

Developing a Hospital Accreditation Surveyors Model: Delphi Study

Dr ghazanfari (✉ maha5065@yahoo.com)

Tehran University of Medical Sciences

Dr mosadeghrad

Tehran University of Medical Sciences

Research Article

Keywords: Accreditation, Delphi study, Pluralistic evaluation, Model, surveyor

Posted Date: March 16th, 2022

DOI: <https://doi.org/10.21203/rs.3.rs-1402664/v1>

License: © ⓘ This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Abstract

Background: Accreditation surveyors determine the quality and safety status of hospital services by inspecting facilities, equipment and supplies; reviewing documents; interviewing staff, patients and their families; analyzing performance indicators; and informing the public in the form of an accreditation score. The Iranian hospital accreditation surveyors faces several challenges. The overall aim of this study was to develop a model for Iran national hospital accreditation surveyors model according to ISQua requirements.

Methods: This research uses the modified Delphi technique to develop and verify a model of Hospital Accreditation Surveyors. The first draft of the Hospital Accreditation Surveyors model was introduced through a critical review of 20 pioneer accreditation models and semi-structured interviews with 151 key informants from Public, private, semi-public, charity and military hospitals in Iran. two rounds of Delphi were conducted with 28 experts of hospital accreditation to verify the proposed model. Panel members were selected from authors of research articles and key speakers in the area of hospital accreditation, senior managers of the country's health system, university professors in the fields of health policy and management across the country.

Results: A comprehensive model for hospital accreditation surveyors in two parts of conceptual and procedural was introduced and verified in this study. In this model, a set of criteria are developed for surveyor selection in the domains of personality, attitude, qualifications, work experience, knowledge and skills, and behavior. Ways of empowering surveyors and the content of basic, advanced, and continuous training courses were identified. Deployment, compensation, and composition of accreditation teams and the tasks assigned to the surveyors are also determined. Finally, the evaluation methods of surveyor and surveyor management plan are identified.

Conclusion: A comprehensive hospital accreditation surveyors model was developed and verified. Systematic thinking is one of the advantages of the proposed model for Iranian hospital accreditation surveyors. In this model, special attention is paid to the selection, training, deployment, compensation, and evaluation of surveyors. Hospital accreditation bodies can use this model to develop or revise their hospital accreditation surveyors' models.

Background

Hospital accreditation "is the systematic evaluation and accreditation of a hospital by an independent organization using a set of structural, process, and outcome standards (1)." Accreditation surveyors determine the quality and safety of hospital services by inspecting facilities, equipment and supplies; reviewing documents; interviewing staff, patients and their families; analyzing performance indicators; and informing the public in the form of an accreditation score (2).

An accreditation certificate guarantees the quality of hospital services and provides a benchmark for hospital selection by patients, patient referral by doctors, and purchase of hospital services by health

insurance organizations (3). About 120 healthcare accreditation organizations in more than 80 countries around the world use different models to accredit health care facilities (4).

Studies of accreditation programs in the literature have reported mixed results. A 2011 review showed that 62% of the 26 studies reported the positive effect of the accreditation program on the quality of care and clinical outcomes of hospitals (5). Accreditation leads to improved hospital management and leadership, improved employee relations, reduced staff turnover, increased employee satisfaction, improved work processes, improved physical infrastructure, optimal management of resources and facilities, reduced nosocomial infections, reduced hospital mortality, reduced readmission rate, and increased hospital productivity (6) (7) (8) (9). In contrast, some other did not find a relationship between an accreditation program and quality and patient safety (10).

The Hospital Accreditation and Supervision Office of Iran's Ministry of Health and Medical Education has been responsible for hospital accreditation across the country since 2010. The Iranian Hospital Accreditation Program is public and mandatory. The first round of hospital accreditation took place in 2012–2013 with 8,104 measurable elements (MEs) for 38 hospital wards, and the second round took place in 2014–2015 using 2,157 MEs for 36 hospital wards by 20 to 25 accreditation surveyors. The third round took place in 2016–2017 using 248 standards and 903 MEs under 8 constructs, and the fourth round took place in 2019–2020 using 110 standards and 514 MEs under 19 constructs by 3 to 4 surveyors (11).

In general, Iran's hospital accreditation system consists of four dimension, including governance, standards, methods and surveyors, all of which must work well for the accreditation program to achieve its goals. The accreditation program should have an independent structure. Accreditation standards should be developed based on the principles of continuous improvement. The accreditation method should be patient-centered, valid, and reliable. Finally, accreditation surveyors should have the necessary competence to measure the degree of compliance with the standards. Reliability of accreditation results depends to a large extent on the abilities and performance of the surveyors (4).

Accreditation results are largely dependent on the judgment of surveyors, and any intentional or inadvertent mistake compromises their validity. Numerous studies have highlighted the important role of surveyors in hospital accreditation and the great impact they have on accreditation results (12) (13) (14) (15) (16).

In Iran, there is a direct relationship between hospital accreditation degree and the Hoteling tariff received from insurance companies, then accreditation directly affects hospital revenue (17). If accreditation surveyors do not have the necessary competence to correctly evaluate hospital performance, either hospitals or insurance companies will incur losses. Therefore, management of accreditation surveyors is crucial in this regard. However, there are no acceptable criteria for selection, deployment, and evaluation of hospital accreditation surveyors in Iran who often do not have sufficient knowledge and experience to perform this task. The validity of accreditation in Iran is also challenged by a lack of homogeneity in the knowledge, expertise, and experience of surveyors (18).

Various criteria have been used to select and evaluate surveyors, including decisiveness; tenacity; integrity; interpersonal communication skills; diplomacy and tact; being observant; perceptiveness; familiarity with survey principles and techniques; strategic, systemic, and critical thinking skills; interviewing skills; and active listening in different studies (19) (16) and deferent countries (20) (21) (22). The International Society for Quality in Healthcare (ISQua) has also established requirements for the management of surveyors under one standard and 11 criteria. The ISQua is a not-for-profit, independent, health care quality organization with members and contacts in over 100 countries. ISQua works to provide services to guide health professionals, providers, researchers, agencies and policy makers to achieve excellence in healthcare delivery to all people and to continuously improve the quality and safety of care. ISQua works closely and is in 'Official Relations' with the World Health Organization (23).

The purpose of this study is to provide a comprehensive model for the management of accreditation surveyors, including how to select, empower, deploy, compensate, and evaluate surveyors taking into account ISQua requirements.

Methods

This research uses the modified Delphi technique to develop and verify an Iran hospital accreditation surveyors model. The modified Delphi method was chosen because it allowed for expert interaction in the final round. This allowed members of the panel to provide further clarification on some matters and present arguments in order to justify their viewpoints. Studies have demonstrated that the modified Delphi method can be superior to the original Delphi method and perceived as highly cooperative and effective (24).

