History of Medicine and Ethics

The challenges of urban family physician program over the past decade in Iran: a scoping review and qualitative study with policy-makers

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Keywords

Family Physician • Primary care • Health policy • Scoping review • Qualitative study • Iran

Summary

Introduction. *Despite all the advantages of urban family physician program (UFPP), there is still a gap between UFPP and what is actually achieved by the community after its implementation in Iran. In response, this study attempted to review published studies related to the barriers to the implementation of the UFPP in Iran as well as potential solutions to improve it. Further, a qualitative study was conducted to learn the perspectives of experts at the national level and in the Fars province in order to better understand the program's challenges.*

Methods. *This study was conducted in two phases. First, a scoping review was done, aiming to identify the common barriers and potential solutions to implementing UFPP in Iran. Second, a qualitative study using semi-structured interviews was conducted to investigate the views of decision- and policy-makers regarding barriers to and solutions for implementing the UFPP in the Fars province over the last decade. The findings were classified using the five control knobs framework (organization, financing, payment, regulation, and behavior).*

Results. *The most common barriers to UFPP were: 1) organization (ununited stewardship function of the Ministry of Health, weak management and planning, inadequate training of human resources, and a weak referral system); 2) financing (fragmented insurance funds, insufficient financial resources, and instability of financial resources); 3) payment (inappropriate payment mechanisms and delay in payments); 4) regulation (cumbersome laws and unclear laws); and 5) behavior (cultural problems and conflict of interests). On the other hand, several solutions were identified to improve the implementation of UFPP, including: enhancing the role of government; improving the referral system; providing comprehensive training for UFPP providers; considering sustainable financial resources; moving towards mixed-payment mechanisms; employing appropriate legal and regulatory frameworks; enhancing community awareness; and elevating incentive mechanisms.*

Conclusion. *Our research found that, despite the UFPP having been in place for a decade in Iran, there are still significant challenges in all five components. Therefore, the promotion of this program requires solving the existing implementation challenges in order to achieve the predetermined goals. The ideas in this study can be used to improve the current program in Fars Province and bring it to other cities in Iran.*

Introduction

The World Health Organization (WHO) has defined three goals for health systems: improving populations' health to an acceptable standard, improving the responsiveness of the health care system to legitimate population expectations, and ensuring fairness and equity in financial contribution [1, 2]. According to the WHO's Alma Ata Declaration (1978), implementation of primary health care (PHC) should be prioritized for achieving these goals and strengthening health systems [3]. PHC is regarded as the most inclusive, equitable, and cost-effective way to enable and facilitate access to the packaging of health services (prevention and health promotion, disease treatment and management, and rehabilitation) [4, 5]. PHC should be considered an integral part of any country's health improvement policies because it facilitates the move towards universal health coverage (UHC) [6].

Health systems, in order to increase efficiency and effectiveness, create justice in access to health services, and provide appropriate infrastructure for health service delivery, need to adapt policies and undergo various changes [7]. One of the biggest reforms in health systems is categorizing health care services into three levels, in which the family physician is at the first level [8]. The family physician program (FPP) provides PHC to the population and enables societies to attain UHC [9]. WHO suggests FPP as a key to quality improvement, cost-effectiveness, and equality in the healthcare system [10]. FPP has four principles: delivering PHC to the population, implementing a referral system

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through which it is predicted that the population can use specialized services, improving the payment system and protecting people against health costs, and changing the service delivery system from a treatment-oriented to a health-oriented perspective [11]. Family physicians (FPs) are responsible for providing care to individuals and their families and act as gatekeepers [12, 13]. They can make decisions about the appropriate use of health resources, which will reduce health costs and improve health outcomes. FPP, indeed, bridges the gap between people and the health care system to afford efficient and equitable health care services [12, 14].

The FPP and referral system were first developed in the UK in 1985 and were expanded to Europe, Canada, and other countries with significant improvements in healthcare systems as well as justice [15]. Before the Islamic Revolution of Iran in 1979, rural areas were undeveloped and suffered from poor public health indices. Afterwards, by introducing and establishing a health network system based on PHC, the health network system has achieved many improvements because PHC was the solution for many of Iran's health challenges [16, 17]. Gradually, the health system became fragile to respond to the emerging needs of the contemporary population because of the high burden of non-communicable disease, increasing public expectations to access qualified physicians, and the fast growth of expensive technologies [16, 18, 19]. Then the Ministry of Health and Medical Education (MOHME) initiated a series of health sector reforms [20, 21]. FPP in rural areas in 2005 was one of these major reforms that have recently received a lot of attention. FPP was initially introduced in rural areas and small cities with populations of less than 20,000 people [7, 22].

The implementation of this program has resulted in improvements in some of the most important health indicators, including child and maternal mortality rates, life expectancy, and infection disease control [23]. Based on Iran's fifth development program in the health sector and considering the positive effects of rural FP, urban family physician program (UFPP) was implemented as a pilot in two provinces, Fars and Mazandaran, along with referral system instructions to determine the pros and cons of implementing UFPP [24]. This program has attained achievements like out-of-pocket (OOP) payment for medical services, reducing unnecessary referrals to the next specialized level of the health system, and cost-effective use of current health resources. As with rural FPs, UFPs are gatekeepers for managing necessary services in first contact [7, 25, 26].

The establishment of FPP in urban areas versus rural areas had unique differences and complex characteristics that may affect the achievement of the program's desired goal: a passive and fragmented PHC network; a powerful private sector with massive inflict interest among FPs; a public with high freedom in selecting health providers; a tendency of urban residents to visit specialists; and a population with different cultural norms and diversity compared to rural areas. Furthermore, private-sector specialists are the most powerful stakeholders in health-care providers and do not advocate for FPP-provided preventive services. Hence, there is a gap between FPP and what is actually achieved by the community after its implementation [16, 27-29]. The expansion of this program to other cities depends on the results of the pilot implementation of UFPP in Fars and Mazandaran provinces [24]. Therefore, it is necessary to recognize the main barriers and facilitators of the successful implementation of this program during the last decade to provide a suitable platform for improving its implementation in the coming years. In response, this study attempted to review published studies related to the barriers to the implementation of the UFPP in Iran as well as potential solutions to improve it. Further, a qualitative study was conducted to learn the perspectives of experts at the national level and in the Iranian province of Fars in order to better understand the program's challenges.

Methods

Scoping review methodology

The first part of this study was a scope review that was conducted with the aim of identifying the most common barriers and solutions for the implementation of the UFPP in Iran during the last decade. In order to maximize the reporting quality, the Preferred Reporting Items for Systematic Reviews and Meta-analyses Extension for Scoping Reviews (PRISMA-ScR) checklist was used [30]. The main reason for choosing this review methodology was that scoping reviews provide the possibility of bringing together the scientific evidence in a specific field with the aim of answering a broad question. This scoping review was conducted based on the Arksey and O'Malley (2005) guidance [31], which includes five steps: 1) recognizing the research questions; 2) searching and finding the relevant evidence; 3) selecting the studies; 4) charting the collected data; and 5) collating, summarizing, and reporting the findings. The protocol of this study has been reviewed and approved by the Institutional Review Board (IRB) of Shiraz University of Medical Sciences (IR.SUMS.REC.1401.514).

Search strategy

In order to identify the related terms, scanning the Medical Subject Headings (MeSH) thesaurus and contacting relevant experts were applied. Finally, for the search strings, a number of key words, including "family physician," "family physicians," (physicians AND family), and "Iran," were considered. The primary search strategy was established for the PubMed database and then adapted for searching other international journal databases. Electronic databases including PubMed, Scopus, Web of Science, Embase, and ProQuest were searched from January 2012 (the beginning of the UFPP in Fars and Mazandaran Provinces) to September 2022. In addition, Iranian national research databases,

including the Scientific Information Database (SID) and Magiran, were searched with the Persian equivalents of identified key words. To reduce the possibility of publication bias, key journals (Medical Journal of the Islamic Republic of Iran, Archives of Iranian Medicine, Eastern Mediterranean Health Journal, International Journal of Preventive Medicine, Iranian Red Crescent Medical Journal, and BMC Health Services Research) and reference lists of included studies were manually reviewed to identify any missed studies.

Selection of studies

All the search results from both international and national databases were entered into the Endnote X9 software (Clarivate, Philadelphia, USA). After removing duplicates, studies were screened based on title and abstract, and potentially relevant studies were identified for further review based on the full text. Therefore, potential studies were reviewed based on the full text against the inclusion and exclusion criteria, and the final studies were selected. These steps were done by two authors independently, and in case of disagreement, the discussion and participation of the third author were used to resolve it. In this scoping review, all types of studies (quantitative, qualitative, letters to the editor, and opinions) that addressed the challenges of implementing the UFPP in Iran and provided solutions to improve it were considered. However, studies that were conducted on the rural family physician program, review studies, protocol studies, conference studies, and studies without available full text were excluded.

Data extraction

The process of getting the needed information was done by three authors on their own, using a form that was made with the help of everyone on the research team. Among the items on this form, the following can be mentioned: 1) first author; 2) publication year; 3) title of study; 4) objective(s); 5) study design; 6) publication language; 7) study population; 8) region; 9) main results; and 10) conclusion. At this stage, any disagreement among the authors was resolved through dialogue and the participation of an expert author.

Data analysis

A thematic analysis method was applied to synthesize and structure the results of the included studies [32]. The identified challenges of implementing the family physician program and also potential solutions to improve this program were developed in accordance with the five control knobs framework, including organization, financing, payment, regulation, and behavior [33]. After reviewing and evaluating the differences and similarities among the summaries by the three authors, the sub-themes emerged. The emerging sub-themes, which included challenges and solutions, were then classified and assigned to each component of the five control knobs framework.

Qualitative methodology

Participants

In order to recruit the participants, the research team prepared a list of managers and policymakers related to the UFPP in Fars province and at the national level. Then they were contacted and asked to agree to conduct an interview regarding the challenges of the UFPP and potential solutions for its improvement. After receiving the agreement of the participants to conduct the interview, the informed consent form containing the general information of the study was sent to the participants, and they were asked to express their consent to participate in the study after reading it carefully. In this form, the samples were guaranteed that their identity will remain completely unknown throughout the study, and they can freely withdraw from the study at any stage. In the process of selecting samples, it was tried to consider the maximum diversity in terms of experience and expertise. To cover such diversity, both purposeful and snowball sampling methods were applied.

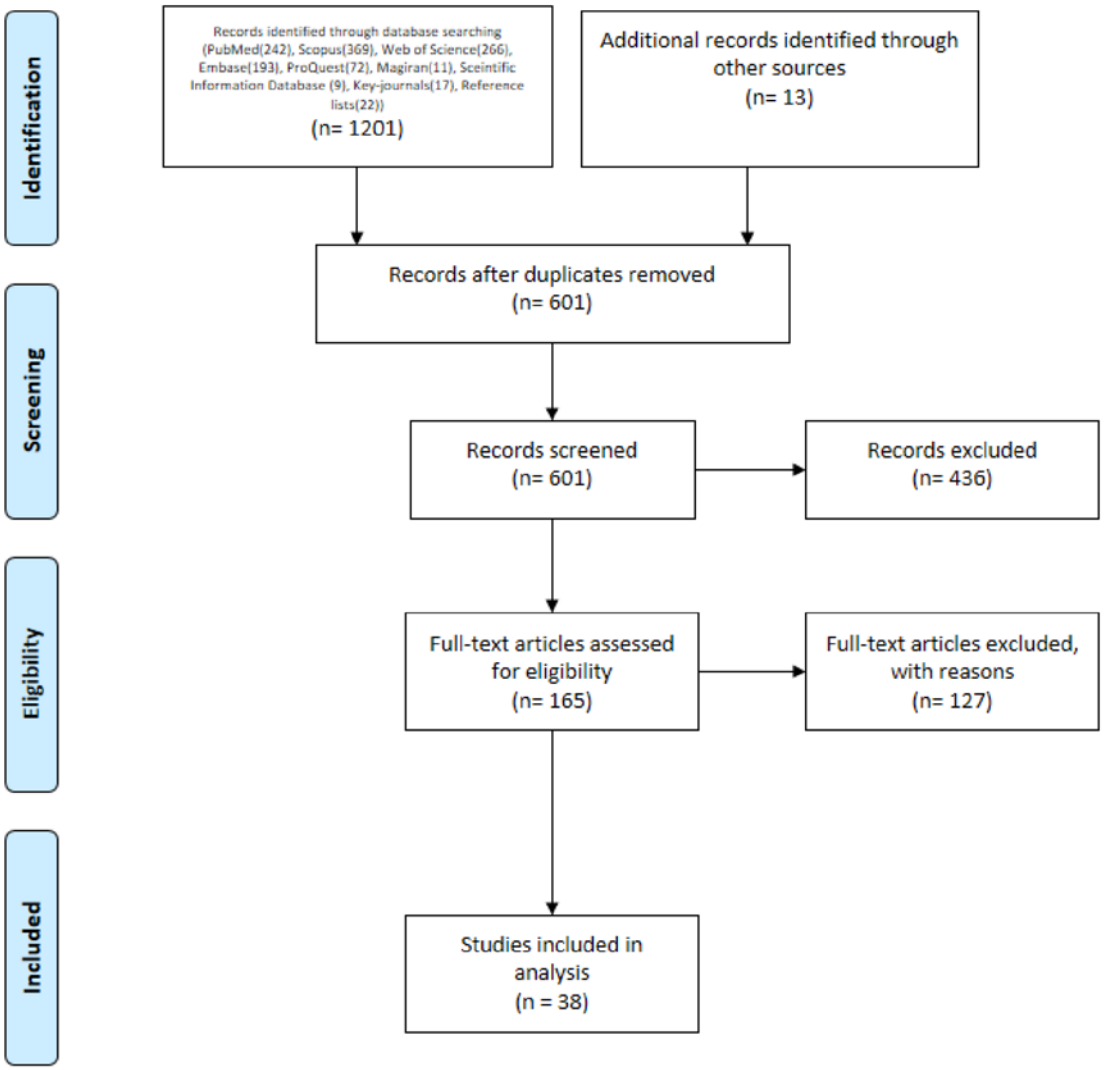
Data collection

Individual semi-structured interviews were used in order to understand the views of the participants in both face-to-face and online formats by two authors (M. H. and F. R.). During the interviews, an interview guide containing open questions was used to better guide the flow of the interview. The main questions in this guide were: 1) Tell us about your experience of implementing the UFPP. 2) If possible, describe the strengths and weaknesses of this program. 3) Which decisions and policies were effective in the implementation process of this program? and 4) As a policymaker, what solutions do you suggest to improve this program and eliminate its weaknesses? Based on the feedback received from the initial interviews, the interview questions were revised and modified for more clarity. After the end of each interview, the recorded audio file was written by the interviewer and saved in Word Office software to facilitate the analysis process.

