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Exploring Current Iran’s Primary Healthcare System: Challenges and Solutions

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Abstract

Background: Since 1980s, establishing Primary Healthcare (PHC) network in Iran to promote health care delivery and population's health, the PHC system has experienced various achievements and changes. This study aimed to explore current PHC in Iran focusing on challenges and solutions.

Methods: Documentary review and interviews were used to collect qualitative data. The interviews were conducted with 26 stakeholders in various levels of the health system including health policymakers, academics, health managers and staffs are expert in public health and the PHC. National upstream documents including the Five Year Development Plans, General Health Policies, and the Iran's 20 year national vision were reviewed. Data analysis was done using deductive content analysis assisted by MAXQDA 12 software.

Results: Although Iranian PHC has enjoyed significant successes, it does not match with the changing populations' health needs especially during the last years. The current workforce cannot respond to new public health challenges, health data are not collected and analyzed in a consistent manner, modern appropriate technologies in the PHC are not used and electronic service delivery are not provided yet. PHC financial difficulties and the current rigid structure of the health system cannot satisfy the new emerging needs of the population.

Conclusion: Given the challenges and the new health needs, the current PHC structure and services should use the private sector involvement for better respond to the public health needs and flexible structure and services while dealing with the changes. The workforce needs to be updated, and the referral system should be established for providing the health care services based on FP plan.

Introduction

Based on the Alma-Ata Declaration of 1978, health is a public right and is considered as the responsibility of all governments[1]. Primary healthcare (PHC) has been known as a world-wide strategy for many years to promote the health in the world and its principles are widely used[2]. In the twenty-first century, the authenticity and significance of the PHC were emphasized to respond to the promotion of health and achievements of justice[3]. The Health Promotion Conference of the World Health Organization (WHO) recognized "Health for All" as a framework to develop a future health policy by confirming the authenticity of the PHC based on the Alma-Ata Declaration on the achievement of the 2030 Agenda for Sustainable Development[4]. Thus, the governments should adopt appropriate solutions for health challenges.

Since 1974, some measures were implemented in Iran for establishing the PHC network that finally was settled in 1985. Health policy makers and health planners attempted to design a health network for providing basic health care needs through community participation and adapted to cultural local context and deliver in socially acceptable setting[5, 6]. After implementing the PHC network, a notable progress was observed in public health indicators [7-10]. Different measures were taken to increase vaccine coverage, reduce mortality of mothers and child and control infectious diseases[11, 12].

The WHO reported that despite many advances, health systems of some countries do not work as expected and the provided services do not respond to the needs of the public in some cases[4]. The countries were recommended to guide and correct the health system through the PHC principles of universal coverage, popular services, public health policies, and leadership [4]. The health systems based on PHC should tackle the key challenges in fostering and sustaining workforce, information management, health financing, and fair provision[13]. Following the release of reports, the countries such as Greece, Canada, and Colombia made various reforms [14-16]. Since the status quo and challenges of the reforms in any form of intervention should be identified [17], the most recent tool for determining the status of the health system and its functions is the WHO six Building Blocks of health systems explaining the health systems in terms of the provision of services, workforce, health information systems, medical and technical products, financing, and leadership[18]. The present study aimed to explore the current Iranian PHC system based on the WHO framework to provide options for improving the current PHC status in Iran.

Materials And Methods

Design

This study was a qualitative research conducted by semi-structured interviews and documentary review.

Data collection

Documents review

To conduct documentary review, documents such as Iran's published books such as the Textbook of public health (2004), a new way for health (1974), City Health Network (1997), The general principles of the structure of the expansion plan (2007), Health for all and primary health cares in 20 and 21st centuries (2002), Islamic Republic of Iran Health Sector Review(2008) FP instructions (2018), the executive order of the program for providing and promoting the PHC in the urban and marginalized areas (2014) which were available at the University of Medical Sciences and mostly the books on the structure and levels of the public health services provision were reviewed. National upstream documents such as Iran's Twenty Year (1404) National Vision prepared in 2005, the comprehensive scientific plan of health was elaborated in (2010), the initiative on the promotion of PHC was prepared in 2006 and five year social, cultural and economic development plans. International published documents including The Millennium Development Goals (2009) World Bank report on the state of PHC network in Iran (2007) Islamic Republic of Iran: country case studies on primary health care (2018), Iranian Country Cooperation Strategy for WHO and the Islamic Republic of Iran2010-2014(2010) were collected and studied.

