

# An Examination of Family Physicians Plan Implementation in Rural Areas from Perspectives of Managers, Personnel and Clients in Context of Health System: Strengths and Weaknesses

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## Abstract

**Background:** Family physician plan (FPP) and referral system (RS) is one of the major plans in Iran's health system with the aim of increasing the accountability in the health market, enhancing the public's access to the health services, lowering the unnecessary costs and equitable distribution of health across the society. **Aim:** Taking these into consideration, this study assessed the strengths and weaknesses of the Family Physician Plan in the Iranian villages based on the perspectives of the family physicians, managers, employees and clients in the health system in 2014. **Subjects and Methods:** A descriptive-applied and cross-sectional design was used for this study. Its statistical population consisted of two groups: the first group included all the family physicians and the managers, employees practicing in the health system of Borujen town (n=62 subjects) who, using 2-round consensus Delphi technique, were asked what are 4 main strengths and 4 weaknesses of the Family Physician Plan implemented during the past few years. This was done using an open questionnaire. The second group included village households and clients. The size of the second group was 400 heads of the households. Similarly, using SERVQUAL questionnaire, their ideas regarding 4 strengths and 4 weaknesses observed for the Family Physician Plan were asked. Subsequently, their given responses were compared and similar ideas were merged into one and for prioritization, the second questionnaire was prepared. But, it was just given to the employees. The responses to the questionnaire were ranked according to Likert scale. Finally, the collected data were put into SPSS software 13 to be analyzed. **Results:** As the results indicated, among the strengths reported in the implementation of the Family Physician Plan by the respondents the following ones had the highest frequency: the timely follow-up care of the patients with mental disorders, blood pressure (hypertension) and diabetes (55.4%), permanent caring for the patients from the start of the disease stage to the treatment or death stage (54.3%), elderly care (45.7%), equal enjoyment of the right to health expenditure per capita by all the society members and implementing the principle of justice in the health-care and the presence of physician in all villages (44.6%). On the contrary, the following weaknesses had the highest frequency: lack of provision of transportation needs for the Family Physician Plan's employees (53.2%), insufficient funding (48.4%), the high workload for the physician (46.8%). **Conclusion:** To enhance the public's accessibility to the health services and enable their just utilization from such services, the Family Physician Plan must be assessed by the respective health care organization. In this way, it will be possible to identify its shortcomings paving the path to more effective measures towards promoting the quality of the medical-related activities.

**Keywords:** Family Physician, Health system, Assessment, Employees

## Introduction

The ultimate goal of health system is to promote the health condition of the public so that they can sufficiently healthily contribute to the economic and social activities.<sup>[1]</sup> There are some slight differences between family physician and rural health insurance plans and the regular structure of health system.<sup>[2]</sup> Within this plan, the general physician and his/her team are totally held responsible for the health of the persons under the coverage of this insurance. Referring the patients to the specialists, they must pursue the final result. On the other

hand, referring the patients to higher levels of specialty provides an opportunity for continuous training of the Family Physician.

<sup>[1]</sup> Family physicians have some responsibilities including health

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management, research, considering the comprehensibility and continuance of the services and coordination with other involved departments.<sup>[3]</sup> In the Family Physicians Plan, concern over health is the main focus of the measures taken by the physicians and the overall goal of the plan is to ensure the maintenance and promotion of the health of the society and provision of health services for the individuals, families and societies under the coverage of the plan regardless of the age, sex differences, economic characteristics and disease risks.<sup>[4]</sup> In one study on the evaluation of the Family Physician Plan, it was found that 97.6% of the research population have welcomed this plan and reported that they have referred to the Family Physician at least for one time.<sup>[1]</sup> The past research on the strengths of the Family Physician Plan in the rural areas has provided some evidence of the positive effects of this Plan. For instance, in one study, the positive effect of the family physician plan on the function of health units regarding the presence of the physicians and obstetricians and also insurance coverage at health centers in the rural area was demonstrated.<sup>[5]</sup> According to the results of another study regarding the Family Physician Plan and prenatal cares, there had been remarkable improvement in the majority of the parental care provision measures after the Family Physician Plan which can be regarded as a great achievement justifying the expansion of the plan and its improvement in both rural and urban areas with the main goal of promotion of the whole community health.<sup>[6]</sup>