Also, In the classical Delphi technique, Expert Panel opinions are used to design an initial model in early stages, which is developed in later stages and presented to the expert panel to reach consensus. However, in the modified Delphi technique, an initial model is developed and then presented to the expert panel (25).

To develop the initial Iran hospital accreditation surveyors model, first a comparative review was conducted of the literature on hospital accreditation surveyor models in 20 countries, including United States, Canada, Australia, Taiwan, Malaysia, New Zealand, South Korea, France, United Kingdom, Turkey, Denmark, Egypt, Lebanon, Saudi Arabia, Iran, India, Thailand, Indonesia, Zambia, and South Africa.

These are countries with a long history of hospital accreditation. Some of these models have been adapted by other countries into native accreditation models. An attempt has been made to select countries from each of the six WHO regions. Access to information was another criterion for country selection. A six-step protocol was used, including identification of countries, identification of areas under study, search for relevant documents, document selection, data extraction, and reporting of the findings.

First, information about the studied areas was collected by visiting the websites of accreditation agencies in the selected countries as well as the website of the International Society for Quality in Health Care

(ISQua). Relevant articles were also extracted from valid databases and reviewed. A data collection form was used to collect data.

The interview questions were about the strengths and weaknesses of surveyor management, the appropriate criteria for selection and evaluation of surveyors, the content required for training, and the method of deployment.

The search of English databases covered the period from 1990 to 2020. Gale's seven stages of framework analysis were used to analyze the data. The results led to the identification of the codes that were used to develop the initial model (26)

Then, the strengths, weakness, and challenges of hospital accreditation surveyors in Iran were identified through interviews with 151 policymakers, managers and employees of MOHME's Office of Supervision and Accreditation as well as Iran, Shahid Beheshti, Tehran, Tabriz, Isfahan, Yazd and Shiraz Universities of Medical Sciences, accreditation surveyors, managers and experts of health insurance organizations, and hospital managers and employee. The pluralistic evaluation approach was used and the interviewees were selected using purposive and snowball sampling techniques. Finally, grounded theory (27) was used to develop an initial model of hospital accreditation surveyors in Iran. Developing an initial model using a comprehensive literature review and presenting it to the expert panel reduces the stages of the Delphi technique and accelerates the process of achieving the final results.

The Delphi technique was used to verify the proposed initial model. The members of the Delphi panel must have in-depth knowledge of and differing perspectives on the issue under study and be highly credible in relevant scientific communities. 28 individuals agreed to participate in the present research. The inclusion criteria for the expert panel invited to take part in the study were: Authors with at least three original research papers on hospital accreditation; keynote speakers in conferences on hospital accreditation; hospital CEOs and managers; and quality improvement managers as well as professors of health policy and management with at least 3 years of experience in accreditation. The expert panel with work experience in the field of accreditation were selected after reviewing their CVs. Authors of this article were excluded from this stage. The Delphi panelists' key demographic characteristics are presented in (Table 1). (28)

Table 1
Demographic characteristics of Delphi panel expert

Demographic variables	Frequency	Percentage
Gender	15	53/6
Male	13	46/4
Female		
Age	14	50
30 to 40 years	13	46/5
41 to 50 years	1	3/5
51 years or older		
Years of related experience	8	28/6
3 to 5 years	13	46/4
6 to 10 years	6	21/5
11 to 15 years	1	3/5
16 to 20 years		
Graduation degree	2	7/2
Master of Science	26	92/8
Doctor of Philosophy		
Occupation	4	14/3
Accreditation Office Experts	14	50
Faculty members	10	35/7
Quality Improvement managers		

92.8% of the participants had a PhD degree. The members of the expert panel had studied in various medical fields as well as health policy and management and health economics and were employed in the MOHME and Iran, Shahid Beheshti, Tehran, Tabriz, Isfahan, Yazd and Shiraz universities of medical sciences

In the first stage of the modified Delphi approach, the initial hospital accreditation surveyors model was presented to the expert panel in the form of a questionnaire. This instrument had been reviewed by five professors in the field of health policy and management and its face and content validity had been established. The total average CVI was 0.94, which is acceptable.

This questionnaire provided the initial hospital accreditation surveyors model, including Selection, training, deployment, and evaluation of surveyors.

Each section contained items for obtaining the opinions of expert panel on the strengths and weaknesses of the proposed model, potential challenges to its implementations, and their recommended solutions.

The opinions of the expert panel were analyzed using thematic analysis. Quotations taken from the interview transcripts were labelled with the letter 'E'. The role of the researchers was to study the comments of the expert panel and select the most repetitive suggestions for application in the initial model in the first round of Delphi. Finally, the proposed hospital accreditation model was modified based on the opinions of the expert panel.

In the second stage, the modified model of hospital accreditation surveyors in Iran was again presented to the expert panel in the form of a questionnaire to reach consensus. This approach is useful for converging expert panel opinions. First, a set of closed questions was used to ask expert panel about their agreement or disagreement with the key elements of the proposed model. These questions were rated on a 10-point Likert scale from 1 for 'strongly disagree' to 10 for 'strongly agree'. Moreover, using an open question, experts who rated an item less than 7 were asked to explain their reasoning. The information obtained from the questionnaires was analyzed in SPSS 24.

Measures of central tendency and dispersion, including mean, median, and standard deviation, were used to analyze the data obtained from the second round of the Delphi method. For all questionnaire items, the mean above 7 and the standard deviation less than 2, are the acceptable values for the model to be accepted by the expert panel.

This study formed a part of a PhD thesis in Tehran University of Medical Sciences. Ethical approval of the study was obtained from the University's Research Ethics Committee (Ethics code: IR.TUMS.SPH.REC.1396.4870). The main ethical issues involved in this study were respondents' rights to self-determination, anonymity and confidentiality. Respondents were given full information on the purpose and design of the study through a letter. Participants' participation was voluntary and they could stop participating in the study at any point. Written and verbal informed consent was obtained from all participants. All methods were carried out in accordance with relevant guidelines and regulations.

Results

An initial model of hospital accreditation surveyors is developed based on the proposed surveyor admission model and the dimensions and content of accreditation surveyor management. Eligible applicants undergo basic theoretical training after passing the Surveyor Admission Test, which assesses general information about accreditation, understanding of the hospital and its functions, and knowledge of the content of the Iranian hospital accreditation model. Those who successfully complete this stage will be selected as trainees and will be provided with practical training.

The performance of the trainees is assessed by their instructors who are experienced surveyors, and finally, those who pass these stages receive a two-year certificate as a surveyor. Surveyors admitted to Iran's Hospital Accreditation Program are grouped according to the size of the hospital and the workload, and the most experienced individual in the group is selected as the senior surveyor. Figure 1 and Table 2 detail the content of the dimensions of the proposed model in three parts: admission, training, and composition of accreditation surveyors.

