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Developing a Departmental Accreditation Model for Primary Healthcare in Iran

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Abstract

Background: Recently, the healthcare systems have turned towards cost-effective services such as primary healthcare (PHC) due to the increasing costs of health services.
Objectives: This study aimed to develop a departmental accreditation model for primary healthcare in Iran.
Methods: Initially, primary standards were obtained by making use of available scientific documents in service delivery units in the realm of primary healthcare in Iran as well as by obtaining feedback from their specialists. Then, all primary standards were entered into Delphi questionnaire and evaluated on a 9 point Likert scale by 15 - 20 experts based on two criteria of significance and feasibility. Finally, the final standards were specified based on the qualitative points obtained from the experts. Data were analyzed using SPSS version 18.
Results: The final model obtained had 231 standards and 3065 measures in the twelve defined units. The total mean score was 8.38 and 7.65 for the sum of model measures in two criteria of significance and feasibility, respectively. The twelve standard domains were developed for accreditation of service provider units, including specialized realms of communicable diseases, non-communicable diseases, population and family health, mental-social health and addition, teenage, youth, and school health, disaster management, environmental health, occupational health, oral health, healthy nutrition, health education, and promotion, as well as medication and laboratory.
Conclusions: Given that the developed model encompasses all PHC domains, its implementing will result in continuous enhancement in the quality and safety of PHC in Iran.

Keywords: Public Health, Primary Health Care, Accreditation

1. Background

Nowadays, the quality of healthcare services is among the main issues that are on the agenda of healthcare systems in various countries due to their important role in society's health and satisfaction as well as significant shortcomings that exist in different aspects (1). Numerous factors result in the need for implementing programs for the enhancement in quality of healthcare systems, among which include increasing costs of healthcare, high rate of adverse events, the complexity of new technologies, the growing elderly population, and the rapid transmission of communicable diseases in the world (2).

Current healthcare systems have ever-increasing complexities, resulting in a turn toward standardizing services through a set of policies, standards, guidelines, and procedures with the aim of enhancing quality (3). One of the ways to expand the standardization of processes and services is to prepare accreditation models and use effective standards (4). The effect of accreditation was so high that today it is known as the foundation of quality in healthcare systems and is being used by over 70 countries worldwide in an expansive geographical range, with the users doubling in the number every few years (5, 6). The increasing growth and penetration rate of accreditation in the realm of healthcare is such that it is considered a fundamental and inseparable part of healthcare systems (7).

Accreditation results in continuous measurement and promotion of performance in healthcare organizations through external assessment (8). Accreditation is used as a benchmark in the realm of quality (9), public disclosure of information related to quality (5) as well as creating a coherent framework for the continuous improvement in quality (10). Research carried out thus far on measures

related to quality in regard to heart failure, pneumonia, (11) cancer (12), and acute coronary syndrome (13) suggest the significant relationship between accreditation and adequate performance of healthcare centers in the management of these diseases. Financially, it can be stated that accreditation provides a means for increasing profit and decreasing costs for healthcare organizations (14).

Regardless of the pivotal role of primary healthcare in the health system, a report by the World Health Organization (WHO) in 2008 affirms that various countries have not paid attention to these healthcare measures as deemed necessary (15). One of the major challenges in this realm is the inappropriate quality of primary healthcare provided (16). Thus, accreditation in the realm of primary healthcare is used as a means to emphasize the significance of these healthcare measures and the necessity for increasing their quality (17). Previous studies indicate that accredited health centers have a greater tendency toward risk management and enhancement in the safety and quality of healthcare (18).

The Iranian PHC system provides geographical/physical access to services for caregivers, especially in rural areas, due to its well-designing and proper expansion. Moreover, the financial/economical accessibility is suitable because all of the provided services are covered by basic insurances, the majority of them are free, and those that are not are low in cost. Besides, this system has a comprehensive service package, which includes essential primary care such as communicable and non-communicable diseases, mental health, environmental health, child and maternity health, school hygiene, elderly care, and professional health (19).

