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Explaining the Role of Physicians in Urban Comprehensive Health Service Centers After Implementing Health Transformation Plan in Southeast of Iran: A Qualitative Study

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Abstract

Background: Health transformation plan (HTP) in Iran was established in 2014 to promote primary health care through expanding and strengthening the first level of services in urban and rural areas. The activities of physicians and their colleagues in comprehensive health service centers have increased access and improved community health. Conducting various studies on the urban physicians' roles can help policymakers achieve the goals.
Objectives: This study aimed to explain the role of physicians working in urban, comprehensive health service centers after implementing the HTP.
Methods: Participants in this qualitative study consisted of physicians, healthcare providers, managers, and experts, working in urban health centers selected by a purposive sampling method. The data were collected by semi-structured interviews. After data saturation, they were analyzed by conventional content analysis.
Results: 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.
Conclusions: 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.

Keywords: Family Physician, Qualitative Study, Reform, Iran

1. Background

Establishing health services to provide and promote the health of individuals is one of the essential pillars of the development of any society (1). Health systems should consider two fundamental aspects in providing health services: the best level of access to health services and the fairness of this access (2). An overview of this system in different countries shows that an efficient health system should adapt service delivery structure and conditions within the organization to peripheral changes (3).

One of the most critical reforms in the health system is the service-leveling method. The family physician provides prevention and treatment services at the first level, directs patients to specialized levels, and pursues the results, if necessary (4, 5). The achievements of the family physician program have led the World Health Organization (WHO) to designate it as the center of global efforts to improve quality, effectiveness, equity, and reduce costs in the health care system (6). This program has a long history globally, and many developed countries have implemented it (7, 8).

In Iran, to increase the efficiency of the health system, the reform called the health transformation plan (HTP) began in May 2014 (9, 10). This plan was implemented in the suburbs and then in cities in 2015 (11). Setting up the integrated electronic health record for each family has been considered the main strength to promote community health (12). In urban areas, the physicians' duties in the health team are defined as health management, population health care and appropriate referral measures, implementation of empowerment programs based on local capacity, and monitoring the performance of the health team (9). Previous studies stated that increasing work-

load, quantity, and quality of medical facilities in the workplace are the most critical problems of physicians (4). On the other hand, it has resulted in family physicians' insufficient knowledge and skills compared to the health system's expectations (13).

2. Objectives

The role of physicians as the ultimate confirmers of health care has been highlighted (9). Few scientific studies have been conducted on their problems, challenges, and productivity (14).

This study was conducted to explain the role of physicians working in urban comprehensive health service centers in Iran from the perspective of physicians working in the centers, health workers, experts, and managers.

3. Methods

The qualitative study was conducted in three cities, including Zahedan, Khash, and Saravan, covered by the Zahedan University of Medical Sciences. It was done based on semi-structured interviews to explain the role of physicians in urban comprehensive health service centers after the implementation of HTP. Participants included physicians, healthcare providers, managers, and experts employed at the time of the study with at least one year of experience in health and mastery of the subject.

At first, interviews with related experts were done to identify physicians' positions and the factors related to their role in the HTP. The interview was conducted by a researcher with two decades of experience in the health system. A list of questions was prepared. To evaluate the flexibility of the questions, the type, order, and manner of asking them were determined after conducting several pilot interviews. The order of the questions for each participant could be different based on the interview process and the answers given by the individuals. The interviewee was asked about the time, place, and type of the interview (face-to-face or telephone call). These arrangements were made to have the focus of the interviewee when responding. A summary of the research objectives was expressed for the interviewee. Dialogs were tried to be informal and without prejudice. After participants' verbal consent, their responses were recorded and transcribed verbatim, emphasizing confidentiality.

The interview questions were as follows: (1) What is your opinion about the position of the urban family physician in the HTP? (2) How do you evaluate the performance of physicians in the HTP? (3) Has physicians' performance improved health indicators and the achievement of goals? (4) How much has the urban family physician met the health system's expectations? (5) What are the achievements (benefits) and challenges? (6) What practical suggestions do you have for better implementation of the HTP? Other questions were identified as the interviews continued.

