

# Implementing Quaternary Prevention Using the Rural Family Physician Program in Iran: Grounded Theory

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#### Abstract

**Background:** The present study investigated the possibility of implementing quaternary prevention using family physicians in Iran's health system.

**Methods:** The present study was a qualitative study conducted with a grounded theory approach. Thirty-four participants, who were faculty members and experts, were selected by purposive and theoretical sampling using the snowball approach until data saturation. The data were collected through semi-structured interviews. The interviews took 20 to 60 minutes each, based on the circumstances and the participant's willingness to continue. Data analysis was performed along with data collection by Strauss and Corbin's constant comparative analysis. Using Lincoln and Guba criteria, the accuracy and strength of this research were confirmed.

**Results:** The dimensions model of quaternary prevention using family physicians in Iran were specified in six axial categories: causal conditions, contextual conditions, intervening conditions, strategies, and outcomes. The phenomenon was the promotion of quaternary prevention, including defining quaternary prevention, family physicians, the philosophy of quaternary prevention, and the philosophy of family physicians—social, political, economic, cultural, and technological conditions as contextual and intervening conditions. Causal conditions were doctors, patients, and the health system. Two main strategies were inter-sectoral administration and intra-sectoral governance. Outcomes included efficiency and the provision of security for society.

**Conclusion:** For quaternary prevention promotion and to offer ethically and rationally acceptable scientific services to the people, it is necessary to promote the position of the family physician as the primary implementer of quaternary prevention in healthcare. Getting to the PHC umbrella is achieved through intra-sectoral leadership and inter-sectoral governance, which supports the patient and reduces unnecessary care.

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**Keywords:** Family physician, Grounded theory, Quaternary prevention, Qualitative research

## Introduction

The increasing growth of technology and changes in people's expectations of the health system have led to

an escalating increase in health expenses. The financial resources of the health system are insufficient to meet all the demands;<sup>1</sup> therefore, managers and planners of the health system make great efforts to use scientific

methods to optimize the use of the existing resources for public health.<sup>2</sup> Excessive use of costly techniques, unnecessary services, unnecessary prescription of medical tests, and improper use of medical equipment and instruments prove that the efficiency of current medical services can be improved.<sup>3</sup> Resources can be directed toward necessary services by identifying and preventing unnecessary use, directly affecting the quality and cost of services. Accordingly, new resources will not be needed, as the necessary unavailable services will be covered by reallocating the existing resources and services. Moreover, this leads to sustainable healthcare, which is the goal of many health systems.<sup>4</sup>

Jamoulle and Roland proposed quaternary prevention in 1995;<sup>5</sup> this concept refers to measures taken to identify patients or populations at risk of over-medicalization to protect them from invasive medical interventions and provide them with scientifically and ethically sound services.<sup>6</sup> In other words, quaternary prevention's primary purpose is preventing diseases and harm resulting from unnecessary medical services.<sup>7</sup> Quaternary prevention is vital in contemporary medicine and has received increased attention worldwide.<sup>8</sup> According to a study, general practitioners play a significant role in quaternary prevention. By fostering a doctor-patient relationship built on trust and patient education, and refining healthcare models, general practitioners can effectively curb the unnecessary utilization of healthcare services.<sup>9</sup>

Family physicians play a significant role in patient protection.<sup>6</sup> The family physician program and the referral system are policies for improving quality and safety and controlling health service costs.<sup>10</sup> The family physician program and referral system have been in use since 2005, aiming to expand insurance coverage, overcome barriers in Iran's health system, and solve people's health problems.<sup>11</sup> Experienced and trained family physicians can gain patients' trust and control a considerable percentage of costs imposed on patients due to their lack of awareness and demands.<sup>12</sup> Family physicians know precisely what patients' previous problems were and what medical measures need to be taken; moreover, they can refer patients to the appropriate specialist if there is a need for specialized or laboratory measures, which can lead to a decrease in the wastage of resources by preventing direct access to specialized services.<sup>13</sup>

