

Original Article

A model for assessment and development of the credibility of Iran Academy of Medical Sciences

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ABSTRACT

Background & Aim: Assessment could be assumed as a valuable mean of highlighting the organization strengths and spotting its weaknesses. Academies are not exceptions in this regard. Knowing the items, which entail more concentrated attention, the leadership of the academy will shift the resources to compensate the extenuations. This study aimed to provide the Iran Academy of Medical Sciences (AMS) a model of assessment and development of its credibility.

Methods & Materials: Reviewing the scientific literatures about the components of credibility of an organization, three components were elected, 1. Structure, 2. Performance, and 3. Acceptability. Assessing this academy, a framework for summarizing the information of other academies was developed. For the next steps, to improve the quality of the framework and to study more AMS, we decided to search the internet for more countries and academies.

Results: We find that 16 indices and their 77 measures could be used to assess the AMS.

Conclusion: Establishing a well-defined system with a trained staff devoted to assess the AMS activities, would be in the favor of evaluating the AMS annually; and by publication of strategic reports, AMS strengths would be reinforced and its weaknesses would be reformed.

Introduction

The Academy of Medical Sciences (AMS) is an independent organization that represents the spectrum of medical sciences, from basic sciences through health policy and healthcare delivery (1). It is composed of elites of medical sciences who are concurrently pioneers in their professions as academicians, practitioners, and/or researchers.

By reviewing the Iranian AMS articles of

association, it would be apparent that it has been compiled to be compatible with strategic aims of Ministry of Health and Medical Education. As the Iran's Ministry of Health and Medical Education is concurrently governing medical education and healthcare delivery (2), Iran's AMS resources are also dedicated to medical science research and education along with development of healthcare delivery. These important strategic goals were asserted by many other AMS around the world. They have defined specific yet to some extent similar strategic aims and objectives for their organizations. Some popular examples are (1, 3-6):

1. Influencing medical sciences policies

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2. Supporting the development of timely, informed, and strategic advices on urgent health issues

3. Strengthening the healthcare workforce

4. Measuring nation's health status

5. Serve as a credible, expert, independent assessor of science and technology issues relevant to the health of community

6. Recognizing excellences

7. Linking academia and industry

8. Promote and maintain liaison between medicine and other sciences

9. Shaping research priorities

10. Recognizing and encouraging medical scientists

11. Improving global health

12. And...

AMS have to utilize all of their resources in the favor of their objectives to promote their national and international credit among other counterparts. Each and every organization would have the benefits of enhanced credibility if they assessed what they have done and the efficacy of their activities. Assessment could be assumed as a valuable means of highlighting the organization strengths and spotting its weaknesses. Academies are not exceptions in this regard. Knowing the items, which entail more concentrated attention, the leadership of the academy will shift the resources to compensate the extenuations.

This study was about to provide the Iran AMS a model of assessment and development of its credibility.

Methods

By reviewing the scientific literatures about the components of credibility of an organization three components have been elected as they were more inclusive and comprehensive than other components for our purpose:

1. Structure: The objectives and the mechanism of achieving them should have been defined properly in the organization. The responsibilities must be clear

2. Performance: Responsibilities must have been defined in favor of the objectives to become true

3. Acceptability: Stakeholders and collaborative organizations should have a satisfactory perspective on the existential philosophy and prosperity of the organization.

According to all of these facts, the articles of association of Iran's AMS and online scientific materials about some other AMS from different countries were studied while we were focusing on their strategic objectives, structures, performances, and acceptability. For the 1st step, "The AMS" of Great Britain was searched as the United Kingdom was the leading country in which an academy was established, The Royal Society in 1660 (7). The following search strategy was adopted using Google and Google Scholar:

By assessment of this academy, a framework for summarizing the information of other academies was developed. The framework contained some outlines, such as: Academy organizational chart, it's scientific and financial structures, academy strategic goals and programs, and academy activities.

For the next steps, to improve the quality of the framework and to study more AMS, we decided to search the internet for more countries and academies. The criterion of including the AMS in our study was the availability of sufficient and citable contents and articles by reviewing their web pages. Many other countries such as United States, Canada, India, Brazil, Argentina, Mexico, Sweden, Norway, Finland, Australia, Japan, Singapore, Malaysia, France, South Africa, Russia, and China were investigated in order to spot a potential presence of AMS. Europe Union was also surveyed for any organization representing the whole Europe's AMS. Many countries did not have AMS. Some have constructed their web pages in a language other than English. A few of them had nothing special to add to improve the framework. Australia and Japan had subcommittees or working groups related to medical sciences in the structure of their national academy of sciences. Ultimately, the following countries had a citable, useful information about their AMS:

1. United States (Institute of Medicine or IOM)

2. Canada (Canadian Academy of Health

Sciences or CAHS)

3. France (National Academy of Medicine) (8)
4. Europe Union (Academy of Europe and Federation of European AMS or FEAM) (9, 10)
5. India (National AMS) (5)
6. Malaysia (Academy of Medicine of Malaysia) (11).

While studying the mentioned academies, the 1st edition of the framework has been changed and improved so other subjects and implications

could be accounted in the framework. Finally, a framework with 16 indices and 77 measures was developed for assessing the Iran's AMS.

Results

Table 1 demonstrates the 16 indices.

Table 2 indicates the framework containing 16 indices and their 77 measures could be used to assess the AMS.