Table 2
dimensions and content of accreditation surveyor management

Component	Content
surveyors selection	<ul style="list-style-type: none"> • Affiliation <p>Independent</p> <ul style="list-style-type: none"> • Qualifications <p>medicine, management, nursing</p> <ul style="list-style-type: none"> • Degree & work experience <p>-for undergraduates, at least 10 years of experience in senior management positions with at least 3 years of evaluation and accreditation experience</p> <p>-for applicants with a master's degree, at least 5 years of experience in senior management positions with at least 2 years of evaluation and accreditation experience</p> <p>-for applicants with a PhD, at least 3 years of experience in senior management positions with at least 2 years of evaluation and accreditation experience.</p> <ul style="list-style-type: none"> • knowledge & skills <p>Awareness of the health system, familiarity with different hospital wards and units, sound understanding of the principles and concepts of survey and accreditation, ability to prioritize the subjects under survey, attention to detail, Ability and capability of initiative, familiarity with quality improvement concepts, reporting skills, interviewing skills, computer skills</p> <ul style="list-style-type: none"> • communication skills <p>Ability to work in a team, the ability to communicate effectively with team members, the ability to adapt to difficult and complex situations</p> <ul style="list-style-type: none"> • Motivation <p>Commitment to the national assessment and accreditation system, willingness to learn new skills</p>
Surveyors training	<ul style="list-style-type: none"> • theoretical training <p>teamwork, accreditation standards, critical thinking, time management, interview techniques, presentation skills, group communication, reporting methods, behavioral skills</p> <ul style="list-style-type: none"> • practical training <p>Training of surveying techniques and how to evaluate MEs in practice through Surveyors discussions, observation, and traineeship under the supervision of an experienced surveyor</p> <ul style="list-style-type: none"> • ongoing training <p>new guidelines and regulations, changes in standards and MEs,</p>

Component	Content
surveyors deployment	<ul style="list-style-type: none"> • Composition of surveyor's team <p>-Hospitals up to 200 beds 3 surveyors (1 medicine, 1 management, 1 nurse)</p> <p>Hospitals between 200 to 500 beds 4 surveyors (1 medicine, 1 management, 2 nurse)</p> <p>-Hospitals with more than 500 beds 6 surveyors (2 medicine, 2 management, 2 nurses)</p>
Surveyors evaluation	<ul style="list-style-type: none"> • Evaluation method <p>feedback from surveyed hospitals, other team members</p> <ul style="list-style-type: none"> • Evaluation criteria <p>active participation in relevant training courses, number of survey per year, evaluation base on functional indicators such as Teamwork, reporting skills, communication</p> <ul style="list-style-type: none"> • Validity of the surveyor's certificate <p>Two years</p>

Round 1

The comprehensiveness of the accreditation surveyor model was approved by the participants. *"The content of the surveyor model is very complete and comprehensive,"* said one faculty member (E1). The quality improvement manager of one of the hospitals commented that *"the model presented is quite good"* (E9). Another faculty member said: *"A very good model has been developed. It includes comprehensive training to empower surveyors, which can be effective for improving their performance. But the training content could be developed more accurately"* (E5). Some of the participants had some suggestions. *"It's better to expand the training content to cover issues such as self-control, conflict management, effective communication,"* said one university professor (E10). The manager of a hospital noted that *"in large hospitals, the number of physicians should be reduced by one and a public health expert should be added to the team instead"* (E14). A faculty member said: *"In all hospitals, the status of management metrics is the same; differences are mainly observed in the care and treatment metrics, which are related to inpatient wards and are surveyed by the medical staff. Two nurses can't survey 200–500 beds in three days"* (E28). According to one hospital manager, *"there should also be a set of criteria for senior surveyors"* (E15). Another hospital manager said: *"The criteria for surveyor selection should be specified more precisely. Personality traits are very important. You could include them in your selection criteria"* (E14). The head of the accreditation department of one university argued that *"the compensation of surveyors should be specified"* (E12).

Expert opinion was taken into consideration and a modified model of hospital accreditation surveyors, consisting of a conceptual model and a procedural model, was developed.

In the proposed model, eligible applicants will undergo basic theoretical training after passing the Surveyor Admission Test. Those who successfully complete this stage will be selected as trainees and will be provided with advanced training.

The performance of the trainees is assessed by their instructors, and finally, those who pass these stages receive a two-year certificate as a surveyor. Surveyors admitted to Iran's Hospital Accreditation Program are grouped according to the size of the hospital and the workload, and the most experienced individual in the group is selected as the senior surveyor.

Personality traits were added to the surveyor selection criteria. Medical laboratory science and environmental health were also added to the list of approved specialties. As for the composition of survey teams, medicine, management, and nursing are the three key specialties that will permanently be present, while medical laboratory science and environmental health will be used in a consulting role if needed. Attitude and behavior were two additional dimensions that were added to the surveyor selection criteria. Communication skills was integrated into the new category of 'knowledge and skills' (previously labeled 'professional knowledge and skills').

In terms of surveyor training, 'theoretical training' was changed to 'basic training', 'practical training' to 'advanced training', and 'ongoing training' to 'continuous training'. Several subjects were added to basic and continuous training contents, including systemic and strategic thinking, conflict management, self-control, survey skills, regulatory changes in the health system, new guidelines and regulations, changes in standards and MEs, new assessment methods, structural changes, and accreditation concepts.

Regarding the composition of survey teams, the categories were changed from three to two: hospitals with less than 200 beds and hospitals with more than 200 beds. The composition of surveyors in hospitals with more than 200 beds was changed to one physician, one management expert, and two nurses. Surveyor deployment and compensation were added to the section on survey team composition.

Round 2

In the second Delphi stage, the experts were asked to rate their agreement with the items on a 10-point Likert scale from 1 for 'totally disagree' to 10 for 'totally agree'. They were also asked to explain their reasoning for rating any item below 7. The results of statistical analysis indicated that the experts approved of all domain of the proposed model.

According to Table 3 regarding the opinion of experts about the Iranian hospital accreditation surveyor model, the highest level of agreement is found for Proposition 2 with an average score of 9.32 and the lowest level of agreement is found for Proposition 11 with an average score of 7.20.