The family physician and primary care programs aim to provide high-quality health services, including protecting society and people against overconsumption.<sup>14</sup> Service provision by family physicians leads to improved service quality in specialized care, patient satisfaction, higher cost-effectiveness in hospitals and laboratories, and the reasonable use of specialized methods and costly technologies.<sup>15</sup> It is widely believed that the effective

implementation of the referral system and the family physician program can result in cost reductions due to fewer repetitive services and unnecessary medical expenses. Additionally, it can lead to the optimal allocation of health system resources, enhance public health outcomes, and ultimately boost the satisfaction of both patients and the medical community.<sup>16</sup> Nowadays, the role of family physicians and their diagnostic methods are affected by specialist-centered care, and contrary to medical principles and claims of health systems, they greatly depend on specialists, technology, and expensive allied health services. This leads to unnecessary services and considerable costs for people and patients. While family physicians must be the gatekeepers of the health system, they are ignored in the service provision processes in health centers. In other words, the referral system has lost its importance, and most doctors are too reliant on modern technology and equipment in treatment and service provision; therefore, the present study was conducted to investigate the possibility of implementing quaternary prevention using family physicians in Iran's health system.

## Methods

### *Design*

This qualitative study used a systematic grounded theory approach conducted in the summer of 2021. This method, introduced by Corbin and Strauss, is based on generating theory using the data resulting from research.<sup>17</sup> Grounded theory is a systematic approach to collecting and analyzing qualitative data to construct theories from the data. Grounded theory moves beyond merely descriptive outcomes toward generating a general explanation or theory of a process, action, or interaction. Grounded theory procedures enable the inductive development of a theory rooted in the data rather than deriving it from preexisting ideas.<sup>18</sup>

### *Participants*

The criteria for selecting participants in this method are associated with the study's design and objective. The researcher sought individuals with relevant experiences who could actively and effectively contribute to the study's reliability. The study population included faculty members and experts (Table 1). Thirty-four participants were selected by purposive and theoretical sampling using the snowball approach. Snowball sampling is a recognized and viable method of recruiting study participants not easily accessible or known to the researcher.<sup>19</sup> It is a common sampling method in qualitative research where the researcher does not directly recruit participants but contacts those who connect them to research participants.<sup>20</sup> The participants were asked

**Table 1:** Participants' characteristics

Participants	Number
Faculty members	12
Family physicians	8
Executive managers	9
Experts	5

to recommend others who met the inclusion criteria. The researcher's connections expanded as the study progressed, and more participants were identified. As in qualitative studies, the sample size was determined by data saturation, and sampling stopped when no new data was obtained. Moreover, those who did not have the time or willingness to participate in the interviews were excluded.

#### *Data Collection and Analysis*

Procedures of grounded theory guided data collection and analysis. The interviews were individual, formal, in-depth, and semi-structured, and the participants included faculty members, family physicians, executive managers, and experts. The interviews were scheduled at the participants' convenience in locations best suited to them. Since the study was conducted during the COVID-19 pandemic, most interviews were conducted online via communication platforms. The researcher individually interviewed all the participants. The interviews took 20 to 60 minutes each, based on the circumstances and the participant's willingness to continue.

An expert in qualitative research checked questions, and necessary corrections were made based on the experts' opinions to ensure the questions' validity and meaningfulness. Before the interviews, a summary of the study design, literature review results, research objectives, and questions were sent to the interviewees so they could prepare for the interview. A guide to the study objectives was prepared to facilitate conducting the interviews. Moreover, a summary of what had been done was presented at the beginning of the interview session. The questions were on the feasibility of logical, scientific, and correct provision of necessary services to patients by family physicians, determining the role of family physicians, other medical groups, patients, the media, costs, the referral system, and cultural, social, and technological factors.

With the participants' approval, the interviews were recorded and transcribed. All the interviews began with a general question so that the participants would feel comfortable and express themselves freely. The interview was conducted in the communication platform of the participants' choice. The participants entered the study voluntarily after giving oral consent for ethical considerations. The participants were also informed about information confidentiality, availability of the results to beneficiaries, and research objectives.