Data analysis

A framework analysis approach was used to analyze the qualitative findings [34]. Three authors (SSH, MH and FZ) did initial coding by repeatedly reading the written texts. Then, the found codes were examined, and the close ones were placed in separate categories. After examining the relationship between the identified categories, they were assigned to the main themes of the study, which are actually the components of the five control knobs framework [33]. In order to minimize bias and maximize the strength of the findings, authors with diverse scientific and executive backgrounds were involved in the analysis process. Also, in cases where there was a lack of agreement among the authors, efforts were made to hold discussion meetings to resolve the lack of agreement, and in the required cases, the participation of an expert author was also used (KBL).

Fig. 1. PRISMA flowchart.



Results

Scoping review

Following the initial search, 1214 records were found; after removing duplicates, 601 articles were screened based on the title and abstract. In the next stage, 165 articles were evaluated based on their full texts, and 38 articles were selected as final included studies (Fig. 1) [7, 9, 15, 24, 29, 35-67]. Table I demonstrates the detailed characteristics of the included studies. In the following, the most important challenges of implementing the UFPP and the potential solutions mentioned in the included studies are concisely reviewed.

Challenges

Table II summarizes the challenges of implementing UFFP in Iran based on the studies included. Regarding the organization of UFFP, several challenges have been raised, the most common of which were: 1) weak management and planning; 2) inadequate human resources; 3) inadequate training of human resources; 4) a weak referral system; 5) insufficient physical infrastructure; 6) a high workload; 7) a lack of comprehensive monitoring and evaluation; 8) a weak information infrastructure; and 9) a poor incentive mechanism. Furthermore, a number of the studies mentioned the dispersed stewardship function of the MoHME, poor program notification, insufficient authority of family physicians, unrealistic medical tariffs, frequent turnover of administrators, non-participation of all stakeholders, lack of intra- and inter-sectoral collaboration, office time limits (single work shifts and off weekends), long waiting lists, and inconsistency between community needs and service packages as other organizational challenges.

Several challenges related to UFPP financing have been raised by the studies, which have made its implementation difficult, including: 1) insufficient financial resources; 2) fragmented insurance funds; 3) economic instability; and 4) instability of financial resources. In addition, this scoping review identified a lack of effective fund pooling, an undesirable purchasing system, money

Tab. I. The characterizes of included studies

First author (Year)	Title	Objective(s)	Study design	Publication language	Study population	Region	Main results	Conclusion
Abedi et al. (2017)	SWOT Analysis of Implementation of Urban Family Physician Plan from the Perspective of Beneficiaries	This study aimed at SWOT analysis of urban family physician from the perspective of beneficiaries	Qualitative research	Persian	Nine people including faculty members, family physicians, senior managers and health professionals	National	The main strengths included health services provision, easy accessibility to health services, classification of services, and decrease in unnecessary costs. The weak points according to SWOT analysis included management and planning, human resources, physical resources, referral system, electronic health records, payment mechanism, health services purchasing organizations, inter sectoral coordination, and assessment and control systems. Authorities' support, legal backing, educated human resources, and capacity of private section along public section were identified as the opportunities of the project. Furthermore, failure in public-private sector cooperation, health market and, society needs were considered as the threats	This study showed the strengths and weaknesses of family physician plan, and the opportunities and threats it is faced with. Hence, it is necessary to find solutions and perform necessary interventions in order to eliminate the weaknesses and threats and maintain and improve the strengths and opportunities before its implementation throughout the country
Bagheri Lankarani et al. (2010)	Family physicians in Iran: success despite challenges	NI	Correspondence	English	General population	National	NI	NI
Bayati et al. (2020)	Effect of two major health reforms on health care cost and utilization in Fars Province of Iran: family physician program and health transformation plan	The present study was aimed at evaluating the impact of these two reforms on the level of service utilization and cost of health care services	Interrupted time series	English	People insured by Social Security Insurance Organization	Fars Province	FPP resulted in a significant reduction in the number of specialist visits, imaging, and laboratory tests in the short term, and in the number of radiology services, laboratory tests, and hospitalization in the long term. In contrast, HTP significantly increased the utilization of radiology services and laboratory tests both in the short term and long term. Concerning the costs, FPP resulted in a reduction in costs in short and long term except general practitioners' and specialist visit, and medication in long term. However, HTP resulted in an increase in health care costs in both of the studied time periods	FPP has been successful in rationalizing the utilization of services. On the other hand, HTP has improved people's access to services by increasing the utilization; but it has increased health care costs. Therefore, policymakers must adopt an agenda to revise and re-design the plan
Bayati et al. (2022)	Influencing factors on the tendency of general practitioners to join in urban family physician program	This study aimed to investigate the factors which affect GPs' decision to join in the UFPP	Cross-sectional study	English	666 GPs	National	More than half of GPs (58.6%) participated in the study had a positive tendency to join in the UFPP. Older GPs (adjusted OR = 3.72; 95%CI 1.05-13.09), working in public sector (adjusted OR = 2.26; 95%CI 1.43-3.58), lower income level (adjusted OR = 6.69; 95%CI 2.95-15.16), higher economic expectations (adjusted OR = 2.08; 95%CI 1.19-3.63), and higher satisfaction from medicine profession (adjusted OR = 2.00; 95%CI 1.14-3.51) were the main factors which increased the GPs tendency to enter in UFPP	Decision for joining in the program is mainly affected by GPs' economic status. This clarifies that if the program can make them closer to their target income, they would be more likely to decide for joining in the program
Dehnavieh et al. (2015)	Urban family physician plan in Iran: challenges of implementation in Kerman	This study aims to determine probable implementation challenges of Family Physician Plan in Kerman	Qualitative study	English	21 experts in the field	Kerman	Most prevalent establishment challenges of Family Physician Plan were classified into policy-making, financial supply, laws and resources	The urban Family Physician Plan can be carried out more effectively by implementing this plan step by step, highlighting the relationships between the related organizations, using new payment mechanisms e.g Per Capita, DRG, make national commitment and proper educational programs for providers, development the health electronic Record, justifying providers and community about advantages of this plan, clarifying regulatory status about providers' Duties and most importantly considering a specific funding source

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Delgoshaei et al. (2020)	Performance payment challenges for family physician program	This study aimed to investigate the challenges of implementation of P4P system in family physician program	Qualitative study	English	32 participants including the senior managers with at least 5 years of experience on the family physician program	Tehran	The current study identified 7 themes, 14 subthemes, and 46 items related to the challenges to successful implementation of P4P systems in the family physician program including family physicians' workload, family physician training, promoting family physician program, paying to the family physician team, assessment and monitoring systems, information management, and the level of authority of family physicians	The study results demonstrated notable challenges for successful implementation of P4P system which can helpful to managers and policymakers
Doshmangir et al. (2017)	Infrastructures Required for the Expansion of Family Physician Program to Urban Settings in Iran	This study aimed to explore the major infrastructures perceived to be required to achieve desirable implementation of urban FP through analyzing experts viewpoints reflected in the media and interviews	Qualitative study	English	Relevant and appropriate websites in consultation with some national health expert	National	Infrastructure needed for the implementation of FP were categorized in five main themes and 23 subthemes. The themes are: stewardship/ governance, Actors and stakeholders, structural infrastructure, technical infrastructure and needed resources and information and communication infrastructure	Expansion of FP program to urban settings needs appropriate attention to the principles of policy implementation as well as provision of robust infrastructures. Well-defined stewardship, revised approach to financial regulation and payment system, stakeholder's commitment to collaboration, policy for conflict resolution, and universal insurance coverage are pivotal for expansion of family physician program to the urban settings in Iran
Doshmangir et al. (2018)	Payment system of urban family physician program in the Islamic Republic of Iran: is it appropriate	This study aimed to investigate aspects of the payment system in the urban family physician program(FPP) in the Islamic Republic of Iran	Qualitative study	English	nine key informants from MoHME, two medical universities, insurance companies, and three FPs	NI	A range of concepts was explored related to the payment system of the FPP. By merging similar expressions, we categorized the findings into four main themes including: payment method, payment criteria and incentives, payment process and amount of payment	FPP is required to follow convenient implementation methods. The mechanisms of payment in the health sector are weak and have no transparency. A blurred combination of criteria makes an unclear process for determining the payment mechanisms. It is recommended that the opinions of key stakeholders be taken into consideration prior to developing payment mechanisms and financial incentives
Esmaeili et al. (2016)	The Experience of Risk-Adjusted Capitation Payment for Family Physicians in Iran	This study was conducted with the purpose of exploring the experiences of risk-adjusted capitation payment of urban family physicians in Iran when it comes to providing primary health care (PHC)	Qualitative Study	English	24 family physicians and 5 executive directors	NI	Regarding the effects of risk-adjusted capitation on the primary healthcare setting, five themes with 11 subthemes emerged, including service delivery, institutional structure, financing, people's behavior, and the challenges ahead. Our findings indicated that the health system is enjoying some major changes in the primary healthcare setting through the implementation of risk adjusted capitation payment	With regard to the current challenges in Iran's health system, using risk-adjusted capitation as a primary healthcare payment system can lead to useful changes in the health system's features. However, future research should focus on the development of the risk-adjusted capitation model
Fararouie et al. (2019)	Satisfaction levels with family physician services: a pilot national health program in the Islamic Republic of Iran	This study was conducted in 2014 to measure the rate of user satisfaction with services provided by family physicians to the rural and urban population of the second most populated county in Fars province	Cross sectional	English	160 households	Marvdasht county, Fars province	Overall satisfaction rate was 59.2%: 54.5% for urban areas and 63.2% for rural areas	This study suggests that satisfaction is higher among rural residents and that better quality services from family physicians are needed in both rural and urban communities
Fardid et al. (2019)	Challenges and strengths of implementing urban family physician program in Fars Province, Iran	Family physician (FP) is one of the best strategies to reform health system and Promote population health. Due to the different context, culture, and population, implementing this reform within cities would be more challenging than in rural areas. This study aimed to assess the challenges and strengths of Urban FP Program in Fars Province of Iran	Qualitative study	English	National and regional policy-makers, managers, physicians, health professionals, patients, and members of the public who actively or passively affected the process of decision-making, management, and implementation of UFPP	Fars	The participants' mean age was 44.9 ± 6.4 years, with a mean work experience of 13.2 ± 7.4 years. The transcripts revealed six themes and 17 subthemes. The emerging themes included three challenges and three solutions as following: social problems, financial problems, and structural problems as well as resistance reduction, executive meetings, and surveillance	Resolving staff shortage, decreasing the public resistance, and eliminating unnecessary referrals were among the strategies used by Fars, during FP implementation. To be successful in implementing this program, the required perquisites such as infrastructures and culture growth must be undertaken. The current study suggests the establishment of the electronic health record to improve the pace and quality of service provision as well as reducing violations

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Fardid et al. (2020)	Policy brief on improving the finance of family physician program: An experience from urban areas of Iran Revenue Collection	This policy brief was formulated based on the role of FPs in public access to general practitioner (GP) services in the referral system on one hand, followed by the impact of it on health costs reduction on the another hand, and further considering the necessity of financing system audit to find a sustainable resources for this program to be implemented at a national level in the country of Iran	Policy brief	English	General population	Fars and Mazandaran.	As a result, this policy brief was formulated based on the role of FPs in public access to general practitioner (GP) services in the referral system on one hand, followed by the impact of it on health costs reduction on the another hand, and further considering the necessity of financing system audit to find a sustainable resources for this program to be implemented at a national level in the country of Iran	Paying to midwives from FP's capitation has been designed based on pay for performance. Therefore, detachment of midwives shares from FPs capitation may lead to disobedience of midwives from physicians. So it is suggested that the physician signs a satisfaction certificate for the midwife under supervision prior to payment to her. It will not only make the insurance organizations' payment to midwives uniform but also make the midwives observe job standards and respect to FPs. Besides, training the GPs increases their expectations to receive more rewards and as a result the costs will be increased. Therefore, before training GPs specifically, providing high-quality services by physicians must be assured and the relevant proper evaluation criteria should be set for service receivers
Farzadfar et al. (2017)	Views of managers, health care providers, and clients about problems in implementation of urban family physician program in Iran: A qualitative study	The aim of this study was to determine the viewpoints of managers, providers, and clients of health care services about the problems in the implementation of urban family physician program in Iran	Qualitative study	Persian	Managers, providers, and clients of health care services	Alborz, West Azerbaijan, and Kurdistan Provinces	According to the results of this study, the problems on the implementation of urban family physician program in Iran can be classified into seven categories including: financial, cultural, educational, motivational, structural, administrative, and contextual problems	We propose definition and stabilization of the financial resources and establishment of appropriate rules for payments to solve financial problems, and also training of general population and staffs and involvement of the mass media in training to solve the cultural problems. In order to solve the educational problems reforms in medical curriculum are recommended. Motivational problems can be solved via encouraging the private sector and experts to take part in the program and also through guaranteeing the continuity of the program. Establishment of appropriate organizations and provision of protocols are recommended to solve the structural problems. Finally, to overcome the contextual problems it is suggested to promote cross-sectoral and inter-sectoral coordination and also attract support from policy-makers
Gharibi & Dadgar (2020)	Pay-for-performance challenges in family physician program	This study was conducted to investigate the challenges faced in the implementation of the pay-for performance system in Iran's family physician program	Qualitative	English	32 key informants at the family physician program	Tabriz	This study identified 7 themes, 14 sub-themes, and 46 items related to the challenges in the implementation of pay-for-performance systems in Iran's family physician program. The main themes are: workload, training, program cultivation, payment, assessment and monitoring, information management, and level of authority. Other sub-challenges were also identified	The study results demonstrate some notable challenges faced in the implementation of the pay-for-performance system. This information can be helpful to managers and policymakers
Hajibadal et al. (2022)	Challenges of Implementing Family Physician Program in Urban Communities	This study aimed to explore the challenges and obstacles of implementing family physician program in an Iranian urban community context	Qualitative study	English	19 healthcare recipients and healthcare providers from urban health centers	Bonab	Three main categories including 'socio-cultural and economic challenges', 'interpersonal communication difficulties' and 'inefficient management' emerged as the challenges of implementing urban family physician program in the community	The implementation of family physician program is a long process that is influenced by various factors and elimination of barriers requires developing infrastructures and culture growth and improving the professional settings and interpersonal relationship

