

Dimensions of the accountable care organization in Iran's health system: A qualitative approach

Raheleh Haji Agha Bozorgi, Ghahraman Mahmoudi, Mohammad Ali Jahani,
Jamshid Yazdani Charati

Submitted to: JMIR Formative Research
on: September 09, 2025

Disclaimer: © The authors. All rights reserved. This is a privileged document currently under peer-review/community review. Authors have provided JMIR Publications with an exclusive license to publish this preprint on its website for review purposes only. While the final peer-reviewed paper may be licensed under a CC BY license on publication, at this stage authors and publisher expressly prohibit redistribution of this draft paper other than for review purposes.

Table of Contents

Original Manuscript.....	5
---------------------------------	----------

Preprint
JMIR Publications

Dimensions of the accountable care organization in Iran's health system: A qualitative approach

Raheleh Haji Agha Bozorgi¹; Ghahraman Mahmoudi²; Mohammad Ali Jahani³; Jamshid Yazdani Charati⁴

¹ 1. PhD Candidate, Department of Health Services Management Islamic Azad University Sari IR

² 2. Professor, Department of Health Services Management, Hospital Management Research Center Islamic Azad University Sari IR

³ 3. Associate Professor, Department of Public Health, Social Determinants of Health Research Center, Health Research Institute Babol University of Medical Sciences Sari IR

⁴ 4. Professor, Department of Biostatistics, Health Sciences Research Center, School of Health Mazandaran University of Medical Sciences Sari IR

Corresponding Author:

Ghahraman Mahmoudi

2. Professor, Department of Health Services Management, Hospital Management Research Center
Islamic Azad University
Sea Road
Sari
IR

Abstract

Background: Iran's healthcare system is currently confronting significant challenges, including fragmented service delivery across different levels of care, lack of an integrated care framework, and rising treatment costs. These issues underscore the urgent necessity of adopting innovative service delivery models.

Objective: This study aimed to identify and explore the core dimensions of an Accountable Care Organization (ACO) as a novel framework to enhance efficiency within the health system.

Methods: This qualitative study employed a grounded theory approach. Data were collected through semi-structured interviews with 26 experts spanning policymakers, physicians, healthcare managers, university professors, and representatives from health insurance organizations. Participants were selected via purposive sampling, and interviews continued until theoretical saturation was achieved. Data analysis was conducted through open, axial, and selective coding stages.

Results: Analysis of the interview transcripts yielded 326 initial codes, which were refined into 61 concepts and 15 subcomponents, subsequently grouped into six overarching dimensions. The principal dimensions constituting an accountable care organization framework in Iran's healthcare system were identified as governance, socio-cultural, economic, information technology and digital transformation, and patient ethics and rights.

Conclusions: The findings indicate that the Accountable Care Organization framework holds substantial potential to address systemic challenges in Iran's health sector. The identified dimensions provide a foundation for developing a localized model aimed at enhancing efficiency, effectiveness, and accountability in healthcare delivery.

(JMIR Preprints 09/09/2025:83823)

DOI: <https://doi.org/10.2196/preprints.83823>

Preprint Settings

1) Would you like to publish your submitted manuscript as preprint?

✓ **Please make my preprint PDF available to anyone at any time (recommended).**

Please make my preprint PDF available only to logged-in users; I understand that my title and abstract will remain visible to all users.

Only make the preprint title and abstract visible.

No, I do not wish to publish my submitted manuscript as a preprint.

2) If accepted for publication in a JMIR journal, would you like the PDF to be visible to the public?

✓

Yes, please make my accepted manuscript PDF available to anyone at any time (Recommended).

Yes, but please make my accepted manuscript PDF available only to logged-in users; I understand that the title and abstract will remain visible to all.

Yes, but only make the title and abstract visible (see Important note, above). I understand that if I later pay to participate in [JMIR Publications](#)

No. Please do not make my accepted manuscript PDF available to anyone. I understand that if I later pay to participate in [JMIR Publications](#)



Original Manuscript

Dimensions of the accountable care organization in Iran's health system: A qualitative approach

Raheleh Haji Agha Bozorgi¹, Ghahraman Mahmoudi^{2*}, Mohammad Ali Jahani³, Jamshid Yazdani Charati⁴

1. PhD Candidate, Department of Health Services Management, Sari Branch, Islamic Azad University, Sari, Iran
ORCID: <https://orcid.org/0009-0007-3184-1805>
2. Professor, Department of Health Services Management, Hospital Management Research Center, Sari Branch, Islamic Azad University, Sari, Iran
ORCID: <https://orcid.org/0000-0003-3769-4379>
3. Associate Professor, Department of Public Health, Social Determinants of Health Research Center, Health Research Institute, Babol University of Medical Sciences, Babol, Iran
ORCID: <https://orcid.org/0000-0003-0309-4172>
4. Professor, Department of Biostatistics, Health Sciences Research Center, School of Health, Mazandaran University of Medical Sciences, Sari, Iran
ORCID: <https://orcid.org/0000-0002-4721-225X>

* *Corresponding* *Author:*
Ghahraman Mahmoudi, Professor, Hospital Management Research Center, Sari Branch, Islamic Azad University, Sari, Iran
Email: Ghahraman48@yahoo.com

Abstract

Background and Objective: Iran's healthcare system is currently confronting significant challenges, including fragmented service delivery across different levels of care, lack of an integrated care framework, and rising treatment costs. These issues underscore the urgent necessity of adopting innovative service delivery models. This study aimed to identify and explore the core dimensions of an Accountable Care Organization (ACO) as a novel framework to enhance efficiency within the health system.

Methods: This qualitative study employed a grounded theory approach. Data were collected through semi-structured interviews with 26 experts spanning policymakers, physicians, healthcare managers, university professors, and representatives from health insurance organizations. Participants were selected via purposive sampling, and interviews continued until theoretical saturation was achieved.

Data analysis was conducted through open, axial, and selective coding stages.

Results: Analysis of the interview transcripts yielded 326 initial codes, which were refined into 61 concepts and 15 subcomponents, subsequently grouped into six overarching dimensions. The principal dimensions constituting an accountable care organization framework in Iran's healthcare system were identified as governance, socio-cultural, economic, information technology and digital transformation, and patient ethics and rights.

Conclusion: The findings indicate that the Accountable Care Organization framework holds substantial potential to address systemic challenges in Iran's health sector. The identified dimensions provide a foundation for developing a localized model aimed at enhancing efficiency, effectiveness, and accountability in healthcare delivery.