The researcher recorded the exact information of each interview, including the interviewer's name, the time and place of the interview, the interview duration, the interviewee's name, position, and so on. The average duration of the interviews was 40 minutes. Notes were provided to the interviewee for approval or correction. Finally, the interviewee was asked to introduce another person who could participate.

By reading and summarizing in several stages, the main content of the interview phrases was coded. Similar codes were placed in the same classes. This process was repeated several times until the subcategories, and the main categories were identified. For more accuracy, the codes and categories were provided to experienced professors to be reviewed.

Transcribed interviews were analyzed through a thematic analysis approach by MAXQDA 12 (15). Then, the data were analyzed using a conventional content analysis method consisting of five stages of familiarization, identification of a thematic framework, indexing, charting, mapping, and interpretation (16, 17). All the mentioned stages were considered for data analysis in the current study.

4. Results

A total of 35 people, including 11 physicians, nine healthcare providers, and 15 managers and experts (health officers), participated in the research (Table 1). After analysis, the data were classified into six main categories, 11 subcategories, and 33 codes (Table 2). According to Table 2, the main categories included health service delivery, integrated health system (SIB), resources, monitoring and supervision, community culture, and practical suggestions.

4.1. Health Service Delivery

Participants in the study described one of the prominent roles of physicians as service providers and listed its strengths and weaknesses.

4.1.1. Strengths

4.1.1.1. Health Team Management in All Urban Centers

Participants mentioned the responsibility of the health team and the provision of health care such as screening diagnosis as part of the center's physician management programs:

"We expect the physician to manage the programs and activities of health care providers, nutritionists, etc., and to intervene effectively when necessary" (participant 4).

Table 1. Distribution of Participants' Demographics

Interviewee (No.)	No. (%)
Physician (11)	
Age	
25 - 30	8 (73)
31 - 35	2 (18)
> 36	1 (9)
Sex	
Female	8 (73)
Male	3 (27)
Work experience (y)	
< 5	9 (82)
6 - 10	1 (9)
> 10	1 (9)
Healthcare provider (9)	
Age	
25 - 30	6 (67)
31 - 35	3 (33)
> 36	0 (0)
Sex	
Female	9 (100)
Male	0 (0)
Work experience (y)	
< 5	3 (33)
6 - 10	6 (67)
> 10	0 (0)
Manager (5)	
Age	
25 - 30	0 (0)
31 - 35	2 (40)
> 36	3 (60)
Sex	
Female	0 (0)
Male	5 (100)
Work experience (y)	
< 5	0 (0)
6 - 10	2 (40)
> 10	3 (60)
Health expert (10)	
Age	
25 - 30	2 (20)
31 - 35	6 (60)
> 36	2 (20)
Sex	
Female	3 (30)
Male	7 (70)
Work experience (y)	
< 5	2 (20)
6 - 10	5 (50)
> 10	3 (30)

4.1.1.2. Providing Modern Health Services to All Age Groups

Interviewees confirmed that services are actively provided in urban areas. Different age groups receive service packages by visiting the centers. Distribution of supplements, COVID-19 rapid testing, and non-communicated disease risk assessment were the other services:

"The HTP has brought the physician closer to the people and their place of residence. People have improved access, and their costs have been reduced. In the past, only pregnant mothers and children came to the center. Now all the groups are taken care of; if they don't come by themselves, we call them on the phone. If there is a need for a physician, we are assured that there is one in our center, and they can be visited" (participant 33).

4.1.1.3. Improving Health Indicators

Health indicators have improved after the HTP. Some examples are reducing the death rate of pregnant mothers and infants, reducing the number of cases of thalassemia and malaria, increasing the coverage of marriage counseling services, and increasing the number of health volunteers:

"When we compare the indicators with previous years, we have improved in most areas. In terms of care, vaccination, screening, etc., we have made much progress" (participant 23).