#### *Researcher Trustworthiness*

The transcripts of the interviews were analyzed several times to achieve a general understanding. Afterward, the primary codes were extracted and integrated. The codes were categorized based on their similarities and differences. The data were then analyzed using grounded theory-based coding proposed by Strauss and Corbin. Coding was done considering the systematic grounded theory paradigm within the systematic coding framework consisting of the three open, axial, and selective coding stages.<sup>17</sup> Data collection was integrated with data analysis and was directed and expanded according to the analysis. Data analysis was done through the three steps of generation, integration, and saturation. This was not a linear path, and data collection and analysis underwent a cyclical process. The data were continuously collected and recorded stage by stage, and a comparative analysis was done simultaneously and non-linearly. Finally, the results were organized using a pre-determined paradigmatic model.<sup>21,22</sup>

After transcription, the recorded interviews were analyzed line by line and then conceptualized and categorized; subsequently, concepts and categories were specified according to similarities, conceptual links, and common features among open codes. In the axial coding stage, the researcher selected one category from the open coding stage as the center of the process under analysis and connected other categories to this central category. In this stage, codes were assigned to the subcategories connected to the axial category, and the initial codes were reduced to several categories; next, similar categories were integrated. Each category was compared with others to make sure they were distinct. Codes and categories were integrated based on contextual and interventional conditions, phenomena, strategies, and outcomes. The codes and categories were reviewed several times in the selective coding stage, and the core category was specified. Moreover, by aggregating and determining the connection among the categories, the process of achieving a theory and its paradigmatic model was finalized, and by placing all the categories around a core category, a theoretical and systematic narrative was developed.

To determine the trustworthiness of the data, Lincoln and Guba's criteria were used.<sup>21</sup> The researchers used two checking strategies to improve trustworthiness and provide data transferability. The data was checked by the research team (peer check), and the initial analyses were checked by some of the participants (member check).<sup>23</sup> The researcher provided the participants with the information and interpretations and asked them to confirm or suggest corrections. Moreover, the study supervisors and advisors, experts in qualitative research, were asked to give their opinions on some parts of the

texts regarding coding, categorizing, and bias. Regarding transferability, purposive sampling was done with maximum variation and description of the research context. Confirmability was also checked by regular data collection, constant comparison, accurate recording, observing neutrality, and researchers' consensus on themes and categories; finally, dependability was assessed by immersion, triangulation, and researchers' prolonged engagement with the subject. All the coding and categorizing stages were done in MaxQDA 18. Some of the interviewees' statements are quoted below – the letter I stands for 'interview.'

#### *Ethical Consideration*

This study was part of a Ph.D. dissertation approved by the Deputy for Research and Technology of Kerman University of Medical Sciences (ethics code: IR.KMU.REC.1400.057).

## **Results**

The dimensions and components of the paradigmatic model of quaternary prevention using family physicians in Iran were specified in six axial categories: causal conditions, contextual conditions, intervening conditions, strategies, and outcomes. The study identified 13 categories and 40 subcategories.

#### *Phenomenon*

In this study, the phenomenon under investigation encompassed the promotion of quaternary prevention, which included defining quaternary prevention, family physicians, as well as the philosophies of quaternary prevention and family physicians

#### *Promotion of Quaternary Prevention*

Quaternary prevention includes practices to identify a patient or population at risk of overmedicalization to protect them from invasive medical interventions and provide them with scientifically and ethically acceptable services (Table 2).

“This includes preventing medical errors. In other words, it is a kind of governance. We need to try to preserve service standards. This is about quality of care and prevention of unnecessary services.” (I.15)

#### *Contextual and Intervening Conditions*

The present study identified social, political, economic, cultural, and technological conditions as contextual and intervening (Table 2).

#### *Social Conditions*

Demographic changes in society, acceptance of family physicians, and low societal participation all influence views regarding the necessity and relevance

of services. Acceptance of family physicians, society's perception of family physicians, attention to their role, consideration of the country's specific social conditions, literacy levels, and people's health literacy all impact the acceptance of family physicians, the provision of necessary services, and quaternary prevention. “We have unique social structures, reservations, and obligations that are specific to us.” (I.1)

“Social literacy has increased; population patterns and disease patterns have also changed; however, our system has not been able to change. In other words, changes in the target population occur faster than those in the health system. Our health system has fallen behind.” (I.5)

#### *Political Conditions*

These conditions refer to politicians' conflicts of interest and leverage. The family physician program is the most prominent corrective program in Iran's health system, and its proper and thorough implementation can prevent the prevalence and incidence of many communicable and non-communicable diseases. It also reduces people's confusion about going to the doctor and minimizes resource wastage. This cannot be achieved without the authorities' commitment and everyone following the specified path.