Regardless of the fact that primary healthcare in Iran, during the past few decades, has made great achievements; however, it has faced many challenges due to the demographical, societal, epidemiological changes, and the inabilities of the primary healthcare system in responding to these changes (19-21). As a result, there has been a great decrease in the quality of healthcare and a reduction in society's benefit from these services (22). Although accreditation is the most effective approach in enhancing healthcare services quality and improving the performance of healthcare centers, the developed accreditation program was appeared in hospital care generally (23), and the history of its use in PHC fields does not exceed from a decade worldwide (24). Similarly, there is no comprehensive and user-friendly accreditation model that emphasizes defined wide service packages in Iran PHC system, as departmental accreditation (4, 25).

2. Objectives

Owing to the absence of a departmental accreditation model in Iran's primary healthcare system, this study aimed to develop a departmental accreditation model for primary healthcare in Iran.

3. Methods

This study used a qualitative approach. The governmental primary healthcare in Iran currently has 12 main specialized units of service providers such as communicable and non-communicable disease, environmental health, community and family health, oral health, healthy nutrition, etc.; with supportive units such as network expanding, informatics and statistics, and financial affairs (19). In the beginning, researchers attempted to hold technical sessions with specialists of these units, and all of their scientific documentation, including protocols, guidelines, manuals, booklet, etc. were obtained.

Subsequently, the evaluation requirement, which had to be noted in the standards developing phase, was questioned. For this purpose, the required inputs, including manpower, medical and non-medical equipment, materials, and financial resources, were determined and categorized as "input" prerequisites. Also, the technical/clinical points in the service delivery process, which are defined as the best practices in developed protocols and guidelines, are extracted and categorized as "process" prerequisites. Besides, the defined aims from providing health service packages in all specialized units of Iran PHC system were determined and categorized as "output" prerequisites, after dividing into output, outcome, and impact parts.

After a complete assessment of the documents, the primary standards (a desired and achievable level of performance against which actual performance is measured) and their related measures (an objective part of a standard which expresses the size, amount, or degree of something) were developed for the evaluation of the healthcare activities and processes in input, process, and output dimensions (10). Afterward, comprehensive feedback was obtained by means of presenting the primary measures to unit specialists. For this purpose, specialized teams evaluated primary measures with regard to content, writing style, categorization, and appearance in separate sessions. Then, the results of these evaluations were presented to researchers orally and in written form, and necessary modifications were made to the measures.

The Delphi technique is an efficient method for coming to an agreement on accreditation standards and has been successfully and repeatedly implemented (25, 26). In order to carry out Delphi in this study, all standards and

measures initially provided were presented to experts for evaluation based on two criteria of significance and feasibility on a 9-point Likert scale. Implementing the Delphi technique requires the cooperation of at least 10 experts (27, 28); therefore, in the current study, 15 to 20 experts in each field were selected, so in case any of the experts withdraw during the Delphi rounds, the minimum number of experts eventually remains. The experts were selected from faculty members of medical sciences university in fields of health services management, health policy, health economics, and community medicine, current and former health vice-chancellor of medical universities, and managers of health deputy in the ministry of health and medical education. The experts were selected purposefully, who have proper practical experiences and were able to provide more and rich perspectives about the study subject. After analyzing the results of each stage, questionnaires of the following phases were provided and handed out to experts. This continued until a consensus of standards was reached.

In the questionnaire analysis phase, the median index was considered the basis of decision-making due to the ineffectiveness of unconventional responses. By this means, after questionnaire analysis, if the median was between 1and 4, that standard was excluded from the study. If 4 to 7 was obtained, it was sent to the next round, and if a score of 7 or higher was obtained, it would enter the final model (29). An important point was that giving feedback of the results from the previous phase (overall median), as well as the points given specifically by each expert resulted in greater reflection of experts in rating and modifying the score if necessary. If changes in the score of measures were less than 15 percent of the overall median score in both of the two consecutive rounds, the consent was done, and the standards do not go to next rounds (29). The highest and lowest response rate in Delphi study was related to "oral health" and "mental-social health and addiction" units with 94.4 and 76.4%, respectively.