Homaie Rad et al. (2017)	Does Economic Instability Affect Healthcare Provision? Evidence Based on the Urban Family Physician Program in Iran	The main aim of this study was to evaluate the achievements of some important goals of Iran's urban family physician plan. This plan was implemented when the country experienced economic instability. We examine whether an economic crisis affects the efficacy of a healthcare program	Evidence-based	English	NI	Fars	No changes in out-of-pocket payments and healthcare utilization were found after the implementation of this program; however, inequality in out-of-pocket payments increased during the reform	The urban family physician program was not implemented completely and many of its fundamental settings were not conducted because of lack of necessary healthcare infrastructure and budget limitations. Family physician programs should be implemented under a strong healthcare infrastructure and favorable economic conditions
Honarvar et al. (2015)	Knowledge and Practice of People toward their Rights in Urban Family Physician Program	Urban family physician program has been launched as a pilot in Fars and Mazandaran provinces of Iran since 2012. Attitudes of policy makers and people toward urban family physician program have become challenging. This study shows what people know and practice toward this program	Population-Based Study	English	General population	Shiraz	Participation rate was 1257 of 1382 (90.9%), and the mean age of the respondents was 38.1 ± 13.2 years. Of 1257, 634 (50.4%) were men and 882 (70.2%) were married. Peoples' total knowledge toward urban family physician program was 5 ± 2.7 of 19, showed that 1121 (89.2%) had a low level of knowledge. This was correlated positively and in order to being under coverage of this program ($P < 0.001$), being under coverage of one of the main insurance systems ($P = 0.04$) and being married ($P = 0.002$). The mean score of people's practice toward the program was 2.3 ± 0.9 of total score 7, showed that 942 (74%) had poor performance, and it was correlated positively and in order to being under coverage of this program ($P < 0.001$) and having higher than 1000$ monthly income ($P = 0.004$). Correlation of people's knowledge and practice toward the program was 24%	Current evidences show a low level of knowledge, poor practice and weak correlation of knowledge-practice of people toward urban family physician program
Honarvar et al. (2016)	Satisfaction and Dissatisfaction Toward Urban Family Physician Program: A Population Based Study in Shiraz, Southern Iran	A national project of extending a family physician program to urban areas has been started since May 2013 in Iran. The present study aimed to detect correlates of people's satisfaction and dissatisfaction about urban family physician program	Population based study	English	General population	Shiraz	Mean age of 1257 participants in the study was 38.1 ± 13.2 years. Respondents included men (634; 50.4%), married (882; 70.2%), those who were educated at universities (529; 42%) and self-employed groups (405; 32.2%). One thousand fifty-eight (84.1%) were covered by the family physician program. Mean of referral times to a family physician was 2.2 ± 2.9 during the year before the study. Satisfaction toward urban family physician program was high in 198 (15.8%), moderate in 394 (31.3%), and low in 391 (31.1%). Dissatisfaction about this program was more among younger than 51-year-old groups (for 31-50 years odds ratio [OR] = 2.3, 95% confidence interval [CI] = 1.4-3.7, $P < 0.001$ and for 18-30 years OR = 2, 95% CI = 1.2-3.4, $P = 0.005$), less knowledgeable ones (OR = 2.2, 95% CI = 1.3-3.6, $P = 0.001$), singles (OR = 2.1, 95% CI = 1.2-3.4, $P = 0.003$), and those with more than 4 of family members (OR = 1.3, 95% CI = 1-1.7, $P = 0.05$)	Overall, the majority of the people are not very satisfied with the urban family physician program. This shows the need for a multi-disciplinary approach including training, improvement of infrastructures and referral system, continuous supervision, and frequent monitoring of user's and provider's feedback about this program. According the results, the family physician program should be improved prior to extending this program to other provinces in Iran

Honarvar et al. (2018)	Five Years after Implementation of Urban Family Physician Program in Fars Province of Iran: Are People's Knowledge and Practice Satisfactory?	Urban family physician program (UFPP) was launched in Fars province of Iran in 2012. We aimed to assess the knowledge and practice of people toward this 5-year-old program	Population-based study	English	1350 people older than 18 years	Fars	The mean age of the interviewees was 42.4 ± 14.2 years; male (674; 49.9%)-to-female (651; 48.2%) ratio was 1.03. Mean score of knowledge was 4.2 ± 1.7 (out of 14), while 961 (71.1%) had < 50% of the desirable knowledge. Mean score of practice was 4.4 ± 1.3 (out of 9), while only 443 (32.8%) had a good performance toward this program. Knowledge and practice did not show a significant correlation (r = 0.06, P = 0.05). Among cities, the highest and the lowest mean of knowledge belonged to Pasargad (5.6 ± 2.1) and Lar (3.0 ± 1.0) (P < 0.001), respectively. Pasargad (4.8 ± 1.4) had also the highest level of practice compared to Farashband (3.8 ± 1.4) which had the lowest score (P < 0.001). Multivariable analysis showed that supplemental insurance coverage (odds ratio [OR] = 2.5, %95 confidence interval [CI]: 1.6-3.9), female gender (OR = 1.9, %95 CI: 1.2-2.9) and higher level of education (OR = 1.7, %95 CI: 1.1-2.5) were the significant determinants of knowledge, while practice in those who were not covered by supplemental insurance was better (OR = 1.6, 95% CI: 1.2-2.5)	After 5 years of implementation of UFPP, knowledge and practice of people toward UFPP are not satisfactory. This finding calls for a serious revision in some aspects of UFFP
Imanieh et al. (2017)	Factors affecting public dissatisfaction with urban family physician plan: A general population based study in Fars Province	To determine the factors affecting public dissatisfaction with an urban family physician plan in Iran	To determine the factors affecting public dissatisfaction with an urban family physician plan in Iran	English	Family physician plan, specialists, para-clinic services, pharmacy, physicians on shift work, emergency services, and family physician assistants	Fars	In this study, 1,020 individuals (524 males, 496 females) were investigated. Based on the results, the most frequent factor affecting dissatisfaction with physicians was their single work shifts and unavailability (53%). In terms of dissatisfaction with family physicians' specialist colleagues and para-clinic services, the most common factors were related to difficulty in obtaining a referral form (41.5%) and making appointments (21.6%), respectively. Given the level of dissatisfaction with pharmacies, the significant factor was reported to be excessive delay in medication delivery (31.6%); and in terms of physicians on shift work and emergency services, the most important factor was lower work hours for family physicians (9.2%)	It seems that, the most common causes of dissatisfaction with the urban family physician plan are due to the short duration of services, obtaining a referral form and making appointments, and providing prescribed medications
Kabir et al. (2018)	The level of familiarity and attitude of the population covered by the criteria and requirements of the physician program Iranian urban family	This study aims to determine the level of familiarity and attitude of the population It was carried out under the criteria and requirements of the urban family physician program.	Cross-sectional study	Persian	General population	National	Among the 1217 surveyed people, the familiarity level of 551 people(31.1%) from the urban family physician program was low, 695(39.3%) people were average, and 523 people(29.6%) were high. 846 people(56.1%) had a positive attitude and 663 people (43.9%)had a negative attitude towards the criteria and requirements of the program. Eight individual and social variables were influential in the level of familiarity and six variables in the level of people's attitude (P < 0.05).	The results of the study showed that more than 51% of the covered population had a positive attitude and familiarity with the urban family physician program, but some individual variables and Social influence in it

Kabir et al. (2019)	Family Physicians' satisfaction with factors affecting the dynamism of the urban family physician program in the Fars and Mazandaran provinces of Iran	This study aimed to determine the family physicians' satisfaction level with the factors affecting the dynamism of the urban family physicians program in the Fars and Mazandaran provinces of Iran	Cross-sectional study	English	Physicians	Fars and Mazandaran	The overall satisfaction levels among family physicians in Fars and Mazandaran provinces were 2.77±0.53 and 3.37±0.56, respectively, revealing a statistically significant difference between provinces ($p < 0.001$). Moreover, the mean satisfaction scores for the performances of healthcare centers, insurance companies, specialists, healthcare workers, and the population covered were 2.78±0.1, 2.54±0.9, 2.52±0.8, 4.24±0.07, and 2.96±0.8, respectively. The family physicians' levels of satisfaction were significantly correlated with population size ($p = 0.02$, $r = -0.106$), and willingness to stay in an urban family physician program ($p < 0.001$, $r = +0.398$)	This study revealed that family physicians exhibited a low level of satisfaction with the urban family physician program. Given the direct association between family physicians' satisfaction levels and retention in the program, it is expected that family physicians will no longer stay in the program, and it is likely to have subsequent executive problems
Kohpeima Jahromi et al. (2017a)	Continuity of Care Evaluation: The View of Patients and Professionals about Urban Family Physician Program	This study aimed to determine the COC of health care in urban health centers	Cross-sectional study	English	FPs (n = 141) and patients (n = 710)	Fars and Mazandaran	Almost all FPs had a computer. The FPs hadn't kept their patients' medical records routinely. The software had some problems, so the FPs couldn't produce lists of patients based on their health risk and they couldn't monitor their population. Almost 88% of FPs have written referral letters for all referred patients but 57% of them got medical feedback from specialists. About 80% of patients' consultation times were up to 10 min. 29% of FPs knew the past problems and illnesses of the patients. From 40% to 50% of the patients stated that their FPs asked them for their desire about prescribed medicine and gave clear explanation about their illnesses. On average, patients visited their doctor 5.5 times during the previous year. Generally, patients and FPs in Mazandaran could summarize their experiences better than Fars in most topics of COC	It seems that after 3 years of using urban FP program in two pilot provinces, there were still some problems in COC. Strengthen software program, introducing incentives for FPs, and promoting patients' responsibility can be used by policy-makers when they seek to enhance COC
Kohpeima Jahromi et al. (2017b)	Access to Healthcare in Urban Family Physician Reform from Physicians and Patients' Perspective: a survey-based project in two pilot provinces in Iran	The study aimed to determine the accessibility of health care in the two pilot sites	Cross-sectional study	English	Family physicians (n = 141) and patients (n = 710)	Fars and Mazandaran	With an average population of 2,332, the main daily task for family physicians was patient visits (n = 39). Most patients were satisfied with the current hours (80%) but visiting a family physician on holidays or after working hours were only rarely possible. The co-payment was an inconvenience to access health services in getting medicines, getting para clinic exams and a visiting specialist. At least 70% of patients could receive their preferred healthcare facilities within 40 minutes. The majority of FPs (64%) believed there were some cultural characteristics in the population that made a limited role for providing better health services	In the reform the providers were geographically well distributed and some features of the organizational access were relatively high. However there were some difficulties in the financial, cultural, and other features of organizational access
Mehrolhas-sani et al. (2021)	Underlying factors and challenges of implementing the urban family physician program in Iran	This study aimed to explain the underlying factors and challenges of implementing the urban family physician program in Iran	Qualitative study	English	44 policy-makers and managers at national and provincial levels	National	A total of 10 categories, 18 sub-categories, and 29 codes were formed. Most challenges related to underlying factors included precipitancy, economic sanctions, belief in traditional medicine, belief in the expertise of previous physicians, and global ranking of countries. For program implementation, most challenges included a diversity of insurance organizations, budget allocation, referral system, electronic file, educational system, and culture building	The major challenges pertaining to underlying factors included international pressure for reforms and precipitancy in program implementation due to management changes. The challenges associated with program implementation included budget provision and interaction with insurance organizations. Therefore, to expand this program to other provinces in Iran, the identified factors should be carefully considered so that sufficient confidence and commitment can be guaranteed for all stakeholders

