Accreditation of primary health care services: A systematic review

Babak Rastegarimehr[1], Ahmad Ahmadi Teymourlouy[1], Hasan Abolghasem Gorji[1,2]

Abstract:

Accreditation of health services is one of the criteria for achieving the predetermined standards for health organizations. Therefore, the purpose of this systematic study was to investigate the primary health care (PHC) accreditation programs in the world and compile a summary of these programs in order to identify the areas and dimensions of these standards. This systematic review was conducted on online database studies, including PubMed, Scopus, Web of Science, and Google Scholar, using comprehensive terms. The inclusion criteria included all qualitative, quantitative, and mixed-method studies published in any language from 1990 to December 2022. The studies were evaluated with Joanna Briggs Institute Critical Appraisal Tools (JBI) critical appraisal tools checklist, and finally, the data were analyzed using the framework analysis method. The findings of 10 studies that were included in this study cover four main topics regarding the functions of the health system: stewardship, resource production, financing, and service delivery, as well as 10 sub-topics: policy making, interdepartmental leadership, monitoring and evaluation, human resources, equipment and medicine, information management, gathering of financial resources, capacity to provide services, access, and quality of services. In the accreditation of PHC, in addition to paying attention to performance indicators, indicators such as satisfaction and rights of clients and employees, access, information technology, coordination, integration of care, financing, and management of resources and equipment should also be considered.

Keywords:

Accreditation, health system, primary health care, quality, systematic review

Introduction

[1]Department of Health Services Management, School of Health Management and Information Sciences, Iran University of Medical Sciences, Tehran, Iran, [2]Health Management Research Institute, Iran University of Medical Sciences, Tehran, Iran

Address for correspondence:
Dr. Ahmad Ahmadi Teymourlouy, Department of Health Services Management, School of Health Management and Information Sciences, Iran University of Medical Sciences, Tehran, Iran. E-mail: ahmadiseyed@ gmail.com

According to the definition of the World Health Organization (WHO), primary health care (PHC) is "necessary health care that is provided using scientific and practical methods and technology and is acceptable from the point of view of the society, accessible to individuals and families, justifiable in terms of cost, and at the first level of contact for people."[1] PHC service centers serve as the initial point of contact for individuals inside the health system. The primary objective of these centers is to offer easily available services that promote and enhance the well-being of individuals residing within their respective regions.[2] Although PHC groups play a crucial role in the health system, the 2008 report from the WHO highlights that many nations did not adequately prioritize PHC.[3]

In recent decades, the issue of quality improvement in health care systems has been considered.[4,5] The understanding and concept of quality and the method of intervention for the quality of care and guaranteeing the safety of care have evolved and improved over time with the influence of various ideas and industries other than the health industry.[6] One of the criteria for achieving predetermined standards for health organizations is accreditation.[7] Accreditation is defined as "achieving goals and achievements with predetermined standards in health care, which must be reviewed by people outside the system."[8] It is determined to achieve the goals of the health system.[9] Currently, accreditation is an effective method to improve the quality

of health services in various countries.[3] Accreditation is seen by many institutions and organizations as a vital tool for quality transformation, and the topic of quality in health care has been the subject of extensive conversation in recent years.[10]

The concept of accreditation began in the United States and evolved from the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), which serves as the benchmark for accreditation programs used globally. Subsequently, the accreditation scheme was extended to additional nations, serving as a means to assess the caliber of health care services.[11] The majority of studies pertaining to accreditation mostly concentrate on hospitals. The field of PHC has a scarcity of research. Thus, accreditation in the realm of PHC is a recent concern in contrast to the certification of hospitals.[12] Therefore, more inquiry is necessary to analyze the mechanisms that can improve the implementation processes of certification in basic health care settings, as this has the potential to avert future issues. Policy transfer theory is a useful analytical framework for examining policy processes and the transfer of policies from one country or setting to another, particularly the transfer of accreditation policy. Thus, following the guidance of the WHO and the emphasis on reputable scientific texts, utilizing a proficient and comprehensive accreditation model that relies on suitable performance indicators can effectively enhance the operational and clinical performance of primary health centers.[3]

Therefore, the aim of this systematic study was to investigate the PHC accreditation programs in the world and compile a summary of these programs to identify the areas and dimensions of these standards.