Data were analyzed using SPSS version 18. Ethical consideration included the complete freedom of all participants to accept or refuse to cooperate in the study, ensuring the participants that the use of their opinion was exclusively in line with the study goals. As well, this study was approved by the Ethics Committee of Tabriz University of Medical Sciences (IR.TBZMED.REC.1394.580).

4. Results

The process of Delphi was carried out, and its results (Table 1) indicate that out of the measures studied in various units and standards, a total of 2,931 measures in the first round and 134 measures in the second round were accepted by experts and a number of 29 measures did not reach the final model because they did not obtain the defined minimum of significance and feasibility criteria. Therefore, the final model was obtained with 231 standards and 3,065 measures in the twelve-fold health delivery units among which the communicable disease unit with 42 standards and 582 measures was the most extensive, and oral health with 5 standards and 61 measures of assessment was identified as the most confined realm of assessment (Table 1).

The highest score obtained for the criterion of significance in different health delivery units is given to disaster management with an average of 8.84 and the least score goes to the medication and laboratory unit with an average of 8.01. In addition, the highest and lowest scores go to the criterion of feasibility with a total of 8.35 and 7.13 for healthy nutrition and mental-social health and addiction, respectively (Figures 1 and 2).

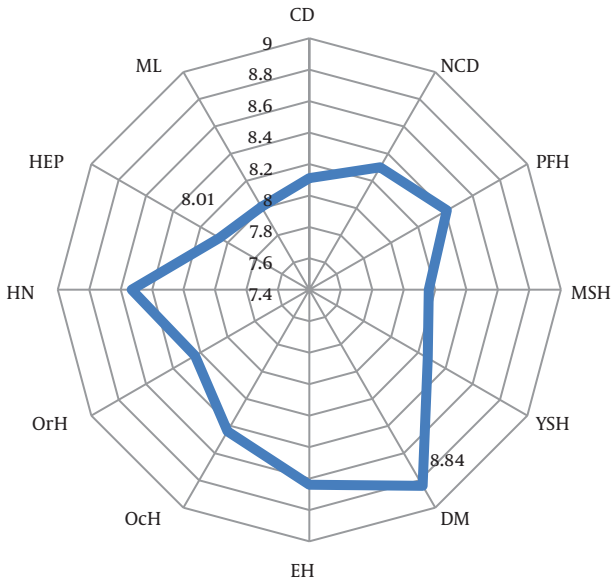

Figure 1. Mean score obtained by measures for the significance criterion

In addition, the overall mean obtained for measures developed in two criteria of significance and feasibility is equal to 8.38 and 7.65, respectively. In the following, we address the content of standards obtained in the twelve-fold health delivery units in general:

- Communicable diseases: Standards related to this field emphasize the prevention and treatment of the most important communicable diseases in Iran, such as hepatitis B, HIV, tuberculosis, malaria, and brucellosis, that have a care plan in the primary healthcare system. Other issues covered by this field are comprised of cross-border

Table 1. Delphi Process and Its Results

Health Delivery Units	Accepted Measures in Round 1	Accepted Measures in Round 2	Not Accepted Measures	Number of Final Model Standards	Number of Final Model Measures	The Mean Score of Significance in Measures	The Mean Score of Feasibility in Measures
Communicable diseases (CD)	561	22	3	42	853	8.11	7.80
Non-communicable diseases (NCD)	453	17	2	32	470	8.30	7.45
Population and family health (PFH)	445	19	0	45	464	8.41	7.77
Mental-social health and addiction (MSH)	441	25	4	32	466	8.16	7.13
Teenage, youth, and school health (YSH)	236	8	1	13	244	8.27	7.58
Disaster management (DM)	169	6	2	8	175	8.84	7.26
Environmental health (EH)	135	4	0	14	139	8.64	8.21
Occupational health (OcH)	95	4	15	6	99	8.44	8.08
Oral health (OrH)	56	5	2	5	61	8.24	7.95
Healthy nutrition (HN)	162	8	0	19	170	8.53	8.35
Health education and promotion (HEP)	71	3	0	6	74	8.06	7.53
Medication and laboratory (ML)	107	13	0	9	120	8.01	7.68