Mohammad-ibakhsh et al. (2020)	Family physician model in the health system of selected countries	The purpose of this study is to compare the model of implementation of FPP in the United States, England, Germany, Singapore, Turkey, Egypt, and Iran	Comparative study	English	Family physician	United States, England, Germany, Singapore, Turkey, Egypt, and Iran	In this study, we used the Control Knobs framework to compare countries' FPPs because the framework can demonstrate all necessary features of national health system programs. This framework includes governance and organization, regulation, financing, payment, and behavior in each country. The results of this study show that although the principles of FPP in the selected countries are almost common, they use different methods in FPP implementation	As the success of any policy depends on the political, economic, social, and cultural context of each country, considering these factors and reinforcing each of the control knobs are critical to the success of the family physician's policy implementation
Nasrollah-pour Shirvani et al. (2013)	Evaluation of the Referral System Situation in Family Physician Program in Northern Provinces of Iran: 2012-2013	This study was performed to evaluate the function of referral system and network system in Northern provinces of Iran	Analytic study	Persian	Patients	Golestan, Mazandaran, Babol and Guilan	From 963 patients who received the level 2 services, 687 cases (71%) were females and 276 (29%) were males. Three hundred and twenty cases (33%) had referral form from health house. Only 299 (31%) persons referred to the centers because of diagnosis of family physician and in 161 (17%) of cases, the family physician had a role to choose a specialist of level 2. For 155 (16.1%) of cases, the specialists wrote the results of their evaluation in feedback form. Only 149 (15.5%) of patients returned to their family physicians. Six hundred ninety-seven (79.6%) of patients did not return to their family physician because of lack of knowledge	The results of this study showed that many principles for referral system from level 1 to higher levels and vice versa are not considered that require education, reformation and intervention in this field
Ranjbar Eza-tabadi et al. (2015)	Using Conjoint Analysis to Elicit GPs' Preferences for Family Physician Contracts: A Case Study in Iran	This study aimed to elicit GPs' preferences for family physician contracts	Case Study	English	580 GPs selected from the family physician database in Iran	National	The results show that "quotas for admission to specialized courses" is the strongest preference of GPs (_ = 1.123). In order of importance, the other preferences are having the right to provide services outside of the specified package (_ = 0.962), increased number of covered population (_ = 0.814), capitation payment + 15% bonus (_ = 0.644), increased catchment area to 5 km(_ = 0.349), and increased length of contract to five years (_ = 0.345)	The conjoint analysis results show that GPs concerned about various factors of family physician contracts. These results can be helpful for policy-makers as they complete the process of creating family physician plans, which can help increase the motivation of GPs to participate in the plan
Reza Majdza-deh (2012)	Family Physician Implementation and Preventive Medicine; Opportunities and Challenges	NI	Editorial	English	General population	National	There are some challenges in implementing family physician and referral system plan. First is the gap between a plan and its implementation. Second is the deficiency on financial support for the implementation of this plan. Third, medical education in Iran, conventionally, do not prepare trainees appropriately for their future career. Fourth challenge is that health system has not acted as successfully in urban areas as rural. The fifth challenge is the plan's content. The question is that how much family physician plan has been designed according to preventive medicine and public standards	The family physician and referral plan is a promising opportunity for individuals and community health through strengthening public health and preventive medicine services. However, its implementation is seriously challenged, especially in by the financial resources, separation of insurance organization from MOHME, changing utilization behavior of the community and finally service providers who should be enrolled in the plan and provide preventive services
Sabet Sarves-tani et al. (2017)	Challenges of Family Physician Program in Urban Areas: A Qualitative Research	This study aimed at exploring the challenges of the family physicians program in urban areas in Iran in 2015	Qualitative Research	English	Family physicians	National	Coding and analysis of the interview data generated two categories and seven sub categories related to the challenges of the family physicians program. The categories were poor infrastructure and poor incentive mechanism	Our findings captured a good picture of family physicians program in urban areas to better clarify the challenges of the program and provide a foundation to plan and implement appropriate changes. Thus our findings will give policymakers a deeper perception to confront the challenges of the family physicians program in urban areas

Safarpour et al. (2019)	Developing Urban Family Physician Program in Shiraz, Fars Province, the Doctors' Experiences: A Qualitative Research	The purpose of this study was to explain the experiences of urban family physicians in Shiraz, Fars province, Iran	Qualitative study	English	8 physicians in the urban family physician program	Fars	Results were presented in 4 categories: lack of infrastructure, inefficiency of implementation, comprehensive look at the health of the community, and the need for corrective actions along with 17 subcategories	The most important challenges after 8 years of starting a family physician program include the lack of infrastructure, inefficiency of the implementation method, lack of a comprehensive look at the health of the community, and the need for corrective actions in the program. It is the responsibility of health policymakers to address these challenges to improve them. It is recommended that training at all levels of the involved individuals, including theoretical and practical training should be considered
Safizadehe Chamokhtari et al. (2018)	Analysis of the Patient Referral System in Urban Family Physician Program, from Stakeholders` Perspective Using SWOT Approach: A Qualitative Study	The aim of this study was to analyze the patient referral system at all levels of the health system using Strengths, Weaknesses, Opportunities and Threats (SWOT) approach	Qualitative study	Persian	20 people including administrative officers, family physicians, executive managers, and individuals working in insurance sector and 10 people receiving insurance services	National	The strengths included: reducing the costs, providing equitable access to health services, promoting the health level, and providing services in an evolutionary level. The weaknesses included not informing the people, physician issues, poor monitoring and evaluation, management issues, payment mechanisms, electronic health records, insurance organizations, and inadequate facilities and equipment of health centers. Opportunities included: the importance of health and health care for the leadership and the parliament, job creation, active participation of the private sector, the high level of literacy of the target group (people), and the cooperation of insurance organizations. The threats included lack of coordination and alignment between policy makers and planners, the therapeutic focus of health system, lack of attention of people to health care, and the influences of private sector	The appropriate implementation of referral system promotes the health of society and increases the healthcare burden. But today, it does not follow its own rules which is caused by different factors. Therefore, health authorities should address these by appropriate planning and timely actions
Sepehri et al. (2020)	A Descriptive-Comparative Study of Implementation and Performance of Family Physician Program in Iran and Selected Countries	This study aimed to compare the implementation and the performance of FPP in Iran with selected countries, in order to analyze those challenges and suggest potential solutions.	Descriptive-Comparative	English	NI	Iran and six countries (Canada, Australia, United Kingdom, Denmark, United States and the Netherlands)	This study revealed significant differences in implementation of the FPP and relatively low differences in FPP performance between Iran and the selected countries	Implementation and performance of FPP and patient referral system in Iran struggles with serious challenges and burdens, in contrast with the selected reviewed countries. As such, modification of the FPP in Iran seems to be a must. Such modification may include developing educational programs for FPs, clearly defining the duties and practices of FPs, and revising their reimbursement and employment status
Shahabian-moghaddam & Zanganeh Baygi (2022)	Explaining the Role of Physicians in Urban Comprehensive Health Service Centers After Implementing Health Transformation Plan in Southeast of Iran: A Qualitative Study	This study aimed to explain the role of physicians working in urban, comprehensive health service centers after implementing the HTP	Qualitative study	English	Physicians, healthcare providers, managers, and experts, working in urban health centers	Zahedan, Khash, and Saravan	After interviewing 35 people and several stages of review, coding, and using the experience of experts, the data were classified into six main categories, 11 subcategories, and 33 codes. Factors influencing the role of physicians were service delivery, electronic health records, resources, community culture, monitoring, supervision, and practical suggestion. The participants expressed the workload, referral system, integrated electronic health record, financial resources, human resources, equipment, and public participation as some aspects related to the role of physicians	Based on the current study, human and financial resources should be managed to retain the physicians in this plan. In addition, increasing the quality of services, improving electronic health records, and attention to public culture can be considered

Shiraly et al. (2021)	Doctor-patient communication skills: a survey on knowledge and practice of Iranian family physicians	This study evaluated knowledge and practice of doctor- patient communication among the urban family physicians based on main items of Calgary Cambridge Observation Guides	Cross sectional	English	family physicians	Fars	The study participants included 204 male and 196 female family physicians with a mean age of 46.7 years. The mean communication skills knowledge score was 41.5 (SD: پ) 2.8) indicating a high level of knowledge. The mean score for practices was 38.7 (SD: پ) 3.4), implying a moderate level of practice. Based on Bloom's scale, nearly 80% of family physicians had good knowledge about doctor-patient communication skills, however, 55% of participants reported moderate to poor level of practice in this regard. Results of multivariate regression analysis suggest that higher levels of related knowledge, having higher age or longer work experience, and working in the public sector can predict better practice scores (P < 0.005)	There is a potential gap between knowledge and self-reported practices toward communication skills among a sample of Iranian family physicians. They have fundamental weakness in the most important evidence based items of doctor-patient communication. Considering significant role of family physicians in prevention and control of non-communicable diseases (NCDs) as an emerging challenge of our country, the topic of communication skills should be inserted as a top educational priority of family physicians
Sokhanvar et al. (2020)	Family physician and referral system adherence in Iranian primary healthcare system	The aim of this study was to investigate the level of adherence of rural insured patients to family physicians (FP) and the referral system, as well as factors that affect self-referral	Cross-sectional study	English	Patients who were referred to select Rural Family Physician Centers (RFPC) during the data collection period	East Azerbaijan Province	Overall, 58.9% of participants adhered to the FPP and referral system. The total self-referral rate was 41.1%, including 24.3% patients who had attended an FP appointment only to obtain a referral code, and 16.8% had self-referred directly. Data on age, sex, family monthly expenditure, and place of residence were associated with self-referral. Structural pitfalls, societal knowledge and attitudes, and cultural challenges were identified as the patients' reasons for self-referring. Within these categories, the most frequent reasons included uncertainty about the knowledge and skills of FPs (74.2%), easy and inexpensive access to specialized services (66.7%), better quality of specialized services (59%), and a lack of awareness of the FPP and the services provided at level 1	A significant percentage of enrollees did not adhere to the FPP and referral system. Considering the unwelcome consequences of self-referral, designing and implementing practical interventions seems essential in order to encourage patients to be more compliant
Tavakoli et al. (2019)	Design of a Model for Management of Referral System in the Iranian Urban Family Physician Program	The purpose of this research was to identify the main dimensions of management of referral systems in family physician program and then introduce them to policymakers of the country primary health care	Descripting study	English	Employees of health centers of Mazandaran and Fars Provinces.	Mazandaran and Fars	In confirmatory factor analysis, coefficient of effect of Electronic Health Record on referral system (as the most important dimension), coefficient of Family Physician, coefficient of structure of insurance, coefficient of policymaking in health care system, coefficient of proper stewardship of health system, and basic health care services, were 0.887, 0.877, 0.860, 0.804, 0.568, and 0.522, respectively	Six effective dimensions including Electronic Health Record (as the most important dimension), family physician, structure of insurance, policymaking in health care system, proper stewardship of health sys-tem, and basic health care services were identified. According to six effective dimensions on management model of the referral system in the Iranian urban family physician program, the health system authorities pay serious attention to the six identified dimensions of the current study to improve the health of the urban community
Yazdi Feyz-abadi et al. (2018)	The relationship between the experimental implementation of the urban family physician program and health financial protection indicators in Fars and Mazandaran provinces	The present study was conducted with the aim of investigating the relationship between program implementation and financial protection indicators	Cross-sectional study	Persian	General population	Fars and Mazandaran	The percentage of families faced with Catastrophic health costs increased by 1.82% in the years of program implementation compared to the years before implementation (P < 0/05). This increase was 1.37% for rural areas (P < 0/05). The same percentage of poverty from total health payment increased by 0.83% in the years of implementation of the program. Implementation of the program did not have a significant relationship with Kakuani indicators and direct out-of-pocket payments as a percentage of total health expenses(P > 0/05)	Despite the success of the urban family physician program in increasing physical access to health services, it seems that it has not made significant achievements in improving financial protection and equitable financing of health. However, further studies are necessary.

Tab. II. Challenges of implementation of urban family physician program in Iran (scoping review).

Five control knobs	Challenges	Studies
Organization	Dispersed stewardship function of the MoHME	Doshmangir et al. (2017), Abedi et al. (2017)
	Weak management and planning	Abedi et al. (2017), Dehnavieh et al. (2015), Mehrolhassani et al. (2021), Sabet Sarvestani et al. (2017), Safarpour et al. (2019), Safizadehe Chamokhtari et al. (2018)
	Inadequate human resources	Abedi et al. (2017), Doshmangir et al. (2017), Farzadfar et al. (2017), Hajibadal et al. (2022), Safarpour et al. (2019), Safarpour et al. (2019), Shahabianmoghaddam & Zanganeh Baygi (2022), Sokhanvar et al. (2020)
	Inadequate training of human resources	Bagheri Lankarani et al. (2010), Bayati et al. (2022), Dehnavieh et al. (2015), Delgoshaei et al. (2020), Doshmangir et al. (2017), Farzadfar et al. (2017), Gharibi & Dadgar (2020), Honarvar et al. (2016), Imanieh et al. (2017), Mehrolhassani et al. (2021), Reza Majdzadeh (2012), Safarpour et al. (2019), Safizadehe Chamokhtari et al. (2018), Sepehri et al. (2020), Shahabianmoghaddam & Zanganeh Baygi (2022)
	Weak referral system	Abedi et al. (2017), Doshmangir et al. (2017), Esmaeili et al. (2016), Farzadfar et al. (2017), Honarvar et al. (2016), Imanieh et al. (2017), Mohammadibakhsh et al. (2020), Nasrollahpour Shirvani et al. (2013), Reza Majdzadeh (2012), Sabet Sarvestani et al. (2017), Safarpour et al. (2019), Safizadehe Chamokhtari et al. (2018), Sepehri et al. (2020), Sokhanvar et al. (2020), Yazdi Feyzabadi et al. (2018)
	Insufficient physical infrastructure	Abedi et al. (2017), Dehnavieh et al. (2015), Doshmangir et al. (2017), Farzadfar et al. (2017), Gharibi & Dadgar (2020), Homaie Rad et al. (2017), Mehrolhassani et al. (2021), Sabet Sarvestani et al. (2017), Safarpour et al. (2019), Safarpour et al. (2019), Safizadehe Chamokhtari et al. (2018), Shahabianmoghaddam & Zanganeh Baygi (2022), Yazdi Feyzabadi et al. (2018), Fardid et al. (2020), Imanieh et al. (2017)
	Non-implementation of electronic health record	Abedi et al. (2017), Dehnavieh et al. (2015), Fardid et al. (2019), Kohpeima Jahromi et al. (2017a)
	Non-synchronization of the private and public sector	Abedi et al. (2017)
	High workload	Abedi et al. (2017), Dehnavieh et al. (2015), Delgoshaei et al. (2020), Farzadfar et al. (2017), Gharibi & Dadgar (2020), Kohpeima Jahromi et al. (2017b), Safarpour et al. (2019), Safizadehe Chamokhtari et al. (2018), Shahabianmoghaddam & Zanganeh Baygi (2022)
	Lack of comprehensive monitoring and evaluation	Abedi et al. (2017), Delgoshaei et al. (2020), Farzadfar et al. (2017), Gharibi & Dadgar (2020), Honarvar et al. (2016), Mohammadibakhsh et al. (2020), Safizadehe Chamokhtari et al. (2018), Shahabianmoghaddam & Zanganeh Baygi (2022)
	Poor program notification	Dehnavieh et al. (2015), Farzadfar et al. (2017), Safarpour et al. (2019)
	Inappropriate communication among providers	Dehnavieh et al. (2015)
	Weak information infrastructure	Delgoshaei et al. (2020), Gharibi & Dadgar (2020), Hajibadal et al. (2022), Kohpeima Jahromi et al. (2017a), Mehrolhassani et al. (2021), Yazdi Feyzabadi et al. (2018)Mohammadibakhsh et al. (2020), Safarpour et al. (2019), Safarpour et al. (2019), Safizadehe Chamokhtari et al. (2018), Sokhanvar et al. (2020)
	Insufficient authority of family physicians	Delgoshaei et al. (2020), Gharibi & Dadgar (2020)
	Unrealistic medical tariffs	Doshmangir et al. (2017)
	Frequent turnover of administrators	Doshmangir et al. (2017), Farzadfar et al. (2017), Mehrolhassani et al. (2021)
	Non-participation of all stakeholders	Doshmangir et al. (2017), Fardid et al. (2020), Farzadfar et al. (2017)
	Lack of variation and quality of the services	Fararouie et al. (2019), Hajibadal et al. (2022)
	Fragmented network of primary care	Fardid et al. (2020)
	High freedom in selecting health services	Fardid et al. (2020)
	Gap between theory and practice	Fardid et al. (2020), Reza Majdzadeh (2012)
	Lack of intra- and inter-sectoral collaboration	Farzadfar et al. (2017), Gharibi & Dadgar (2020), Imanieh et al. (2017), Mehrolhassani et al. (2021)