Keywords: Accountable Care Organization, Integrated Care, Health System, Qualitative Content Analysis

Introduction

In recent years, Iran's healthcare system has encountered numerous challenges related to access, service quality, and regional disparities (1). Despite significant advancements in strengthening health infrastructure and implementing initiatives such as the Health Transformation Plan, persistent issues remain, including shortages in financial and human resources, inadequate coordination among service providers, and inefficiencies in addressing patients' diverse needs (2). These challenges are particularly acute in underserved and rural areas, often leading to patient dissatisfaction and escalating healthcare costs. Moreover, crises such as the COVID-19 pandemic have further exposed the shortcomings of existing systems and underscored the urgent need for reforming service delivery structures.

Within this context, the concept of accountable care has attracted growing attention globally, especially in developing countries, as a contemporary strategy to enhance healthcare quality (3). Accountable care rests on the principle that healthcare organizations must effectively and efficiently meet both individual and collective patient needs (4), while simultaneously promoting greater public satisfaction with health services (5). This approach extends beyond improving clinical processes or service quality; it emphasizes strengthening patient-provider interactions, ensuring transparency in decision-making, and fostering trust among all stakeholders within the health system (6).

Worldwide, health systems face ongoing challenges in delivering effective and accountable care. Both developed and developing countries have experienced significant strain on human resources, infrastructure, and clinical workflows during crises (7). Structural vulnerabilities, coupled with rising healthcare costs and widening social and economic inequalities, have resulted in substantial disparities in access and quality of care across regions (8). Consequently, developing and implementing models that simultaneously respond to patients' heterogeneous needs and enhance organizational efficiency has become a priority for health policymakers (9).

Therefore, accountable care is increasingly recognized not only as a short-term response to crises but also as a sustainable, long-term strategy for health system reform (10). Specifically, accountable care models have demonstrated the capacity to improve service quality and patient satisfaction while reducing costs—particularly in complex and diverse health systems (11). Furthermore, these models

prove invaluable during public health emergencies, such as pandemics, enabling healthcare organizations to respond more effectively to community needs (12).

In developing countries like Iran, where the healthcare system is constrained by financial limitations, inequitable access, and workforce shortages (13), the imperative to develop models that enhance both efficiency and accountability is critical (14). Designing care models that concurrently address clinical needs and improve organizational performance is especially vital in resource-limited settings (15). Given Iran's specific challenges in human and financial capacities, it is essential to develop and implement care models tailored to the country's context (16). Accountable Care Organizations (ACOs) can contribute to improving service quality, community health outcomes, reducing low-value care, enhancing patient-centeredness, standardizing clinical processes, and optimizing management of high-risk patients (17).

Despite ongoing efforts to improve healthcare delivery in Iran, disparities in access, suboptimal care quality, and poor coordination persist, particularly in remote and rural regions where limited healthcare facilities exacerbate inequalities in essential care (18). In this regard, developing and implementing accountable organizational models could play a pivotal role in bridging these gaps and elevating service quality nationwide (5). Such models must address not only medical needs but also facilitate more effective interactions among patients, healthcare organizations, and the broader health system (19).

Previous Iranian studies have revealed that despite extensive reform attempts, the health system still suffers from inefficiencies, fragmented services, and managerial deficiencies (20, 21). In contrast, international evidence shows that care systems grounded in accountability principles significantly enhance patient satisfaction and reduce costs (22, 23). Iran's experience with crises such as the COVID-19 pandemic has further amplified the necessity for ACOs capable of operating effectively during emergencies (24).

Identifying the key dimensions of accountable care and elucidating its mechanisms are critical from both scientific and practical perspectives. Research indicates that accountable health systems improve service quality, enhance patient satisfaction, and elevate health outcomes by adapting to patients' evolving needs and promoting transparent decision-making (25). In Iran, ongoing challenges such as regional inequalities, workforce shortages, financial constraints, and weak management continue to impede healthcare organizations' performance (1). Thus, mapping the various dimensions of accountable care can assist policymakers in designing evidence-based interventions and optimizing resource allocation (26). Furthermore, enhancing the accountability of healthcare institutions may strengthen public trust in the health system and foster greater patient engagement in care processes (27). Consequently, designing an Accountable Care Organization model represents both a scientific and pragmatic step toward advancing efficiency and equity in Iran's healthcare system.

This study aims to develop an organizational model for accountable care tailored to Iran's healthcare system by capturing the perspectives and experiences of experts and key stakeholders. Through qualitative inquiry, it seeks to identify the core dimensions of an Accountable Care Organization and delineate the essential characteristics required for the successful implementation of such a model in the Iranian context. Ultimately, the research aspires to provide evidence-based insights that support the design of a framework capable of meeting patients' diverse needs and enhancing the overall performance of the healthcare system.

Materials and Methods

This study aimed to identify the dimensions of an Accountable Care Organization within Iran's healthcare system employing a qualitative research design grounded in Strauss and Corbin's Grounded Theory methodology. This approach facilitates systematic analysis of empirical data to uncover conceptual relationships and develop a coherent theoretical framework.

A total of 26 healthcare experts were recruited using purposive sampling initially, followed by

theoretical sampling to ensure inclusion of participants with pertinent expertise. The sample encompassed senior and mid-level managers from the Ministry of Health and Medical Education, academic faculty members from medical universities and affiliated institutions, representatives from health insurance organizations, and specialists in health technology and patient rights. Eligibility criteria required a minimum of five years of experience in healthcare management or service delivery and willingness to participate in in-depth interviews.

Data collection was conducted through semi-structured, in-depth interviews lasting approximately 30 to 45 minutes each. Interview questions were designed based on the study's objectives and included:

- What, in your view, are the defining characteristics of an Accountable Care Organization within the healthcare system?
- Which factors influence the development of accountability in such organizations?
- What are the possible outcomes of implementing an Accountable Care Organization?

Interviews were conducted until theoretical saturation was achieved, defined as the point when no new concepts emerged and theoretical categories were fully developed. Data analysis adhered to the three-stage coding process articulated by Strauss and Corbin:

- Open Coding: Extraction of initial concepts from interview transcripts, yielding 326 preliminary codes.
- Axial Coding: Grouping of codes into 61 concepts, organized further into 15 subcomponents.
- Selective Coding: Refinement and integration of subcomponents into six overarching dimensions: governance, socio-cultural, economic, information technology and digital transformation, ethics, and patient rights.

To enhance the rigor and trustworthiness of the findings, Lincoln and Guba's four criteria were rigorously applied:

- Credibility: Ensured through peer debriefing and member checking with participants.
- Transferability: Supported by rich, detailed contextual descriptions and participant characteristics.
- Dependability: Maintained by thorough documentation of research procedures, permitting external audit.
- Confirmability: Achieved via transparent coding and analytic processes, enabling objective evaluation of findings.

Ethical approval was granted by the Ethics Committee of Islamic Azad University, Sari Branch (Code: IR.IAU.SARI.REC.1402.006). All participants provided informed consent and were assured of confidentiality and their right to withdraw from the study at any time without penalty.