Methods

Data source and search strategy
The present study employed a systematic review methodology spanning from 1990 to December 14, 2022. Studies were searched in the international databases of Web of Science, Scopus, Google Scholar, and PubMed, and the complete search strategy for each database is shown in Table 1. The study focused on the keywords: primary health care OR health care AND accreditation OR evaluation OR assessment AND model OR program OR standard. On May 20, 2023, the databases were searched to ensure that the most recent relevant studies were not missed.

Inclusion and exclusion criteria
In this research, the studies were included based on the following criteria: all quantitative, qualitative, mixed studies, and studies in any language that have effective dimensions and components in the accreditation and

Table 1: Search strategy in the studied databases

Database	Syntax finalized
PubMed	(accreditation*[tiab] OR Certification*[tiab] OR Licensure*[tiab] OR permit*[tiab] OR License*[tiab] OR Licensing[tiab] OR Credentialing[tiab] OR "Quality Management"[tiab] OR "quality assessment"[tiab] OR "quality evaluat*"[tiab]) AND ("Community Health Center*"[tiab] OR "Neighborhood Health Center*"[tiab] OR "Community Health Service*"[tiab] OR ("Health Service*"[tiab] AND Community[tiab]) OR (Service*[tiab] AND "Community Health"[tiab]) OR "Community Health Care"[tiab] OR ("Health Care"[tiab] AND Community[tiab]) OR "Community Healthcare"[tiab] OR "comprehensive health center"[tiab] OR "urban health service center*"[tiab] OR "rural health service center*"[tiab] OR "Primary Health Care"[tiab] OR "health center"[tiab] OR "health service*"[tiab])
Scopus	TITLE-ABS (accreditation OR Certification OR Licensure OR permit OR License OR Licensing OR Credentialing OR "Quality Management" OR "quality assessment" OR "quality evaluat*") AND TITLE-ABS("Community Health Center*" OR "Neighborhood Health Center*" OR "Community Health Service*" OR ("Health Service*" AND Community) OR (Service* AND "Community Health") OR "Community Health Care" OR ("Health Care" AND Community) OR "Community Healthcare" OR "comprehensive health center" OR "urban health service center*" OR "rural health service center*" OR "Primary Health Care" OR "health center" OR "health service*")
Web of Science	TS=(accreditation* OR Certification* OR Licensure* OR permit* OR License* OR Licensing OR Credentialing OR "Quality Management" OR "quality assessment" OR "quality evaluat*") AND TS=("Community Health Center*" OR "Neighborhood Health Center*" OR "Community Health Service*" OR ("Health Service*" AND Community) OR (Service* AND "Community Health") OR "Community Health Care" OR ("Health Care" AND Community) OR "Community Healthcare" OR "comprehensive health center" OR "urban health service center*" OR "rural health service center*" OR "Primary Health Care" OR "health center" OR "health service*")
Google Scholar	(accreditation* OR Certification* OR Licensure* OR permit* OR License* OR Licensing OR Credentialing OR "Quality Management" OR "quality assessment" OR "quality evaluat*") AND ("Community Health Center*" OR "Neighborhood Health Center*" OR "Community Health Service*" OR ("Health Service*" AND Community) OR (Service* AND "Community Health") OR "Community Health Care" OR ("Health Care" AND Community) OR "Community Healthcare" OR "comprehensive health center" OR "urban health service center*" OR "rural health service center*" OR "Primary Health Care" OR "health center" OR "health service*")

assessment of PHC. Also, studies on the subject of medical and hospital accreditation, which were reviews, letters to the editor, reports, theses, and abstracts presented in conferences and seminars, were excluded from this research.