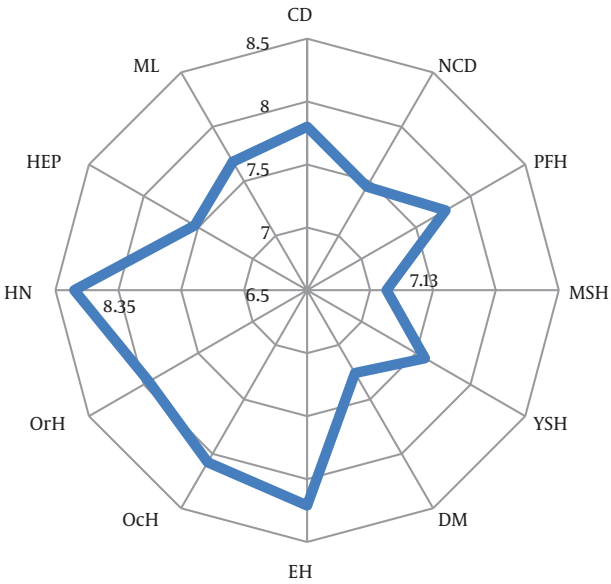

Figure 2. Mean score obtained by measures for the feasibility criterion

healthcare, hospital infections, safety, and control of undesirable outcomes of vaccination, the health of cold chain, and management of the epidemic of infectious diseases.

- Non-communicable diseases: Standards of this field are also focused on the most common and most complicated non-communicable diseases in Iran, such as type 2 diabetes mellitus, high blood pressure, high blood lipids, heart and brain strokes, and cancer.

- Population and family health: These standards emphasize reproductive health, the health of pregnant mothers, midlife health people, elderly health, as well as the health of infants and children.

- Mental-social health and addiction: Standard accentuated on proper management of psychiatric disorders such as epilepsy, mental retardation, dementia, and schizophrenia. In addition to focusing on the spread of addiction and substance abuse treatment, this program focuses on mental health in disasters as well as appropriate management of issues such as post-traumatic stress disorder (PTSD).

- Teenage, youth, and school health: The standards of this field are mainly focused on school health and issues such as health education and annual screening examinations. Programs related to teenager and youth health also refer to the maturity of teenagers and sexual health.

- Disaster management: Standards developed for this field emphasize the assessment of the physical vulnerability of health centers, surveying the preparedness of families and public places against disasters, the phase prior to a disaster in carrying out preventive measures, and appropriate preparation in the occurrence of various proba-

ble disasters, measures taken during a disaster to show the best reaction, as well as measures taken after a disaster for timely reduction of fatal and financial loss.

- Environmental health: These standards have put emphasis on the health of drinking water, sewage, wastes, air, and sanitary environment healthcare facilities.

- Occupational health: Standards of this field emphasize the physical, chemical, the microbial, and ergonomic status of the work environment, safety and occupational accidents in the workplace, monitoring of the health performance of the work centers, as well as workers' health status and their periodic examination.

- Oral health: Standards in this field emphasize identifying care plans of target groups, their educational and interventional needs analysis, developing care plans based on identified needs as well as the accurate implementation of oral healthcare processes.

- Healthy nutrition: Standards of this area include the development of proper nutrition, the management of nutrition-related diseases, attention to nutrition in different periods of life, counseling to patients with nutrition-related illnesses, prevention, and control of iodine deficiency disorders, focus on nutrition in disasters, and community education to improve the nutritional status.

- Health education and promotion: The standards of this field emphasize educational needs assessment of the target groups, the development of educational content in a scientific manner based on need assessment results, observance of the principles of health education, and promotion in the provision of training to target groups, as well as the management of the activities of healthy volunteers.

- Medication and laboratory: Standards in this field focus on providing a list of licensed medication for prescription in the form of pharmacopeia, supervision of the accurate implementation of the pharmacopeia, assessment, and enhancement of safety in prescribing and using medication, hygienic maintenance, distribution, and prescription of medication, educating society for the correct use of medication, providing necessary input of laboratories, appropriate management of current technical and administrative processes of laboratories, assessment and enhancement of laboratory safety, and their waste management.