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Organization	Long waiting list	Imanieh et al. (2017), Sokhanvar et al. (2020)
	Office time limit (single work shifts and off weekends)	Imanieh et al. (2017), Kohpeima Jahromi et al. (2017b), Sokhanvar et al. (2020)
	Non-adherence to clinical guidelines	Imanieh et al. (2017)
	Sanctions	Mehrolhassani et al. (2021),
	Poor incentive mechanism	Sabet Sarvestani et al. (2017), Safarpour et al. (2019), Safizadehe Chamokhtari et al. (2018), Shahabianmoghaddam & Zanganeh Baygi (2022)
	Frequent changes in instructions	Shahabianmoghaddam & Zanganeh Baygi (2022)
	Inconsistency between community needs and service package	Shahabianmoghaddam & Zanganeh Baygi (2022)
Financing	Fragmented insurance funds	Abedi et al. (2017), Doshmangir et al. (2017), Fardid et al. (2019), Mehrolhassani et al. (2021)
	Insufficient financial resources	Bagheri Lankarani et al. (2010), Dehnavieh et al. (2015), Delgoshaei et al. (2020), Doshmangir et al. (2017), Farzadfar et al. (2017), Gharibi & Dadgar (2020), Homaie Rad et al. (2017), Mehrolhassani et al. (2021), Reza Majdzadeh (2012)
	Economic instability	Dehnavieh et al. (2015), Hajibadal et al. (2022), Mehrolhassani et al. (2021), Yazdi Feyzabadi et al. (2018)
	Instability of financial resources	Doshmangir et al. (2017), Shahabianmoghaddam & Zanganeh Baygi (2022)
	Lack of effective fund pooling	Doshmangir et al. (2017), Farzadfar et al. (2017)
	Money transfer between budget items	Fardid et al. (2019)
	High costs of services	Imanieh et al. (2017)
	Undesirable purchasing system	Mehrolhassani et al. (2021)
	Soaring expenses	Sabet Sarvestani et al. (2017)
	Imposing additional Costs	Safarpour et al. (2019)
Payment	Insufficient service compensation	Abedi et al. (2017), Hajibadal et al. (2022), Sepehri et al. (2020)
	Inappropriate payment mechanism	Abedi et al. (2017), Dehnavieh et al. (2015), Doshmangir et al. (2018), Sabet Sarvestani et al. (2017), Safizadehe Chamokhtari et al. (2018), Shahabianmoghaddam & Zanganeh Baygi (2022)
	Delay in payments	Abedi et al. (2017), Dehnavieh et al. (2015), Doshmangir et al. (2017), Fardid et al. (2019), Farzadfar et al. (2017), Safizadehe Chamokhtari et al. (2018)
	Lack of outcome-based payment	Abedi et al. (2017), Delgoshaei et al. (2020)
	Considering co-payment for users	Kohpeima Jahromi et al. (2017b)
Regulation	Cumbersome laws	Dehnavieh et al. (2015)
	Unclear rules	Dehnavieh et al. (2015), Farzadfar et al. (2017)
	Law deviation	Fardid et al. (2019)
	Absence of legal requirements	Safizadehe Chamokhtari et al. (2018)
Behavior	Cultural problems of service users	Dehnavieh et al. (2015), Delgoshaei et al. (2020), Farzadfar et al. (2017), Kohpeima Jahromi et al. (2017b), Mehrolhassani et al. (2021), Safizadehe Chamokhtari et al. (2018)
	Cultural problems of providers	Dehnavieh et al. (2015)
	Conflict of interests	Dehnavieh et al. (2015), Fardid et al. (2020), Farzadfar et al. (2017), Mohammadibakhsh et al. (2020), Reza Majdzadeh (2012), Safarpour et al. (2019)
	Low incentives of physicians to work in deprived areas	Dehnavieh et al. (2015), Kabir et al. (2019)
	Service providers' concerns regarding funding	Dehnavieh et al. (2015), Farzadfar et al. (2017), Ranjbar Ezatabadi et al. (2015)
	Lack of awareness among people	Delgoshaei et al. (2020), Fardid et al. (2019), Farzadfar et al. (2017), Farzadfar et al. (2017), Gharibi & Dadgar (2020), Honarvar et al. (2015), Honarvar et al. (2018), Kabir et al. (2018), Sabet Sarvestani et al. (2017), Safizadehe Chamokhtari et al. (2018), Shahabianmoghaddam & Zanganeh Baygi (2022)
	Patients' preferences (for visiting by specialists)	Esmaeili et al. (2016), Fardid et al. (2020), Mehrolhassani et al. (2021), Sokhanvar et al. (2020)
	Inappropriate behavior of staff	Fararouie et al. (2019), Imanieh et al. (2017)
	Discrimination	Fardid et al. (2019)
	Resistance against implementation	Fardid et al. (2019)

Behavior	Treatment-centered advertisements by mass media	Fardid et al. (2020)
	Adherence to the indigenous norms	Hajibadal et al. (2022), Mehrolhassani et al. (2021)
	Lack of proper communication between the healthcare provider and the patient	Hajibadal et al. (2022), Kohpeima Jahromi et al. (2017a), Shahabianmoghaddam & Zanganeh Baygi (2022), Shiraly et al. (2021), Yazdi Feyzabadi et al. (2018)
	Lack of trust in health care providers' competencies	Hajibadal et al. (2022)
	Physicians' dissatisfaction	Kabir et al. (2019)
	Lack of acculturation	Sabet Sarvestani et al. (2017)
	Egoistic manner of medical specialists	Sabet Sarvestani et al. (2017), Safarpour et al. (2019),
	Lack of awareness among GPs	Sokhanvar et al. (2020)

transfers between budget items, and soaring expenses as other financing barriers to implementing UFPP. Notably, a large proportion of included studies raised concerns about the UFPP payment system, such as insufficient service compensation, ineffective payment mechanisms, payment delays, a lack of outcome-based payment, and the consideration of co-payment for users.

Cumbersome laws, unclear rules, law deviations, and the absence of legal requirements were the most commonly identified regulatory barriers in implementing the UFPP, as reported in the included studies. Furthermore, the current review identified a wide range of challenges related to the fifth dimension of the adapted framework, namely behavior. Among others, 1) cultural problems of service users; 2) conflict of interests; 3) lack of awareness among people; 4) patients' preferences; 5) lack of proper communication between the healthcare provider and the patient; and 6) the egoistic manner of medical specialists were expressed by more studies. Nonetheless, other behavior-related challenges were: low incentives for physicians to work in deprived areas; service providers' concerns regarding funding; inappropriate behavior of staff; adherence to indigenous norms; and a lack of trust in health care providers' competencies.

Solutions

Even though there are a lot of problems with how the UFPP is being carried out in Iran, the included studies that were looked at also came up with a number of ways to improve this (Tab. III is a summary of these solutions). Specifically, most of the solutions were related to the organization component. In this regard, the most common solutions were: 1) multi-dimensional planning; 2) promoting referral systems; 3) comprehensive training courses for providers; 4) establishing continuous professional development programs; 5) establishing electronic health records; 6) considering sufficient workforce resources; 7) creating appropriate monitoring and supervision systems; 8) creating an effective information system; 9) preparing protocols and guidelines; 10) enhancing intra- and inter-sectoral collaborations; 11) developing infrastructures; and 12) administering the centers through work shifts. In addition, enhancing the role of government, facilitating good interaction among beneficiaries, involving the mass media, clarifying the role of involved professionals, granting a reasonable level of authority to family physicians, and increasing the number of workforces were the other proposed solutions to improve the organization of the UFPP in Iran.

A number of the included studies proposed that considering a sustainable financial resource is essential to enhancing the financing of UFPP in Iran. Furthermore, merging the insurance funds, considering an extra fund, assigning franchises, creating an integrated virtual fund, and provider–purchaser separation were other identified solutions to improve the financing dimension of this program. Regarding the payment system, a significant number of studies concluded that there was a need to improve the payment system for UFPP employees. In addition, they reported that using risk-adjusted capitation mechanisms, moving toward the Beveridge family payment model, and considering a detachment of physician capitation from health care providers could be other potential solutions to strengthen the payment system. Through this scoping review, several policies were recognized to promote the regulation component of UFPP, including: 1) employing appropriate legal and regulatory frameworks; 2) constant reviewing of policies, rules, and regulations; and 3) applying efficient strategies by the government to encourage relevant stakeholders to join the program. In the final report, several recommendations were identified to curb the behavior-related challenges of UFPP in Iran, of which the most common were: enhancing community awareness, promoting public culture for using FP services, and improving the clinical knowledge of the population. Furthermore, strengthening the economic status of providers, considering incentives to attract workforces, using scientific evidence by providers, promoting patients' responsibility, considering the concerns of providers, and enhancing the communication skills of physicians were other potential solutions.

Qualitative interviews

Tables IV and V summarize the extracted challenges and solutions from the 15 participants' interviews. Among the participants, one was a former deputy of the MoHME, three were senior policymakers and planners of the family physician program in the MoHME, one was a former deputy of the Program and Budget Organization, two were former chancellors of Shiraz University of

Tab. III. Solutions to improve the implementation of urban family physician program in Iran (scoping review).

Five control knobs	Solutions	Studies
Organization	Enhancing the role of government	Bayati et al. (2022), Mohammadibakhsh et al. (2020)
	Multi-dimensional planning	Honarvar et al. (2015), Honarvar et al. (2016), Mohammadibakhsh et al. (2020)
	Seeking advocacy from political groups	Delgoshaei et al. (2020)
	Step-by-step implementation	Safarpour et al. (2019)
	Constant reviewing policies, rules, and regulation	Dehnavieh et al. (2015)
	Promoting referral system	Fardid et al. (2019), Imanieh et al. (2017), Kohpeima Jahromi et al. (2017b), Mehrolhassani et al. (2021), Reza Majdzadeh (2012), Safizadehe Chamokhtari et al. (2018), Sepehri et al. (2020), Shahabianmoghaddam & Zanganeh Baygi (2022), Sokhanvar et al. (2020)
	Comprehensive training course for providers	Bagheri Lankarani et al. (2010), Fardid et al. (2020) Farzadfar et al. (2017), Gharibi & Dadgar (2020), Honarvar et al. (2015), Sepehri et al. (2020), Shahabianmoghaddam & Zanganeh Baygi (2022)
	Continuous professional development program	Bagheri Lankarani et al. (2010), Honarvar et al. (2015), Imanieh et al. (2017), Kohpeima Jahromi et al. (2017a)
	Establishing electronic health record	Fardid et al. (2019), Imanieh et al. (2017), Mehrolhassani et al. (2021), Shahabianmoghaddam & Zanganeh Baygi (2022), Sokhanvar et al. (2020)
	Using internet-based virtual learning	Bagheri Lankarani et al. (2010)
	Engaging private sector	Farzadfar et al. (2017), Mohammadibakhsh et al. (2020)
	Considering specialty training for family physicians	Bagheri Lankarani et al. (2010), Sokhanvar et al. (2020)
	Considering sufficient workforce resources	Dehnavieh et al. (2015), Shahabianmoghaddam & Zanganeh Baygi (2022)
	Creating appropriate monitoring and supervision systems	Dehnavieh et al. (2015), Delgoshaei et al. (2020), Fardid et al. (2019), Gharibi & Dadgar (2020), Honarvar et al. (2015), Imanieh et al. (2017), Imanieh et al. (2017), Mohammadibakhsh et al. (2020), Sabet Sarvestani et al. (2017), Shahabianmoghaddam & Zanganeh Baygi (2022)
	Enhancing the quality of services	Fararouie et al. (2019)
	Facilitating good interaction among beneficiaries	Dehnavieh et al. (2015), Gharibi & Dadgar (2020)
	Establishing an appropriate working culture	Dehnavieh et al. (2015),
	Involvement of mass media	Dehnavieh et al. (2015), Farzadfar et al. (2017)
	Determining the physicians' workload	Delgoshaei et al. (2020)
	Improving management skills of providers	Delgoshaei et al. (2020)
	Creating effective information system (qualified registry system)	Delgoshaei et al. (2020), Gharibi & Dadgar (2020), Honarvar et al. (2016), Imanieh et al. (2017), Kohpeima Jahromi et al. (2017a), Sokhanvar et al. (2020)
	Clarifying the role of involved professionals	Delgoshaei et al. (2020), Gharibi & Dadgar (2020)
	Applying outcomes-focused approach	Delgoshaei et al. (2020)
	Preparing protocols and guidelines	Farzadfar et al. (2017), Gharibi & Dadgar (2020), Sokhanvar et al. (2020)
	Enhancing intra- and inter sectoral collaborations	Farzadfar et al. (2017), Gharibi & Dadgar (2020), Gharibi & Dadgar (2020), Hajibadal et al. (2022), Imanieh et al. (2017), Mehrolhassani et al. (2021),
	Clarifying the responsibilities	Gharibi & Dadgar (2020)
	Granting a reasonable level of authority to family physicians	Gharibi & Dadgar (2020), Delgoshaei et al. (2020)
	Developing infrastructures	Hajibadal et al. (2022), Homaie Rad et al. (2017), Mohammadibakhsh et al. (2020), Shahabianmoghaddam & Zanganeh Baygi (2022)
	Implementation of the program at the time of economic stability	Homaie Rad et al. (2017)
	Increasing the number of workforces	Imanieh et al. (2017), Kohpeima Jahromi et al. (2017b
	Administering the centers through work shifts	Imanieh et al. (2017), Kohpeima Jahromi et al. (2017b), Sepehri et al. (2020)
	Representatives of family physicians for decision making	Safarpour et al. (2019)