4.1.1.4. COVID-19 Crisis and Flexibility in Providing Services

Participants stated that the role of physicians in the prevention and treatment of COVID-19 has been favorable. However, with the outbreak of COVID-19, routine services have declined:

"16-hour centers were activated in the cities. Then, we had collective vaccination centers, which would have been difficult to manage if the HTP and healthcare providers had not been there. Sampling was even done at home, and patients were treated. Unnecessary hospital emergency referrals were prevented. Much work was done, especially during the fifth peak" (participant 9).

4.1.2. Weaknesses

4.1.2.1. Heavy Workload Due to the High Population Covered

More than the standard population is assigned to each physician. The high volume of visits and referrals takes up much time and reduces the quality of visits and care:

"Because of the severe shortage of physicians, we had to put a physician in each center. Some of these centers have a population of more than 20,000 and require at least two physicians" (participant 11).

4.1.2.2. Problems in Level Two Referral System

It is necessary to establish proper coordination between level one and hospitals. The referral system is not

Table 2. Factors Affecting the Role of Physicians Employed in Urban Comprehensive Health Service Centers After Implementing the Health Transformation Plan

Main Category	Subcategory	Code
Health service delivery	Strengths	Health team management in all urban centers
		Providing modern health services to all age groups
		Improving health indicators
		COVID-19 crisis and flexibility in providing services
	Weaknesses	Heavy workload due to the high population covered
		Problems in level two referral system
		Confusion in providing services due to frequent changes in instructions
		Inconsistency between community needs and service package
Integrated health system	Strengths	Electronic health record
		Integration of SIB throughout the country
		Ability to measure services and calculate performance indicators
	Weaknesses	Reducing communication with the client due to the focus on e-recording
		Lack of connection to level two systems and software problems
		Time-consuming service recording
Resources	Human resources	Employing physicians in proportion to population in all urban areas for the first time
		Lack of physicians in the centers due to high turnover
		Not receiving enough university training as the head of the health team
	Financial resources	Lack of motivation due to receiving less money compared to rural physicians
		Lack of stable and sufficient budget
	Infrastructure and equipment	Creating and equipping all health units
		Rental health centers without the required standards
		Lack of welfare facilities, equipment, and medical supplements
Culture of society	Awareness and cognition	Insufficient knowledge of people about the HTP services
		Underestimating physician services
	Attracting people's participation	Participation in health programs
		The effect of COVID-19 on care provision
		Using the capacity of non-governmental organizations
Monitoring and supervision	Performance monitoring	The difference between the headquarters structure and health centers
		Quality of supervision
Practical suggestions	Practical suggestion	Reforming the headquarters structure
		Delegation of authority to the university
		Creating stable and sufficient financial resources
		Performance measurement and timing

working correctly now, and specialists send no feedback. Another point is that some referrals are made at the patient's insistence and not by the physician's diagnosis.

4.1.2.3. Confusion in Providing Services Due to Frequent Changes in Instructions

There is no consistency in the issued instructions:

"Instructions change a lot, for example, family health and fertility instructions change rapidly. We are all confused" (participant 14).

"The number of pharmaceutical items is small; the number of tests we can write should be limited. Otherwise, we will be deducted from insurance" (participant 8).

4.1.2.4. Inconsistency Between Community Needs and Service Package

Interviewees mentioned the following: Unrealistic goals in programs, being the same all over the country, without considering deprived areas, different status of diseases in other regions, and cultural beliefs:

"The instructions recommend that you need a specialist visit, which is impossible to find in a deprived city" (participant 12).

4.2. Integrated Health System

The SIB was launched in 2016 by the Ministry of Health and Medical Education (MOHME) to increase productivity.

4.2.1. Strengths

4.2.1.1. Electronic Health Record

One of the advantages of electronic records is easy and accurate access to family members' health and care information.

"With this file, we can access the patient's medical records, such as laboratory results and imaging, medications, and diagnoses, thus increasing the effectiveness of treatment" (participant 32).

4.2.1.2. Integration of SIB Throughout the Country

Participants considered the nationality of the system as one of its strengths. All the information in the electronic file will be transferable and accessible to the destination health team in case of migration to any part of Iran:

"The care of the pregnant mother and the vaccination of children will not be delayed if they are traveling" (participant 27).