Table 3

Level of agreement among experts regarding the Iranian hospital accreditation surveyor model

Component	Question	Median	Mean	SD	Consensus
Surveyors selection	To what extent is the surveyors selection process comprehensive?	9	8/56	1/1	□
	To what extent are the selection surveyors criteria comprehensive?	9	60/8	85/0	□
	To what extent are the selection surveyors criteria appropriate to their job needs?	9	32/9	86/0	□
	To what extent is the selection process of surveyors practical in the context of Iran?	9	57/8	82/0	□
Surveyors training	How comprehensive is the surveyors training process?	9	15/9	98/0	□
	How comprehensive is the surveyors training content?	9	9/03	0/83	□
	To what extent is the surveyors training content appropriate to the job needs?	9	15/9	98/0	□
	To what extent is the training process of surveyors practical in the context of Iran?	9	32/7	16/1	□
Surveyors deployment	To what extent is the surveyors deployment and compensation appropriate?	9	64/7	71/0	□
	How comprehensive is the content of the surveyors duties?	9	7/96	0/89	□
	To what extent is the content of the surveyors deployment and compensation practical in Iran?	9	8/03	0/92	□
	To what extent is the composition of the surveyors team appropriate?	9	64/8	71/0	□
	To what extent is the composition of the surveyors team practical in Iran?	9	20/7	70/0	□
Surveyors evaluation	How comprehensive is the evaluation of surveyors?	9	5/8	90/0	□
	How comprehensive are the surveyors evaluation criteria?	9	8/92	0/84	□
	To what extent is the validity of the surveyors certificate appropriate?	9	9/4	0/69	□
	To what extent is the evaluation of surveyors practical in Iran?	9	89/8	01/1	□

Final model

The two round of Delphi showed that the proposed model is comprehensive and applicable to hospitals. Figure 2 and Table 4 showed the final Iranian hospital accreditation surveyor Conceptual and executive model respectively.

Table 4
Procedural model of hospital accreditation surveyors

Component of model	Content
Surveyors selection	<ul style="list-style-type: none"> • General and Personality physical and mental health, reputability, self-confidence, agreeableness, modesty, justice, trustworthiness, flexibility, and high social intelligence • Attitude believe in compliance with rules and regulations, the importance and necessity of accreditation programs, continuous quality improvement, change, and the importance of protecting patient rights • Behavior ability to take initiative, the desire to learn new skills, and the ability to teach, maintain accreditation standards, protect the integrity of the accreditation organization, build and promote a culture of continuous quality improvement, and provide effective feedback • Qualifications medicine, management, nursing, laboratory science and environmental health • Degree & work experience -for undergraduates, at least 10 years of experience in senior management positions with at least 3 years of evaluation and accreditation experience -for applicants with a master's degree, at least 5 years of experience in senior management positions with at least 2 years of evaluation and accreditation experience -for applicants with a PhD, at least 3 years of experience in senior management positions with at least 2 years of evaluation and accreditation experience. • knowledge & skills Awareness of the health system, familiarity with different hospital wards and units, sound understanding of the principles and concepts of survey and accreditation, ability to prioritize the subjects under survey, attention to detail, Ability and capability of initiative, familiarity with quality improvement concepts, reporting skills, interviewing skills, computer skills, listening, speaking and writing skills, effective communication skills, teamwork skills, and the ability to adapt to difficult and complex situations

Component of model	Content
Surveyors training	<ul style="list-style-type: none"> • Basic training teamwork, accreditation standards, critical, systemic and strategic thinking, time management, conflict management, interview techniques, presentation skills, group communication, self-control, reporting methods, behavioral skills, and survey skills. • Advance training Training of surveying techniques and how to evaluate MEs in practice through Surveyors discussions, on-the-job training, and traineeship under the supervision of an experienced surveyor • Continues training changes in health system, new guidelines and regulations, changes in standards and MEs, structural and concepts changes of accreditation and new survey methods
Surveyors deployment	<ul style="list-style-type: none"> • Affiliation Independent • Deployment & compensation -part-time surveyors (mission fee Payment) -voluntary surveyors (daily payment system) • Composition of surveyor's team -Hospitals up to 200 beds 3 surveyors (1 medicine, 1 management, 1 nurse) -Hospitals with more than 200 beds 3 surveyors (1 medicine, 1 management, 2 nurses) * laboratory sciences and environmental health will be used in a consulting role if needed * In each group, one individual with experience in at least 3 accreditation rounds as surveyor and with an ideal score in the surveyor appraisal program is selected as the senior surveyor • Surveyors responsibility assessing compliance of hospitals with accreditation standards, scoring MEs through observation, interview and tracing, providing detailed feedback to hospitals, reporting to hospitals the MEs that have relative compliance or non-compliance scores, and supporting hospitals in developing an action plan for these MEs

Component of model	Content
Surveyors evaluation	<ul style="list-style-type: none"> • Evaluation method <p>feedback from surveyed hospitals, other team members, senior surveyors and self-assessments</p> <ul style="list-style-type: none"> • Evaluation criteria <p>active participation in relevant training courses, number of survey per year, evaluation base on functional indicators such as Mastery of the accreditation program, mastery of how to implement the accreditation program, Full familiarity with the structure of the hospital, Teamwork, reporting skills, communication, time management, and conflict management</p> <ul style="list-style-type: none"> • Validity of the surveyor’s certificate <p>Two years</p>

Discussion

The proposed hospital accreditation surveyor model is a comprehensive and integrated model that consists of a conceptual part and a procedural part. This model considers the selection, training, deployment, compensation, and evaluation. Effective management of surveyors is essential to ensure the accuracy, validity, and reliability of accreditation. In a study titled “Are accreditation surveys reliable?”, Greenfield et al. consider surveyors to be one of the key factors influencing the reliability of accreditation results (29). Surveying is a critical role that should not be taken lightly, and there should be requirements in place for the management of accreditation surveyors.

The Iranian Hospital Accreditation Program is in its infancy. Until the fourth round of hospital accreditation in 2019, there was no organized effort to manage accreditation surveyor workforce. This led to the selection of surveyors who were often not qualified to perform accreditation. Approaching surveys as an inspection and having a ‘gotcha’, poor time management, inability to establish effective communication, inability to manage conflict, inability to conduct surveys with fairness and objectivity, inability to provide effective feedback, and failure to establish coordination and team leadership are some of the challenges for surveyors in Iran’s Hospital Accreditation Program (30) (31). In addition, Iranian surveyors do not approach hospital accreditation consistently. Some surveyors are too lenient and others are too strict. Furthermore, the personality traits of the applicants are not considered in surveyor selection (32). Surveys indicate the poor performance of Iranian hospital accreditation surveyors (19).

There must be a specific structure for accreditation surveyor management. Ideally, the Hospital Accreditation Office should have a policy council as well as three committees for scientific, executive, and grievance redress matters. The policy council is responsible for management and leadership of the accreditation program. The council’s tasks include approving accreditation decisions, continuously reviewing standards and suggesting changes if necessary, approving new or revised standards,

overseeing the scientific and executive committees, authorizing surveyors, and ensuring compliance with rules and regulations. The science committee is responsible for developing and updating the standards, interpreting the standards, developing a method for scoring and weighting the standards, and classifying the standards.