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Organization	Institutionalizing the gatekeeper role for FPs	Sepehri et al. (2020)
Financing	Considering a sustainable financial resource	Dehnavieh et al. (2015), Farzadfar et al. (2017), Mehrolhassani et al. (2021), Mohammadibakhsh et al. (2020), Shahabianmoghaddam & Zanganeh Baygi (2022)
	Merging the insurance funds	Fardid et al. (2019)
	Considering an extra fund	Fardid et al. (2020)
	Assigning franchises	Fardid et al. (2020)
	Creating an integrated virtual fund	Fardid et al. (2020)
	Provider–purchaser separation	Mohammadibakhsh et al. (2020)
Payment	Improving payment system	Dehnavieh et al. (2015), Delgoshaei et al. (2020), Doshmangir et al. (2018), Farzadfar et al. (2017), Kohpeima Jahromi et al. (2017a), Mohammadibakhsh et al. (2020), Sokhanvar et al. (2020)
	Using risk-adjusted capitation mechanism	Esmaeili et al. (2016), Gharibi & Dadgar (2020)
	Moving toward the Beveridge family payment model	Fardid et al. (2020)
	A detachment of physician capitation from health care providers	Fardid et al. (2020)
Regulation	Employing appropriate legal and regulatory frameworks	Sepehri et al. (2020)
	Constant reviewing policies, rules, and regulation	Dehnavieh et al. (2015)
	Applying efficient strategies by government to encourage relevant stakeholders for joining in the program	Bayati et al. (2022)
Behavior	Strengthening economic status of providers	Bayati et al. (2022)
	Improving the clinical knowledge of the population	Doshmangir et al. (2018), Farzadfar et al. (2017)
	Enhancing community awareness	Fardid et al. (2019), Gharibi & Dadgar (2020), Honarvar et al. (2015), Honarvar et al. (2018), Kabir et al. (2018), Kabir et al. (2019)
	Promoting public culture for using FP services	Fardid et al. (2019), Fardid et al. (2020), Hajibadal et al. (2022), Kabir et al. (2019)
	Considering incentives to attract workforces	Fardid et al. (2019),
	Using scientific evidence by providers	Imanieh et al. (2017)
	Promoting patients' responsibility	Kohpeima Jahromi et al. (2017a)
	Incentive programs for FPs who teach their populations in prevention programs	Kohpeima Jahromi et al. (2017b)
	Considering the concerns of providers	Ranjbar Ezatabadi et al. (2015)
	Using rotational shifts	Safarpour et al. (2019)
	Receiving franchise to reducing induced demands	Safarpour et al. (2019)
	Enhancing communication skills of physicians	Shiraly et al. (2021)

Medical Sciences, two were former vice chancellors of Shiraz University of Medical Sciences, the former president of health insurance in Fars Province, three were senior officials of the family physician program in Fars Province, and two were people from the Medical Council of the Islamic Republic of Iran were also participants. Qualitative findings have been detailed in the Supplemental file 1.

Discussion

According to the current study, the UFPP faces five dimensions of challenges: organization (distributed stewardship, high provider workload, inadequate human resource training, weak referral systems, lack of comprehensive monitoring and evaluation, poor information infrastructure, inappropriate management and planning, and lack of intra- and inter-sectoral collaboration); financing (insufficient financial resources, fragmented insurance, and instability of financial resources); payment (inappropriate payment mechanism, delay in payments, and lack of outcome-based payment); regulation (cumbersome laws, unclear rules, and absence of legal requirements); and behavior (cultural problems, conflict of interests, lack of proper

communication between the healthcare provider and the patient and lack of determination and incentive). However, a number of solutions were also found in order to improve the implementation of this program all over the country and especially in the Fars province.

Organization

Stewardship, including intra-sectoral governance and inter-sectoral leadership, plays a very important role in the successful implementation of a program, especially for programs that have different stakeholders [68, 69]. In this study, it was shown that the lack of united stewardship caused the implementation of the UFPP to face a serious challenge. In Iran, the role of the MoHME has indeed shifted from policymaking and supervision to financing and providing healthcare services, which has made it unable to fulfill its governance and leadership roles in a desirable manner [70, 71]. Therefore, it is necessary for the MoHME to return to its main functions, such as policymaking and supervision, in order to provide the necessary platform to guide reform programs, including UFPP [29, 39].

This study identified that, in addition to the inadequate human resources of the UFPP, the existing workforces also do not have enough knowledge and skills to work on this project. In fact, the lack of community-oriented training and the lack of a holistic view among the involved professions have caused them to lack sufficient preparation to provide family physician services [23, 39]. Indeed, focusing on treatment-oriented courses in the educational system has made it difficult for practitioners to understand health-oriented problems [54]. Thus, many studies have suggested that we should train appropriate practitioners and therapists for community-oriented programs such as family physicians by making amendments to educational curricula [29, 36, 61]. In addition, ad hoc training and constant educational courses should be considered seriously in order to update knowledge and skills [23].

The weakness of referral system has always been recognized as one of the obstacles to the effective implementation of the UFPP in Iran. The referral system allows people to access facilities and health services based on their needs and priorities [59]. In this regard, in the law of the fifth development plan, the creation of an effective referral system is emphasized as a mandatory law by the MoHME. However, with the passing of several years under such a law, the health care referral system in Iran is facing serious challenges that have greatly affected the UFPP. Various factors have led to the emergence of such a situation, including easy access to specialized services, a lack of an accurate information system, a lack of awareness about UFPP goals, cultural problems, etc. [21, 44, 72]. Nonetheless, evidence suggests that family physicians acting as gatekeepers can reduce costs and improve care quality [60, 73]. Therefore, strengthening the referral system through increased cooperation between different levels of the health care system, cooperation between the public and private sectors, and the creation of accurate information systems is a vital prerequisite for the successful implementation of the UFPP [44, 49, 53].

Insufficient physical and information infrastructures were other identified challenges that mentioned by other studies [35, 39, 74]. Although a decade has passed since the implementation of the UFPP, there are still problems with physical space and equipment. In addition, the inappropriateness of the information infrastructure, such as the unavailability of electronic health records, has caused the professions involved in the UFPP to not perform well [40, 46, 54]. Even though in 2016, a national action was taken to develop an integrated health system for Iranians by creating an electronic health record registration system, this problem has not yet been fully resolved [54]. Therefore, besides the development of physical infrastructure, the successful implementation of the UFPP requires the development of software infrastructure with the aim of accessing people's health records.

Lack of comprehensive monitoring and evaluation was another challenge identified through this study. Indeed, performance evaluation allows decision- and policy-makers to amend and modify paths based on the variables involved [23]. Although checklists were developed to monitor and evaluate the services provided by the UFPP team, the feedback obtained from them has not been effectively used to improve policies and service delivery processes [75]. In response, a number of studies have emphasized the importance of effective monitoring and evaluation in order to minimize the drawbacks of programs [45, 59, 61]. Therefore, it is crucial to develop effective monitoring and evaluation systems both at the individual and team level while recognizing the existing deficiencies and modifying the policies in order to strengthen the UFPP services.

High workload, along with the lack of sufficient incentive mechanisms, has caused the performance of UFPP providers to be significantly affected. Related evidence has also revealed that physicians and other health care providers in the family physician program are unhappy with the high workload and low pay [23, 39, 58]. Notably, family physician facilities differ greatly between developed and underdeveloped areas [25]. This has made many physicians reluctant to participate in the program, especially in less developed areas. Moreover, the presence of a significant share of physicians and health care workers in the UFPP is not permanent, which has caused them to not enjoy job stability [23]. In addition, some studies have indicated that family physicians suffer from mental disorders (like stress and burnout) and job dissatisfaction due to inappropriate financial compensation, a high workload, and inadequate time to balance their personal lives with their professional lives [23]. Thus, by applying a wide range of strategies while reducing the workload of the providers, it is necessary to move in the direction of increasing their motivation to participate in UFPP.

Tab. IV. Challenges of implementation of urban family physician program in Iran (qualitative study).

Five control knobs	Categories	Codes	Participant ID
Organization	Dispersed stewardship	The stewardship function of the MoHME had been dispersed with its inadequate authority to implement the FP program.	Participant 01
		The lack of justification of the political and executive authorities or the insufficient information provided	Participant 06
		Weak governance in Iran's health system and instability in policies lead to the implementation of UFPP was not successful	Participant 02
		Lack of integrity to provide health care in Iran's health system	Participant 01
	High workload of family physician	The ratio of physicians to the population in Mazandaran province was inadequate, also considering the workload and responsibilities of the urban family physician.	Participant 01
		The working hours of UFPP* were from morning until evening, due to the high volume of visits. Also, the bureaucracy dramatically increased the workload.	Participant 02
		One of the problems faced by family physicians was the lack of annual or monthly leave and high working responsibility.	Participant 01
	Lack of comprehensive education	There were insufficient skills and training levels in family physicians to better implement this plan.	Participant 01
		The lack of a community-based vision in the educational system, and the lack of involvement of the members of the health team in the family physician's education system.	Participant 01
		Inadequate skills and training for service providers and lack of retraining programs.	Participant 01
		The medical education in Iran, conventionally, do not prepare trainees appropriately for their future career.	Participant 01 Participant 03
		The non-readiness of physicians for caregiving as an FP and lack of experience, as well as lack of a holistic view of this program, was problems to the fully effective implementation of UFPP.	Participant 01
	Inadequate workforces	The number of trained physicians, caregivers, and midwives was not proportional to the population covered.	Participant 04 Participant 05
	Weak referral system	There is no systematic referral system in Iran's health system. Therefore, there is no restriction on access to specialist levels and hospitals. This is despite the fact that an effective referral system prevents unnecessary visits to more specialized levels as well as the waste of material and human resources.	Participant 01
		No one cares about the second-level referral cycle and hospitals are only concerned with making money and paying their bills. Although the referral system is a good tool for controlling healthcare costs and increasing the standardization of clinical practices between general practitioners and specialists.	Participant 01
		The second-level referral was not well defined and there were limitations in referral to secondary care.	Participant 06
		One of the reasons for the ineffectiveness of the program was the optional referral system.	Participant 05
	Lack of effective monitoring and evaluation	There was a poor monitoring and evaluation system in Iran's health system to assess the performance of service providers.	Participant 01
		There was no accreditation evaluation system for urban family physicians.	Participant 02
		Output indicators and Outcome indicators were not approved for UFPP evaluation.	Participant 04
		In the UFFP the supervisions are mostly quantitative, and qualitative supervision has not been done.	Participant 05
	Inadequate incentive mechanism	Most doctors only practiced as family physicians when they had no choice.	Participant 01
		Inadequate remuneration and denigration of family physicians and also, inadequate remuneration for midwives were the reasons for the failure of the program.	Participant 03 Participant 05 Participant 07
		Unreasonable facilities in the residence, inappropriate work environment, and insufficient equipment and medical facilities have contributed to the lack of motivation of family physicians.	Participant 06

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Organization	Lack of effective monitoring and evaluation Inadequate incentive mechanism	The specialist incentives for further collaborations have gradually diminished over time and lack of motivation is one of the main barriers to providing effective health services	Participant 01
		Unsuitable salary requirements, lack of job security, and lack of opportunity for continuing education were regarded as the most common reasons for leaving the program.	Participant 02
		Failure to prepare and attract the cooperation of the media.	Participant 06
	Lack of comprehensive information system	Lack of electronic health database of individuals and suitable infrastructure for the development of the health information system.	Participant 01 Participant 05 Participant 06 Participant 07 Participant 08
		There is currently no comprehensive and proper electronic record in Iran and different levels of the health system are not linked to it.	Participant 01 Participant 05 Participant 06
		Inadequate amount of information sent from referral sources to hospitals and vice versa.	Participant 06
	Administrative issues	Changes in management and policies easily influence the plan's progress.	Participant 02
		The therapeutic focus of the UFPP caused soaring expenses and reduced achievement.	Participant 01 Participant 08
		There was a gap between a UFPP plan and its implementation.	Participant 02
		At the beginning of the implementation of the UFPP, service packages were not defined.	Participant 01
		To follow up on the patient's health by the family physician a service package was not defined.	Participant 04 Participant 06
		National planning meetings are not held in the executive headquarters of the UFPP, and most importantly, the stakeholders are not present in these meetings.	Participant 01
		The national headquarters, which should have existed in the MoHME and followed up the program, was closed.	Participant 02
		The coordination meetings of the National Family Physician staff and its executive staff have not been held due to inadequate management and political commitment.	Participant 04
		There was no political interest in the process of implementing the UFPP.	Participant 03 Participant 07
		There was no responsibility commensurate with authority in the UFPP.	Participant 04
		The implementation of UFPP was done at the micro level without coordination with the macro level.	Participant 04
		In addition to the role of health management, the family physician should also be given the role of financial management.	Participant 04
		The UFPP in Iran should have been implemented nationally and not on a pilot basis. Because it caused inertia in service recipients.	Participant 04 Participant 05
		In the implementation of the UFPP, we did not see all the axes and our view was not systemic and holistic.	Participant 04
		In UFPP, the important role of the family physician in prevention and health promotion was ignored.	Participant 06 Participant 08
		The pharmaceutical communication between the family physician and the pharmacy was not good. Pharmacies complained about the payments.	Participant 06
		They did not determine the per capita correctly and logically.	Participant 05 Participant 07
		The main goals of the program, which were risk assessment and health improvement, have not been achieved because the family physician and midwives, and caregivers were not provided with a suitable platform.	Participant 03
		Not using the points of view of the main owners of this program (family physicians and associations of general practitioners and executives) was another factor in the failure of the program.	Participant 07
	Insufficient Intra- and sector collaboration	The weakness of inter-sector collaboration and people's participation affected the fully effective implementation of UFPP.	Participant 01