Findings

During the open coding phase, 326 initial codes were extracted from the interview transcripts. These codes were subsequently refined and organized into 61 concepts and 15 subcomponents, which were further consolidated into six principal dimensions. A detailed presentation of the coding results is provided below.

Table 1. Characteristics of Interview Participants

Participant	Age	Work Experience (years)	Gender	Role & Area of Expertise	Education Level
1	63	31	Male	University lecturer, Associate Professor of Health Economics	PhD
2	55	29	Male	CEO of Health Insurance Organization	MSc in Management
3	56	29	Male	University lecturer, Professor of Health Services Management	PhD
4	64	31	Male	University lecturer, Professor of Health Policy	PhD

Participant	Age	Work Experience (years)	Gender	Role & Area of Expertise	Education Level
5	46	18	Female	Director of Health Insurance Supervision	PhD in Health Economics
6	56	28	Male	Head of Medical Records, Social Security Insurance	MD
7	58	29	Male	Deputy and Clinical Manager, Medical University	MD
8	54	25	Male	Deputy of Supervision and Accreditation, Ministry of Health	MD
9	45	19	Male	Head of Basic Insurance Policy Unit	PhD in Health Economics
10	49	23	Female	Deputy of Specialty Insurance Unit	MD
11	44	18	Male	Head of Health Education Office, Ministry of Health	PhD in Health Promotion
12	49	25	Female	Director of Health Technology Development	Assistant Professor in Clinical Sciences
13	45	17	Male	Head of Health IT, Medical University	PhD in Health Information Technology
14	54	27	Male	Head of Supervision & Evaluation, Social Security	PhD in Health Management
15	49	23	Male	Legal & Parliamentary Deputy, Ministry of Health	MD
16	47	20	Female	Health Policy Expert	PhD in Health Management
17	58	28	Male	University Chancellor & Hospital Director	MD
18	53	25	Male	Expert, Health Technology Assessment	PhD in Health Management
19	43	17	Female	University lecturer, Associate Professor of Biostatistics	PhD
20	45	16	Female	Tariff and Insurance Expert	MD
21	58	30	Male	CEO, Health Insurance Organization	Faculty, Medical University
22	48	21	Female	Director of Health Economics, Medical University	MD
23	42	15	Male	University lecturer, Associate Professor of Health Economics	PhD
24	57	29	Male	Public Health Deputy, Medical University	Professor of Health Services Management
25	52	28	Male	Public Health Deputy, Medical University	PhD in Health Economics
26	40	15	Male	University lecturer, Assistant Professor of Health Services Management	PhD

Table 2. Dimensions, Components, and Concepts of the Accountable Care Organization in Iran's Health System

Dimension	Component	Key Concepts
1. Governance	Organizational Structure	Employee involvement in manager selection, Leadership transparency, Structural complexity, Standardization of service packages, Decentralized decision-making
	Leadership Commitment	Social accountability, Policy implementation commitment, Organizational responsibility
	System Management	Transparent and efficient information flow, Reform of evaluation systems, Public accountability
2. Socio-Cultural	Culture Participation	of Patient involvement in decision-making, Public role in system improvement, Culture of policy co-creation
	Beliefs and Values	Respect for social interaction and culture, Acceptance of cultural diversity, Openness to modern cultural approaches
3. Economic	Support System	Expanding insurance coverage in public/private sectors, Support for vulnerable groups, Alleviation of financial sanctions, Reducing government

Dimension	Component	Key Concepts
4. IT & Digital Transformation	Sustainable Financing	dependency Ensuring stable public health funding, Allocating fair health share from GDP, Building provider trust through financial transparency, Long-term budgeting
	Payment System	Reducing unnecessary services, Transparency in physician-industry financial ties, Cost management, Clear insurance cash flow, Adopting alternative payment models
	Technology	Use of electronic health records, Rapid provider access to patient data, & Infrastructure for digital systems, Integration of electronic platforms, Telecommunication infrastructure, Doctor-patient digital tools, AI in health, Investment in telemedicine
	Information Security	Patient data privacy, Data protection, Strengthening cyber defense, Preventing breaches
5. Ethics	Professional Ethics	Preserving dignity in care, Fairness in service provision, Adhering to medical ethics, Addressing ethical needs, Managing conflicts of interest
	Doctor-Patient Trust	Building and maintaining trust, Transparency in clinical behavior and decisions
6. Patient Rights	Awareness and Empowerment	Respect for patient autonomy, Ethical and legal rights assurance, Standards-aligned service delivery, Patient education, Guiding patients to essential services
	Health System Regulation	Protective legislation, Monitoring compliance for patient accountability, Transparent healthcare regulations, Legal reform
	Legal Oversight	Systems to uphold patient rights, Addressing malpractice, Independent monitoring of hospital performance

Table 3. Final Model of Selective Coding – Accountable Care Organization for Iran's Health System

Model Element	Description
Core Phenomenon	Accountable Governance
Causal Conditions	Patient participation, Sustainable financing, Health technology
Intervening Conditions	Economic sanctions, Public distrust, Weak technology infrastructure
Contextual Conditions	Accountability culture, Bureaucracy, Social values
Strategies	Reforming oversight, Enhancing financial transparency, Advancing digital health
Outcomes	Increased public trust, Improved service quality, Cost reduction

Discussion

This qualitative study, based on 26 in-depth interviews, yielded 326 initial codes which, following systematic refinement and analysis, were distilled into 61 theoretical concepts. These concepts were then organized into 15 components, culminating in the identification of six fundamental dimensions constituting the core of the "Accountable Care Organization" phenomenon within Iran's health system: governance, socio-cultural, economic, information technology and digital transformation, ethics, and patients' rights. These findings underscore the complexity and multidimensionality of factors shaping accountability in the health system and emphasize the necessity of harmonizing managerial, economic, and technological policies to enhance system performance and public trust. The results indicate that accountable governance in Iran's health system comprises three principal elements: organizational structure, leadership commitment, and systems management, aligning with the findings of Khosravi et al. (28). A transparent organizational structure—with clear criteria for managerial selection and the establishment of systematic auditing frameworks—provides the foundation for effective monitoring. Leadership commitment, characterized by open communication and accountability in strategic decision-making, is pivotal in fostering transparency and enhancing accountability. Furthermore, systems management—facilitated by the deployment of modern

technologies and integrated information platforms—enables precise performance monitoring. These components interact synergistically to reinforce accountability and improve service quality; consequently, deficiencies in any one area can undermine the overall system's effectiveness. A robust managerial framework, by defining explicit selection criteria and implementing cohesive auditing mechanisms, can bolster transparency and mitigate corruption. Moreover, leaders' ethical commitment, sense of responsibility, and transparent engagement with stakeholders are critical factors in cultivating public trust.