The executive committee manages the surveyor workforce, conducts accreditation surveys, and reports the results to the policy council. It is also responsible for the selection and training of applicants, reviewing performance appraisal results, suggesting qualified applicants to the policy council for certification, supporting survey teams in all aspects, helping surveyors in the interpretation of standards, managing daily accreditation activities, designing the survey process and providing recommendations for its improvement, reporting the results of the accreditation survey to the policy council, and determining and communicating survey costs to the policy council.

The grievance redress matters committee is tasked with overseeing the performance of the policy council, the science committee, and the executive committee, approving the recommendations of the policy council, ensuring quality control of surveys, and addressing hospitals' complaints regarding the implementation and/or results of accreditation. In addition, the committee should periodically evaluate the accreditation program using objective criteria and indicators and take corrective action if necessary.

In the proposed model of hospital accreditation surveyors, the first step is surveyor selection. Selecting the right surveyors requires setting the appropriate criteria. In separate studies, Plebani (16) and Teymourzadeh (14) highlight the importance of having clear criteria for surveyor selection. According to Bohigas et al., surveyors around the world share in a number of features such as professional background, training, experience, and expectations (33). Selecting the best surveyors based on appropriate criteria increases the effectiveness of decisions and actions at other stages of the surveyor management process, including empowerment, deployment, and appraisal. In the absence of appropriate criteria, individuals that lack the necessary qualifications will be selected as surveyors, which will increase training costs, and if unqualified surveyors are not filtered out in later stages of the management process, the accreditation results will lose their value and reliability.

The proposed model provides a set of criteria for surveyor selection, which are classified into several categories such as general & personality, attitude, behavior, qualifications, work experience, knowledge, and skills. These criteria are assessed through written and oral tests. Surveyors must possess personality traits such as physical and mental health, reputability, self-confidence, agreeableness, modesty, trustworthiness, flexibility, and high social intelligence. These attributes allow surveyors to perform fair and objective surveys, communicate better with the hospital staff and other team members, and manage potential conflicts more effectively. Jafari Pouyan argues that survey applicants should take psychometric and personality tests (19). Similarly, ISQua considers certain personality traits such as effective communication as necessary characteristics of accreditation surveyors (23).

Having a negative attitude and focusing on deficiencies, adopting an inspection approach instead of a developmental approach and a functional view instead of a systemic view, and generalizing the attitude

toward past surveys to current surveys are some of the weaknesses of hospital accreditation surveyors that have been identified in the literature (19) (18). Admission tests and interviews should be able to assess whether surveyors believe in compliance with rules and regulations, the importance and necessity of accreditation programs, continuous quality improvement, change, and the importance of protecting patient rights, so that qualified individuals with a positive attitude towards quality improvement and accreditation are selected.

In the proposed model, medicine, management, and nursing are the main specialties and laboratory science and environmental health are complementary specialties for admission of surveyors. The required work experience is determined according to the academic degree of the applicants: for undergraduates, at least 10 years of experience in senior management positions with at least 3 years of evaluation and accreditation experience; for applicants with a master's degree, at least 5 years of experience in senior management positions with at least 2 years of evaluation and accreditation experience; and for applicants with a PhD, at least 3 years of experience in senior management positions with at least 2 years of evaluation and accreditation experience.

Bohigas et al. compared surveyor management practices in the accreditation programs of five countries. They found that surveyors across these programs have common features in their professional background, roles, and training. Two to five years of experience in the health sector, especially as a doctor, nurse, or senior manager is one of the main criteria for selection of surveyors. Surveyors are also required to have relevant qualifications (33). In countries such as the United Kingdom and Canada, a degree in a health-related disciplines is one of the criteria for selection and appraisal of surveyors. Moreover, having work and management experience in health care system is one of the basic criteria in surveyor selection (21) (22).

The behavior of surveyors is largely influenced by their personality traits, education, experience, attitude, knowledge, and skills. Surveyors must have the ability to take initiative, the desire to learn new skills, and the ability to teach; they should maintain accreditation standards, protect the integrity of the accreditation organization, build and promote a culture of continuous quality improvement, and provide effective feedback.

Knowledge and skills in matters related to the health system, familiarity with different hospital wards and units, sound understanding of the principles and concepts of survey and accreditation, ability to prioritize the subjects under survey, attention to detail, familiarity with quality improvement concepts, reporting, interviewing and computer skills, listening, speaking and writing skills, effective communication skills, teamwork skills, and the ability to adapt to difficult and complex situations are essential for accreditation surveyors.

Similarly, Jafari Pouyan argues that having knowledge of the accreditation system, concepts of quality improvement and patient safety, and survey methods will increase the accuracy of accreditation surveyors (34). Tabrizi considers insufficient knowledge and skills as a major weakness of hospital accreditation surveyors in Iran (35).

It is important for surveyors to have a comprehensive knowledge of the area they survey; otherwise, they will not have the necessary confidence to undertake a complete and accurate survey. In addition, when surveyors lack area-specific knowledge, hospitals will not take accreditation programs seriously and may be encouraged to provide an unrealistic picture of their practice. Surveyors without sufficient knowledge tend to conduct superficial assessments and focus more on documents instead of adopting a patient-centered approach.

Part of the knowledge required by surveyors comes from relevant qualifications and experience. However, surveyors also need to have general knowledge that is assessed using comprehensive admission tests. In addition, surveyors acquire further knowledge and skills through basic, advanced, and continuous surveyor training programs.

Plebani (16) and Teymourzadeh (14) have highlighted the importance of training in building the knowledge of surveyors. Jafari Pouyan(19) and Haghighi (37) and Mosadeghrad (15) consider surveyors' lack of knowledge to be a major challenge and obstacle to the implementation of accreditation. A study of the implementation of hospital accreditation and its effects in Austrian acute-care hospitals by Milner indicated shortcomings in the areas of leadership, communication, involvement, and training of surveyors (38). Effective training can lead to the use of a consistent accreditation method by surveyors. Iranian hospital surveyors use different accreditation methods, which reduces the validity and reliability of accreditation results. This issue is highlighted in Amerion et al (39).

In most of the countries studied, including the United States (40), Canada (21), and the United Kingdom (22), the knowledge of surveyors is one of the main criteria for surveyor selection and deployment. Therefore, theoretical and practical training programs are provided to surveyors that are selected.

In the proposed model of hospital accreditation surveyors, after the initial selection, the surveyors will undergo basic training that is theoretical in nature. These training courses focus on teamwork, accreditation standards, critical, systemic and strategic thinking, time management, conflict management, interview techniques, presentation skills, group communication, self-control, reporting methods, behavioral skills, and survey skills.