Organization	Insufficient Intra- and sector collaboration	Failure in public-private sector cooperation in particular in the Fars province due to a large number of private clinics and the conflict of interest with their capitalists. (Mazandaran province had better public-private sector cooperation).	Participant 01 Participant 07
		Not participation of all stakeholders was another factor in the failure of the program.	Participant 06
		The lack of coordination between the Ministries of Health and Welfare created confusion and problems for both providers and recipients of services and the insurance system.	Participant 06
Financing	Budget deficits	Following the implementation of UFPP in 2013, financing has been provided through the public budget, which was funded by the Ministry of Health and Medical Education (MoHME) and the Ministry of Cooperatives, Labor, and Social Welfare (MoCLSW). Therefore, a suitable budget was allocated at the beginning of the UFPP and Over time, financial problems have caused delays in payments to service providers.	Participant 01 Participant 02
		Not having sustainable financing in the budget line for UFPP.	Participant 01 Participant 03 Participant 06
		The budget required for the UFPP was foreseen and approved in the budget law but was not paid for years due to various reasons (including a change of ministers and governments, and the implementation of concurrent competitor programs).	Participant 02
		Insufficient financial resources were the main barrier to implement UFPP.	Participant 07
		The financing of the UFPP by insurance, Tax, and public resources required rules and guidelines.	Participant 04
	Insurance issues	The insurance provided good support at the beginning of the FPP. Their support was because they approached their main tasks (strategic purchasing, resource management, cost saving, promoting quality, efficiency, equity, and responsiveness in health service provision). Over time, due to budget deficits, insurance support decreased and insurance problems increased.	Participant 02
		In the context that currently exists and the unusual and ineffective contracts that insurance organizations currently have with doctors, they cannot control costs.	Participant 02
		The diversity of insurance organizations and multiple insurance funds and lack of pooling was a barrier to financing UFPP properly.	Participant 01
		Weak interaction between the health system and insurance organizations at the beginning of the program implementation was another factor in the failure of the program.	Participant 02
Payment	Wrong payment mechanism	The payment system in UFPP was a fee for services (FFS). A method in which physicians are paid for each service performed. While the proper payment system in UFPP was per capita payment in the Iran context. To implement the per capita policy as a preferred payment mechanism, physicians had to cover a certain number of patients and were paid according to the number of services provided. However, the per capita scheme did not fully take into account the services actually provided.	Participant 01
		The most common model of payment to specialists is through FFS.	Participant 07
	Inappropriate payment	The salaries of the specialists were sometimes inadequate.	Participant 01
		A large number of specialists in Fars province, who were generally in the special clinic, despite the fact that the university was interested in their payment correctly and through the referrals system, created disruptions in the proper implementation of the plan.	Participant 01
		Compared with other jobs, the salaries of staff providing family physician services are low, and this also has a negative impact on motivation to attend the program.	Participant 06
		Delay in payment to physicians was an important factor in the failure of the program.	Participant 05 Participant 06
		Failure to pay on time and irregularity in payments was an important factor in the failure of the program.	Participant 08
		Delay in payments by insurance organizations was an important factor in the failure of the program.	Participant 07

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Payment	Inappropriate payment	The common share of caregivers from FP's capitation led to some issues including out-of-pocket payment to caregivers due to delays in receiving capitation and discrimination in paying caregivers due to physicians' preferences.	Participant 06
Regulation	Centralized planning	The decision-making process was top-down and centralized rather than collaborative and participatory, thus leading to debates and controversies.	Participant 01
		Lack of necessary delegation in UFPP implementation was one of the barriers to the fully effective implementation of UFPP.	Participant 01 Participant 08
	Unclear laws	The related rules and guidelines were not very clear.	Participant 02
Behavior	Cultural problems	The culture of many people's lack of trust in the services provided by GPs and the willingness to use the services of specialists was one of the barriers to the fully effective implementation of UFPP.	Participant 02
		Lack of trust in health care at low levels of service delivery was one of the barriers to the fully effective implementation of UFPP.	Participant 06
		The unfamiliarity of the public with the correct use of FP services and visiting their FP only to be allowed to visit a specialist without any cost was a problem to the effective implementation of UFPP.	Participant 01
		Little attention was paid to the required perquisites such as cultural infrastructure growth.	Participant 02 Participant 05 Participant 06
		The egoistic manner of medical specialists was a problem to the effective implementation of UFPP.	Participant 01 Participant 06
	Determination	At the beginning of the implementation of UFPP, the determination of the university was high, but there were challenges with the Association of General Practitioners, insurance organizations, parliamentarians and officials, and local and native politics.	Participant 02
		At the end of the 10th government, with the change of the minister, there was a change in the national determination.	Participant 02
		The 10th, 11th, and 12th government ministers were not in favor of the UFPP and wanted to stop the program.	Participant 02 Participant 04
		The UFPP gradually lost its national and regional determination.	Participant 01
	Conflict of interest	Lack of a well-designed and efficient referral system. For this reason, horizontal referral happened especially in the private sector (the physician referred to his private clinic). As a result, the physician would create induce demand or refer the patient to himself.	Participant 02 Participant 05
		Some medical specialists think that the UFPP may reduce their patient numbers and consequently their income.	Participant 04
		Due to the conflict of interests, the tariffs are not communicated correctly.	Participant 04
		The conflict of interests of the some university chancellors caused a disruption in the project implementation process. The extent that specialist doctors were rewarded with two visits in addition to their own visit and a high share of the income of the faculty members was provided from there. Therefore, the cost of outpatient services in Fars province increased a lot.	Participant 01

* UFPP: Urban Family Physician Program.

Financing

The UFPP faces several financial challenges, including insufficient government budgets. This challenge has been mentioned in the study by Mehrolhassani et al. (2021) that, despite the legal approval of the budget of the UFPP, due to various reasons such as the change of administrators and economic conditions, there are usually fluctuations in the payment of the budget [54]. Besides this, the existence of different insurance funds with different policies and approaches is a challenge for Iran's health system, which has also faced difficulties in financing the UFPP [41, 44, 54]. In fact, the existence of multiple health insurance funds has caused insurance mechanisms such as resource pooling, risk distribution, and cross-subsidizing to not be carried out well. Although, according to the law of the fifth development plan, health insurance funds should have been merged and integrated, this policy has not yet been implemented. This finding has been mentioned in the study by Dehnavieh et al. (2015), which found that the existence of multiple health insurance funds and the absence of a single insurance system is one of the major challenges of implementing the UFPP in Iran [39]. Therefore, in addition to providing stable financial resources for the UFPP, which is of course very difficult considering Iran's economic conditions, fundamental reforms should be carried out in Iran's health insurance sector in order to make it more effective.

Tab. V. Solutions to improve the implementation of urban family physician program in Iran (qualitative study).

Five control knobs	Categories	Codes	Participant ID
Organization	United Stewardship	The stewardship of the health system should be strengthened and centralized in Health Ministry	Participant 01
	Involving political actors	The correct implementation of the program in the whole country requires national determination and political determination.	Participant 02 Participant 04
	Gradual implementation	The UFFP should be implemented step by step and according to the schedule.	Participant 01 Participant 02
		First, solve the problems of the two pilot provinces that have been identified during the last ten years and bring them to standard status, and gradually implement the plan in the rest of the country's provinces with a specific schedule and step-by-step.	Participant 02
	Considering the successful models in other countries	Follow the successful countries in implementing the UFPP as an example.	Participant 01
	Enhancing intra- and inter-sectoral collaboration	The sequence of actions of the UFFP should have a logical timing. Also, promoting inter-sectoral collaboration as the stakeholders of family physician policy is necessary.	Participant 02
		The UFPP is not specific to the MoHME, but it is a mega project and should have comprehensive collaborations.	Participant 06
		The national planning meetings should be held in the presence of the president and ministers related to the program.	Participant 04
	Improving referral pathways	We could apply referral limits, and assign franchises to hinder the excessive referrals to FPs. Zero franchises can be devoted only to lower-income percentiles while for rich regions a franchise can be assigned as mandatory. The people who go to FPs more than a specific amount will have to pay a franchise.	Participant 01
		Implementing the UFPP with the compulsory referral system.	Participant 04 Participant 05
		Implementing the UFPP with the compulsory referral system.	Participant 05
		Implementing the UFPP with the gatekeeper role and the compulsory referral system should first be culturally institutionalized in the officials, MPs, ministers, and members of the government, then it should be imposed on the people.	Participant 02
		With the correct implementation of the UFPP and the compulsory referral system, the FP gains credibility in society and gains the trust of the people.	Participant 01 Participant 02
		Develop the primary health care (PHC) of the country actively through caregivers and FPs and under the supervision of the UFPP.	Participant 02
		As regards, the family physician plan being aimed at confronting people with the first level of services, the model of providing outpatient and specialized and sub-specialized services must be changed.	Participant 01
		The UFPP services should be regionalized. It is better that the regionalization is stratified into four levels (macro level, community level, family level, and basic level).	Participant 06
	Establishing electronic health records	The development of electronic health records at all three levels is one of the important infrastructures in the implementation of UFPP.	Participant 01 Participant 05 Participant 08
	Using shift rotation	Rotate the shifts of family physicians so they can leave at any time, without worrying about a replacement physician.	Participant 01
		Adjusting the working hours of family physicians from 8 to 14 and from 14 to 21 and assigning several patients to two FPs during these hours in order to prevent FP's dual practice and to focus more on the family physician program.	Participant 07
	Establishing an effective service packages	UFP service packages should be developed based on the burden of the disease.	Participant 01 Participant 02

▶

Organization	Nationwide implementation	The UFPP should be implemented nationwide.	Participant 04
	Moving towards prevention	The health status of the population covered should be actively followed up, by FPs and caregivers and we should move from a treatment-oriented mode to prevention.	Participant 05
	Accountability	Promote accountability in the FP to improve the implementation of UFPP.	Participant 05
	Effective monitoring and evaluation	Creating a powerful monitoring and evaluation system based on the payment system to provide high-quality services by physicians and the relevant proper evaluation criteria should be set for service receivers.	Participant 01
		Use accreditation method for evaluation the UFPP.	Participant 01
		The evaluations should change from quantitative to qualitative and compare the performance of each FP with the total performance of the province and the country.	Participant 05
		The deputy health department should continuously monitor the indicators and health status of covered people.	Participant 05
Behavior	Promoting the culture of users and providers	Social marketing is needed so that people accept UFPP services. The mass media and opinion leaders should promote its acceptance. Using UFPP services should be represented as a value.	Participant 01
		Increase the covered population awareness by enhancing the culture of FP's correct use.	Participant 01
		The behavior change must occur in both service recipients and providers. This change is gradually obtained in the community and requires trust building.	Participant 02
	Enhancing incentive mechanisms	Improve incentive mechanisms for specialist collaboration.	Participant 03
	Voluntary participation	The FP should be voluntary for the GPs, that is, if the physicians like to participate in the program and use its benefits and if they do not want to leave the program and give the covered population to another physician.	Participant 09
	Establishing a comprehensive education	Improving the ability of GP and training the fundamental differences between FP and GP, behavior to the patient as an FP, and having a holistic view of diagnostic-curative topics as specific courses for FP. A short mandatory course at the beginning of the FP contract, with a continuous professional development program, should be arranged.	Participant 01 Participant 03 Participant 06
		Reforms in medical curriculum are recommended	Participant 02
		Improving the ability of caregivers by arranging continuous professional development programs.	Participant 01 Participant 03 Participant 08
		Necessary training should be given to the covered population in order to appeal to people's trust and encourage their active collaboration in this program.	Participant 05
Financing	Moving towards effective insursnce	The working model of the insurance fund must be changed and the financial resources must be integrated virtually till the time their real polling can be reached.	Participant 01
	Considering stable resources	Providing sustainable financial resources for the continuous implementation of UFPP is necessary.	Participant 01 Participant 04 Participant 05
		Participation of FP and specialists in the financial risks imposed on the health system and payment system reform.	Participant 01
	Splitting between users and providers	We must make the per capita realistic and eliminate the financial and monetary relationship between the patient and the FP.	Participant 05
Payment	Moving towards mixed payment mechanisms	Establish a performance-based payment system up to the service package ceiling.	Participant 01 Participant 05
		Establishing health care services for all urban dwellers with a per capita payment system.	Participant 01

▶

Payment	Moving towards mixed payment mechanisms	A combination of payment methods is more appropriate to increase the efficiency and effectiveness of the payment system and improve the expected results and the method of payment per capita is generally used alongside other methods.	Participant 01
	Splitting between purchaser and provider	Establishment of appropriate rules for payments to solve financial problems. It's better for the Ministry of Welfare to be assigned the infrastructure and payments for the FPP instead of the Ministry of Health, for the MoHME to strengthen its surveillance role.	Participant 06
		Provider–purchaser separation can lead to success and reduce conflicts of interest in Iran's health system.	Participant 01
		One of the most important solutions is maintaining order in payments and timely payment to FPs.	Participant 07 Participant 08
Regulation	Setting rational tariffs	Setting medical tariffs rationally and based on the relative value of health services is needed infrastructures, which are deemed necessary for the effective implementation of UFPP.	Participant 01 Participant 03
	Strengthening clinical guidelines	Practice the referral system, regularization, and strategic purchase of services based on the compilation of clinical guidelines and through the UFPP.	Participant 01 Participant 08
	Clarifying the legal requirements and authorities	Clarifying the legal requirements of planning to provide resources and facilitate the UFPP implementation plan.	Participant 01
		Special powers should be obtained for the national headquarters of the UFPP, so that during the implementation of the program, there is no need to obtain a license, approve the law, and delegate powers through the parliament.	Participant 04
		The necessity of developing a referral system and family physician program in all cities across the country is the most important dimension of Iran's upstream health policies.	Participant 07
	Decentralization	Delegating provincial powers to facilitate the implementation of the UFPP.	Participant 01 Participant 08

Payment

Inappropriate payment mechanisms, both in our study and in other published studies, have been raised as one of the most important obstacles to the effective implementation of the UFPP in Iran. In this regard, relevant evidence showed that payment mechanisms such as per capita payments do not motivate UFPP's employees well [35, 39, 57]. According to the study by Doshmangir et al. (2018), although bonuses are also paid in order to improve the quality of services provided to employees, they still cannot compensate for the services provided [41]. That is why in many countries they use mixed payment methods, including monthly salary, bonus, capitation, and fee-for-service (FFS) [41]. Using a mix of payment methods can help motivate providers, stop unnecessary visits, and improve the quality of care services, among other things [76]. Further, the delay in payments is a common challenge in this dimension, which has significantly caused the dissatisfaction of the employees of this program [44, 45]. In line with this finding, Arab et al. (2014) reported that delayed payments was one of the main reasons for family physicians' dissatisfaction [77]. Therefore, with timely payments, we can move in the direction of improving the level of motivation and satisfaction of employees.