However, the results of one study on the quality of the medical services delivered within the Family Physician Plan confirmed the existence of a gap between the patients' expectations and the quality of the provided services. To put it differently, the existing quality condition of family physician services was far from the ideal situation with the observed gap being more serious in both tangible and responsive dimensions. The maintenance of a strong focus on the patients, creation of a medical practice exceeding the patients' expectations, provision of high-quality health-care services and the realization of the continuous improvement of all the processes are among the helpful recommendations outlined in this study.<sup>[7]</sup> Reviewing on the regulations of the Family Physician in Canada, Vogel argued that the training program implemented for the family physicians in Canada lasts 2 years which is much shorter than the 3, 4 or 5-year training programs held in United States America. As a result, it is necessary to execute the stipulated standards and administrative regulations in Canada.<sup>[8]</sup>

Despite the periodic monitoring of the Family Physicians Plan so as to examine the level of clients' satisfaction, the awareness of the residents in the rural regions from the capabilities of this plan and evaluation of the relevance of the level of villagers' knowledge to their satisfaction with this Plan, the necessity of the continuation of such plans will be subject to their continued evaluation from the perspectives of all the beneficiaries. The most significant effect of this plan is embodied in the reformation of health system, promotion of the capabilities of the existing plan for the regions with higher rate of population and the wide scope of its activities. In a study on the level of satisfaction of the villagers with the Family Physicians Plan, it was found that 72.2% of subjects had obtained some information about this plan

from various resources with the nurse-aides and the personnel of health-care system being the most frequent available resources.<sup>[9]</sup> Many health systems have recognized the necessity of the reformulation taking some steps towards it. Reviewing the 70-year history of the Family Physicians Plan in many countries, it can be inferred that this plan is one the most important and efficient methods available for increasing the access of the mass people to the health services and their equitable enjoyment of such services. Besides supplying the services required by the people, Family Physician Plan will decrease the possibility of misuse of the people's health requirements by the health services providers.<sup>[10]</sup>

Therefore, given the significant role the family physician, as a holistic doctor, plays in taking care of all patients on the one hand and the policies adopted by the health system regarding the Family Physician Plan in the urban areas on the other hand, there is an increasing need for taking some steps towards recognizing the advantages and disadvantages of this Plan based on the perspectives of the physicians, executive managers and employees so as to promote the satisfaction of both the clients and physicians. To put it differently, despite its established efficiency in modifying the referral system and providing the fundamental services in the rural health system, this plan is also facing some challenges a fact which makes its evaluation from the perspective of the executive and staff managers and family physicians an inevitable necessity. Some of these challenges are as follows: the shortage of physicians and human resources, the assignment of one physician and a limited number of healthcare personnel for several rural areas, the clients' obligatory refers to the urban medical centre, their insistence on seeing higher level specialists, the lack of diagnostic facilities and equipment available to the family physicians, the lack of health facilities such as Dentistry or Obstetrics facilities or services for minimizing the size of referral chain. This study assessed the strengths and weaknesses of the Family Physician Plan in the Iranian villages based on the perspectives of the managers, employees and clients in the health system in 2014.

## Methods

The current research is a descriptive-applied study conducted using cross-sectional method. This study was conducted within a time interval of nine months in 2014-2015. Its statistical population included two groups, namely, employees group and clients group. The employee group consisted of all family physicians and health care managers and employees working in the Borujen town (n=62). The sample size equaled the population size or the sample included the total population. Selected by 2-round consensus Delphi technique, the researchers requested them to enumerate four main strengths and four weaknesses of the Family Physician Plan in use during the recent years using an open questionnaire. In the first round of the study conducted using Delphi technique, the ideas of the experts and authorities in the Family Physician domain were pooled to clarify the major strengths and weaknesses of the plan. In this stage, due to the large number of the customers and their lack of sufficient knowledge and expertise to use the Delphi technique for them, it was decided to not include the customers' ideas. The second group included the rural clients