“There might have been some conflicts of interest regarding the family physician program. If it is implemented, the number of people going to specialists will decrease because of the implementation of quaternary prevention by family physicians. For instance, we know that many private sector shareholders are, unfortunately or fortunately, decision-makers working in the Ministry of Health. This conflict of interest is one of the problems we face.” (I.7)

#### *Economic Conditions*

Other contextual and intervening factors are the economic situation of a country and the expenses imposed on people.

“The more disturbed the economic situation is, and the lower the government's income is, the lower the reasonable growth will be, and this will lead to the provision of unnecessary services and induced demand. One of the notable factors is, in fact, the economic factor.” (I.32)

#### *Cultural Conditions*

From experts' viewpoint, social beliefs and the role of media were among the intervening and contextual factors affecting the use of necessary services and quaternary prevention provided by family physicians.

“One of the basic problems is lack of cultural promotion. We have not promoted the family physician program in our country neither among people nor among doctors.” (I.4)



**Table 2:** Implementing Quaternary Prevention using the Rural Family Physician Program in Iran

<b>Phenomenon</b>								
Promotion of quaternary prevention	Defining quaternary prevention, defining family physician, philosophy of quaternary prevention, and philosophy of family physician							
<b>Intervening and contextual conditions</b>								
Category	Social		Political	Economic	Cultural	Technological		
Subcategory	Health literacy	Social literacy	Pressure leverage	Conflicts of interest	Imposing costs on people	People's beliefs	Media	New medication, methods, and equipment
<b>Causal conditions</b>								
Category	Subcategory	Code	Category	Subcategory	Code			
Doctor	Doctors' access to diagnostic services		Patients	Vulnerable groups				
	Defensive medicine			Patient's behavior	Unnecessary visits			
	Induced demand			Disregarded needs	Improper behavior			
	Doctors' knowledge and experience	Level of Knowledge		Patients' beliefs	Patient's expectations			
		Experience			Acceptance of family physicians			
		Treatment-centered approach						
		Evidence-based performance	The health system	Specialism				
		Correct diagnosis		Providing infrastructures				
		Soft skills		Authorities' commitment				
	Family physicians' motivation	Commitment and motivation		Setting medical tariffs				
		Motivation for continuing education		Islanding				
		Sustainability		The referral system				
<b>Strategies</b>								
Category	Subcategory	Code	Category	Subcategory	Code			
Intra-sectoral governance	Policy-making	Guidelines, health information management system	Inter-sectoral administration	Accountability of medical education	Creating family physician specialty, balancing medical education, professional ethics, health-centered services, social accountability			
	Providing executive instructions	HTA information, using statistics and epidemiology, employing different models of service provision, using other countries' experiences and indigenization, PHC update, improving PHC service quality		Attracting stakeholders' participation	Encouraging public participation, efficient health team, coordination, educating specialists and subspecialists, acknowledging family physicians			
	Monitoring	Regulating the family physician evaluation system, giving feedback to the system, rules and regulations						
	Reforming financial provision	Revising family physician tariff, reforming doctors' repayment system, reforming the payment system		Inter-sectoral coordination				
	Defining service packages	Defining replacement, access to effective medication		Universal health insurance coverage				
	Status of family physicians	The gatekeeping role		Knowledge translation				
<b>Outcomes</b>								
Category	Subcategory		Code					
Social security and efficiency	Cost management		Out-of-pocket payment					
			The system's costs					
	Patients' participation		Managed care					
			Proper doctor-patient relationship					
			Transfer of positive experience					
			Patients' logical participation					

### *Technological Conditions*

Experts stated that technological development in diagnostic methods, medications, and equipment were influential factors affecting the use of necessary services and quaternary prevention provided by family physicians.