Regulation

Based on our findings, the rules are cumbersome, and since there is no rigorous monitoring and evaluation process, the supervision has become very complicated. Other studies [39, 45] have also expressed such a finding and believe that the lack of clarity in the laws and regulatory approach has caused the implementation of the family physician program to face a serious challenge. Furthermore, centralized planning is another challenge related to the legislation of the family physician program, which, of course, is a feature of the entire Iranian health system and is not specific to this program [78]. In fact, there is a need for the role of provincial governments to become more prominent in the planning process of such community-oriented programs. So, one of the policies that needs to happen before the UFPP can be pushed forward in the coming years is for local governments to be more involved and given real power, so that they can make decisions faster and spot problems more quickly.

One of the notable findings was that, despite some legal requirements, changing in governments and administrators are accompanied by changes in attention to programs such as family physician. Meanwhile, such reforms require medium- and long-term planning in order to achieve their desired impacts. In agreement with this finding, evidence has shown that, as with other

reform programs in Iran, changes in governments and senior managers significantly affect the implementation of previous programs [45, 54, 74]. In fact, personal and group preferences cause the implementation of a legal program to be challenged. Therefore, it is necessary to create a clear road map for the health system reforms and to make the managers adhere to the plans so that even with the change of managers, the implementation of the plans will not be disturbed.

Behavior

Cultural issues on the part of both service recipients and providers have made the provision of UFPP services problematic [39, 40, 45, 59]. Based on the findings, some people do not have a proper view of the knowledge and performance of general practitioners in the family physician program. Therefore, a significant proportion of patients prefer to be evaluated by a specialist in the first place. Indeed, these conditions are caused by the lack of sufficient knowledge of the service recipients about the services of the UFPP and the referral system [44, 66]. According to a study done by Janati et al. in 2010, more than half of the people who went to the emergency room for non-urgent problems could have been treated by a general practitioner [79]. Furthermore, the findings showed that some specialists have an egoistic manner and are not very willing to cooperate with the family physician program. In fact, they think that the implementation of such a program can reduce the number of patients and therefore FPs' income [39, 44]. Moreover, lack of private sector participation in UFPP has made the private sector, as a significant beneficiary of Iran's health system, uninterested in cooperating with this program. These factors have led to a series of conflicts of interest that have significantly challenged the effective implementation of the UFPP. In response, effective strategies need to be implemented in order to raise the public's and health professionals' awareness about the UFPP and its main functions. Nonetheless, it should also be noted that improving culture and behavioral changes is very complex, time-consuming, and requires national commitment and community-oriented educational programs.

Conclusion

This study showed that despite the passing of a decade of the UFPP, there are still serious challenges related to all five dimensions: organization, financing, payment mechanisms, regulation, and the behavior of providers and recipients. Therefore, the promotion of this program requires solving the existing implementation challenges in order to achieve the predetermined goals. The ideas in this study can be used to improve the current program in Fars Province and bring it to other regions of Iran.

Ethics approval and consent to participate

The ethical committee of the Shiraz University of Medical Sciences approved the study previously (IR.SUMS.REC.1401.514). Participants were aware of their voluntary participation and that they could leave the study freely at any stage. A signed informed consent form was also received from participants prior to each interview. All methods were performed in accordance with relevant guidelines and regulations.

Consent for publication

Not applicable.

Availability of data and materials

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

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Conflict of interest statement

The authors declare that they have no competing interests.

Authors' contributions

KBL, BH, SRN, SS: conceptualization. MH, FZ, SRN, SS, MF, MM: data collection. KBL, MG, FZ, SS, MF, FR: data analysis. KBL, BH, SS, MH, FZ, MF: writing and initial draft. KBL, BH, SS, MH, FZ, MF, FR, SRN: writing, review and editing. MM: editing.

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Supplementary file 1: Qualitative findings

Organizational Challenges

Integrated stewardship of the health system is one of the important factors in carrying out the UFPP. But fragmentation and multiple entities in the stewardship role of the MOHME were obstacles to implementing UFPP in Iran.

"The fragmented stewardship of the MOHME and weak governance in Iran's health system, coupled with instability in policies, led to failure in the implementation of the UFPP in Iran."[Participant 02]

In addition, the long working hours of the UFPP due to single work shifts and inadequate family physicians that led to a long waiting list had increased the public's and physicians' dissatisfaction.

"The working hours of FPs were from morning until evening, due to the high volume of visits and high level of responsibility. Also, bureaucracy has dramatically increased the workload."[Participant 02]

The proper educational programs for providers are an important part of the establishment of the UFPP. It seems that one of the reasons for the failure of UFPP in Iran was the educational problems and lack of development of the necessary skills to be a FP. Also, FPs lack innovation in improving healthcare, and their education is focused solely on treatment.

"The lack of a community-based vision in the educational system, inadequate training for service providers, and physicians' lack of readiness and necessary skills for caregiving as an FP all posed challenges to the UFPP's full implementation."[Participant 01]

An incomplete referral system was a severe obstacle for the UFPP. Without an efficient referral system, the most important functions of FPs as gatekeepers for access to specialized care have not been properly practiced.

"The absence of a well-designed and efficient referral system had resulted in numerous issues, including horizontal referral, particularly in the private sector, induce demand, and physician self-referral."[Participant 05]

The weakness in health monitoring and evaluation by the MOHME, the medical universities, and insurance companies, the inadequacy of continuity of supervision on the performance of the services, the absence of a native evaluation program, and a lessened emphasis on outcome indicators had led to the inefficiency of the UFPP in Iran.

"There is a poor monitoring and evaluation system in the health system of Iran to assess the performance of the UFPP service providers."[Participant 01]

Poor incentive mechanisms such as inadequate remuneration, unreasonable facilities at residence, a poor working environment, political interference, inadequate supplies, and medical facilities all contributed to a lack of motivation in FPs.

"Unsuitable salary requirements, a lack of job security, and a lack of opportunity for continuing education were the most common reasons for FPs to leave the program."[Participant 07]

UFPP needs an efficient electronic health information system (HIS) to provide physicians with patients' information centrally and provide program managers with more comprehensive information, such as the medication and equipment used and the type of services provided to the client. The HIS must provide communication at different levels. A lack of strong information technology infrastructure was another serious obstacle to the UFPP.

"The lack of an electronic health database of individuals and suitable infrastructure for the development of the HIS was an obstacle to UFPP implementation that needed to be resolved at the highest levels of the healthcare system."[Participant 08]

Participants talked about the administrative problems and hurdles that family physician programs in Iran's cities face.

"At the beginning of the implementation of the UFPP, service packages were not defined. Also, the service package was not defined to include follow-up on the patient's health by the FPs. So there was a gap between the UFPP plan and its implementation."[Participant 06]

"The coordination meetings of the National Family Physician staff and its executive staff have not been held due to inadequate management and political commitment. So, there was no political interest in the process of implementing the UFPP."[Participant 03]

There is a need for collaboration between family physicians and the organizations that provide healthcare services to efficiently implement UFPP. However, the lack of inter-sector collaboration and public participation hampered the full implementation of UFPP in Iran.

"The lack of coordination between the ministries of health and welfare has caused confusion and problems for both providers and recipients of services, as well as for the insurance system."[Participant 02]

Financing challenges

The participants believed that the implementation of the UFPP was affected by two main factors: budget deficits and insurance problems. According to experts, the non-realization of sustainable financial resources for the continuous implementation of the UFPP, while adequate funds were available to launch the plan at the beginning, was the key reason for the failure of the plan. Fragmentation in health insurance system funds and the health system's interaction with insurance organizations challenged urban FP program performance even further. In this regard, one of the participants mentioned:

"Insurance provided good support at the beginning of UFPP. Their support was because they approached their core mandates (strategic purchasing, resource management, cost savings, promoting quality, efficiency, equity, and responsiveness in health service provision). Over time, due to the budget deficit and fragmented insurance funds, insurance support decreased and insurance problems increased."[Participant 02]

Payment challenges

The payment system has an important role in providing appropriate health services. Many participants believed that the unfavorable payment mechanism in the UFPP and the inappropriate payment of salaries of health workers in the UFFP, as well as the lack of clarity and notable income gap among the members of a health team, had led to delays in refunding the payments to the FPs and increased their dissatisfaction with the UFPP. In this regard, one of the participants mentioned:

"Physicians had to cover a certain number of patients and were paid based on the amount of services provided in order to implement the "per capita" payment mechanism as the preferred payment mechanism. The per capita mechanism did not fully take into account the services actually provided. Also, delays in the payment of salaries have caused many physicians not to continue their cooperation."[Participant 01]

Regulation challenges

More authority in UFPP has not been delegated, which could lead to motivation in the management of people's health and play an important role as a gatekeeper.

"The decision-making process was top-down and centralized rather than collaborative and participatory, thus leading to debates and controversies due to the lack of necessary delegation in UFPP implementation."[Participant 01]

Behavior challenges

Many participants believed that the cultural problems of service receivers and service providers and the poor information process were the obstacles to establishing this plan because the necessary infrastructures were not ready to implement the project. In this regard, one of the participants mentioned:

"At the beginning of the plan, little attention was paid to the required prerequisites, such as cultural infrastructure growth. The unfamiliarity of the public with the correct use of FP services led to people visiting the FP only to be allowed to visit a specialist without any cost."[Participant 06]

Another behavioral challenge and obstacle to implementing this program was the lack of national and political determination in the years of plan implementation.

"At the beginning of the implementation of UFPP, the determination of the universities was high, but at the end of the 10th government, with the change of the minister, there was a change in the national determination. Also, the 11th and 12th government ministers were not in favor of the UFPP and wanted to stop the program." [Participant 02]

The establishment of the FPP in urban regions faces some challenges, such as a powerful private sector with high conflicting interests among family physicians and between specialist physicians and GPs.

"Because family physicians and specialists make very different amounts of money, putting in place the family doctor program with the gatekeeper role and the mandatory referral system will make it more likely that there will be a conflict of interest, which will make the problems worse."[Participant 04]

Solutions

Organizational-related solutions

According to the suggestions of the participants, strengthening and centralizing the stewardship of the health system is one of the important factors for the implementation of the UFPP in Iran. It is more effective to implement this plan in the entire country step by step and according to the schedule and logical timing. The UFPP must be implemented with the compulsory electronic referral system. It's important to promote inter-sectoral collaboration between service presentation levels and beneficiary organizations. UFP service packages should be developed based on the burden of the disease. It's better to use a consultation form instead of a referral form because specialists pay more attention to the views of GPs. To prevent excessive referrals to FPs, we could impose referral caps and limit zero franchises to lower-income percentiles. To decrease the workload of FPs, we could design rotational shifts. It needs to create a powerful monitoring and evaluation system based on the payment system to allow FPs to provide high-quality services. These suggestions will be realized if there is a political and national determination to implement the plan.

"My suggestions to improve UFPP implementation in Iran are; strengthening the stewardship of the MoHME, Implementing the program step by step, using a consultation form, compulsory referral system, enhancing the people's culture through education, limiting Zero franchises and excessive referrals to FPs by rules, Rotating the shifts of FPs, designing UFP service packages based on the burden of the disease, strengthening the cooperation of the private sector, improving the model of providing outpatient and specialized and sub-specialized services

according to successful countries in implementing the UFP, improving monitoring and evaluation system based on the payment system, and using the accreditation method for evaluating the UFPP."[Participant 01]

Financing-related solutions

The UFPP in Iran compensates services on the basis of a per capita payment system based on coverage of a defined population. According to the opinion of the participants, Iran's health system should be creating and strengthening sustainable financing strategies to develop equity in healthcare financing through a progressive financing policy. Participants suggest designing a financial system based on the capabilities of the public and private sectors for an entire population in a region and based on a defined per capita cost supervised by the provincial health care and treatment network.

"We must make the per capita realistic and eliminate the financial and monetary relationship between the patient and the FP. Also, we must be able to make changes according to the conditions of each province so that we can respond to all the needs of the covered population."[Participant 05]

Payment-related solutions

The payment system for the UFPP in Iran was not appropriate. Several interviewees highlighted the importance of designing a payment system based on mixed payment methods, including a combination of capitation, FFS, and bonuses.

"A combination of payment methods is more appropriate to increase the efficiency and effectiveness of the payment system and improve the expected results, and the method of payment per capita is generally used alongside other methods."[Participant 01]

"We should establish a performance-based payment system up to the UFPP service package ceiling and maintain order in payments to FPs."[Participant 05]

Regulation-related solutions

According to the opinion of the participants, the required infrastructures for planning and launching UFPP included: setting medical tariffs rationally, establishing the referral system, strategic purchasing of services based on the compilation of clinical guidelines, developing electronic health records at all three levels, clarifying the legal requirements of the plan, regionalizing the UFPP services, and delegating provincial powers.

"Setting medical tariffs rationally and based on the relative value of health services, strategic purchasing of services based on the compilation of clinical guidelines, developing electronic health records at all three levels, Clarifying the legal requirements to provide resources, and delegating provincial powers are suggested to facilitate the implementation of the UFPP."[Participant 01]

Behavior-related solutions

The implementation of the family physician program needs culture-building among people and service providers. In this regard, interviewees suggest orienting the public's mentality toward the program. The mass media should advertise the program and be involved with the program. Also, urban community-based medical education for GPs should be developed.

"Social marketing is needed so that people accept UFPP services. The mass media and opinion leaders should promote its acceptance. Using UFPP services should be represented as a value."[Participant 01]

"Social marketing is needed so that people accept UFPP services. The mass media and opinion leaders should promote its acceptance. Using UFPP services should be represented as a value."[Participant 02]