Screening and study selection
Upon concluding the search, a total of 14,654 studies were acquired from the databases, while an additional 11 studies

were retrieved through the study of relevant studies' references. All searched items were entered into EndNote software (V. X9), and after removing duplicate studies, 8355 studies remained. After initial screening based on the title and abstract, 63 studies were independently reviewed by two researchers based on full text review and inclusion criteria (B.R. and A.A.T.). Cases of disagreement were also examined by a third researcher (H.A.G.), and 10 studies were included in this study [Figure 1]. Finally, the data were extracted based on the name of the author, year of publication, location of the study, main purpose of the study, approach and design, method and tools of information collection and analysis, and dimensions of primary health care accreditation [Table 2].

Data extraction and quality assessment

Data extraction was performed based on the following: first author, year of publication, country, purpose of the study, type of study, methods and tools of data collection and analysis, main results, and quality assessment score. To evaluate the quality of the studies, JBI's critical appraisal tool checklists were used for cross-sectional (eight questions),[23] qualitative (10 questions),[24] and semi experimental (nine questions)[25] studies. Items with a score above 85% were classified as excellent quality, between 75% and 85% as good quality,

between 55% and 75% as average quality, and below 55% as poor quality. From the ten reviewed studies based on Table 2, four studies had excellent quality, two studies had good quality, and four studies had moderate quality.

Data synthesis

To analyze the data, a framework analysis based on the four functions of the health system was used in such a way that the findings of each study were divided into meaningful units after extracting them as codes, which were then categorized according to their similarities and differences, and four main themes were placed. In total, four main topics and 10 subtopics were obtained [Table 3].

Results

The findings of this study were divided into four main themes: stewardship, resource production, financing, and service delivery, and 10 subthemes: policymaking, interdepartmental leadership, monitoring and evaluation, human resources, equipment and drugs, information management, gathering of financial resources, capacity to provide services, access, and quality of services, which were categorized according to the functions of the health system.
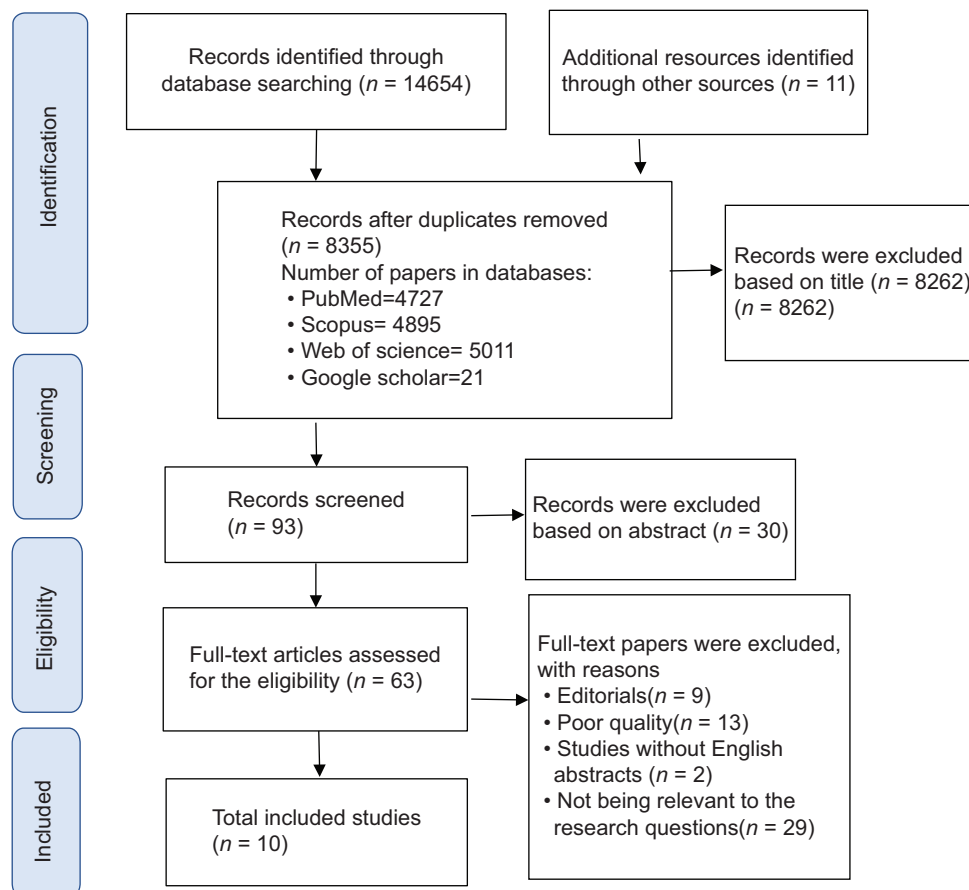
Figure 1: PRISMA flow diagram of the article search process