ISQua also emphasizes that All surveyors should undergo a formal initial training program which include mock survey processes, legal and survey requirements, external evaluation standards and their interpretation, survey techniques, negotiating skills, performance expectations and evaluation systems, a process for dispute resolution. (41)

The progress of the participants is then assessed through interviews. Surveyors who pass this stage, which is provided through discussions, on-the-job training, and traineeship under the supervision of an experienced surveyor. In these training courses, surveyors will learn surveying techniques and how to evaluate MEs in practice. ISQua recommended that new surveyors being supported and mentored by more experienced surveyors and staff. (23)

At the end of these courses, the trainees will be evaluated in an interview and those admitted will be awarded a two-year certificate. Surveyors will receive on-the-job training on regulatory changes in the health system, new guidelines and regulations, changes in standards and MEs, and new survey methods. ISQua consider continues training to be effective of surveyors' knowledge and skills development. (23)

In the Iranian hospital accreditation program, surveyor independence is ensured by alternating surveyors within survey teams. Surveyors are often hired under three arrangements: full-time, part-time, and voluntary. Each country selects one or a combination of the above depending on its infrastructure. Due to the fact that the accreditation program in Iran is implemented by a government agency (i.e., Ministry of Health and Medical Education) and due to insufficient budget, the use of part-time and voluntary surveyors with a daily payment and Mission payment system is more effective.

Surveyors are responsible for assessing compliance of hospitals with accreditation standards, scoring MEs through observation, interview and tracing method, providing detailed feedback to hospitals, reporting to hospitals the MEs that have relative compliance or non-compliance scores, and supporting hospitals in developing an action plan for these MEs. These are included in the employment contracts between the surveyors and the Ministry of Health as the trustee of accreditation. ISQua also emphasizes the need for contractual arrangements between surveyors and the accreditation body (23).

In the proposed model, the surveyors admitted to the hospital accreditation program are grouped according to the size of the hospital and the workload, and in each group, one individual with experience in at least 3 accreditation rounds as surveyor and with an ideal score in the surveyor evaluation program is selected as the senior surveyor.

In terms of the composition of survey teams, medicine, management, and nursing are the main specialties that are permanently present, while laboratory sciences and environmental health will be used in a consulting role if needed. The number of surveyors is proportional to the number of hospital beds.

The last stage in the accreditation surveyor model is evaluation, which is done with the aim of evaluating both the performance of surveyors and the surveyor management program. Teymourzadeh et al. argue that surveyor appraisal is one of the key requirements of surveyor management and that there should be criteria for recruitment and appraisal of surveyors. (14) Performance of surveyors is evaluated periodically based on a number of criteria such as teamwork, communication, time management, number of surveys per year, and active participation in relevant training courses, which are determined based on the feedback from surveyed hospitals, other team members, and senior surveyors as well as self-assessments. Based on the results, a decision will be made on whether to extend the individual's survey certificate. The results will also be used to review the criteria for surveyor selection, training, and empowerment as well as the deployment and compensation mechanisms that are in place. Evaluating the performance, knowledge and skills of surveyors and the effectiveness of surveyor management programs are among the requirements of ISQua (23).

Conclusion

A comprehensive hospital accreditation surveyors model was developed and verified. Special attention is paid to the selection, training, deployment, compensation, and evaluation of surveyors. This model provides practical criteria for management of surveyors so it can be used to determine the criteria to surveyors' management. Hospital accreditation bodies can use this model to develop or revise their hospital accreditation surveyors' models.

Abbreviations

ISQua

International Society for Quality in Health Care

MEs

Measurable Elements

Declarations

The authors would like to thank the Editor-in-Chief and the anonymous reviewers for their valuable suggestions that have greatly improved the style and content of the original manuscript.

Authors Contributions

AM directed project. AM and FG designed the study. AM and FG analyzed the data and developed the theoretical model. FG drafted the manuscript. AM revised the manuscript. All authors have read and approved the final manuscript.

Funding

This study was not supported by any agency, organization and institute.

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Ethics approval and consent to participate

This study was approved by the research ethics committee of Tehran University of Medical Sciences (Ethics code: IR.TUMS.SPH.REC.1396.4870). Written and verbal informed consent was obtained from all participants. All methods were carried out in accordance with relevant guidelines and regulations.

Consent for publication

Not applicable.

Competing interest

The authors declare that there is no Competing interest.

References

1. Abbasabadi M, H Khankeh, AM Mosadegh Rad. Designing of Disaster Risk Management Accreditation Standards in Iranian Hospitals. *International Journal for Quality in Health Care* 2018; 30(suppl_2):45–46.
2. Mosadeghrad A M, Ghazanfari F. Iran hospital accreditation governance: Challenges and solutions. *payavard*2020;14(4):311–322.
3. Mosadeghrad AM. Comments on Iran hospital accreditation system. *Iranian Journal of Public Health*2016;45(6):837–9.
4. Mosadeghrad AM. Iran hospital accreditation. 1st Edition in: J. Braithwaite, et al (Eds.) *Health Care Systems: Future Predictions for Global Care*. s.l.: Taylor & Francis, 2018, 285–291.
5. Alkhenizan A, Shaw C. Impact of accreditation on the quality of healthcare services: a systematic review of the literature. *Annals of Saudi Medicine*2011;31:407–416.
6. Halasa YA, Zeng W, Chappy E, et al. Value and impact of international hospital accreditation: a case study from Jordan. *Eastern Mediterranean Health Journal*2015;21:90–9.
7. Lutfiyya MN, Sikka A, Mehta S, et al. Comparison of US accredited and non-accredited rural critical access hospitals. *International Journal for Quality in Health Care*2009;21:112–8.
8. Schmaltz SP, Williams SC, Chassin MR, et al. Hospital performance trends on national quality measures and the association with Joint Commission accreditation. *Journal of Hospital Medicine*2011; 6: 454–61.
9. Yıldız MS, Öztürk Z, Topal M, et al. Effect of accreditation and certification on the quality management system: analysis based on Turkish hospitals. *International Journal of Health Planning and Management*2019;34:e1675–87.
10. Hadley TR, McGurrin MC. Accreditation, certification, and the quality of care in state hospitals. *Psychiatric Services*1988; 39:707–10.
11. Mosadeghrad A M, Akbari-sar i A, Yousefinezhadi T. Evaluation of hospital accreditation standards. *Razi Journal of Medical Sciences*2017; 23:43–54.
12. 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. *BMC Health Services Research*2006; 6(1);113.
13. Bohigas L, Brooks T, Donahue T, Donaldson B, Heidemann E, Shaw C, et al. A comparative analysis of surveyors from six hospital accreditation programmes and a consideration of the related management issues. *International Journal for Quality in Health Care*1998;10(1):7–13.