“Certainly, access to proper technology affects service prescription.” (I.34)

“Care provision must be managed, and the care provision process must be defined for family physicians. When you have defined the care provision process, you must revise it every six months, every season, or after a certain period (depending on the type of care) and provide new instructions and guidelines. When a new medication is available and its effectiveness is approved, it must be included in the care provision process. If there is a new diagnostic laboratory or imaging process, it can be included in the care provision process. Even in the richest countries, spending is defined and limited; we must pay attention to the costs; new technology must be cost-effective. The health system wants to be able to support sales.”

### *Causal Conditions*

This study’s causal conditions were doctors, patients, and the health system (Table 2).

### *Doctors*

Doctors’ access to diagnostic services, defensive medicine, induced demand, doctors’ knowledge and experience, and family physicians’ motivation were among the factors affecting the use of family physicians’ services.

“We have real defensive medicine here; our doctors prescribe some things to avoid legal consequences. That is because if they do not do this, and if something goes wrong, doctors will be prosecuted by the medical council. In my opinion, the main barrier is defensive medicine, which means there must be reforms in the legal process. This can be done with the cooperation of insurance companies. Insurance is the second dimension in the health sector and health system, and our insurance policies are inadequate. Each doctor can prescribe many things because they are doctors; granted, some measures have been taken to improve this, but there is still induced demand due to this situation. This causes ethical problems in our health system. Naturally, this is also true about the rural family physician program.” (I.21)

“There are several fundamental problems; most family physicians are two-year program graduates. In other words, they are physicians in a university until now and are suddenly family physicians. They do not have enough experience and have not seen many patients; they see their first patients there. They gain experience there. In other words, no experienced

doctor would proceed based on experience. The third problem is whether they are new graduates or a little more experienced or maybe even contractual; since working conditions are difficult, payment is low, and the online health network has many problems, the family physicians usually can’t stand these conditions for long. The family physician program has some regulations. When you become a family physician, they give you a copy. Fortunately, nowadays, they take family physicians for a week, and somebody teaches them these regulations. This family physician works for six months, a year, or two years if they go through the two-year program. Then, they leave because it is too hard and the economic circumstances are undesirable.” (I.2).

### *Patients*

Another casual factor affecting necessary services and quaternary prevention is patients. The experts mentioned vulnerable groups and patients’ behavior, disregarding needs and beliefs.

“Before you explain, family physicians know if you have diabetes, high blood pressure, or a history of cancer in your family. They know if it is time for your CBC or SBS and what should be done for you. It is better than going to another doctor and saying I do not know if I have diabetes; family physicians know what medications you take, and you do not need to take your medications with you. They know if there are contraindications. They will refer you to them if they feel you need specialized services. They refer you to a specialist, sonography, or a more equipped laboratory; this may be done online if the system is electronic, but it is often not.” (I.2)

### *Health System*

Regarding the health system, issues include specialist-centered care, providing infrastructures, authorities’ commitment, setting medical tariffs, separationist behavior, and the referral system.

“As family physicians’ skills in primary diagnosis and treatment improve, allowing them to play a more extensive role, patients’ confusion, stress, the need to visit multiple doctors, and healthcare expenses will diminish.” (I.5)

“There is little attention to strategies needed for the family physician program in terms of knowledge, skills, and obligations. The health system must have strategies for supporting the program.” (I.15)

“We do not link family physicians to other levels of service provision, neither the lower levels nor the higher levels. There is no link now. Even if they want to perform well, the system does not allow it.” (I.14)

“Our government hospitals and network system are not linked to family physicians; people should seek care services themselves.” (I.28)

### Strategies

Based on the experts' opinions, two main strategies of inter-sectoral administration and intra-sectoral governance were selected for necessary service provision and quaternary prevention at the level of the family physician program. Inter-sectoral administration included accountable medical education, attracting stakeholders' participation, inter-sectoral coordination, universal health insurance coverage, and knowledge translation. Regarding intra-sectoral governance, policy-making, providing executive instructions, monitoring, reforming financial provision, defining service packages, and the status of family physicians were mentioned (Table 2).