Table 2: The general characteristics of the included studies

First author (year, country)	Main purpose	Approach and design	Methods and tools for collecting and analyzing information	Accreditation dimensions of comprehensive health services	Quality assessment score
Macinko J (2007, Brazil)[13]	Determining the validity of the rapid assessment method of primary care centers and its potential use in measuring and improving PHC services in developing countries	Cross Sectional	PCAT questionnaire, completion of the questionnaire by users' care services, descriptive and inferential statistics (regression analysis)	Access, first contact (initial contact with the patient), comprehensiveness, coordination, family focus, and community orientation	6/8 (85%)
Tabrizi JS (2021, Iran)[14]	Development of a departmental accreditation model for PHC in Iran	Qualitative	Delphi technique, questionnaire completion by experts, and descriptive statistics	Input requirements: manpower, medical and nonmedical equipment, materials, and financial resources. Process: technical/clinical aspects of service delivery and output. Consequence and impact: provision of health service packages in all specialized units of the PHC system	8/10 (80%)
El‑Jardali F (2013, Lebanon)[15]	Determining the readiness of PHC centers in Lebanon to implement the newly developed accreditation standards, including the challenges and measures/strategies required	Cross Sectional	Questionnaires, questionnaire completion by PHC providers, and quantitative and qualitative analysis	Establishing an effective primary care clinic, the presence of a safe primary care clinic, the cooperation of the right people to provide primary care, the provision and coordination of PHC, the existence of accessible and efficient health information systems, monitoring quality, and achieving positive results. Assessment of quality (access, appropriateness, continuity of care, effectiveness, efficiency, safety, and continuous improvement of performance) and levels (basic, advanced, excellent), safety	5/8 (62.5%)
Alsakkak MA (2017, Saudi Arabia)[16]	Evaluation of the first phase of the Central Board of Accreditation of Health Institutions in the PHC accreditation cycle	Cross sectional	Questionnaires, online questionnaire completion by health care organizations, and quantitative analysis	Leadership, human resources, information management, quality management, patient safety, public clinics, referrals, medical records, oral and dental health, patient and family rights, health education and health promotion, radiology services, maternal and child health, vaccination, communicable and noncommunicable diseases, geriatric care, environmental health, emergency services, community participation, facility management and safety, infection control and prevention, laboratory services, and pharmaceutical services	5/8 (62.5%)
O'Beirne M (2013, Canada)[17]	Examining the current status of health care accreditation	Qualitative (literature review and interview)	Data collection form and interview guide, conducting interviews, qualitative content analysis	Development of hospital accreditation systems, accreditation of specific services, accreditation of health care provider capacity	9/10 (90%)
Zhao Z (2015, China)[18]	Providing a quality assessment framework for public health services	Qualitative	Questionnaire and panel of experts, questionnaire completion, panel holding, qualitative content analysis	Structure quality, process quality, outcome quality, and satisfaction	7/10 (70%)
Tabrizi JS (2021, Iran)[19]	Development of a national functional accreditation model for PHC with	Mixed methods (literature review and Delphi)	Data collection form and questionnaire, literature review, Delphi,	Access to care, community-based care, continuity of care, quality and safety of care, compliance	9/10 (90%)

Contd...

Table 2: Contd...