5. Discussion

Accreditation standards are generally categorized into two groups of departmental and functional. Although departmental standards attempt to assess the performance status and the means by which specialized services are provided in a department or specific unit, functional standards attempt to assess the overall performance of an organization. Therefore, departmental standards entirely belong to one unit or department of an organization, such as the nutrition or central sterilization department of a hospital. However, functional standards, which focus on aspects such as enhancement in quality and safety, are exemplified in all departments of a hospital. Even though, nowadays, many accreditation models around the world are a combination of both standards in order to achieve their goals (30, 31).

Studying the accreditation models in the field of primary healthcare shows that these models are mainly functionally designed, and some of them have used a consolidated approach (functional-departmental). Regardless of the fact that most developed countries use the functional approach (32-35), some countries, especially developing countries (Eastern Mediterranean region), use the consolidated approach and incorporate the departmental standards (36-38). With regard to the current model being departmental, comparative samples have been selected from the EMR for further discussion.

The accreditation model of Jordan is among the best accreditation models in the realm of primary healthcare that has been approved by ISQua (39). In addition to functional standards, this model has departmental standards in the domains of health education and promotion, drug management, clinical diagnostic services, emergency care, and disease prevention (36). The accreditation model of Saudi Arabia in the realm of primary health care, which also uses the consolidated approach and is approved by ISQua (39), encompasses departmental domains such as maternal and child healthcare, health education and promotion, safety, communicable diseases, non-communicable diseases, elderly healthcare, oral health care, emergency services, environmental health care, laboratory services, radiology, and medication (38). The accreditation model of Egypt, which is also among pioneer models in primary healthcare in the world, encompasses numerous technical domains such as healthy nutrition, child health, health education, and promotion, maternal health and fertility, screening and timely diagnosis of disease, prevention, and control of endemic diseases, environmental health, laboratory services, aggressive surgery, emergency care, radiology, limited surgeries, and drug management (37).

The final model designed in this study includes an extensive population and encompasses all processes and activities in the twelvefold health delivery units. Therefore, this model has 231 standards and 3,605 measures in the twelvefold health delivery units. In addition, contrary to the departmental model developed in this study, the three accreditation models mentioned in EMR do not have a sufficient population in their standards and are only satisfied by including a limited number of standards/measures in each domain. Among the health delivery units, the com-

municable diseases unit is the most extensive, and oral health has the most limited standards/measures. This is due to the extent of the job description for the communicable disease unit and the limited job description for the oral health unit. In addition, the communicable disease unit is the oldest and most developed domain, and the oral health unit is among the newest health delivery units.

During the process of Delphi, the highest and lowest score for significance goes to disaster management and medication and laboratory, respectively. The reason can be due to the numerous disasters in Iran and their destructive consequences, and also the occurrence of recent disasters. In addition, the low score for significance in the medication and laboratory unit can be due to the limited activities of this domain in primary healthcare as well as their non-preventive essence. The highest and lowest score for feasibility also goes to healthy nutrition and mental-social health, and addiction. The reason can be the easier and low-cost activities of the healthy nutrition unit because of their being education-based compared to required interventions in other related units. Also, serious cultural barriers such as society's inappropriate views toward the importance of mental illnesses and the non-scientific reaction to mental problems in society have resulted in greater difficulties for intervention in this domain.

Regarding the rejected measures in the Delphi process, it is necessary to explain that out of the 12 service delivery units, only seven units had criteria that were not approved by experts. The point to consider in this regard is that all developed measures were approved in terms of the criterion of "importance" by obtaining proper scores, and the non-approval of a small number of them is related to not obtaining the required quorum in the criterion of "feasibility". The reason given by the experts for not accepting these measures was such as the costly requirements of the measures, idealism, or lack of compliance with the technologies available in the primary healthcare system of Iran. These include measures related to the need for safety-related equipment as well as the quality of physical factors in the workplace such as light, sound, and radiation; the existence of some managerial and executive frameworks for screening and continuous monitoring of communicable, non-communicable, and psychological diseases in the society; the need to refer people with social problems to relevant specialists and institutions; the need to assess the level of structural safety of residential houses covered by the health system; and the need to pay for an oral health unit with some complex and costly oral care.