Interview

The interviews were conducted according to the pre-defined interview guide. The design of interview questions was based on the views of the research team and the components of the WHO Framework

Building Blocks [18]. Each question was designed for covering a study theme. The validity of the questions was investigated by conducting four pilot interviews. These interviews were included in the analysis. The survey population included all policy makers, academics, managers, planners and experts in public health and PHC and staffs working in the PHC at the national, provincial, and international levels. Interviews lasted from June to September 2018. The interviews were conducted individually (face-to-face) in deep semi-structured way. The reason for selecting this method was the ability and power in recognizing the opinions, ideas, and attitudes of the experts on the subject[19]. The selection of participants was conducted by purposeful sampling and continued until data saturation. The place for interviews was the workplace of interviewees at universities, research, and administrative centers, and insurance organizations. The time of the interview was announced by the coordination being made one week before by telephone or face-to-face attendance and delivering a leaflet on the questions and goals of the study. The duration of the interview varied from 30 to 130 min. A total of 26 interviews were conducted. The interview questions (attached) were reviewed by the team members for the comprehensiveness and improvement of quality and, if necessary, subsequent changes were made to the interviews' questions.

Validity

Five criteria purported by Guba and Lincoln (1994) including credibility(the fact that someone can be believed or trusted), authenticity(the act of confirming the truth of an attribute), transferability (suitable for different situations or uses), and confirmability(to establish the truth, accuracy, validity, or genuineness) and dependability(capable of being depended on; worthy of trust; reliable) were used to evaluate the Credibility and Trustworthiness[20]. After each interview, the transcribed text was sent to the interviewees for confirmation, and, if necessary, the new comments were added to the analysis, and the documents were coded and analyzed again. The peer review was used to evaluate the codes and themes.

Data analysis

The data analysis was conducted using deductive content analysis assisted by MAXQDA 12 software. The audio file of the interviews was transcribed and typed immediately after the interview. The texts were read several times. The interviews were coded and similar codes integrated to each other in terms of similar concept. Then, the created sub-themes were placed under the building block framework components.

Results

A number of 26 policy makers, academics, and experts in public health and PHC participated in this study, of whom 24 men and 2 women with an average age of 45 years participated. The work experience of participants was between five and twenty years old with an average of 12.7 years. The education level of the participants varied from lower diploma to PhD.

Data analysis according to the building blocks framework, illustrated the current state of the PHC in Iran in six main themes and 21 sub themes, with a total of 1,440 extracted codes. Table 2 indicates the extracted themes and sub-themes.

1. Leadership and governance

The participants expressed the positive effects of the PHC such as having a service provision base in all parts of the country, having the capacity to integrate new health care programs, low cost and effectiveness of services to attract health officials' attention. In addition, they emphasized the involvement of people, charities, and intergovernmental organizations in advancing the goals of the PHC and stated that the private sector was not observed in the structure and had no flexibility structure to adapt to the changes. Furthermore, the authority to change the structure was not delegated to regional managers.

"*The current structure of the primary healthcare system is fixed. We have established a health house for a population of 1500 people. Now, the population has migrated and we have kept the health house. We need to move the organizational chart without any concern and set up the base in the places we need*." (*Provincial health center expert)*

The working hours of service providers are not in line with the working and living conditions of the people who are not free to choose the place to receive the service that has eliminated the competition. With the global and local changes in epidemiology and changing needs, the PHC has no ability to provide new services with the current structure and respond to new needs of people.

"New problems with cardiovascular disease, accidents, cancers, diabetes in urban areas are also greater, but our system is active in villages for women and children. In fact, we are not accountable".Health policy maker

According to the participants the policy makers' have more focused on the curative activities in compare to public health and PHC activities. Decisions are made as centralized and often are not evidence-based. Parallel systems are created in the health system while there is no appropriate interaction between service provider's levels (preventive, specialized and ultra-specialized) and overlapping is observed in the provision of services. Having a holistic view is a priority in the health system. Implementations of the programs are dependent to the managers and policy makers who are changing frequently. Academic and clinical departments and institutions are unfamiliar with public health and preventive issues.. Even, the factors out of health area such as political and economic factors influence the management of PHC network system.

"*I suggest that university management posts should be at a clinical level, while we should use those with a degree in health education who have studied the system and are skilled in the system*.")*Expert of the University of Medical Sciences*)

The lack of attention to the principle of community participation and the non- use of the charitable capacity as well as the failure to attract cooperation and the use of capacity of organizations which are directly related to health are among the main challenges.

"*In our primary healthcare system, the participation of people has been neglected. Firstly, we have not been trained to participate with the people and the way of participation is not clear*". (*Expert of the Ministry of Health)*

The participants believed that some reforms should be applied to the PHC structure according to the changes and new needs. The explanation of government in PHC is reduced. Health experts should be used in health management by use of the participation of people, charities, and intergovernmental organizations.