4.2.1.3. Ability to Measure Services and Calculate Performance Indicators

Interviewees mentioned the following: (1) determining the disease course and follow-up list; (2) preparing reports; (3) extracting recorded information and determining the coefficient of performance; (4) preparing a household list; (5) determining people who have not received any services; (6) preparing an index of care, and so on.

4.2.2. Weaknesses

4.2.2.1. Reducing Communication with the Client Due to the Focus on E-Recording

The interviewees expressed the lack of face-to-face communication, the focus on recording information in the SIB, and the decline in the quality of services:

"The client wants us to pay attention to her/him, but we have to fill in the SIB forms at the same time because there are many clients. As a result, the quality decreases" (participant 20).

4.2.2.2. Lacked Connection to Level Two Systems and Software Problems

The electronic connection problems to level two were due to differences in the systems used and the incomplete referral chain process. Other issues were deleting all the previous information of the form when re-editing it and not connecting the SIB to other systems such as electronic prescriptions:

"There were families who migrated from Khorasan Razavi province and are now part of our population, but their information is not transferable, so we do not have their medical records and care. We need to re-create the electronic health record" (participant 5).

4.2.2.3. Time-Consuming Service Recording

The participants mentioned the following: (1) recording unnecessary information; (2) unfamiliarity with the SIB; (3) time-consuming examination of people; (4) system malfunction that increases recording time; (5) and the possibility of recording unrealistic services:

"The amount of information that must be recorded in each care is so large that it makes patients waiting angrily. Some physicians consider recording the system an extra task" (participant 13).

4.3. Resources

Human, finance, and equipment management can strengthen the urban family physician program.

4.3.1. Human Resources

4.3.1.1. Employing Physicians in Proportion to Population in All Urban Areas for the First Time

The interviewees stated that there was permission to employ a physician for every 12,000 people at the beginning of the plan.

4.3.1.2. Lack of Physicians in the Centers Due to High Turnover

In addition to high turnover, the reluctance of physicians to contract, the weakness of the private sector in providing physicians, and inadequate and delay in receiving salaries were also mentioned as other reasons for the lack of a physician by the interviewees:

"(1) Trained forces are not maintained. (2) The time of the physician's presence in the centers is short, and their term ends when they have become familiar with their duties and the culture of the people, which may relate to the diseases prevalent in the area" (participant 2).

4.3.1.3. Not Receiving Enough University Training as the Head of the Health Team

Weakness in preparing the physician for his job, lack of managerial and sociological skills, lack of familiarity with the tasks of the health team, and the need to review medical education courses were cited:

"From the very beginning, they have to treat the patients and manage the health team, which is a big challenge for them" (participant 3).

4.3.2. Financial Resources

4.3.2.1. Lack of Motivation Due to Receiving Less Money Compared to Rural Family Physicians

The following were cited as the reasons for lack of motivation: (1) low salaries; (2) differences in the method of calculating the service fee for urban and rural physicians; (3) the conflict in how quality services are measured; (4) and the point that some activities are not considered when calculating the service fee.

4.3.2.2. Lack of Stable and Sufficient Budget

The successful continuation of the urban physician plan depends on an appropriate and sufficient budget, as was the case at the beginning of the HTP:

"Delays in payment of salaries due to budget trimming have caused many physicians not to continue their cooperation" (participant 3).

4.3.3. Infrastructure and Equipment

The lack of infrastructure to implement the plan and unrealistic forecasting of the facilities and capacities created challenges.

4.3.3.1. Creating and Equipping All Health Units

At the beginning of the plan, comprehensive health service centers and health posts were created in accordance with the urban population, and the necessary equipment was provided.

4.3.3.2. Rental Health Centers Without Required Standards

With the development of the plan in cities, many rental units have been set up that do not meet the appropriate standards and affect the quality of health services.

4.3.3.3. Lack of Welfare Facilities, Equipment, and Medical Supplements

Participants considered it necessary to: (1) provide computers; (2) strengthen the internet; (3) supply medicine and supplements on time; and (4) make rapid testing facilities available. They also said the continuation of the services relies on providing the necessary budget:

"We have to give some supplements to people in the city; especially in the suburbs, we try not to stop these services and encourage people to pursue their health and care, but when credit is not given, and we can't buy, we may have problems" (participant 10).