The strengths of this study in the research procedure are the target-based selection of experts from all across Iran, experts' high response rate, the high score obtained by measures, and elimination of a few measures. Among the strengths of this study in the results obtained (final model), we can point to all of the twelve-fold units of primary healthcare, developing appropriate standards/measures for all processes and related activities, focusing on all the main aspects of a scientific evaluation, i.e., input, process, and output, as well as considering various levels of prevention, i.e., eliminating the underlying risks of disease, screening, treatment and rehabilitation in care standards. Among the limitations of the research, we can point to challenges facing the Delphi, i.e., confidence in experts being specialized, confidence in remaining anonymous, as well as the management of extreme responses (26).

5.1. Conclusions

This study has achieved a comprehensive model for accreditation of primary healthcare in Iran. However, it is necessary that this model follow the pilot test procedure in the primary healthcare center to be further refined and completed in the executive phase. Researchers anticipate that developing and implementing the accreditation plan based on this model may result in the continuous enhancement of quality and obtaining acceptable performance in the realm of primary healthcare in Iran; thereby, increasing the health level and satisfaction in society. Without a doubt, the methodology of this study and its developed standards may also be beneficial for other countries that are attempting to develop a similar model.

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Footnotes

Authors' Contribution: Jafar Sadegh Tabrizi, study design, proposal writing, data interpretation, article drafting; Farid Gharibi, study design, proposal writing, data gathering, data analysis, data interpretation, article drafting, supervision; ED, Study design, data gathering, data interpretation, article drafting, and revision of the manuscript for important intellectual content. All authors read and approved the final manuscript.

Conflict of Interests: The authors declare that there is no conflict of interest.