and households. Based on the sample size calculated, as many as 400 heads of the households were asked what are 4 strengths and 4 weaknesses of the Family Physician Plan using the survey method and the standard SERVQUAL questionnaire.<sup>[11]</sup> In the second phase of the study, the respondents given by both groups were compared and the similar ideas were merged. To determine the priority of the ideas in terms of their significance, a second questionnaire was prepared. This questionnaire was administered for only the former group i.e. employees group (62 subjects) because given the high size of the latter group (clients) conducting another survey for them will make their initial ideas biased in terms of their reliability. In effect, clients' opinions survey with the purpose of comparing the viewpoints of the administrative personnel with those of the clients may make the reliability and tangibility of the strengths and weaknesses of this plan in the implementation stage more clear-cut. As a flexible and adaptable tool useful for data collection and analysis, the 2-round consensus Delphi technique makes clear what is known or unknown for the researchers regarding the research subject matter. Before starting the study using 2-round consensus Delphi technique, the researcher has to determine two factors namely, subject selection and time frames. Furthermore, when designing and implementing the study, some additional precautionary notes such as low response rate, unintentionally guiding feedback, and surveying panelists about their limited knowledge of the topic rather than soliciting their expert judgments must also be taken into account. Providing real-time and real-world data, the 2-round consensus Delphi technique is an efficient and important data collection methodology which has now found various applications. This technique was selected by consulting with the practitioners in the field. Since the research population consisted of the health care system's personnel, family physicians and managers forming a heterogeneous population, this methodology was used. It can be used for soliciting the required information from the individuals immersed in the topic of interest. In the 2-round consensus Delphi Decision technique, the number of the respondents is usually lower than 50 and often 15 to 20.<sup>[12]</sup> Then, the opinions collected were ranked on the basis of a Likert-scale (1% to 25%, 25% to 50%, 50% to 75%, and 75% to 100%) so as to determine the respondents' level of agreement with the determined item as the strength/weakness effective for the Family Physician Plan). This research was mainly focused on obtaining the major strengths and weaknesses of the Family Physician Plan from the perspective of family physicians, managers, employees in this domain. However, given the remarkable importance of the customers' ideas in using this plan during its implementation period, it was felt necessary to collect their ideas so as to get a more complete and comprehensive picture of this plan. Nonetheless, due to the large number of the customer, a sample of 400 customers was randomly selected and their ideas were collected using a questionnaire.

Following this stage, the items were classified into two discrete categories i.e. the strengths category vs. the weaknesses category were put into SPSS version 13.0 to be analyzed. To analyze the items, each question was given a code while the given respondents were given a code ranged from 1 to 4 and

a mean score was calculated for the individual items in each category. Since the research basis was the family physicians, managers, employees opinions and the second-stage items were equally distributed among all of them (n=62), these opinions were used as the basis of the analysis, as well. As for meeting the ethical requirements of the research project, it is noteworthy that this study was primarily founded on a survey of all the respective beneficiaries and authorities while the survey of the second group i.e. the clients is an indicative of meeting their rights in determining the strengths and weaknesses of the Plan from the perspective of the clients or consumers. After analysis, the obtained results were announced to the respective authorities so as to reform the Family Physician Plan and enhance both the effectiveness and efficiency of this plan.

### Ethical aspects

This research was conducted by respecting the principle of the privacy of the information and ideas of the users and customers. The researchers also tried their best to avoid any bias when using the practical viewpoints and ideas of these two groups so as to extract the most important strengths and weaknesses of the Family Physician Plan.

### Findings

Based on the data on the demographic characteristics, among the 62 managers, Family Physicians and employees in question, the frequency of male and female respondents was 35.5% (22 subjects) and 64.5% (40 subjects), respectively. The distribution of the population under research in terms of job category was as follows: nurse-aide (54.8%), obstetrician (12.9%), employees (16.1%) and finally, physicians (16.1%). The highest frequency in terms of age for the employees and family physicians was found to be 25-35 years old (i.e. 37.1%=23 subjects). In terms of population rate, the highest population rate covered by the villages in question was population over 3000 (frequency of 30.6%=19subjects) [Table 1].

As per the findings obtained from the clients' demographic data, from among 400 subjects in question, 182 (45.5%) were male and 218 (54.5%) were female. As for the average age of the subjects, it was found that 150 (32.5%) aged lower than 30 years while 270 (68.5%) aged 30-50 years of old. Regarding the perspective of the clients on the strengths and weaknesses of the family physician plan, easy access to the physician 257(64.4%) and lack of access to the paraclinic facilities 324 (81.2%) were the most frequent strength and weakness mentioned by the clients in the first stage of the survey, respectively [Table 2].