2. Health care financing

Participants stated that in addition to the lack of resources and sustainability of PHC funds, inappropriate financial planning for the public health sector has made it to be more vulnerable than other areas of health at the shortage of resources.

“*Financial resources are one of the blind spots we have. The health system has no sustainable resources and such resources contribute less to the primary healthcare*”. *Provincial health center expert*

Despite the growth of service costs, the place of insurance in PHC structure is unclear. Public health services have not been priced rationally and the distribution of unfair resources leads to more health resources in the field of treatment.

"*Distribution of resources is unfair when we study justice in health distribution and we say that we have access to a quarter of services in the capital city of Tehran. Look at the prices in Ilam (North West City of Iran)*? "*Expert of the Ministry of Health*

Providing public health services is costly, and some cost-effective services are not available. For example, maintaining a health-care home in low-income areas. In the discussion of outsourcing of services because of the lack of requirements and a comprehensive model, assigning services to the private sector would be difficult.

"*We are stingy in outsourcing. The government wants all workers and the employers and the supervisor. It is clear that the business will not go well*." (*National level Health expert)*

Participants believed that some sustainable resources should be observed for the PHC. Proportionate budget services should be allocated to integrate and complete the services. If resources distribute equitably, the public health sector's share of health resources will increase. By designing an appropriate outsourcing pattern, the private sector's capacity can be used to deliver services.

3. Medical products and technology

Participants stated that the use of new medications and new technologies is unreasonable. Personnel are unfamiliar with the technology. With the introduction of new technologies, people's attention to health care has diminished. New technologies are not used in the PHC and diagnostic and therapeutic technologies are not evaluated in terms of health conditions and their health impact.

"*New technologies were used indiscriminately without evaluating the effectiveness, efficiency, and safety of the country and the public's attention to prevention programs has reduced. It seems that everyone is looking for the action with early results*." *Faculty of the University of Medical Sciences*

Public and PHC health centers are not equipped for new services.

"*Public health homes have no possibility of providing new care because the control of most current illnesses is the presence of a laboratory, and public health centers are not fully equipped*" *Chief of the city health center*

Participants concluded that new products and technologies should be evaluated. In addition, they believed that appropriate technologies at the PHC should be used and the standard equipment of public health homes and re-evaluated centers should be re-equipped.

4. Health information system

Participants stated that integrated health systems (so called SIB) and electronic health records are in the early stages. The personnel are not familiar with how these systems work. The integrated health system is not aligned with the priorities of the PHC system. However, the requirements for using the systems are not fully prepared. There is no relationship between the systems.

"*The requirements for the deployment of this system including the Internet, telephone, staff skills, the beliefs of physicians in the system and the integrity of managers in the establishment of the system have not yet been realized*." *Expert of the University of Medical Sciences*

No certainty exists about the accuracy of the output statistics and information, and there is no coherent and consistent information system at the PHC.

"*Information technology has not found its place in provision. We do not know about the accuracy of information even in the number of the population. We have problems in data and consequently in information and knowledge production*". *Health policy maker*

Participants believed that the health management information system should be established in the area of public health and PHC. The personnel should be taught about how to work with systems. The systems should be customer-oriented and a link should be crated between the systems.

5. Health workforce

Participants mentioned the effects of native selection among health workers and they stated that the living conditions in the villages are not affordable and, the payment system is unfair and is not based on performance. No specific mechanism exists for personnel upgrading and transferring which led to a downturn in the motivation of the PHC personnel. In addition, a change in the level of literacy and livelihoods led to a decline in the acceptance of health workers and a reduction in their relationship with people. In urban areas, health care providers are unaware of the population due to the large and frequent changes in the population.

The shortage and poor distribution of human resources, especially in rural and suburban areas aggravates the problem in this area. In some locations, the duties were imposed on public health staff more than they can. Despite the presence of university graduates in most regions, there is no mechanism for using them. The authority to organize personnel was not delegated to regional managers.

"*There are the same organizational posts and we still have El Tor expert. How many times El Tor can happen in a year?"Provincial health center expert*

The universities of medical sciences do not coordinate with the PHC and the medical education system is not tailored to the needs while the educational content is not evident. As a result, university graduates are not familiar with the problems and have no enough skills to deal with.

"*The training offered in the university is not according to the tasks that the individual will perform in the system, and the content of the training varies with the implementation*". *City health center expert*

Inappropriate strategy for attracting health workers with low education is still in progress. Health worker education is not updated and unmatched with new needs and services. During the past years, the improvement of health workers was not considered and their level of literacy was lower than the average of the society.