"The first point is the role of the medical education system and its reforms; the medical education system must be accountable and based on public needs." (I.28)

"Specialists' interests should be considered, and people and general physicians must know that family physicians can provide a considerable part of services." (I.12)

"Those who are responsible and have good status among people should consider the family physician program in their speeches; for instance, imams of the congregational prayer or Friday prayer who have the chance of speaking to the public two or three times a day, district governors, governors of rural districts, and governors should talk about it in their speeches." (I.9)

"When insurance companies have considerable coverage in the referral system, people will enter the system." (I.13)

"Well, the system does not have service packages based on people's needs. In terms of health needs, it does not have appropriate service packages." (I.11)

"The key role of family physicians in the referral system must be acknowledged." (I.16)

### Outcomes

Efficiency and the provision of security for

society are the outcomes of quaternary prevention and the family physician program. Social security and efficiency are the outcomes of cost management and patients' participation (Table 2).

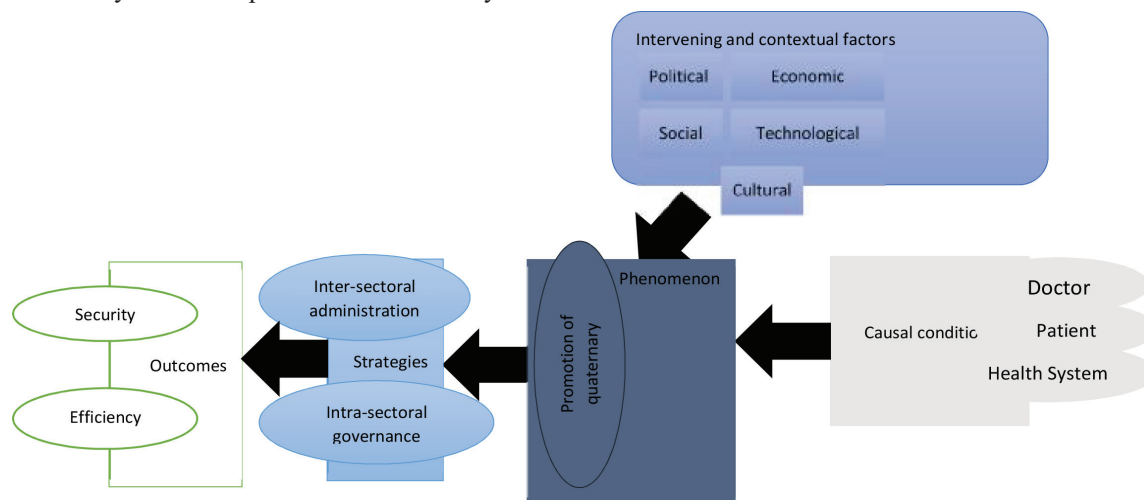
"Specialists refer patients for services even without seeing them. Our system has knowingly bought a service for a high price. We should focus on buying the service at a lower price. However, this does not happen." (I.6)

Figure 1 shows a paradigmatic model for implementing quaternary prevention through the rural family physician program in Iran, developed using a grounded theory approach.

### Discussion

The present study was qualitative. In this study, in-depth semi-structured interviews were conducted with experts with shared experiences on the subject of the study (34 individual interviews) to determine the paradigmatic model of implementing quaternary prevention using rural family physician services in Iran.

Regarding causal conditions affecting the implementation of quaternary prevention, doctors, patients, and the health system were the most significant components (three components)—the results of other studies<sup>7</sup> aligned with those of the present study. As mentioned, quaternary prevention refers to the actions taken to identify a patient or population at risk of overmedicalization so that they may be protected from invasive medical intervention and provided with services that are scientifically and ethically acceptable.<sup>7</sup> Providing unnecessary services increases health expenses and harm to patients.<sup>24</sup> The family physician program is a cost-effective service provision policy that leads to improved quality of care and cost-effectiveness of hospitals, laboratories, diagnostic methods, and expensive technologies.<sup>25</sup> The family physician program plays a significant role in patient care by establishing better relationships



**Figure 1:** Paradigmatic model of implementing quaternary prevention using the rural family physician program in Iran using a grounded theory approach.

with patients and their families and managing access to services such as hospitalization and outpatient visits through the referral system. This program is instrumental in patient protection.<sup>6</sup> The WHO recommends developing primary care to improve people's health and reduce costs; it mentions family physicians as the core of the global efforts to improve quality and cost-effectiveness.<sup>15</sup>