With respect to exploring the strengths of the Family Physician Plan, the results of the survey conducted on the managers, employees and physicians showed that the highest mean scores for the strengths were obtained for the following items: the timely follow-up care of the patients with mental disorders, blood pressure (hypertension) and diabetes (55.4%), permanent caring for the patients from the start of the disease stage to the treatment or death stage (54.3%), elderly care (45.7%), equal enjoyment of the right to health expenditure per capita by all the society members and implementing the principle of justice



**Table 1: The frequency distribution of the employees in terms of age and population under the coverage of the plan**

Age	Frequency	Percentage
< 25	5	8.1
25-<35	23	37.1
35-<45	21	33.9
>= 45	13	21
Sum	62	100
Population under the coverage of the plan	Frequency	Percentage
< 1000	15	24.2
1000-1499	14	22.6
1500-1999	11	16.1
2000-2499	2	3.2
2500-2999	1	1.6
>=3000	19	30.6
Sum	62	100

**Table 2: The percentage frequency distributions of the strengths of the Family Physician Plan in terms of the viewpoints given by clients**

Questions (Strengths)	Frequency	Percentage
Easy access to the physician especially in the evening and night	257	64.4
Following up the subjects' health status by the physician and recording the illness's history	167	41.7
Proper care from the pregnant women by the obstetrician	95	23.9
Screening the diseases (i.e. separation of healthy people from the ill ones)	62	15.6
Identification of inherited ailments	48	11.9
Treatment costs are appropriate for the villagers	38	9.5
Questions (Strengths)	Frequency	Percentage
Lack of access to the paraclinic facilities in the center	324	81.2
High workload for the physician	232	58.1
The shortage of the funding allocated to the family physician domain	122	30.6
Inappropriateness of physical building space for the delivery of the services	77	19.4

in the health-care and the presence of physician in all villages (44.6%) [Table 3].

As for the weaknesses of the Family Physician Plan based on the standpoint of the managers and employees, the lack of provision of transportation means for the Family Physician Plan's personnel (53.2%) the scarceness of the allowances (48.4%), the high workload of referrals reported for the family physician (46.8%) in order enjoyed the highest frequency, respectively [Table 4].

## Discussion

As per the results obtained for the strengths of Family Physician Plan, the items mentioned by the managers and employees included easy access to the physician, equal enjoyment of the health per capita by all the society's members, the record of all treatment measures and patients' visits, the presence of the physician in all the villages and desirable caring for the elderly, pregnant women, patients suffering from chronic diseases or Diabetes. Examining the achievements of the Family Physician

Plan implemented in Iran and its challenges, Bagheri (2009) claimed that following this plan, the number of physicians in the rural areas and cities with a population under 20000 has increased from 2000 to 6000 in Shiraz Province. Meanwhile, one year following this plan, the incidence rate of some types of diseases has decreased up to 35%.<sup>[13]</sup> In another study entitled "Modification of Health System in Iran", Shapour concluded that strengthening the referral system of referral in the Family Physician Plan, establishing and distributing the healthcare units, exploring the ranking of the services, transferring the data to the geographical information system, reaching a consensus over the regulations and the referral course for adapting the organization to the needs brought by the establishment of the referral system, implementing the clinical treatment guidelines, preparing some useful instructions for promoting the quality of the nonclinical skills (communicative) specifically for the family physicians and training the family physicians on how to use these directives are among the essentialities of the plan for the modification of the health system<sup>[14]</sup>. The findings of the previous research imply that the dimensions involved in the Family Physician Plan in the rural areas, namely, the structure of the network, the existence of a defined services package, a well-defined goal population, the clarification of the referral channel, the assessment of the level of satisfaction with the payment as well as the performance monitoring must be taken into account.<sup>[15]</sup> Conducting a research on 166 patients, Menahem *et al.* reported that the subjects in question were satisfied with the Family Physician Plan with a considerable number of them were totally familiar with the functions of the physicians practicing under this plan.<sup>[16]</sup> Takian in his study reported that the family physician plan and rural health insurance recently implemented in Iran has had mixed effects of the PPS on health system performance. Based on the results of this study, PPS has not been successful in changing the current status and has resulted in conflict, confusion, lack of collaboration and the failure of the fragile partnership between the purchaser and provider.<sup>[17]</sup>