"*Our health workers were educated for the 1980 and 1990s, so they are not accountable in the current situations. Their educators lack high literacy and cannot adapt themselves to the modern knowledge*." *Expert of the Ministry of Health*

Participants believed that a fair payment system should be established among providers, a mechanism should be designed for the transfer and maintenance of personnel, the required human resources should be provided before adding new services, the authority to revise the organization chart should be assigned to spatial planning lands, and the medical education system and content should be updated to fit the needs. The attraction of health workers should be based on well-educated college graduates and health faculties (professors-facilities) to train health workers.

6. Providing health services

Participants referred to the qualitative growth and diversity of the primary healthcare services and the good practices implemented by the FP and the health promotion plan in the health area (building health

complexes-improving urban services provision and marginalized population care). In addition, the participants noted that the influence of some people caused deviations in health transformation plan, and the same routine programs were implemented as part of a health change plan. Then, the issue of disease prevention was faded by pushing more people towards curative activities.

"*Some people affected the health development plan. We did not have an environmental health, and health education before the development plan*?" *Health policy maker*

The inappropriate design of service leveling has led to a long and complex path. Specialized levels are not obliged to adhere to the leveling. Policy makers and people do not seek to establish a referral system. FPs is unfamiliar with the program goals and focuses more on quantity. Health team members do not interact well. Therapeutic physicians have no ability to act as FPs for preventive programs. A physician receives the full per capita for the covered population and the survival or sickness of population does not affect his payment while people pay for specialized treatment costs.

"*The FP we have is defective. The physician graduates from the university with a therapeutic vision and does not engage in active health care at all and does not show interest*" *senior health insurance staff*

Existing capacities (audio and video) are not used for improving the community health literacy, there is not enough education available to people, and community members are not empowered and do placing no role in the healthcare. Providing primary healthcare services is concentrated in rural areas and is unsuccessful in urban areas. Services offered to men are weaker than women. The services provided at primary healthcare are at an advanced level and there is no defined complementary service to meet the needs of the population in the current situation.

Participants believed that we should empower the community and individuals to do some services themselves while demanding the government the services. Providing services at the context of FP and health complexes should continue. Paying salaries based on providing health care to the health care team creates a greater sense of responsibility towards the health of the people and Electronic referencing system is being implemented by forcing people and specialized levels. The service provision and service content should change based on the needs and plan to provide complementary services at the PHC centers.

Discussion

The current status of the Iranian PHC was examined in the framework of building blocks under the six themes of leadership and governance, health care financing, medical products and technology, health information systems, health workforce, and provision of health services.

Leadership and governance

Our findings showed that lack of intergovernmental organizations' participation in the PHC setting confirms that inter-departmental co-operation is tailored in some areas but lacks a defined structure and

institution[11]. On the other hand, the private sector has no place in the PHC setting of Iran and there are no comprehensive and appropriate rules on how to interact with the private sector[17]. The results indicated that the PHC structure has no flexibility to implement new changes and to meet the needs of the new people. Furthermore, the studies confirmed that the PHC in Iran at a local- organizational structure faces some problems in responding to new population needs, which gradually weaken the system[21]. The PHC in Iran has some challenges and weaknesses that oblige structural reforms[22, 23]. Malekafzali argued that we are concerned about the diminished monitoring of PHC due to the high employment of the head of the university and his deputies[11]. The policies in the PHC system are not evidence based[11, 24]. The existence of parallel services, along with the PHC, was confirmed in the studies that providing health services by some organizations with the main mission cannot provide health services such as municipalities, banks, the ministry of oil, and the judicial system leading to inefficiencies throughout the system[25-27]. The findings of this study indicated that the centralization is dominant on Iranian current PHC regime. Several studies focused on decentralizing and delegating decision-making to the preparatory areas of the country and emphasized that the government's decentralization of some parts and at different levels of health services is the best option for improving the health system of Iran[26-29].

Health care financing

Regarding the PHC sources, the results indicated that the inadequate resources and persistent and unpredictable sources of supply have made it difficult to provide services. In addition, the studies indicated that most of the countries in the Eastern Mediterranean region face limited costs[24]. In Iran, the PHC system is fully government-funded, and the inadequate funding and lack of coordination between resources and service packages is one of the main weaknesses of the system[25]. The results indicated that the primary healthcare is more vulnerable to other health areas than the health area of Iran, and the health care sector always has a higher share of health care resources Malekafzali stated that the mass training of specialists and the necessity to provide the necessary facilities is a serious threat to the financing required by the PHC[11]. One of the most important problems in financing primary health care in developing countries is a greater willingness to invest in medical care[23]. Regarding the workforce employed at the PHC, the results of this study indicated that paying for the PHC personnel is not related to the way services are provided. Some studies suggested that there are different payment models in Iranian health system and the current payment system should be improved [22, 23, 28] The payment system to the service provider in PHC Iran has not been favorable and it is not an incentive to improve performance, quality and performance for them[21]. In addition, the studies confirmed that inefficiencies in the public governmental system and administrative costs were accompanied by a lack of PHC resources[25].