4.4. Culture of Society

Community culture has a significant impact on the promotion of health programs.

4.4.1. Awareness and Cognition

4.4.1.1. Insufficient Knowledge of People About HTP Services

Interviewees emphasized the role of radio and television, cyberspace, health volunteers, and health ambassadors in raising public awareness:

"Radio and television can introduce people to health services. Advertising is essential" (participant 4).

4.4.1.2. Underestimating Physician Services

The low tariffs received from patients have increased the number of visits and overshadowed other activities:

"Successful things like caring for pregnant mothers and vaccinating children can be a good model for providing services to other age groups" (participant 7).

4.4.2. Attracting People's Participation

4.4.2.1. Participation in Health Programs

Controlling the factors affecting health requires community participation:

"Every young person should receive all medical and non-medical services every three years, which most families and young people are unaware of" (participant 15).

4.4.2.2. The Effect of COVID-19 on Care Provision

The interviewees stated that this disease has significantly reduced the presence of people in the centers and stressed that not controlling the health status will lead to long-term risks in non-communicable diseases.

4.4.2.3. Using the Capacity of Non-governmental Organizations

Non-governmental organizations (NGOs) can manage some factors affecting health:

"If physicians and health team members know communication skills, they can use the capacity of people and NGOs to promote health" (participant 17).

4.5. Monitoring and Supervision

Assessing physicians' performance identifies the program's strengths, weaknesses, opportunities, and threats.

4.5.1. Performance Monitoring

Participants in the study emphasized effective monitoring and went on to make the following points:

4.5.1.1. The Difference Between the Headquarters Structure and Health Centers

"The structure of the centers in the transformation plan was changed based on age groups, but the headquarters area still operates based on separate and independent units. This difference has made monitoring ineffective" (participant 23).

4.5.1.2. Quality of Supervision

The interviewees referred to the inefficient satisfaction-evaluating SMS, ineffective monitoring of the referral and drug chain, and removal of the health management department from monitoring. Among the positive points, they mentioned monitoring based on system recordings:

"Monitoring is not the same for all physicians due to the difference in the type of their contracts (contract, official, etc.). As a result, the quality declines" (participant 23).

4.6. Practical Suggestions

Participants expressed practical suggestions and solutions based on their field of work and responsibility.

4.6.1. Practical Suggestion

4.6.1.1. Reforming the Headquarters Structure

With the change in the structure of the centers, the corresponding headquarters should be redesigned, and units based on age groups should be created.

4.6.1.2. Delegation of Authority to the University

"A single program does not work for the whole country; the ministry should determine the outlines of the programs and delegate instructions to universities to consider regional health priorities" (participant 23).

4.6.1.3. Creating Stable and Sufficient Financial Resources

Motivating by improving financial status, recruiting, buying supplements and equipment were the points mentioned.

4.6.1.4. Performance Measurement and Timing

The constant addition of new programs affects the performance of physicians.

"Since the beginning of the program, there has been no performance measurement and timing. The services should be reviewed, and the time of each service should be determined, but every time they add a program, the previous ones will not be reduced. Only quantity is important" (participant 8).

5. Discussion

Based on the literature review, it seems that there is no study to assay only the physicians' role in the HTP in the southeast of Iran. However, other researchers have numerously examined the urban family physician program (18-20). According to Charles Boelen, the "five-star physician" has the characteristics of a communicator, a decision-maker, a care provider, a manager, and a community leader (21). The service delivery system has been strengthened with the presence of physicians, and health indicators have been improved. It was shown that the urban family physician program increased the accessibility of services (22, 23).

Similar to our study, the heavy workload, defects in the referral system, and the mismatch between the needs of the community and the service have been introduced by Majdzadeh (5). Likewise, another study has also expressed the weakness in the comprehensiveness of executive instructions (24). It has been concluded that electronic health records can improve the quality of care (25). In the current study, participants mentioned the integration of the electronic health system all over the country as its strength. On the contrary, the weaknesses included the reduction of communication with the people, software problems, and physicians' reluctance to use it. However, it has been reported that the eagerness of physicians to use the SIB has increased over time in Iran (26, 27).