It is generally argued that if the customers' expectations are kept consistent with the product or process provided by any organization, it is much easier for the organization to meet them successfully.<sup>[18]</sup> Patient satisfaction is considered as an ever-changing object that needs to be continuously monitored and promoted; otherwise, the patients' expectations may not be satisfied and new challenges may occur which may result in exploitation by the competitors. If the healthcare providers desire to meet their customers' needs and expectations on-time and more effectively, they should first try to get an understanding of the content and organization of the expectations.<sup>[19]</sup> Regarding the main weaknesses of Family Physician Plan, the following cases can be enumerated: the shortage of the allowances dedicated for the family physician domain, failure to attract the participation and collaboration on the part of other departments for implementing the Family Physician Plan given the fact that the health of the society is a meta-domain phenomenon, lack of access to the paraclinic facilities in the centre, the high workload for the family physician, lack of provision of transport means for the Family Physician Plan's personnel. Motlagh in his study entitled "The Satisfaction of the Family Physicians with the Factors Affecting Dynamicization of the Family Physician Plan

**Table 3: The percentage frequency distributions of the strengths of the Family Physician Plan in terms of the viewpoints given by the executive managers and employees under study**

Questions (Strengths)	(1-25) Percentage	(25-50) Percentage	(50-75) Percentage	(75-100) Percentage
Diagnosis of the widespread and epidemic disease	2.2	31.5	18.5	43.5
The follow-up of the disease after visiting a specialty physician until the achievement of full cure	8.7	21.7	26.1	40.2
Treatment costs are appropriate for the villagers	8.7	25	26.1	39.1
Following up the subjects' health status by the physician and recording the illness's history	13	23.9	26.1	37
The registration of all medical actions and visits in the patients' index and maintaining the patients' information	16.3	22.8	23.9	33.7
The easiness of providing obstetrician -pharmacy –laboratory services	6.5	20.7	38	32.6
Performing periodic physical examinations for the subjects under the supervision of the physicians	8.7	19.6	22.8	32.6
Easy access to the physician especially in the evening and night	12	23.9	31.5	31.5
Providing care from the elderly and aged people	1.1	20.7	45.7	31.5
Formation of health profile for all the subjects	4.3	18.5	26.1	30.4
Identification of inherited ailments	6.5	25	40.2	27.2
Proper implementation of the referral system will increase the capability for delivering the services and decreases the excess volume of the visits	11.11	22.10	40.5	26.29
Continuing treatment of the patients from the early stages of the illness until treatment or death	2.2	18.5	54.3	22.8
The presence of equal pattern across the society	4.3	35.9	35.9	22.8
On time Referring of the patients in the risk	5.4	27.2	42.4	20.7
Equitable enjoyment of the health per capita by all the society and implementing the justice principle in the health domain	5.4	29.3	44.6	19.6
The possibility for mass informing and increasing people's information about desirable food regimen	4.3	30.4	42.4	19.6
Lowering drug usage by the people	14.1	29.3	33.7	19.6
Proper care from the pregnant women by the obstetrician	17.4	21.7	39.1	18.5
Integrated and holistic management of the family health	18.5	34.8	28.3	17.4
The presence of the physician in all the villages	8.7	29.3	44.6	15.2
Forcing the physicians to doing the basic visit for the patients and rapid diagnosis	18.5	34.8	32.6	14.1
Screening the diseases (i.e. separation of healthy people from the ill ones)	7.6	39.1	38	12
Performing the treatment and follow-up procedures for patients with psychiatric, Diabetes and high blood pressure	12	17.4	55.4	12
Delivery of the services based on ranking (nurse-aide, general practitioner, specialty physicians, super-specialty,	13	28.3	29.3	9.8

**Table 4: The percentage frequency distribution of the weaknesses of the family physician plan in terms of the viewpoints given by the executive managers and employees under study**