Medical products and technology

Based on the results of this research, no new technologies are used in Iranian PHC system. Some studies indicated that there is an ever-increasing urgency in global health to increase the use of digital health interventions beyond pilot projects[29]. The effectiveness of health interventions is based on new

communication technologies[22]. Strengthening the innovations contributing to the success and sustainability of health systems is significant[23]. A part of this issue is related to the limited knowledge of personnel which affected their perceptions of using new technologies. Therefore, providing more information on new health care technologies can help them obtain a realistic picture of their perceptions[30]. The results indicated that medical products imported into the country are not evaluated to fit the health needs of the country. Some other studies reported the problems in monitoring, identifying, and prioritizing issues and publishing the results of the main obstacles to the implementation of the Health Technology Assessment in Iran[21]. Such studies emphasized that the use of digital health interventions should be selective, adaptive, and implemented in scale[31].

Health information systems

The results indicated that the accuracy of the output data is not reliable and there is no coherent information system in the PHC. In addition, the studies confirmed that the analysis and classification of weak information systems is one of the challenges of the Iranian health system[32]. The statistical system is not evolved due to the informatics technology, and traditional tools for data recording while analysis and reports are still used[11]. Personnel are not familiar with how the information software works. The studies indicated that the lack of data management skills and information analysis in health care workers are weaknesses in the PHC information system [9, 32, 33]. On the other hand, the number of systems and the existence of a gap between the systems in the results of this research confirmed that there is no coherent strategy for the electronic health record system in Iranian PHC system [32]and the existing system cannot provide the necessary information for policy makers.

Health workforce

In the health system of Iran, selecting health workers from the local community, who are familiar with the norms and culture of the community and have friendly relations with the local people, is considered as the most important strengths of the PHC [10, 34] leading to the unfair distribution of human resources, the multiplicity of duties, and the lack of a specific mechanism for promoting the personnel dropped motivation. The studies indicated that the lack of a systematic process for selecting and developing human resources can reduce the number of processes and programs, creativity, and motivation in human resource [17, 35, 36]. The discretion of organizing staff and shifting the organizational chart is not left to the local and regional directors. Academic medical education is not consistent with the current PHC and new needs. As a result, graduates have the knowledge and skills necessary for their activities. In addition, the studies revealed that 54.3% of FPs reported the distance between the students' education and the expectations of the FP plan while 40.5% reported the distance between the practical skills with the skills required by the FP plan as very high and high[37]. The improved university education courses should be PC-based training[36]. Educational courses of health workers are not tailored to new needs; educational needs are changing while the instructors of higher education need to be retrained [38]. The results of this study indicated that attracting the health workers with low education in the current situation is an inappropriate strategy. Attracting the health workers from university graduates was considered and it was

confirmed that the appropriate outcomes of the activities of the health workers will be achieved through appropriate selection and adequate training[12].

Service provision

The quantitative growth and diversity of services and the development of the FP program are the strengths of the Iranian PHC system in the Middle East[39, 40]. Research findings indicated that the participation of the community in health care is very weak due to poor health and low ability to work. Studies confirmed that people always think of the government to meet their health needs, budget controls while decisions are made by the government and community members do not feel attached to the health system being reluctant to participate in health programs[41, 42]. In the FP program, the results indicated that the program authorities are not familiar with the goals of the FP and their focus is on program quantity. The study confirmed the awareness of national authorities with health projects such as the FP program is low[17]. The therapeutic nature of the physicians and the lack of ability to work as a FP lead to the reluctance for performing health care[11]. The results indicated that providing services in urban areas is inactive and unsuccessful while the PHC faces some urban problems[43]. The more critical issue is the provision of services in the health centers is a preliminary and people receive supplementary services outside the PHC system. Due to the nature of the new needs, it will be difficult to meet such needs with this level of service. Studies pointed out that the PHC in Iran has many challenges in terms of services, and cannot meet the needs of the people because of social changes[33].

Strengths of the study

Access to key people with more than 20 years of experience in the PHC system who fully understood the past and present situation of PHC system from all dimensions as well as the honest engagement of these people with the study team, was the most critical strength of the study team.