First author (year, country)	Main purpose	Approach and design	Methods and tools for collecting and analyzing information	Accreditation dimensions of comprehensive health services	Quality assessment score
	an emphasis on family functioning in Iran		quantitative analysis, and qualitative content analysis	with patient rights, information management, human resource management, care effectiveness, care delivery planning, care evaluation, resource management, and health system research	
Tabrizi JS (2013, Iran)[20]	Development of a national accreditation model for rural health centers in Iran	Mixed methods (literature review and Delphi)	Data collection form and questionnaire, literature review, Delphi, quantitative analysis, and qualitative content analysis	Impact on quality improvement, impact on security improvement, improvement of health care management integration, establishment of health care organization database, design of an international branch, provision of advice for other accreditation models, strengthening of public trust, emphasis on efficiency and effectiveness, innovation, impact on global accreditation standards, emphasizing patient rights and providing an ethical atmosphere, focusing on information management, organizational background, effective relationship with stakeholders, appropriate public awareness (public reporting), agreement with AGIL index, development of scope of activity, accreditation with ISQua, paying attention to all three types of performance indicators, having a goal statement, acting voluntarily, nongovernmental activity, being suitable for different organizations, developing coverage and scientific level, and increasing international activities	9/10 (90%)
Beatty KE (2016, US)[21]	Determining patterns and predictors of community health unit accreditation in Missouri	Qualitative (interview)	Interview guide, conducting interviews, and qualitative content analysis	Community health assessment, community health improvement plan, strategic plan, participation of community members in determining priorities, time management, workforce accreditation (managers, nurses, public health workers, and support forces), quality improvement training, planning, funding, local board and social health, organizational capacity and leadership, creation of crediting infrastructure, and application of information technology	9/10 (90%)
Abdel-Razik M (2012, Egypt)[22]	The quality of primary health services in the framework of the national accreditation program	Semi experimental	Checklist, checklist completion by health care workers, and quantitative analysis	Health service resources, health care unit work environment, infection control, laboratory services, pharmaceutical services, outpatient services, referral services, prenatal and postpartum care services, maternity care services, family planning services, healthy newborn care services, sick childcare services, immunization services, and health office services	5/9 (56%)

PCAT=Primary Care Assessment Tool

Table 3: Themes extracted from the reviewed articles

The main theme	Subtheme	Final codes
Stewardship	Policymaking	Strategic plan, community health improvement plan, organization planning, organizational background, and care delivery planning
	Interdepartmental leadership	Increasing international activities, nongovernmental activities, and effective relationship with stakeholders
	Monitoring and evaluation	Achieving positive results, quality assessment, evaluation of care, creation of accreditation infrastructure, accreditation of specific services, accreditation of health care provider capability, and continuous performance improvement
Resource production	Human resources	Accreditation of the workforce (managers, nurses, public health workers, and support forces), adequacy of the number of forces, training of human resources, and empowerment of personnel
	Equipment and drugs	Management of pharmaceutical services and management of medical and nonmedical equipment
	Information management	PHC system, application of information technology, correct recording of information, timely recording of information, creation of databases for health care organizations, and focus on information management
Financing	Gathering of financial resources	Provision of an appropriate budget; provision of a sufficient budget
Service delivery	Capacity to provide services	Providing and coordinating PHC, providing health service packages in all specialized units, infection control, laboratory services, pharmaceutical services, outpatient services, referral services, prenatal and postpartum care services, delivery care services, family planning services, healthy baby care services, sick baby care services, immunization services, health services office, public clinics, referrals, medical records, oral and dental health, rights of patients and their families, health education and health promotion, radiology services, maternal and child health, vaccination, communicable diseases, noncommunicable diseases, elderly care, and environmental health
	Access	Access to care, community-based care, continuity of care, family-centered, community-oriented, and first contact (initial contact with the patient)
	Quality of services	Emphasizing patient rights, strengthening public trust, emphasizing efficiency and effectiveness, efficiency, safety, innovation, quality and safety of care, compliance with patient rights, and effectiveness of care

Stewardship
Policymaking
Having a strategic plan based on the needs of the community, using information collected about the community to create and manage services, informing employees and customers about rules and responsibilities, having a committee of different members of the community in the field of providing services, and using various promotion models. Evidence-based health is one of the most important policy criteria.