Compared to international studies, research by Cook et al. (2024) (29) and Komaki and Fluharty (2020) (30) highlights that countries employing advanced monitoring systems alongside strong managerial standards have achieved notable improvements in accountability and transparency. Their findings indicate that robust oversight frameworks—such as digital hospitals in the UK and Germany—have effectively reduced managerial errors and enhanced patient satisfaction. While these studies emphasize the critical role of modern oversight systems and information technology, they often neglect the influence of cultural factors and environmental constraints present in countries with distinct economic conditions, such as Iran. In Iran, inadequate IT infrastructure and excessive reliance on public funding are identified as significant barriers to implementing contemporary oversight mechanisms. Similarly, findings from Moradi et al. (2024) align with the present study by highlighting deficiencies in the selection and supervision processes of hospital managers (31). Although some managerial initiatives—such as early efforts toward financial transparency and stakeholder engagement—reflect an awareness of the need for accountability, their fragmented implementation and insufficient IT support substantially limit their effectiveness. Additionally, contextual challenges, including economic sanctions and widespread public distrust, act as moderating factors that adversely affect the enforcement of governance policies, as noted by Hemmatafza et al. (2024) (32). Thus, the governance dimension embodies both strengths in managerial capacity and vulnerabilities arising from environmental and technological constraints. To establish a genuinely accountable health system, it is imperative to align managerial policies with robust IT infrastructure and to develop inclusive, nationwide oversight mechanisms.

Within the socio-cultural dimension, the study identified two principal components: a culture of participation and prevailing social beliefs and values. In Iran's health system, patient and stakeholder participation remains largely informal, typically taking the form of unstructured feedback or isolated complaints. This contrasts markedly with successful models in countries such as the UK and Canada, where advisory councils and digital participatory platforms actively foster patient engagement with managers and policymakers. Studies like Firman et al. (2024) demonstrate that the implementation of participatory mechanisms promotes greater transparency and enhances service quality (33).

Furthermore, social values and cultural beliefs play a significant role in shaping public expectations of the health system. Societies where collective and participatory values are deeply embedded within management structures tend to embrace accountable care frameworks more readily. Conversely, traditional beliefs and individualistic attitudes, prevalent in Iran, often serve as obstacles to advancing accountability. Research by Gomez-Zapata et al. (2024) shows that cultural shifts toward participatory models can substantially improve accountability (34); however, the current study reveals that such cultural transformation has yet to be fully realized in Iran, representing a notable weakness. Comparative analyses suggest that countries with stronger participatory cultures and robust support systems implement accountability more strategically and effectively (35), whereas in Iran, cultural barriers, lack of formal participation mechanisms, and outdated perceptions regarding the roles of patients and stakeholders diminish the effectiveness of accountability initiatives (36). Therefore, addressing this dimension through targeted educational programs and incentive-based policies may significantly enhance performance and accountability within Iran's healthcare system.

The economic dimension identified three fundamental components as essential for establishing an economically accountable health system: support systems, sustainable financial resources, and payment models. Regarding support systems, the study emphasizes the importance of expanding

insurance coverage for basic health services, providing targeted support to vulnerable populations, and reducing overreliance on public funding to ensure financial stability within hospitals. International reports, including those from the World Bank, indicate that countries employing mixed financing models have substantially enhanced health system accountability (37). Conversely, Hanson et al. (2022) highlight that excessive dependence on constrained government funds has impeded flexibility and innovation in public hospitals (38). While international models benefit from diversified financing approaches, Iran's limited support system constitutes a significant obstacle (39). The second component, sustainable financial resources, stresses the necessity of securing adequate budgets and allocating a fair proportion of GDP to the health sector. Findings from the present study reveal that the absence of guaranteed financial resources represents a major barrier to implementing accountability policies and adopting novel technologies in health management. This aligns with the conclusions of Pintor et al. (2023), who documented the adverse effects of sanctions and economic constraints on the development of healthcare financial systems (40). In contrast, countries with diversified and stable funding streams demonstrate improved system efficiency and accountability (41); however, financial sustainability remains a critical weakness in Iran (42).

The third component, payment models, serves as a vital mechanism for enhancing accountability. This entails reducing unnecessary medical services, ensuring transparency in physician-pharmaceutical relationships, and adopting alternative payment methods. Performance-based payment models, as implemented in the U.S. and Europe, have been shown to improve efficiency and diminish superfluous costs (43, 44). Nevertheless, this study indicates that Iran's opaque financial frameworks and complex provider relationships have constrained the effectiveness of payment systems in advancing accountability. This highlights the urgent need for comprehensive reforms in Iran's payment structures. While global evidence underscores the strengths of financial diversification, alternative payment models, and fiscal transparency, this research draws attention to reliance on public funding, sanctions, and inefficient payment mechanisms as significant challenges to cultivating an accountable health system in Iran. Enhancing this dimension requires harmonizing financial policies with national economic and political realities, while adapting successful international experiences to Iran's specific context.

The digital transformation dimension of this study emphasizes the application of modern information technologies to enhance the efficiency, quality, and accessibility of healthcare services. Digital transformation has fundamentally reshaped traditional health systems by optimizing treatment processes, improving diagnostic accuracy, and reducing the costs of care (45, 46). Electronic Health Records (EHR) form a cornerstone of contemporary health IT infrastructure, enabling the digital storage and rapid retrieval of patient information. Evidence from countries such as the United States and Germany demonstrates that comprehensive EHR implementation has significantly elevated healthcare quality (47, 48). Telemedicine facilitates remote diagnosis and treatment through internet and mobile technologies, playing a critical role in expanding healthcare access to underserved and rural regions. During the COVID-19 pandemic, telemedicine use proliferated in the U.S., alleviating hospital overcrowding (49). However, in Iran, despite ongoing efforts, limitations in infrastructure and low levels of acceptance continue to impede its widespread adoption (50). Artificial Intelligence (AI) further supports diagnostics, treatment planning, and system optimization. Nonetheless, digitalization also raises important concerns regarding data security and patient privacy. Leading nations are advancing rapidly in digital health adoption: approximately 90% of U.S. hospitals have integrated EHR systems (51); Germany mandates telemedicine services to ensure rural access (52); and China extensively employs AI to manage chronic diseases (53). In contrast, Iran faces incomplete EHR implementation, persistent infrastructure and legal challenges, and an underutilization of AI technologies largely due to shortages of specialized experts (50, 54, 55). The ethics and patients' rights dimension highlights that professional conduct, medical decision-making, and provider-patient interactions must be firmly grounded in ethical principles. Adherence to established ethical standards enhances the quality of care and fosters trust between patients and