Conclusion

Considering the major steps taken to achieve "Health for All" in Iran such as creating a health post in all parts of the country, establishing a rural FP and referral system and effort to establish urban FP in the current context, given the reassessment of the international community on the PHC, considering the social, economic and lifestyle changes, using existing potential and applying research results in all dimensions of PHC in Iran, addressed the challenges identified in the areas of leadership and governance, financing health care, medical and technological products, systems Health information, and workforce. The PHC structure and services should be applied to better revisit some of the changes so that both the structure and the service should have the flexibility to respond to the changes. The participation between the private sector and intergovernmental organizations and the public should be fully utilized. The sufficient and sustainable funding for implementing the PHC completion is predicted and provided. Evidence-based decision-making is required by creating integrated information databases. Academic and workforce training should be upgraded, and family-oriented services should be provided by the FP and the

referral system should be implemented to improve the PHC system and health indicators in the community.

Abbreviations

PHC: Primary Healthcare

WHO: World Health Organization

Declarations

Availability of data and materials

Data are available from the corresponding author on reasonable request.

Authors' contributions

Ash is the principal investigator of the project. He conceived and designed the study supervisor, co-author LD. Ash and LD collected the data, performed the analyses and drafted the manuscript. AA took part in planning the analyses and interpretation of results. All authors read and approved the final manuscript.

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Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Ethical considerations

Before conducting the interviews, written consent was acquired from the participants and they insured them the confidentiality of information and the right to withdraw from the study at all stages of the implementation. At the beginning of the study, the objectives of the study were explained to the participants. This study is a part of a larger study being approved at Tabriz health services management research center (Approval No: IR.TBZMED.REC.1398.196).

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

References

1. Park, K., *Park's textbook of preventive and social medicine.* Preventive Medicine in Obstet, Paediatrics and Geriatrics, 2005.
2. Bener, A., S. Abdullah, and J.C. Murdoch, *Primary Health Care in the United Arab Emirates.* Family Practice, 1993. **10**(4): p. 444-448.
3. KHAYATI, F. and M.H. SABERI, *Primary Health Care (PHC) an ever strategy for health equity extension.* 2009.
4. Van Lerberghe, W., *The world health report 2008: primary health care: now more than ever*. 2008: World Health Organization.
5. Shadpour, K., *Primary health care networks in the Islamic Republic of Iran.* 2000.
6. Marandi, S.A., *The integration of medical education and health care system in the Islamic Republic of Iran: a historical overview.* Journal of Medical Education, 2001. **1**(1).
7. Gressani, D., et al., *Islamic Republic of Iran health sector review, volume I: main report. The World Bank Group.* Human Development Sector, Middle East and North Africa, 2007. **1**: p. 1575-1581.
8. Ghoddoosi-Nejad, D., et al., *Stewardship as a Fundamental Challenge in Strategic Purchasing of Health Services: A Case Study of Iran.* Value in health regional issues, 2019. **18**: p. 54-58.
9. Asadi, F., et al., *Primary health care information systems in health centers of Tehran, Iran.* Health Inform Manage, 2012. **9**: p. 1-10.
10. Aghajanian, A., et al., *Impact of rural health development programme in the Islamic Republic of Iran on rural-urban disparities in health indicators.* 2007.
11. Malekafzali, H., *Primary Health case in Islamic Republic of Iran.* Scientific journal of School of Public Health and Institute of Public Health Research, 2014. **12**(2): p. 1-11.
12. Javanparast, S., et al., *A policy review of the community health worker programme in Iran.* Journal of public health policy, 2011. **32**(2): p. 263-276.
13. Beaglehole, R., et al., *The world health report 2003: shaping the future*. 2003: World Health Organization.
14. Economou, C., *Health systems in transition.* Health, 2010. **12**(7).
15. Marchildon, G.P., *Health systems in transition: Canada*. 2013: University of Toronto Press.
16. Vargas-Zea, N., et al., *Colombian health system on its way to improve allocation efficiency—transition from a health sector reform to the settlement of an HTA agency.* Value in Health Regional Issues,

2012. **1**(2): p. 218-222.