14. Teymourzadeh E, Ramezani M, Arab M, Rahimi Foroushani A & Akbari Sari A. Surveyor management of hospital accreditation program: A thematic analysis conducted in Iran. 2016, Iranian Red Crescent Medical Journal 2016; 18(5): e30309.
15. Mosadeghrad A & Shakibaei E. Hospital accreditation implementation prerequisites. 3, 2017, Journal of Hospital 2017; 16(3):43–56.
16. Plebani M. Role of inspectors in external review mechanisms: Criteria for selection, training and appraisal. Clinica Chimica Acta. International Journal of Clinical Chemistry 2001; 309(2):147–54.
17. health, ministry of. hospital accreditation standards. iran: Monitoring and Accreditation department, 2016.
18. mosadeghrad A, Jaafaripooyan E, ghazanfari F. Hospital accreditation methods in Iran: Challenges and solutions. Payesh 2021; 20(6):655–670.
19. Jaafaripouyan E, Mosadeghrad A & Salarvand A. Performance of accreditation surveyors in Tehran hospitals: Strengths and weaknesses. Journal of Hospital 2018; 17(3):31–43.
20. (HCAC), Health Care Accreditation Council. Become an HCAC certified surveyor. <http://hcac.jo/en-us/Accreditation/Our-Surveyors>. 2017.
21. Canada, Accreditation. Become a surveyor. <https://accreditation.ca/about/become-a-surveyor/>. 2018.
22. Office, CHKS Head. CHKS accreditation team and surveyors. <http://www.chks.co.uk/Accreditation-team-and-surveyors2017..>
23. Guidelines and Standards for External Evaluation Organisations, 5th edition Version 1.0. [Online]. <https://www.acreditacionensalud.org.co//wp-content/uploads/2020/07/ISQua-Guide-Standards-External-Evaluat-Organis-5th-Ed-v1.0.2018pdf>.
24. Gustafson DH, Shukla RK, Delbecq A, Walster GW. A comparative study of differences in subjective likelihood estimates made by individuals, interacting groups, delphi groups, and nominal groups. Organ Behav Hum Perf 1973; 9(2):280–91.
25. Mosadeghrasd AM, Akbari-Sari A, Rahimitabar P. 4. Health system governance in Iran: a Delphi study. Sci J School Public Health Institute Public Health Res 2020; 17:319 – 36.
26. Gale NK, Heath G, Cameron E, Rashid S, Redwood S. Using the framework method for the analysis of qualitative data in multi-disciplinary health research. BMC Med Res Methodol 2013; 1(117): 13.
27. Glaser B, Strauss A. The discovery grounded theory. Strategies for qualitative inquiry. London: Wiedenfeld and Nicholson, 1976.
28. Powell. C, Adv Nurs J. The Delphi technique: myths and realities. 2003; 41(4):376–82.
29. Greenfield D, Pawsey M, Naylor J, Braithwaite J. Are accreditation surveys reliable? Int J Health Care Qual Assur 2009; 22(2):105–16.
30. Ravaghi H, Abolhassani N, Dahim P, Shaarbafchizadeh N, Anjarani S, Safadel N. Assessors' attitudes toward and exPeriences of national quality standards: a qualitative study in Iran. 4, 2014, Accreditation and Quality Assurance 2014; 22(4):301–5.

31. Mosadeghrad AM & Nabizade Z. Evaluation of Iranian Hospital Accreditation System. *Journal of Iranian Institute for Health Sciences Research* 2019;17(6):617–629.
32. Ravaghi H, Rafiei S, Mohseni M, HeidarPour P, Arab M. Existing Challenges in Clinical Governance Establishment Evaluation Based on National Assessors' Aspect (A Qualitative Study). *Journal of Hospital* 2016;15(3):9–20.
33. Bohigas L, Brooks T, Donahue T, Donaldson B, Heidemann E, Shaw C, et al. A comparative analysis of surveyors from six hospital accreditation programmes and a consideration of the related management issues. *International Journal for Quality in Health Care* 1998;10(1): 7–13.
34. JaafariPooyan E, Mosadeghrad A M, Salarvand A. Hospital Accreditation Surveyors' Evaluation Criteria in Iran. *payavard* 2019,13(2):110 – 22.
35. Tabrizi JS, Gharibi F. Systematic review of accreditation models for national model design. *Scientific Journal of Kurdistan University of Medical Sciences* 2013;16:95–109.
36. Akbari Haghighi F, JaafariPooyan E & Aghighi N. Barriers and facilitators of care/treatment monitoring in Hamedan university of medical sciences. *Journal of Hospital* 2014;17(3):31–43.
37. Milner B. Implementing hospital accreditation: individual experiences of process and impacts. s.l.: School of Business Waterford Institute of Technology, 2007.
38. Ameryoun A, Chaghary M, Tofighi S. The study of hospital accreditation Procedure in selected countries and Presentation of guidelines for IRAN. *Teb Va Tazkiyeh* 2013;22(1).
39. Bohigas L, Brooks T, Donahue T, Donaldson B, Heidemann E, Shaw CH, Smith D. A comparative analysis of surveyors from six hospital accreditation Programmes and a consideration of the related management issues. *International Journal for Quality in Health care* 1998; 10(1):7–13.
40. Guidelines and Standards for External Evaluation Organisations, 5th edition Version 1.0. <https://www.acreditacionensalud.org.co/wp-content/uploads/2020/07/ISQua-Guide-Standards-External-Evaluat-Organis-5th-Ed-v1.0.2010.pdf>.