healthcare providers (56). In the United States, safeguarding patient dignity is recognized as essential for patient satisfaction and positive health outcomes (22); similarly, in Iran, respectful care strengthens the doctor-patient relationship (57). Inequitable access to healthcare based on socioeconomic status or ethnicity constitutes a violation of ethical norms. Scandinavian countries address this challenge by ensuring equity through universal health coverage (58), whereas Iran continues to grapple with significant disparities in resource allocation (59). Ethical medical practice is fundamentally based on the principles of beneficence, non-maleficence, autonomy, and justice. Research in the U.S. confirms that adherence to these principles correlates with a reduction in patient complaints (60). Emerging ethical challenges—such as those posed by genetic research, end-of-life decision-making, and the implementation of AI—demand heightened accountability. For instance, Germany has established medical ethics committees that address complex dilemmas of this nature (61); however, hospital ethics committees in Iran require enhanced oversight and greater transparency (62). Physicians bear the responsibility of fostering safe, nonjudgmental environments that cultivate trust, which in turn improves treatment adherence and mitigates patient anxiety (63). In Canada, physicians' transparency has been shown to build patient trust effectively (64); conversely, in Iran, communication deficiencies and medical errors have undermined trust in the healthcare system (65).

Respect for patient rights encompasses privacy, data confidentiality, and dignified treatment, ensuring that all patients receive care free from discrimination. In the European Union, the General Data Protection Regulation (GDPR) provides rigorous safeguards for data protection (66); meanwhile, Iran's Patient Rights Charter emphasizes the importance of privacy, although security measures for Electronic Health Records (EHR) remain inadequate (67). Patient education plays a pivotal role in promoting public health awareness. For example, chronic disease awareness campaigns in Canada have effectively reduced emergency room visits (68), whereas Iran currently lacks a comprehensive national patient education program (69).

Robust legal frameworks are essential to safeguard patient rights, encompassing access to care, confidentiality, and mechanisms for complaint resolution. In Germany, patients possess the legal right to claim damages for malpractice (70); however, Iran's Patient Rights Charter requires both revision and more stringent enforcement to fulfill these protections effectively (71). Oversight mechanisms designed to monitor care quality and address rights violations are crucial. The United Kingdom's Care Quality Commission (CQC), for instance, transparently publishes hospital performance data (72), whereas Iran lacks an independent and transparent review system (73). Transparency regarding costs, medical procedures, and patient rights is fundamental to preventing abuse and fostering public trust. Sweden mandates online disclosure of healthcare costs (74), while the absence of such transparency in Iran contributes to widespread distrust (75). Independent complaint systems play a vital role in ensuring justice; in the United States, Medical Misconduct Committees publicly release their findings (76). Conversely, in Iran, protracted review processes and limited transparency undermine patients' trust in the system (77). Furthermore, patients require accessible legal recourse and compensation opportunities. The UK's Medical Courts efficiently handle malpractice cases (78), whereas Iran faces a shortage of specialized legal experts, resulting in delayed justice (79).

Conclusion

This study demonstrates that the Accountable Care Organization (ACO) within Iran's healthcare system comprises multiple interrelated dimensions and components, each essential for improving efficiency, quality, and accountability. Effective implementation of this model necessitates a comprehensive and coherent framework that encompasses healthcare policy reforms, enhancement of information technology infrastructure, adoption of performance-based payment systems, improved coordination among service providers, and active engagement of patients.

Given the specific challenges facing Iran—such as financial constraints, inequitable access to care, a

high burden of chronic diseases, and systemic inefficiencies—this model holds significant potential to optimize resource allocation, elevate the quality of care, and reduce preventable healthcare costs. Integrating international best practices, thoughtfully adapted to Iran's unique cultural and economic context, can further augment the model's effectiveness and expedite its implementation. Ultimately, realizing the full potential of Accountable Care Organizations requires comprehensive reforms spanning national health policies, legal frameworks, regulatory mechanisms, managerial and educational capacity development, alongside the strategic deployment of advanced monitoring technologies. Future research should employ quantitative and intervention-based methodologies to rigorously assess the impact of this model on critical health outcomes and treatment expenditures.

Acknowledgment

This article is part of the doctoral dissertation of Raheleh Haji Agha Bozorgi in the field of Health Services Management. The authors express their sincere appreciation to all those who contributed to the preparation of this dissertation, particularly the Research Deputy of Islamic Azad University, Sari Branch, and other collaborators.

References

1. Khosravi S IM, Mirzaei S, et al. Challenges faced by the Iranian health system in containing COVID-19: insights from a conventional content analysis. *BMC Health Serv Res* 2025; 25: 60. <https://doi.org/10.1186/s12913-025-12223-9>.
2. Javaid M, Haleem A, Singh RP. Health informatics to enhance the healthcare industry's culture: An extensive analysis of its features, contributions, applications and limitations. *Informatics and Health*. 2024;1(2):123-48.
3. Peckham A RD, Bhatia D, Allin S, Abdelhalim R, Marchildon GP. What Can Canada Learn From Accountable Care Organizations: A Comparative Policy Analysis. *Int J Integr Care*. 2022; 22(2):1. doi: 10.5334/ijic.5677. PMID: 35480852; PMCID: PMC8992768.
4. Engle RL MD, Holmes SK, Seibert MN, Afable M, Leyson J, Meterko M. Evidence-based practice and patient-centered care: Doing both well. *Health Care Manage Rev*. 2021 Jul-Sep 01;46(3):174-184. doi: 10.1097/HMR.0000000000000254. Epub 2019 Jun 24. PMID: 31233424; PMCID: PMC8162222.
5. Moy HP GA, Varacallo MA. Accountable Care Organization. [Updated 2023 Jul 25]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK448136/>.
6. Aljelban A AM, Alenazi A, Alsuwaidan M, Alsuwaidan S. Assessment of Accountable Care Organization Strategies: A Qualitative Approach. *Open Journal of Business and Management* 2024; 12: 1-17. doi: 10.4236/ojbm.2024.121001.
7. Biel M GK, Androniceanu AM. A Crisis in the Health System and Quality of Healthcare in Economically Developed Countries. *Int J Environ Res Public Health*. 2022; 20(1): 469. doi: 10.3390/ijerph20010469. PMID: 36612791; PMCID: PMC9819705.
8. Hoagland A, Kipping S. Challenges in Promoting Health Equity and Reducing Disparities in Access Across New and Established Technologies. *Canadian Journal of Cardiology*. 2024;40(6):1154-67.
9. Nilsen P SI, Ericsson C, et al. Characteristics of successful changes in health care organizations: an interview study with physicians, registered nurses and assistant nurses. *BMC Health Serv Res* 2020; 147. <https://doi.org/10.1186/s12913-020-4999-8>.
10. Berardi C, Schut F, Paolucci F. The dynamics of international health system reforms: Evidence of a new wave in response to the 2008 economic crisis and the COVID-19 pandemic? *Health Policy*. 2024;143:105052.
11. Endalamaw A KR, Mengistu TS, et al. A scoping review of continuous quality improvement

in healthcare system: conceptualization, models and tools, barriers and facilitators and impact. *BMC Health Serv Res* 2024; 24: 487. <https://doi.org/10.1186/s12913-024-10828-0>.