17. Zanganeh Baygi, M., et al., *Adaptation of goals and organizational structure in Iran's primary healthcare system, a systematic review.* Journal of Payavard Salamat, 2016. **9**(5): p. 446-458.
18. Organization, W.H., *Monitoring the building blocks of health systems: a handbook of indicators and their measurement strategies*. 2010: World Health Organization.
19. Eslami, M. and C. d'Arcangues, *Aiming for quality in Iran's national family planning program—two decades of sustained efforts.* Contraception, 2016. **93**(3): p. 209-215.
20. Cope, D.G. *Methods and meanings: credibility and trustworthiness of qualitative research*. in *Oncology nursing forum*. 2014.
21. JABARI, B.H., et al., *A comparative study on decentralization mechanisms in provision of health services in health system of selected countries, and presenting a model for Iran.* 2007.
22. Manyazewal, T., *Using the World Health Organization health system building blocks through survey of healthcare professionals to determine the performance of public healthcare facilities*. Archives of Public Health, 2017. **75**(1): p. 50.
23. Khangah, H.A., et al., *Comparing the health care system of Iran with various countries.* Health Scope, 2016. **6**(1).
24. Esmailzadeh, H., et al., *Iran health system reform plan methodology.* Iranian journal of public health, 2013. **42**(Supple1): p. 13.
25. Heshmati, B. and H. Joulaei, *Iran's health-care system in transition.* The Lancet, 2016. **387**(10013): p. 29-30.
26. Alizadeh, M., et al., *Analytical performance of administrations in charge of ageing program inIran.* Iranian Journal of Diabetes and Metabolism, 2013. **13**(1): p. 74-81.
27. DAMARI, B., M.A. HEIDARNIA, and B.M. RAHBARI, *Role and performance of Iranian NGOs in community health promotion.* 2014.
28. Nikniyaz, A., et al., *Maternity, and child health care services delivered by public health centers compared to health cooperatives: Iran's experience.* Journal of Medical Sciences, 2006. **6**(3): p. 352-358.
29. Long, L.-A., G. Pariyo, and K. Kallander, *Digital technologies for health workforce development in low- and middle-income countries: a scoping review.* Global Health: Science and Practice, 2018. **6**(Supplement 1): p. S41-S48.
30. Ayatollahi, H., F.Z.P. Sarabi, and M. Langarizadeh, *Clinicians' knowledge and perception of telemedicine technology.* Perspectives in health information management, 2015. **12**(Fall).
31. O'Connor, S., et al., *Understanding factors affecting patient and public engagement and recruitment to digital health interventions: a systematic review of qualitative studies.* BMC Medical Informatics and Decision Making, 2016. **16**(1): p. 120.
32. Moghaddam, A.V., et al., *Health in the 5th 5-years Development Plan of Iran: main challenges, general policies and strategies.* Iranian journal of public health, 2013. **42**(Supple1): p. 42.

33. Mehrolhassani, M.H., et al., *Evaluation of the primary healthcare program in Iran: a systematic review.* Australian journal of primary health, 2018.
34. Javanparast, S., et al., *Community health workers' perspectives on their contribution to rural health and well-being inIran.* American journal of public health, 2011. **101**(12): p. 2287-2292.
35. Baygi, M.Z. and H. Seyedin, *Imbalance between goals and organizational structure in primary health care in Iran-a systematic review.* Iranian journal of public health, 2013. **42**(7): p. 665.
36. Nekoei Moghadam, M., et al., *A qualitative study on human resources for primary health care in Iran.* The International journal of health planning and management, 2018. **33**(1): p. e38-e48.
37. Karimi, M., M. Mirzaei, and Z. Rahim, *Educational needs of family physicians in Yazd province.* 2012.
38. Sharifi-Yazdi, M., et al., *Explaining Current and Changing Teachers' Educational Needs in Health Care Behvarz Training Centers during 2012-2013 in Iran.* Journal of Medical Education, 2015. **14**(3): p. 119-128.
39. Mehryar, A., *Primary health care and the rural poor in the Islamic Republic of Iran.* Asia and Pacific Population Studies Centre, Ministry of Science and Technology: Tehran, 2004.
40. Takian, A., L. Doshmangir, and A. Rashidian, *Implementing family physician programme in rural Iran: exploring the role of an existing primary health care network.* Family Practice, 2013. **30**(5): p. 551-559.
41. Sheikhattari, P. and F. Kamangar, *How can primary health care system and community-based participatory research be complementary?* International journal of preventive medicine, 2010. **1**(1): p. 1.
42. Acosta Ramírez, N., et al., *Mapping primary health care renewal in South America.* Family Practice, 2016. **33**(3): p. 261-267.
43. Lionis, C. and A. Philalithis, *Patientsatisfaction with medication: a challenge for primary health care.* Family Practice, 2008. **25**(5): p. 319-320.