Interdepartmental leadership
Increasing international activities to compare health indicators, improving nongovernmental activities, developing relations with the private sector, effective relations with stakeholders to use services, and introducing services were among the most important codes repeated in intersectoral leadership.

Monitoring and evaluation
Creating an accreditation infrastructure, continuously improving performance with standards and comparing existing criteria, quality control, achieving positive outcomes, having a quality improvement plan, continuous performance improvement, annual review of the quality improvement plan and required updates, controlling the success of the quality improvement plan,

receiving feedback from customers regarding safety and quality of services and satisfaction with services, using information collected about service quality, successes, and opportunities for quality improvement and rapid improvement in this area, identifying and controlling processes, and using indicators for improving quality and performance are the most important criteria in the field of evaluation and monitoring of service delivery.

Resource production
Human resources
Having a suitable and sufficient workforce, providing and maintaining the workforce, having a coordinated and cooperative workforce, a documented process of evaluating employees based on specific standards, having a job description for employees, having a comprehensive and up-to-date personnel file for employees, and guiding new employees and service providers and volunteers regarding their roles and responsibilities, having the necessary credibility of each team member to provide primary care services, training employees to identify and manage risk, monitoring and investigating the process of hidden and adverse events, training employees regarding safety and prevention of fire prevention, and continuous hand hygiene training for employees and service providers were among the most important codes repeated in this area.

Equipment and medicine

Management of consumable and capital equipment, maintenance and repair of equipment, management of consumable medicines, timely supply and effective maintenance of medicines, and vaccination are the most important aspects of equipment and medicine.

Information management

Creating a health care organization database, using information technology for documentation, using the primary health care system, using information technology, correct information recording, timely information recording, and focusing on information management are the most important indicators in this field.

Financing

Gathering of financial resources

Providing sufficient and appropriate budgets on time, the correct management of financial resources, and monitoring are the most important criteria for financing.

Service delivery

Capacity to provide services

Establishing a center to provide effective primary health care services, obtaining information about the needs of customers and society, obtaining information about new methods of providing health care, and distributing information about the services and programs provided are important for providing services. The establishment of public clinics, referral systems, medical records, oral and dental health, rights of patients and their families, health education and health promotion, radiology services, maternal and child health, vaccination, communicable diseases, noncommunicable diseases, elderly care, health, the environment, emergency services, community participation, facility management and safety, infection control and prevention, laboratory services, and pharmaceutical services are among the most important units providing services at the basic level of primary health care.

Access

Access is the concept of accessibility, cost-effectiveness, comprehensiveness, and acceptability of services and focuses on family- and community-oriented health care. Geographical, physical, time, economic, and cultural access are other dimensions of access, including timely messaging, patient referral standards, timely reporting of services provided to the patient, follow-up of diagnostic tests, and informing the patient and family. Positive or negative results as well as quick follow-up on abnormal diagnostic results are other important factors in accessing services.

Quality of services

Quality of services means respecting the patient's rights, meeting the needs and expectations of customers and service providers according to the current situation and efficiency of services, ensuring continuity of services for customers at all levels of health, and providing services from prevention to treatment, health promotion, and effectiveness through guaranteeing productivity. The right service for the right customers in the right way and at the right time. Efficiency also optimizes skills and minimizes service rework. Safety is also considered by maintaining and managing the risks of customers, society, service providers, and the learning environment, which are the most important codes raised in the discussion of service quality.

Discussion

The research focused on stewardship, resource production, funding, and service delivery. Care evaluation, continuous improvement, proper finance, equipment management, information technology utilization, stakeholder communication, and community-oriented care were set standards.