In the current study, the participants described the referral system as having many shortcomings. A study conducted in Taiwan showed that more than half of the population referred to a specialist instead of a family physician, and the establishment of referral regulations was deemed necessary (28). In Ethiopia, most patients (74%) referred to the hospital were from a health center. However, a minority of patients used referral systems among health centers. It was suggested that connections between health posts, health centers, and hospitals should be increased to strengthen the efficiency of primary care (29).

The financial incentives, even as a reward to physicians, can be helpful to improve the quality of primary healthcare services (30). On the other hand, financial crises can increase the risk of health crises and even reduce people's access to services (31). Financial resources, human resources, and equipment problems were recorded by numerous researchers in Iran (8, 32). In India, the health financing system was described as inadequate with unequal access to health care services. A study conducted in that country suggested the need for specific methods to control costs, improve cost-efficiency, and monitor the impact of spending on health (33).

Also, the need for physicians in urban health centers and the importance of pre-service and in-service training have been shown in similar studies (34, 35). Contrary to our results, an investigation conducted in Canada rated physicians' clinical performance as good to excellent without the need for retraining and acquiring skills (36). We showed the need to increase the health team's relationship with local authorities and public participation. On the other hand, an enhanced role for local people can improve service standards (37). Involving the public in health policy development and decision-making has challenged health systems (38).

The first principle in the theory of any organization is that the structure should be commensurate with the function (39). Currently, there is a dichotomy; the design of the urban health centers is based on the care of age groups, but the structure of the headquarters has not changed. This difference causes a challenge, as discussed in other Iranian studies (8, 40). Effective and qualitative monitoring as one of the influential factors was found in the current study. The cross-sectional evaluations were also recommended in the study of Dehnavieh et al. (41).

5.1. Conclusions

Based on the results of the present study, it is suggested that: (1) Sustainable funding be provided to improve the PHC program in urban areas; (2) Human resource management, especially the increase of medical students, education tailored to health needs, and efforts to retain physicians, be taken seriously; (3) Changing the same policy for the whole country, accurately assessing to balancing the population for each physician, and providing quality services be considered; (4) The development of infrastructure related to the SIB, referral system, and close monitoring be considered to enjoy their benefits; (5) The possibility of changing the structure of the headquarters and urban comprehensive health centers be examined according to the HTP approach on the care of age groups.

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Footnotes

Authors' Contribution: A. SH-M and M. Z. B. conceived the study; A. SH-M collected the data with support from M. Z. B. and J. N.; M. Z. B. analyzed and interpreted the data; J. N. wrote the manuscript with support of M. Z. B. and A. SH-M. All authors read the manuscript and confirmed the final version.

Clinical Trial Registration Code: This study was approved by the Ethics Committee of Zahedan University of Medical Sciences (IR.ZAUMS.REC.1399.231).

Conflict of Interests: During the last five years: All authors have not taken any funding or research support. The employment status was included: (1) assistance professor at the school of health in ZAUMS; (2) executive assistant at Vice Chancellor for Health. There were not any personal financial interests. It declares that we have not been any stocks or shares in companies. We have not paid or received any consultation fee. No result lead to any patent from this study. Apart from the mentioned employment status, there are no personal or professional relationships with organizations and individuals (parents and children, spouses, family relationships, etc.). We do not have unpaid membership in any governmental or non-governmental organization. The corresponding author (Dr. Zanganeh) is a member of the editorial board of this journal.

Data Reproducibility: The data presented in this study are openly available in one of the repositories or will be available on request from the corresponding author by this journal representative at any time during submission or after publication. Otherwise, all consequences of possible withdrawal or future retraction will be with the corresponding author.

Ethical Approval: This study was corroborated by the Vice-Chancellor for Research of Zahedan University of Medical Sciences with the code of ethics IR.ZAUMS.REC.1399.231 (link: ethics.research.ac.ir/ProposalCertificateEn.php?id=152190).

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