Tables

Table 1
Demographic information of the participants

Variable		Percent
Gender	Male	92
	Female	8
Age	30–40	19
	41–50	46
	51–60	35
Education	lower diploma	4
	Diploma	8
	Associate degree	15
	Bachelor	16
	Master	19
	Doctor of Medicine	15
	PhD	23
Work experience	5–10	35
	11–20	65
Organization	Ministry of Health	16
	University of Medical Sciences	23
	Insurance	19
	Healthcare Network	27
	Healthcare Center	15

Table 2
The themes and sub-themes related to the Iranian PHC system

Theme	Subthemes
Leadership and Governance	Service provision structure
	Responsiveness
	Policy making and strategic planning
	Cooperation and coordination
Health care financing	Collection of financial resources
	Resource pooling
	Purchasing
Medical and technology products	Health technology
	Supply of equipment
Health information systems	Statistical information and statistics
	Information software's
Health workforce	Motivating
	Communications
	Planning and supply
	Training
Providing health services	Health promotion
	Developing FP and referral system
	Health care rationalization
	Making culture
	Development of service packages

Figures

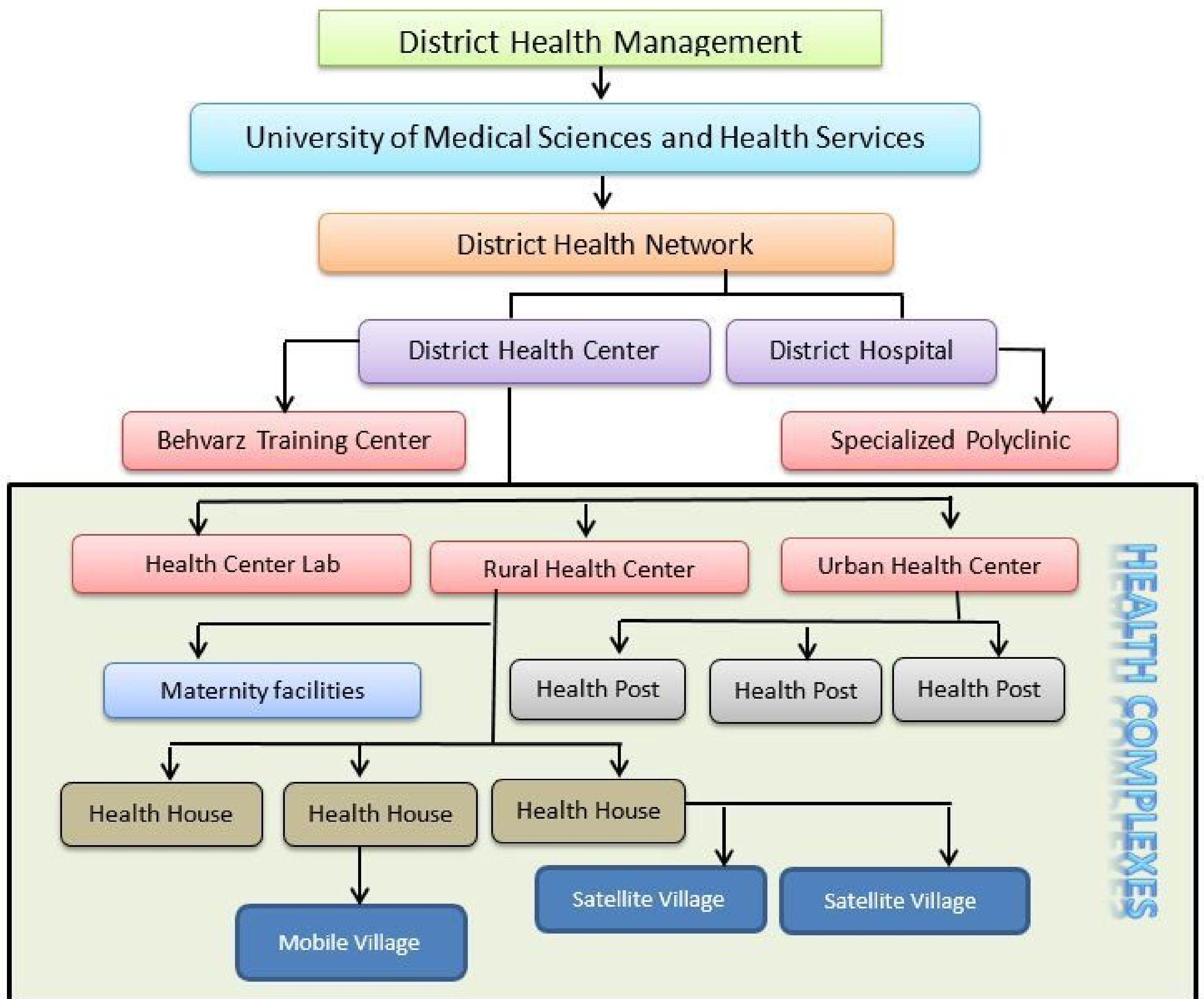

Figure 1

Structure of PHC Network in Iran