In a study that was conducted with the aim of determining the validity of the rapid assessment method of primary care centers using a Primary Care Assessment Tool (PACT), the things that were emphasized for the accreditation of services included the following: access, first contact (initial contact with the patient), comprehensiveness, coordination, and focus on family and community.[13] To create a national accrediting model for PHC centers located in rural areas, another study was carried out. This study highlights the importance of enhancing the quality and security of services while also underlining the necessity of fostering public trust for the successful implementation of certification. Furthermore, with the careful monitoring of performance indicators, it is imperative to take into account factors such as clients' rights, contentment, information management, and the enhancement and advancement of international communication to enhance the quality of health care services.[20] The findings of these studies align with the inquiries conducted in this research and underscore the significance of the discovered dimensions.

In the United States, a study was conducted with the aim of establishing models and predictors of credit patterns that the researchers referred to as things such as time management, funding and budgeting, human resource assessment, information technology, organizational leadership and capacity, community engagement, resources and equipment, and quality improvement training in performing appropriate accreditation.[26] A study conducted in Lebanon aimed to assess the preparedness for implementing the accreditation of PHC centers. The findings revealed that several factors are crucial for ensuring successful implementation, including the presence of health information systems, effective

coordination, adequate access to resources, appropriate staffing, collaboration between health care providers and patients, and comprehensive planning at all levels. The necessity of accreditation is evident.[15] The elements referenced in the aforementioned research provide support for the dimensions highlighted in this study, which include information management, human resources, leadership and policymaking, access, and service quality.

In the PHC accreditation programs in Saudi Arabia and Egypt, the areas of human resources, patients' rights, service delivery process, information management, structure and equipment, and community-oriented education have been considered.[16,22] Another study carried out in developed nations identified accreditation of health care providers and special services, quality of structure, satisfaction and access, and quality of processes and results as success factors in raising the standard of PHC services.[17,18]

Upon conducting a comparative analysis of the findings from this study with those of previous studies, it is evident that the dimensions and areas found in the present study bear resemblance to the areas and cases that have been highlighted in prior research. In general, the systems and programs of health services in the world have been periodically modified and changed. Therefore, functional areas and dimensions have also changed, and the use of accreditation standards requires flexibility in different areas and conditions.

Conclusion

Assessing the accreditation of PHC requires considering performance indicators, client and employee satisfaction, accessibility, information technology, care coordination, integration, financial aspects, and resource and equipment management. To address challenges in delivering PHC, an appropriate accreditation program is necessary to enhance service quality and align with health priorities, resources, and facilities. In countries with varying geographical areas and meteorological and cultural conditions, minor adjustments may be necessary to maintain standards in each location.

The development of health care standards should involve the active involvement of specialists, implementation by trained individuals within the organization, and evaluation by external inspectors. Health policy makers should use scientifically derived certification criteria to enhance health care services and meet diverse population needs across different contexts.

Ethical approval

This study was approved by the ethics committee of the Iran University of Medical Sciences (code: IR.IUMS. REC.1400.867).

Conflicts of interest

There are no conflicts of interest.