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References

1. El-Jardali F, Jamal D, Dimassi H, Ammar W, Tchaghchaghian V. The impact of hospital accreditation on quality of care: Perception of Lebanese nurses. *Int J Qual Health Care*. 2008;**20**(5):363–71. doi: 10.1093/intqhc/mzn023. [PubMed: 18596050].
2. Zegers M, de Bruijne MC, Wagner C, Hoonhout LH, Waaijman R, Smits M, et al. Adverse events and potentially preventable deaths in Dutch hospitals: Results of a retrospective patient record review study. *Qual Saf Health Care*. 2009;**18**(4):297–302. doi: 10.1136/qshc.2007.025924. [PubMed: 19651935].
3. Bogh SB, Falstie-Jensen AM, Hollnagel E, Holst R, Braithwaite J, Johnsen SP. Improvement in quality of hospital care during accreditation: A nationwide stepped-wedge study. *Int J Qual Health Care*. 2016;**28**(6):715–20. doi: 10.1093/intqhc/mzw099. [PubMed: 27578631].
4. Tabrizi JS, Gharibi F, Pirahary S. Developing of national accreditation model for rural health centers in iran health system. *Iran J Public Health*. 2013;**42**(12):1438–45. [PubMed: 26060646]. [PubMed Central: PMC4441941].
5. Greenfield D, Braithwaite J. Health sector accreditation research: A systematic review. *Int J Qual Health Care*. 2008;**20**(3):172–83. doi: 10.1093/intqhc/mzn005. [PubMed: 18339666].
6. Jovanovic B. Hospital accreditation as method for assessing quality in health care. *Arch Oncol*. 2005;**13**(3-4):156–7.
7. Greenfield D, Braithwaite J. Developing the evidence base for accreditation of healthcare organisations: A call for transparency and innovation. *Qual Saf Health Care*. 2009;**18**(3):162–3. doi: 10.1136/qshc.2009.032359. [PubMed: 19467994].
8. Greenfield D, Pawsey M, Naylor J, Braithwaite J. Are accreditation surveys reliable? *Int J Health Care Qual Assur*. 2009;**22**(2):105–16. doi: 10.1108/09526860910944601. [PubMed: 19536962].
9. Braithwaite J, Westbrook J, Pawsey M, Greenfield D, Naylor J, Iedema R, et al. A prospective, multi-method, multi-disciplinary, multi-level, collaborative, social-organisational design for researching health sector accreditation [LP0560737]. *BMC Health Serv Res*. 2006;**6**(113):1–12. doi: 10.1186/1472-6963-6-113. [PubMed: 16968552]. [PubMed Central: PMC1584229].
10. Shaw CD. *Toolkit for accreditation programs*. Melbourne, Australia: International Society for Quality in Health Care (ISQua); 2004.
11. Schmaltz SP, Williams SC, Chassin MR, Loeb JM, Wachter RM. Hospital performance trends on national quality measures and the association with Joint Commission accreditation. *J Hosp Med*. 2011;**6**(8):454–61. doi: 10.1002/jhm.905. [PubMed: 21990175]. [PubMed Central: PMC3265714].
12. Merkow RP, Chung JW, Paruch JL, Bentrem DJ, Bilimoria KY. Relationship between cancer center accreditation and performance on publicly reported quality measures. *Ann Surg*. 2014;**259**(6):1091–7. doi: 10.1097/SLA.0000000000000542. [PubMed: 24509202].
13. Chandra A, Glickman SW, Ou FS, Peacock WF, McCord JK, Cairns CB, et al. An analysis of the Association of Society of Chest Pain Centers Accreditation to American College of Cardiology/American Heart Association non-ST-segment elevation myocardial infarction guideline adherence. *Ann Emerg Med*. 2009;**54**(1):17–25. doi: 10.1016/j.annemergmed.2009.01.025. [PubMed: 19282062].
14. Lee MY. Motivations to pursue accreditation in children's mental health care: A multiple case study. *Nonprofit Manag Leadersh*. 2014;**24**(3):399–415.
15. World Health Organization. *The world health report 2008 - Primary health care (now more than ever)*. Geneva, Switzerland: World Health Organization; 2008.
16. Al-Assaf AF, Sheikh M; World Health Organization; Regional Office for the Eastern Mediterranean. *Quality improvement in primary health care: A practical guide*. Geneva, Switzerland: World Health Organization; 2004.
17. Buetow SA, Wellingham J. Accreditation of general practices: Challenges and lessons. *Qual Saf Health Care*. 2003;**12**(2):129–35. doi: 10.1136/qhc.12.2.129. [PubMed: 12679510]. [PubMed Central: PMC1743687].
18. O'Beirne M, Zwicker K, Sterling PD, Lait J, Lee Robertson H, Oelke ND. The status of accreditation in primary care. *Qual Prim Care*. 2013;**21**(1):23–31. [PubMed: 23735631].
19. Gharibi F, Dadgar E. Pay-for-performance challenges in family physician program. *Malays Fam Physician*. 2020;**15**(2):19–29. [PubMed: 32843941]. [PubMed Central: PMC7430307].