The health system should consider the promotion of quaternary prevention by defining quaternary prevention, family physicians, the philosophy of quaternary prevention, and the philosophy of family physicians to employ quaternary prevention through the services provided by rural family physicians. Other studies<sup>7,9</sup> also align with the present results. Over time, there have been increasing efforts to achieve accountability in health organizations.<sup>26</sup> Fair distribution of health resources is the principal philosophy of primary healthcare. This can be achieved if society's most basic and extensive health needs are easily accessible at the workplace and home. On the other hand, primary healthcare is based on the fact that many health problems of many people are related to the lower levels of the primary healthcare pyramid. Family physicians, known as five-star physicians, are responsible for primary medical care services at the forefront of service provision.<sup>15</sup>

The chief responsibility of family physicians is providing comprehensive healthcare to all people in need and referring patients to personnel of other medical ranks for complementary services when needed. Family physicians provide primary care and prevention services and access to extensive services at lower costs.<sup>27</sup> Providing these services aims to maintain and improve people's health. Nowadays, it is stressed that healthcare services must cover the full range of preventive, therapeutic, and rehabilitative services.<sup>28</sup> Social justice, coordination among socio-economic development sectors, people's participation and self-reliance, tolerance of costs, and suitable technology must be considered to provide primary health services.<sup>29</sup>

Intervening and contextual conditions, including political, economic, cultural, social, and technological factors, should be considered to realize this level of prevention. Some studies<sup>9</sup> have also mentioned this. As demographics shift and disease patterns transition from communicable to non-communicable, coupled with changing public expectations, increased literacy, evolving attitudes toward service quality, technological advancements, and financial pressures on countries to meet growing service demands, there is a rising need for services that align with people's needs.<sup>30</sup> Primary health services are the most fundamental and key to achieving this goal. An efficient healthcare system must be accessible, especially to those who are most in need, since the needs and priorities of the society that

benefits from these services are taken into account to ensure the services' appropriateness and sensitivity to customers' needs and provide services whose content and range are based on evidence, resources, and mindful health needs.<sup>31</sup>

There have been unprecedented political and technological changes in the last three decades. The influence of the market is also increasing.<sup>32</sup> Primary healthcare is provided to optimize the health service system and achieve equitable resource distribution. The rural family physician and insurance policy have been designed and implemented to improve social justice. This program is one of the programs defined in the fourth 5-year plan to reform the health system.<sup>33</sup> Studies on this issue have revealed that using an insurance system is the first step in reforming the health system and the most practical strategy for increasing health equality. The rural insurance program, using the family physician program and the referral system, has been implemented to establish and improve the referral system, improve accountability in the health market, increase people's access to health services, reduce unnecessary costs in the health market, and extend the coverage of services.<sup>34</sup>

Using inter-sectoral administration and intra-sectoral governance can lead to social security and efficiency in the health system. Other studies have also mentioned this.<sup>8,9,35</sup> In a health system based on primary healthcare, cases that need special care are referred to higher levels to avoid unnecessary and repeated visits to tertiary and specialty medical centers and waste of material and human resources. Considering the economic problems in countries such as Iran and the high costs of building hospitals and equipping them, all efforts must be focused on planning to use the existing facilities within the framework of the health network system optimally to avoid wasting specialist human resources and provide extensive medical coverage.<sup>36</sup> Specifying levels of care prevents unnecessary referrals to higher specialty levels and waste of material and human resources; it also provides an efficient tool to control the costs and increase collaboration between general physicians and specialists. Disregarding the referral system can disrupt the healthcare provision, increase costs, and decrease the quantity and quality of care.<sup>37</sup>

This study has some limitations inherent to qualitative studies, including observer bias, a lack of control over the validity of researchers' conclusions, and low generalizability.

