: a management information system, the generation and application of knowledge and evidence, and policymaking with elderly healthcare service providers as the main building blocks and chains of elderly healthcare stewardship and governance.

However, it is important to acknowledge certain limitations in the study, such as the imperative need to explore the opinions and expectations of the elderly population regarding the healthcare system. Considering the elderly as a frontline group is essential for developing a more comprehensive framework that takes into account their perspectives and needs.

Ethics approval and consent to participate

This study was approved by the Shiraz University of Medical Sciences Ethics Committee (Code: IR.SUMS.REC.1399.902). All methods were carried out following relevant guidelines and regulations under ethics approval and consent to participate. Also, all participants read and signed a written informed consent form and the participant information sheet before the interviews and were permitted to quit the interview process at any time.

Consent for publication

Not applicable.

Availability of data and materials

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

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CRediT authorship contribution statement

Peivand Bastani: Writing – review & editing, Writing – original draft, Visualization, Formal analysis, Conceptualization. **Jamshid Bahmaei:** Writing – review & editing, Writing – original draft, Software, Formal analysis, Data curation. **Ramin Ravangard:** Writing – review & editing, Writing – original draft, Supervision, Project administration, Methodology, Investigation, Formal analysis, Conceptualization. **Mohammad Amin Bahrami:** Writing – review & editing, Writing – original draft, Investigation, Formal analysis, Conceptualization. **Abdolrahim Asadallahi:** Writing – review & editing, Writing – original draft, Investigation, Data curation. **Recce Hinchcliff:** Writing – review & editing, Writing – original draft, Investigation. **Ingy Shafei:** Writing – review & editing, Writing – original draft, Investigation.

Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Dr. Ramin ravangard reports administrative support was provided by Iran, Shiraz University of medical Sciences. Dr. Ramin Ravangard reports a relationship with Iran, Shiraz University of Medical Sciences that includes: non-financial support. Dr. Ramin Ravangard has patent issued to Grant No. 99-01-07-23064. The authors are researchers conducting this study and they have no aother relationship with the governmental organizations. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

List of Abbreviations

WHO   World Health Organization
MOHME   Ministry of Health and Medical Education

EIPM   Evidence Informed Policy Making
LMIC   Low- and Middle-Income Countries
MENA   Middle East and North Africa

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