Questions (Weaknesses)	(1-25) Percentage	(25-50) Percentage	(50-75) Percentage	(75-100) Percentage
Lack of provision of transportation vehicles for the family physician plan's personnel	17.7	16.1	12.9	53.2
The shortage of the funding allocated to the family physician domain	24.2	16.1	11.3	48.4
Completing unnecessary forms which often overlap	22.6	11.3	19.4	46.8
High workload for the physician	19.4	19.6	12.9	46.8
Lack of ambulance in the rural centers for dispatching the patients	27.4	12.9	14.5	45.2
The inadequacy of 2.5 drug items in an order given the multiplicity of the reason of seeing a doctor	27.4	14.5	12.9	45.2
The recurrent change of family physician in the rural areas	29	11.3	14.5	45.2
Shortage of the physicians and not working of the centers at most times	27.4	19.4	8.1	43.5
Lack of timely provision of the human resources and other munitions	22.6	14.5	17.7	43.5
Requesting the referral to a specialized physician by the individuals without any initial visit by the family physician	27.4	17.7	12.9	41.9
Lack of 24-hour physician in the village	41.9	6.5	9.7	41.9
Inappropriateness of physical building space for the delivery of the services	25.8	16.1	16.1	41.9
Lack of access to the paraclinic facilities in the center	25.8	22.6	9.7	41.9
Promoting the people's expectations from health-care system	29	11.3	21	38.7
Failing to attract the participation and contribution of other domains for implementing the family physician plan given the fact that community's health is a meta-process	24.2	16.1	21	38.7
Lack of support of the plan on the part of senior managers	21	24.2	16.1	38.7

Not providing a proper work ground by the respective authorities (from departments to the province)	27.4	17.7	19.4	35.5
Excessive usage of the medications and recurrent visits to the physician	27.4	16.1	21	35.5
Lack of coordination between levels 1 & 2 employees (the levels of servicing) and confusion of the people	29	22.6	14.5	33.9
Lack of giving information about Family Physician Plan during their study	27.4	17.7	21	33.9
Lack of family physicians' commitment to implementation of the plan as per the respective instructions	48.4	11.3	12.9	27.4
Lack of registration of the medication receipts in the insurance booklet	33.9	21	17.7	27.4
Not justifying the Family Physician Plan's physicians about health problems	29	29	14.5	27.4
Lack of technical evaluation of the plan when implemented and during its operation	40.3	22.6	16.1	21
Lack of allocation of health per capita for everyone per year	41.9	19.4	19.4	19.4
Lack of proper link between the physician and the middle and assistant personnel	41.9	25.8	21	11.3

and Village's health insurance in the Golestan, Mazandaran, Babol and Gilan Universities of Medical Sciences" reported that the level of satisfaction of family physicians with the performance of staff departments in the health centre in the respective towns and the overall performance of the specialist practitioners Grade 2 in terms of admission and technical support from the referred patients is low.<sup>[2]</sup> In one study titled "Cost Efficiency of the Family Physician Plan in Fars Province, Southern Iran", Hatam concluded that this plan has resulted in some improvement in the level of health training, availability and equity and the best services and consequent associated cost decrease. However, the costs of the healthcare have also increased as a result of increased referrals to the pharmacies, laboratories and radiology clinics.<sup>[20]</sup>

In another study, Alidusti assessed the satisfaction of the residents in the rural areas of Shahrekord town with the Family Physician Plan. He found that although just 33.2% of the subjects were found to be completely familiar with the Family Physician Plan, 48.1% of them were moderately satisfied with the results of this plan.<sup>[21,22]</sup> In the same vein, in one study done by Suki *et al.* it was found that the subjects under study were not satisfied with the quality of healthcare services provided by the private healthcare centers. The main reason reported by the subjects for their dissatisfaction was the long waiting time (more than an hour) for receiving the services and lack of on-time response to the occurred problems by the healthcare.<sup>[23]</sup>

Taking this into account, it is also worth mentioning that despite the efficiency of this plan in modifying the referral system and providing the essential health services within the rural healthcare System, there are numerous problems and challenges which makes evaluation of this plan in terms of executive and staff departments' managers, family physicians, the employees in the insurance section of the health-care services located in the hospitals and medical centers as well as the clients inevitable. Among these problems, the following items can be mentioned: shortage of the physicians and human resources, the assignment of one physician and a limited number of employees for several rural areas, the obligatory visits of the clients to the urban medical centers, lack of observance of the referral system, problems occurred for the insurance experts working in the urban medical centers, lack of clients' trust the treatment provided by the family physicians, lack of diagnostic facilities and equipments available to the family physicians, the shortage of health facilities such as dentistry facilities or obstetrics services for minimizing the size of the referral chain.

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## Conflict of Interest

There are no conflicts of interest.

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