References

1. Bakhshi E, Ojaghi S, Kalantari R, Salimi N. Assessing the quality of primary health services and its effect on quality of life in recipients: A case study in a rural health center. J Health 2019;10:369-78.
2. Amiresmaili MR, Saberi SH, Nazempoor-Vaziri F, Barkhordari F. The challenges of urban health services centers. Health Inf Manag 2020;17:8-13.
3. Gharibi F, Jandaghi J, Moshiri E. Assessing the performance of comprehensive health care centers in Aradan district based on the national accreditation model. Koomesh J 2020;23:617-26.
4. Greenfield D, Braithwaite J. Health sector accreditation research: A systematic review. Int J Qual Health Care 2008;20:172-83.
5. Tabrizi JS, Gharibi F. Primary healthcare accreditation standards: A systematic review. Int J Health Care Qual Assur 2019;32:310-20.
6. Greenfield D, Hinchcliff R, Hogden A, Mumford V, Debono D, Pawsey M, *et al.* A hybrid health service accreditation program model incorporating mandated standards and continuous improvement: Interview study of multiple stakeholders in Australian health care. Int J Health Plann Manag 2016;31:e116-30.
7. Hakkak M, Hozni SA, Shahsiah N, Akhlaghi T. Design of hospital accreditation model: A qualitative study. Manag Strategies Health Syst 2017;2:201-14.
8. Quimbo SA, Peabody JW, Shimkhada R, Woo K, Solon O. Should we have confidence if a physician is accredited? A study of the relative impacts of accreditation and insurance payments on quality of care in the Philippines. Soc Sci Med 2008;67:505-10.
9. Lupo T. A fuzzy framework to evaluate service quality in the healthcare industry: An empirical case of public hospital service evaluation in Sicily. Appl Soft Comput 2016;40:468-78.
10. Joseph S. Impact assessment of accreditation in primary and secondary public health-care institutions in Kerala, India. Indian J Public Health 2021;65:110-5.
11. Alotaibi SY. Accreditation of primary health care centres in the KSA: Lessons from developed and developing countries. J Taibah Univ Med Sci 2023;18:711-25.
12. O'Beirne M, Zwicker K, Sterling PD, Lait J, Oelke N. The status of accreditation in primary care. Qual Prim Care 2013;21:23-31.
13. Macinko J, Almeida C, De Sá PK. A rapid assessment methodology for the evaluation of primary care organization and performance in Brazil. Health Policy Plann 2007;22:167-77.
14. Tabrizi JS, Gharibi F, Dadgar E. Developing a departmental accreditation model for primary healthcare in Iran. Middle East J Rehabil Health Stud 2021;8:e110127.
15. El-Jardali F, Ammar W, Hemadeh R, Jamal D, Jaafar M. Improving primary healthcare through accreditation: Baseline assessment of readiness and challenges in Lebanese context. Int J Health Plann Manag 2013;28:e256-79.

16. Alsakkak MA, Alwahabi SA, Alsalhi HM, Shugdar MA. Outcome of the first Saudi Central Board for accreditation of healthcare institutions (CBAHI) primary health care accreditation cycle in Saudi Arabia. Saudi Med J 2017;38:1132-6.

17. O'Beirne M, Oelke ND, Sterling P. A synthesis of quality improvement and accreditation mechanisms in primary healthcare: Canadian Foundation for Healthcare Improvement 2012;18:216.

18. Zhao Z, Cheng J, Xu S, Hou W, Richardus JH. A quality assessment index framework for public health services: A Delphi study. Public Health 2015;129:43-51.

19. Tabrizi JS, Gharibi F. Developing national functional accreditation model for primary healthcares with emphasis on family practice in Iran. Korean J Fam Med 2021;42:232-9.

20. Tabrizi J, Gharibi F, Pirahary S. National accreditation model for rural health centers. J Health 2013;4:232-40.

21. Beatty KE, Mayer J, Elliott M, Brownson RC, Abdulloeva S, Wojciehowski K. Barriers and incentives to rural health department accreditation. J Public Health Manag Pract 2016;22:138-48.

22. Abdel-Razik M, Tawfik A, Hemeda S, El-Rabbat M, Abou-ZeinaH A, Abdel-Latif G. Quality of primary health care services within the framework of the national accreditation program. Aust J Basic Appl Sci 2012;6:12-8.

23. Institute JB. JBI Checklist for Analytical Cross Sectional Studies. JBI Global; 2020.

24. Pearson A, Field J. JBI Critical Appraisal Checklist for Qualitative Research. Adelaide, Australia: Joanna Briggs Institute; 2011.

25. Institute JB. Critical Appraisal Checklist for Quasi-Experimental Studies. The Joanna Briggs Institute Critical Appraisal Tools for Use in JBI Systematic Reviews; 2017. p. 1-7.

26. Beatty KE, Mayer J, Elliott M, Brownson RC, Abdulloeva S, Wojciehowski K. Patterns and predictors of local health department accreditation in Missouri. J Public Health Manag Pract 2015;21:116-25.