12. Lim WM, Bowman C. Investing in Our Collective Future: The Essence of Paying it Forward in Aging. *Activities, Adaptation & Aging*. 2024;48(2):205-13.

13. Khanpoor H AA, Khosravizadeh O, Amerzadeh M, Rafiei S. A mixed-methods model for healthcare system accountableness to public health: insights from Iranian experts. *Health Res Policy Syst*. 2025 Feb 21;23(1):24. doi: 10.1186/s12961-025-01295-y. PMID: 39984955; PMCID: PMC11844089.

14. Khan G KN, Whyte E, et al. Health system accountableness: a systematic evidence mapping review of the global literature. *Int J Equity Health* 2021; 20: 112. <https://doi.org/10.1186/s12939-021-01447-w>.

15. Bendowska A, Baum E, The Significance of Cooperation in Interdisciplinary Health Care Teams as Perceived by Polish Medical Students. *Int J Environ Res Public Health*. 2023 Jan 5; 20(2): 954, doi: 10.3390/ijerph20020954. PMID: 36673710; PMCID: PMC9859360.

16. Rahimi B, Jalali, S. M., Nazarpour Kashani, H. Designing a Health Marketing Model to Improve the Health of Community in Iran. *Health Management & Information Science*, 2023; 10(2): 62-70. doi: 10.30476/jhmi.2023.100243.1187.

17. Haji Agha Bozorgi R MG, Jahani M A, Yazdani-Charati J. Accountable Care Organization: A Systematic Review. *Clin Exc* 2024; 14 (3) :79-93,.

18. Olyaeemanesh A HF, Mobinizadeh M, Takian A, Khosravi B, Jafarzadeh J, Bakhtiari A, Mohamadi E. Identifying and prioritizing inefficiency causes in Iran's health system. *Cost Eff Resour Alloc*. 2024 Nov 12;22(1):81. doi: 10.1186/s12962-024-00593-6. PMID: 39533362; PMCID: PMC11558905.

19. Khanpoor H AM, Alizadeh A, Khosravizadeh O, Rafiei S. Developing a accountable model to societal needs in medical education. *BMC Med Educ*. 2024 Apr 4;24(1):370. doi: 10.1186/s12909-024-05355-9. PMID: 38575947; PMCID: PMC10996077.

20. Hosseini MM, Koohpaei A, Ebrahimipour H, Masoumian Hosseini ST. Policy options to address the effectiveness of health service management graduates in solving Iranian health system challenges: a mixed scoping review and policy Delphi approach. *eClinicalMedicine*. 2024;77:102875.

21. Shafaghat T ZM, Mousavi SM, Askari R, Ranjbar M, Ebadi F. Explaining the challenges of the Iranian Health System in fighting the COVID-19 pandemic: A Qualitative Study. *J Prev Med Hyg*. 2022 Jan 31;62(4):E841-E853. doi: 10.15167/2421-4248/jpmh2021.62.4.2230. PMID: 35603243; PMCID: PMC9104680.

22. Ferreira DC VI, Pedro MI, Caldas P, Varela M. Patient Satisfaction with Healthcare Services and the Techniques Used for its Assessment: A Systematic Literature Review and a Bibliometric Analysis. *Healthcare (Basel)*. 2023 Feb 21;11(5):639. doi: 10.3390/healthcare11050639. PMID: 36900644; PMCID: PMC10001171.

23. Fukami T. Enhancing Healthcare Accountability for Administrators: Fostering Transparency for Patient Safety and Quality Enhancement. *Cureus*. 2024; 2: 16(8):e66007, doi: 10.7759/cureus.66007. PMID: 39221336; PMCID: PMC11366401.

24. Ezzati F MA, Jaafaripooyan E. Resiliency of the Iranian healthcare facilities against the Covid-19 pandemic: challenges and solutions. *BMC Health Serv Res* 2023; 23: 207. <https://doi.org/10.1186/s12913-023-09180-6>.

25. Dall'Ora C SC, Rubbo B, Turner L, Jones J, Griffiths P. Nurse staffing levels and patient outcomes: A systematic review of longitudinal studies. *Int J Nurs Stud*. 2022; 134: 104311. doi: 10.1016/j.ijnurstu.2022.104311. Epub 2022 Jun 16. PMID: 35780608.

26. Breneol S CJ, Marten R, Minocha K, Johnson C, Wong H, Langlois EV, Wozney L, Vélez CM, Cassidy C, Juvekar S, Rothfus M, Aziato L, Keeping-Burke L, Adjorlolo S, Patiño-Lugo DF. Strategies to adapt and implement health system guidelines and recommendations: a scoping review.

Health Res Policy Syst. 2022 Jun 15;20(1):64. doi: 10.1186/s12961-022-00865-8. PMID: 35706039; PMCID: PMC9202131.

27. Gille F SS, Mays N. Evidence-based guiding principles to build public trust in personal data use in health systems. *Digit Health*. 2022 Jul 17;8:20552076221111947. doi: 10.1177/20552076221111947. PMID: 35874863; PMCID: PMC9297454.

28. Khosravi MF MA, Arab M. Health System Governance Evaluation: A Scoping Review. *Iran J Public Health*. 2023 Feb;52(2):265-277. doi: 10.18502/ijph.v52i2.11880. PMID: 37089156; PMCID: PMC10113585.

29. Cook CN, Lemieux CJ, Golden Kroner R. Increasing transparency and accountability in global protected and conserved area reporting. *One Earth*. 2024;7(3):421-30.

30. Komaki K, Fluharty D. Options to Improve Transparency of Environmental Monitoring Governance for Polymetallic Nodule Mining in the Area. *Frontiers in Marine Science*. 2020;7.

31. Moradi S RMM, Mohammadi M. Explaining the Factors Affecting the Competence Development of Managers in Public Hospitals with an Approach Based on the General Policies of the Health System. *jhosp* 2024; 23 (1) :78-93.

32. Hemmat Afza A AM, Ghaffari R. Presenting a model for analyzing policymaking for foreign trade in essential goods under economic sanctions. *Majles va Radahat*. 2024; 31(119): 5-36.

33. Firman F SS, Muluk MK, Setyowati E, Rahmawati R. Enhancing Citizen Participation: The Key To Public Service Transparency. *Journal of Law and Sustainable Development* 2024; 12(1): 1-18.