Figures

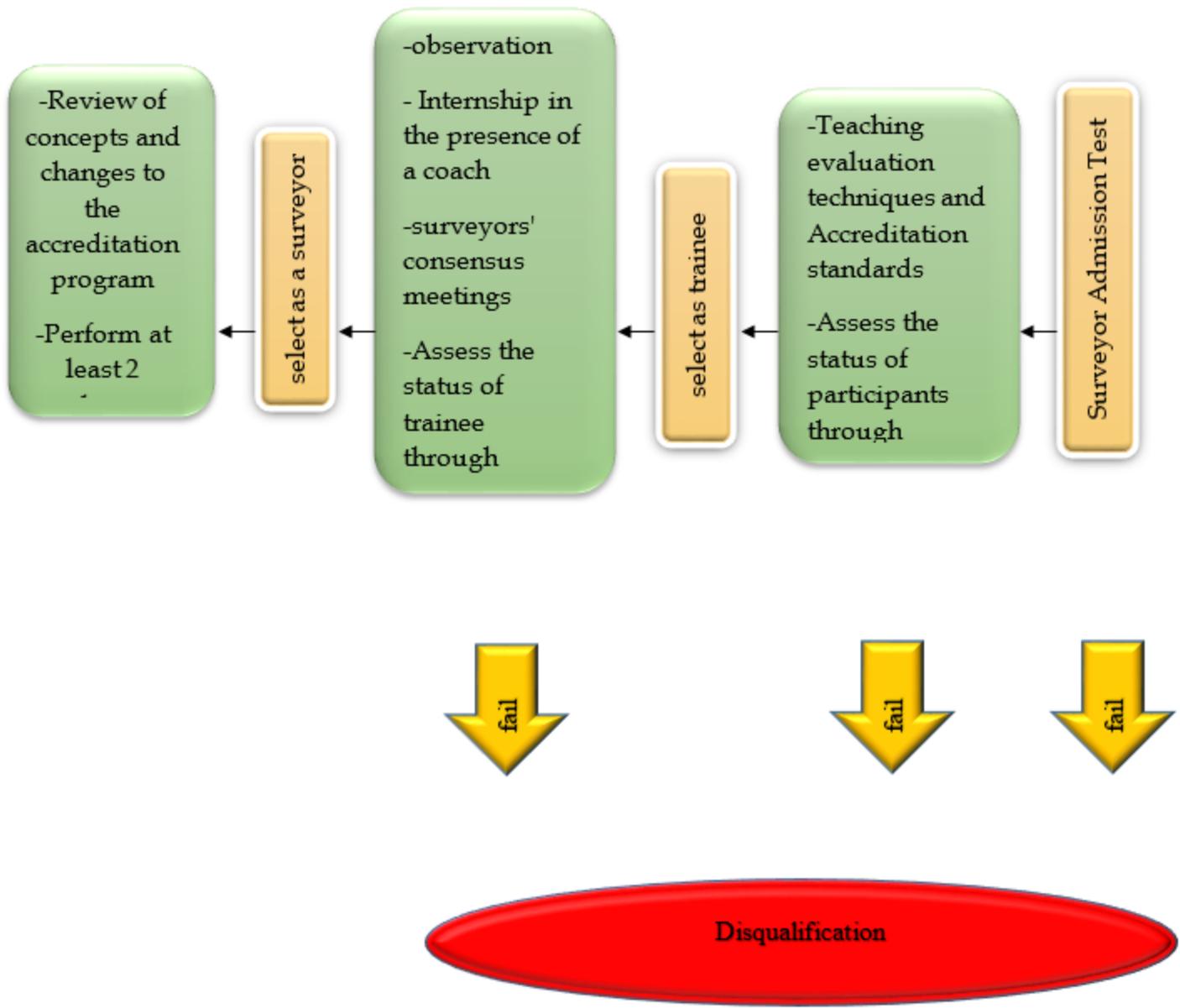


Figure 1

Proposed model of hospital accreditation surveyor's admission

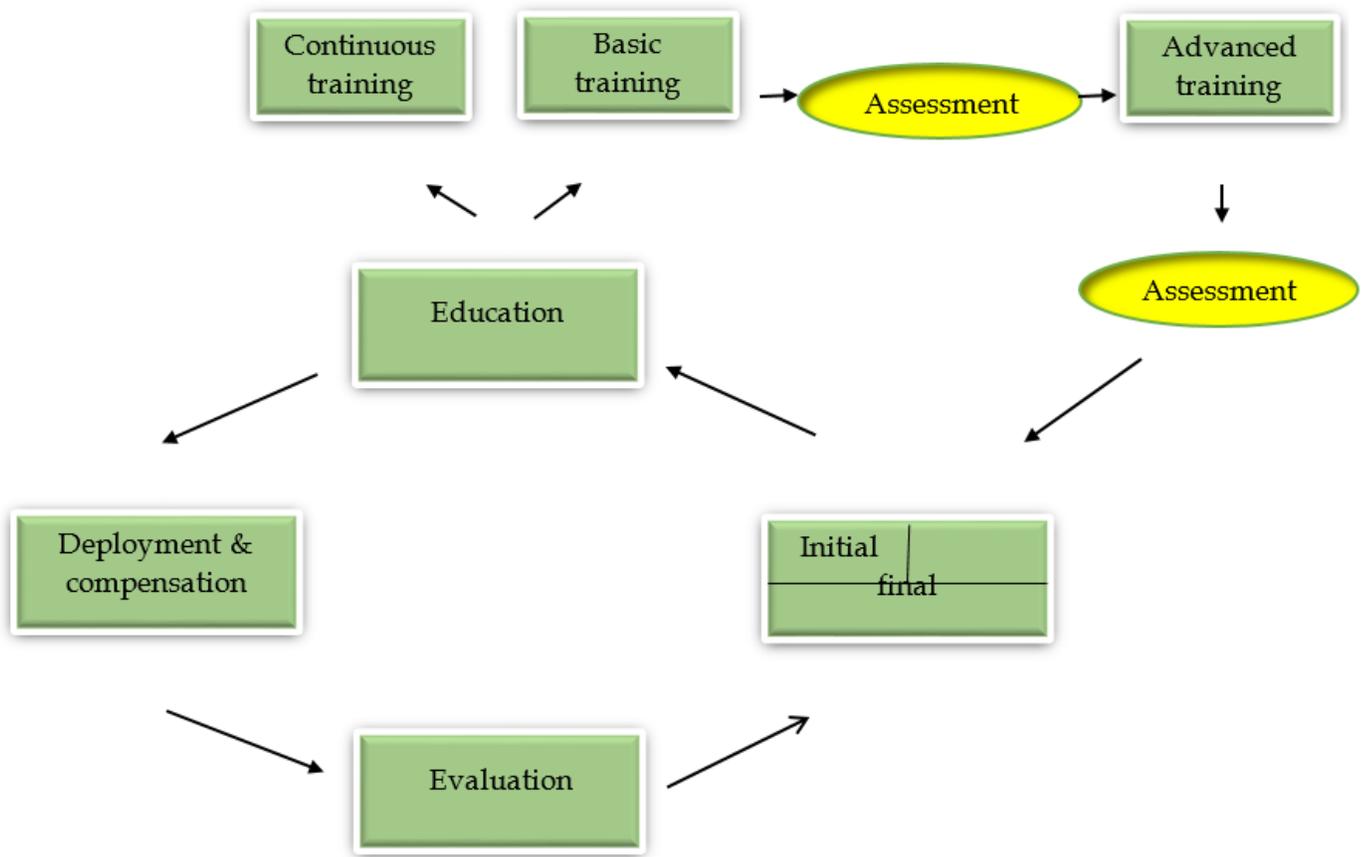


Figure 2

conceptual model of hospital accreditation surveyors