20. Ghavarskhar F, Matlabi H, Gharibi F, Sertyesilisik B. A systematic review to compare residential care facilities for older people in developed countries: Practical implementations for Iran. *Cogent Soc Sci*. 2018;**4**(1):1478493. doi: 10.1080/23311886.2018.1478493.
21. Gharibi F, Kassaeian SS, Kahouei M, Vailnezhadi A. [Effectiveness of health communicators program in promoting of community knowledge, attitude and practice in Iran through educational interventions: A systematic review]. *Koomesh*. 2020;**22**(4):563–73. Persian. doi: 10.29252/koomesh.22.4.563.
22. Nekoei Moghadam M, Sadeghi V, Parva S. Weaknesses and challenges of primary healthcare system in Iran: A review. *Int J Health Plann Manage*. 2012;**27**(2):e121–31. doi: 10.1002/hpm.1105. [PubMed: 22009801].
23. Tabrizi JS, Gharibi F, Wilson AJ. Advantages and disadvantages of health care accreditation mod-els. *Health Promot Perspect*. 2011;**1**(1):1–31. doi: 10.5681/hpp.2011.001. [PubMed: 24688896]. [PubMed Central: PMC3963612].
24. Tabrizi JS, Gharibi F. Primary healthcare accreditation standards: A systematic review. *Int J Health Care Qual Assur*. 2019;**32**(2):310–20. doi: 10.1108/IJHCQA-02-2018-0052. [PubMed: 31017069].
25. Gharibi F, Tabrizi JS. Development of an accreditation model for health education and promotion programs in the Iranian primary healthcare system: A Delphi study. *Health Promot Perspect*. 2018;**8**(2):155–62. doi: 10.15171/hpp.2018.20. [PubMed: 29744312]. [PubMed Central: PMC5935820].
26. Kim YS, Han SH, Hwang JH, Park JM, Lee J, Choi J, et al. Development of the Korean framework for senior-friendly hospitals: A Delphi study. *BMC Health Serv Res*. 2017;**17**(1):528. doi: 10.1186/s12913-017-2480-0. [PubMed: 28778159]. [PubMed Central: PMC5545032].
27. Lawshe CH. A quantitative approach to content validity. *Personnel Psychology*. 1975;**28**(4):563–75. doi: 10.1111/j.1744-6570.1975.tb01393.x.
28. Lee PP, Sultan MB, Grunden JW, Cioffi GA; I. O. P. Consensus Panel. Assessing the importance of IOP variables in glaucoma using a modified Delphi process. *J Glaucoma*. 2010;**19**(5):281–7. doi: 10.1097/IJG.0b013e3181b4ca8d. [PubMed: 19855301].
29. Culley JM. Use of a computer-mediated Delphi process to validate a mass casualty conceptual model. *Comput Inform Nurs*. 2011;**29**(5):272–9. doi: 10.1097/NCN.0b013e3181fc3e59. [PubMed: 21076283]. [PubMed Central: PMC4322391].
30. Rooney AL, Van Ostenberg PR. *Licensure, accreditation, and certification: Approaches to health services quality*. USA: Center for Human Services; 1999.
31. Tabrizi J, Gharibi F. Systematic survey of accreditation models for designing a national model. *Sci J Kurdistan Univ Medical Sci*. 2011;**16**(3).
32. Joint Commission International. *Joint commission international accreditation standards for primary care centers*. 1st ed. Illinois, USA: Joint Commission International; 2008.
33. Campbell SM, Chauhan U, Lester H. Primary medical care provider accreditation (PMCPA): Pilot evaluation. *Br J Gen Pract*. 2010;**60**(576):295–304. doi: 10.3399/bjgp10X514800. [PubMed: 20594431]. [PubMed Central: PMC2845495].
34. Accreditation Agrement Canada. *Ambulatory care services*. Ottawa, Canada: Accreditation Agrement Canada; 2021, [cited 2020]. Avail-

able from: https://store.accreditation.ca/products/ambulatory-care-services.
35. Medical School Accreditation Committee. *Standards for assessment and accreditation of primary medical programs by the Australian medical council 2012*. Australia: Australian Medical Council; 2012.
36. Health Care Accreditation Council. *Primary health care accreditation standards (Jordan)*. Jordan: Health Care Accreditation Council; 2021, [cited 2020]. Available from: http://hcac.jo/en-us/Accreditation/Accreditation-Programs.
37. Egyptian Ministry of Health and Population. *Standards for primary healthcare units/centres (Egypt)*. Egypt: Egyptian Ministry of Health and Population; 2021, [cited 2020]. Available from: http://www.mohp.gov.eg/DocLib9/p9.pdf.
38. Ministry of Health. *Primary healthcare standards (Saudi Arabia)*. Saudi Arabia: Ministry of Health; 2021, [cited 2020]. Available from: http://www.moh.gov.sa/depts/Pharmacy/Documents.pdf.
39. International Society for Quality in Health Care. *Guidelines and principles for the development of health and social care standards*. 4th ed. Dublin, Ireland: International Society for Quality in Health Care; 2015.