34. Gómez-Zapata JD, Del Barrio-Tellado MJ, Espinosa-Casero F, Herrero-Prieto LC. I like participatory museums but, how much? Embedding demand-side value in assessing strategies. *Socio-Economic Planning Sciences*. 2024;96:102111.

35. ALFadhalah T EHOC, Quality of Care and Leadership Style in Government General Hospitals in Kuwait: A Multimethod Study. *J Healthc Leadersh*. 2021 Oct 15;13:243-254. doi: 10.2147/JHL.S333933. PMID: 34703349; PMCID: PMC8528408.

36. Arab M KB, Safari H, Rahmani H, Rajabi Vasokolaei G, Mobinizadeh M, Habibi F. Reasons for informal payments from the perspective of health care providers and recipients: a qualitative study in Iran. *Glob Health Res Policy*. 2022 Sep 1;7(1):30. doi: 10.1186/s41256-022-00263-1. PMID: 36045440; PMCID: PMC9434857.

37. Mutambatsere E, Schellekens P. HE WHY AND HOW OF BLENDED FINANCE. Recommendations to Strengthen the Rationale for and Efficient Use of Concessional Resources in Development Finance Institutions' (DFI) Operations, International Finance Corporation World Bank Group 2020.

38. Hanson K BN, Erlangga D, Alebachew A, De Allegri M, Balabanova D, Blecher M, Cashin C, Esperato A, Hipgrave D, Kalisa I, Kurowski C, Meng Q, Morgan D, Mtei G, Nolte E, Onoka C, Powell-Jackson T, Roland M, Sadanandan R, Stenberg K, Vega Morales J, Wang H, Wurie H. The Lancet Global Health Commission on financing primary health care: putting people at the centre. *Lancet Glob Health*. 2022 May;10(5):e715-e772. doi: 10.1016/S2214-109X(22)00005-5. Epub 2022 Apr 4. Erratum in: *Lancet Glob Health*. 2023 Apr;11(4):e504. doi: 10.1016/S2214-109X(23)00035-9. PMID: 35390342; PMCID: PMC9005653.

39. Yavari G, Azizi V. Prioritizing the obstacles and challenges to achieving the goals of the first to the fifth programs of social, economic and cultural development of the Islamic republic of Iran in the Sector of Agriculture and Natural Resources. *The Journal of Economic Policy*. 2021;12(24):207-35.

40. Matteo Pinna Pintor MS, Christoph Hamelmann - The impact of economic sanctions on health and health systems in low-income and middle-income countries: a systematic review and narrative synthesis: *BMJ Global Health* 2023;8:e010968.

41. Homauni A M-MN, Mosadeghkhah A, Noori M, Abbasiyan K, Jame SZB. Budgeting in Healthcare Systems and Organizations: A Systematic Review. *Iran J Public Health*. 2023

- Sep;52(9):1889-1901. doi: 10.18502/ijph.v52i9.13571. PMID: 38033850; PMCID: PMC10682572.
42. Askarzade E NZ, Goharinezhad S, Mostaghim S. Universal Health Coverage in Iran: A Review of Strengths, Weaknesses, Opportunities, and Threats. *Med J Islam Repub Iran*. 2023 Feb 13;37:6. doi: 10.47176/mjiri.37.6. PMID: 37123342; PMCID: PMC10134088.
43. Brikci N, Alao R, Wang H, Erlangga D, Hanson K. Improving the efficiency in spending for health: A systematic review of evidence. *SSM - Health Systems*. 2024;2:100008.
44. Reindersma T SS, Ahaus K, Fabbriotti I. The Effect of Network-Level Payment Models on Care Network Performance: A Scoping Review of the Empirical Literature. *Int J Integr Care*. 2022 Apr 1;22(2):3. doi: 10.5334/ijic.6002. PMID: 35431706; PMCID: PMC8973838.
45. Mauro M, Noto G, Prenestini A, Sarto F. Digital transformation in healthcare: Assessing the role of digital technologies for managerial support processes. *Technological Forecasting and Social Change*. 2024;209:123781.
46. Stoumpos AI KF, Talias MA. Digital Transformation in Healthcare: Technology Acceptance and Its Applications. *Int J Environ Res Public Health*. 2023 Feb 15;20(4):3407. doi: 10.3390/ijerph20043407. PMID: 36834105; PMCID: PMC9963556.
47. Kerr G, Kulshreshtha N, Greenfield G, Li E, Beaney T, Hayhoe BWJ, et al. Features and frequency of use of electronic health records in primary care across 20 countries: a cross-sectional study. *Public Health*. 2024;233:45-53.
48. Rau E TT, Mitzscherlich B. Implementation of the electronic health record in the German healthcare system: an assessment of the current status and future development perspectives considering the potentials of health data utilisation by representatives of different stakeholder groups. *Front Health Serv*. 2024 May 10;4:1370759. doi: 10.3389/frhs.2024.1370759. PMID: 38800500; PMCID: PMC11116711.
49. 10.1016/j.pop.2022.04.002. Epub 2022 Apr 25. PMID: 36357058; PMCID: PMC9035352. SJTSOTBaAtC-PPCD-d.
50. Hosseini SM BS, Alimohammadzadeh K. Challenges and solutions for implementing telemedicine in Iran from health policymakers' perspective. *BMC Health Serv Res*. 2024 Jan 10;24(1):50. doi: 10.1186/s12913-023-10488-6. PMID: 38200535; PMCID: PMC10782789.
51. Kim MK RC, McMichael J, Welch N, Dasarathy S. Challenges in and Opportunities for Electronic Health Record-Based Data Analysis and Interpretation. *Gut Liver*. 2024 Mar 15;18(2):201-208. doi: 10.5009/gnl230272. Epub 2023 Oct 31. PMID: 37905424; PMCID: PMC10938158.
52. Weissenfeld MM GK, Steinhäuser J. Facilitators and barriers for the implementation of telemedicine from a local government point of view - a cross-sectional survey in Germany. *BMC Health Serv Res*. 2021 Sep 6;21(1):919. doi: 10.1186/s12913-021-06929-9. PMID: 34488753; PMCID: PMC8419374.
53. Pan M, Li R, Wei J, Peng H, Hu Z, Xiong Y, et al. Application of artificial intelligence in the health management of chronic disease: bibliometric analysis. *Frontiers in Medicine*. 2025;11.
54. Aghaei Hashjin A MS, Shamsaei M, Ketabchi E, Veysi Robat M. Policies on Electronic Health Record Implementation in Iran: A Documentary Analysis. *IJHMD*. 2024; 1(1): 21-25.
55. M. A, E-Health Implementation Challenges and HIS Evaluation in Accordance with EMRAM in Iran. *Health Tech Asmnt Act* 2024; 8(2): 1-6.
56. Olejarczyk JP, Young M, Patient Rights and Ethics. [Updated 2024 May 6]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025, Available from: <https://www.ncbi.nlm.nih.gov/books/NBK538279>.
57. Zarei F, Dehghani, A., Rezaei, F. et al. Knowledge, attitude, and practice of Iranian health care workers about infodemic management: a cross-sectional descriptive study. *BMC Health Serv Res* 24, 992 (2024). <https://doi.org/10.1186/s12913-024-11441-x>.
58. Fredriksson M. Universal health coverage and equal access in Sweden: a century-long perspective on macro-level policy. *Int J Equity Health* 2024 May 28; 23(1): 111, doi:

10.1186/s12939-024-02193-5. PMID: 38807180; PMCID: PMC11134649.