## Conclusion

It is believed that the correct implementation of the referral system and family physician program can reduce the costs resulting from repetitive services and decrease unnecessary medical costs, lead to the





- 2019.
- 21 Lincoln YS, Guba EG. *Naturalistic inquiry*. Beverly Hills, CA: Sage Publications.; 1985.
  - 22 Creswell JW, Poth CN. *Qualitative inquiry and research design: Choosing among five approaches*: Sage publications; 2016.
  - 23 Zamani AF, Niknami S, Mohammadi I, Montazeri A, Ahmadi FE, Ghofranipour F, et al. High risk behaviors among Iranian motorcyclists: a qualitative study. *Payesh*. 2010;9(3):269-278. URL: <http://payeshjournal.ir/article-1-565-en.html>.
  - 24 Powell AA, Bloomfield HE, Burgess DJ, Wilt TJ, Partin M. A conceptual framework for understanding and reducing overuse by primary care providers. *Med. Care Res. Rev.* 2013;70(5):451-72. doi: 10.1177/1077558713496166.
  - 25 Mehtarpour M, Tajvar MJH-BR. Policy Analysis of Family Physician Plan and Referral System in Iran Using Policy Analysis Triangle Framework. *Health\_ Based Research* 2018;4(1):31-49. URL: <http://hbrj.kmu.ac.ir/article-1-251-en.html>.
  - 26 Park JE. *Text book preventive and social medicine*. 1989.
  - 27 Mahdavi J, Simbar M, Amir Aliakbari S, Alavi Majd H. Correlation between quality of care and clients' satisfaction in family planning units of healthcare centers affiliated with Shahid Beheshti University of Medical Sciences and Health services. *Adv Nurs Midwifery*. 2010;19(69):31-9. Available from: <https://journals.sbmu.ac.ir/en-jnm/article/view/1787>
  - 28 Organization WH. *Primary health care: report of the International Conference on primary health care, Alma-Ata, USSR, 6-12 September 1978*: World Health Organization; 1978.
  - 29 Zwarenstein M, Barron P, Tollman S, Crisp N, Frankish J, Toms I, et al. Primary health care depends on the district health system. 1993. p. 558.
  - 30 Baygi MZ, Seyedin HJjoph. Imbalance between goals and organizational structure in primary health care in Iran-a systematic review. *Iran J Public Health*. 2013; 42(7): 665–672. PMID: 24427745. PMCID: PMC3881612.
  - 31 Lankarani KB, Alavian SM, Peymani P. Health in the Islamic Republic of Iran, challenges and progresses. *Med J Islam Repub Iran*. 2013 Feb; 27(1): 42–49. PMID: 23479501. PMCID: PMC3592943.
  - 32 Kumar R. Revitalize primary health care for confronting current public health challenges. *Indian J Community Med*. 2008 Jan; 33(1): 1–2. doi: 10.4103/0970-0218.39233. PMID: 19966986. PMCID: PMC2782219.
  - 33 TorabiArdakani A, Hosseini S, Oroomiehei N, Mirzaei S. Study perception, knowledge and expectations from population and physicians points of view about implementation of family physician program: a case study in Shiraz. *J. Med. Coun. Islam. Rep. Iran*. 2015;33(2):147-55. *em Persa Moderno | IMEMR | ID: emr-179343*.
  - 34 Kabir MJ, Ashrafiyan Amiri H, Hassanzadeh-Rostami Z, Momtahn R, Zafarmand R, Nasrollahpour Shirvani SD. Achievements and Challenges in Implementing Urban Family Physician Program in Iran: Viewpoint of Managers and Executives . *Manage Strat Health Syst*. 2019;4(2):148-59. doi: 10.18502/mshsj.v4i2.1410.
  - 35 Pausch M, Schedlbauer A, Weiss M, Kuehlein T, Hueber S. Is it really always only the others who are to blame? GP's view on medical overuse. A questionnaire study. *Plos one*. 2020;15(1):e0227457. doi: 10.1371/journal.pone.0227457.
  - 36 Rashidian A, Yousefi NR, Azemikhah A, Heydarzadeh M, Changizi N, MAHTA BF, et al. Perinatal care regionalization and geographical distribution model in the Islamic Republic of Iran. *Hakim Res J*. 2008; 11(2):1–11. URL: <http://hakim.tums.ac.ir/article-1-439-fa.html>
  - 37 Rashidian A, Omidvari A, Vali Y, Mortaz S, Yousefi-Nooraie R, Jafari M, et al. The effectiveness of regionalization of perinatal care services-a systematic review. *Public Health*. 2014;128(10):872-85. doi: 10.1016/j.puhe.2014.08.005.