59. Tamasizadeh Navekh G KBR, Hamidian A. The challenges of rural family physician program in Iran: a discourse analysis of the introduction to criticizing power imbalance between rural health and mainstream urban health. *Soc Theory Health* 20, 188–214 (2022).

<https://doi.org/10.1057/s41285-020-00155-9>.

60. Varkey B. Principles of Clinical Ethics and Their Application to Practice. *Med Princ Pract*. 2021; 30(1): 17-28, doi: 10.1159/000509119. Epub 2020 Jun 4. PMID: 32498071; PMCID: PMC7923912.

61. Wege-Rost T, Leitlinien MeEBdKEKdEuEe, [Medical-ethical decision-making-contribution of the clinical ethics committee by ethics consultation and development of ethical guidelines], *Med Klin Intensivmed Notfmed* 2023; 118(3): 175-179, doi: 10.1007/s00063-022-00974-w. Epub 2022 Dec 7. PMID: 36477383.

62. Shamsi-Gooshki E, Parsapoor, A. & Moosavi, S. Ethical challenges in conducting research in low and middle income setting during public health emergencies: a qualitative evidence of a COVID-19 pandemic: the experience of Iran. *BMC Med Ethics* 26, 38 (2025).

<https://doi.org/10.1186/s12910-025-01193-6>.

63. Souvatzi E KM, Arvaniti A, Plakias S, Tsiakiri A, Samakouri M. Trust in Healthcare, Medical Mistrust, and Health Outcomes in Times of Health Crisis: A Narrative Review. *Societies*. 2024; 14(12):269. <https://doi.org/10.3390/soc14120269>

64. Lerch SP HR, Bussmann Y, et al. A model of contributors to a trusting patient-physician relationship: a critical review using a systematic search strategy. *BMC Prim. Care* 2024; 25: 194,, <https://doi.org/10.1186/s12875-024-02435-z>.

65. Heidarzadeh A HB, Alvandi M, Rezaei M, Farrokhi B, Dadgaran I, K Huntington M, Sirous S, Mirkazemi R. Referral System Challenges of the Family Physician Program in Iran: A Systematic Review. *Med J Islam Repub Iran*. 2023 May 8;37:49. doi: 10.47176/mjiri.37.49. PMID: 37426479; PMCID: PMC10329503.

66. Bradford L AM, Liddell K. International transfers of health data between the EU and USA: a sector-specific approach for the USA to ensure an 'adequate' level of protection. *J Law Biosci*. 2020 Oct 15;7(1):lsaa055. doi: 10.1093/jlb/lsaa055. PMID: 34221424; PMCID: PMC8249089.

67. Mobasher M, Samzadeh Kermani H, Eslami Shahrbabaki M, Sarafinejad A. Study of Patients' Privacy during the COVID-19 Pandemic in Iranian Health Care Settings. *Iranian Journal of Medical Sciences*. 2024;49(9):580-9.

68. Rader T, Ritchie L. Emergency Department Overcrowding in Canada: Multistakeholder Dialogue. Ottawa (ON): Canadian Agency for Drugs and Technologies in Health; 2023 Oct. Report No.: OP0553.

69. Tabrizchi N, Mohagheghi MA. Integration of Medical Education and Healthcare Services from an International Perspective. *Strides in Development of Medical Education*. 2024;21(Supplement (Integration of Medical Education in the Health System)):34-42.

70. Gil-Hernández E, Carrillo I, Tumelty M-E, et al. How different countries respond to adverse events whilst patients' rights are protected. *Medicine, Science and the Law*. 2023;64(2):96-112, doi:10.1177/00258024231182369.

71. Fotuhi MA HS, Masoudi As I, Najafikhah M. Providing a Model to Protect the Rights of Service Recipients in Hospitals. *Health Spiritual Med Ethics*. 2024; 11(3):139-150. <http://dx.doi.org/10.32598/hsmej.11.3.598.1>.

72. Wise J. Care Quality Commission branded “not fit for purpose” as review finds “significant failings”. *BMJ*. 2024;386:q1686.

73. Najari F KJ, Javaheri Z, Najari D. Medical Malpractices in Tehran Public Hospitals Referred to the Forensic Medicine Commission of Tehran Province in 2018: An Analytical Review. *Int J Med Toxicol Forensic Med [Internet]*. 2022 Mar. 13 [cited 2025 Mar. 28];12(1):34586. Available from: <https://journals.sbmu.ac.ir/ijmtfm/article/view/34586>.

74. Westerlund T, Marklund B, Community pharmacy and primary health care in Sweden - at a crossroads. *Pharmacy Pract (Granada)* 2020; 18(2): 1927.
75. Rahban A GA, Yusefzadeh H, Harirchi I, Alinia C. Price transparency in Iranian healthcare market. *Health Policy Open*. 2024 Apr 27;6:100120. doi: 10.1016/j.hpopen.2024.100120. PMID: 38706778; PMCID: PMC11070242.
76. Campbell Julie L, Systemic Failures in Health Care Oversight. *Georgia Law Review* 2024; 58(2): 1-68.
77. Khalilpour M, Ahmadipour H, Mobasher M, Ethical Violations in Patient physician Relationship: A Survey from Kerman, Iran. *J Health Sci Surveillance Sys*. 2024;12(2):134-140.
78. Cheluvappa R, Selvendran S, Medical negligence Key cases and application of legislation. *Ann Med Surg (Lond)*. 2020 Jul 17;57:205-211, doi: 10.1016/j.amsu.2020.07.017. PMID: 32793340; PMCID: PMC7413923.
79. Soroosh D AA, Nematshahi M. The Rate and Pattern of Disclosing Medical Errors in Iranian Physicians and Healthcare Staff. *International Journal of Medical Toxicology and Forensic Medicine*. 2020; 10(3):28202. <https://doi.org/10.32598/ijmtfm.v10i3.28202>.