Table 1. Indices for assessing AMS

Number	Index
1	Quality of strategic programs
2	Quality and quantity of scientific committees
3	Structural independence
4	Financial independence
5	Election process and composition of the council members
6	Quality of concurrent activities and projects
7	Communication with stakeholders
8	Performing the regional and global roles
9	Knowledge translation and exchange for stakeholders
10	Role in health sector reform
11	Exchanging experiences with other medical academies
12	Glorifying and encouraging scholars and health advocates
13	Advocating and empowering medical scientists
14	Publishing
15	Observatory, assessment, and evaluation
16	Acceptability among stakeholders

AMS: Academy of Medical Sciences

Table 2. Framework intended to be used as a means of AMS assessment

Number	Index	Measures	Means of measuring
1		Written vision, mission, and goals in strategy plan	
2		Updated strategy plan	
3		Mentioning the following items in the strategy plan	
4		Collaboration with stakeholders* such as other academies and NGOs	
5		Service providing according to national health priorities	
6		Service providing on demand of stakeholders	
7		Collaboration with international organizations such as: WHO, UN agencies, other academies, OIC, and ECO	
8	(1) Quality of strategic programs	Knowledge translation and exchange	Observing the strategy plan
9		Observing health status	
10		Theorization, formulation of hypothesis	
11		Anticipation forecasting	
12		Promoting equity and social determinants of health	
13		Emphasizing on health promotion approaches, especially empowerment of the community	
14		Participating in clarification and explanation of "social health" and its indices	
15		Participating in clarification and explanation of "spiritual health" and its indices	
16		Participating in explanation and propagation of "traditional medicine"	
17		Promoting and propagating philosophy and wisdom in health and medicine	
18		Promoting medical ethics and introducing Islamic jurisprudence in medicine	
19		Protecting Iranian cultural heritage and Islamic civilization in medicine	
20	(1) Quality of strategic programs (continued)	Glorifying and Encouraging the scholars, scientists, and scientific comities	Observing the strategy plan
21		Promoting high techs and advanced sciences such as: Nanotechnology, Stem Cell, medical engineering, tissue engineering, Regenerative Medicine,** (12) and Personalized Medicine *** (13)	
22		Promoting voluntary healthcare services, charities, and endowment to health sector	
23		Presence of screening, assessing, and evaluating system	

Table 2. Framework intended to be used as a means of AMS assessment (continue)

Number	Index	Measures	Means of measuring
23		Establishment of scientific committees based on the priorities in determinants, risk factors, diseases, and injuries	
24	(2) Quality and quantity of scientific committees	Multidisciplinary composition of AMS scientific community	
25		Establishment of an expert group collaborating with each AMS scientific community	
26		Establishment of capable secretary for each AMS scientific community	Observation and assessment of documents related to the AMS organizational charts
27		Presence of scientific collaboration between AMS scientific communities	
28	(3) Structural independence	Proposing of the academy president by members/council	
29		Proposing of the academy secretary by members/council	
30	(4) Financial independence	Considering the board of trustees as decision maker about the expenditure of financial resources	Observation and assessment of documents related to the AMS organizational charts
31		Diversity in acquisition of financial resources (private sector/charity)	
32	(5) Election process and composition of the council members	Probability of introducing membership Nominees by other members	
33		Assessing the competence of nominees by a committee determined by the council	
34		Election of the nominees based on the votes of members	
35		Multidisciplinary composition of council members	
36	(6) Quality of concurrent activities and projects	Arranging activities and projects based on priorities declared by the ministry of health and medical education, superior legislations, high techs, and advanced sciences	Observation and assessment of documents related to the AMS organizational charts
37		Consideration of equity and social determinants of health in all of the projects related to health issues	
38		Society: Communicating through the AMS web page, mass media, and/or making it feasible to invite public to AMS	
39		Policymakers: Face to face communication, correspondence, and/or holding meetings	
40	(7) Communication with stakeholders	Scholars, scientists, and scientific committees: Communicating through the AMS web page, by books, journals, online reports, technical software, and/or by holding meetings	
41		Healthcare providers: Face to face communication, through AMS web page, correspondence, and/or by holding meetings	
42		Industry (such as pharmaceutical industry and medical equipment): Through AMS web page and/or providing guidelines about health system management	Observation and assessment of documents related to the AMS activities
43		Representatives of international organizations (such as WHO, UNICEF, UNFPA and...): through AMS web page, by books, journals, correspondence, and/or by holding meetings	
44	(8) Performing the regional and global roles	Implementation of regional and/or international joint projects (like research projects) with the collaboration of other countries	
45		Holding conferences and publishing books and journals in collaboration with other countries	
46	(9) Knowledge translation and exchange for stakeholders	Holding meetings in AMS with the participation of stakeholders dealing with health system reform	
47		Participation of AMS scholars in meetings hold by stakeholders about the health hot topics	
48	(10) Role in health sector reform	Providing policymakers with policy briefs	
49		Providing society with scientific briefs	
50		Providing healthcare providers with scientific briefs	
51		Providing industry with scientific briefs	
52	(11) Exchanging experiences with other medical academies	Visiting of AMS by members of other medical academies from different countries	Observation and assessment of documents related to the AMS activities
53		Visiting of medical academies from other countries by members of AMS	
54		Considering part of the AMS web page to mention its visits and experiences	

Table 2. Framework intended to be used as a means of AMS assessment (continue)

Number	Index	Measures	Means of measuring
55	(12)	Holding conferences and festivals to glorify and encourage scholars and scientific committees	
56	Glorifying and encouraging scholars and health advocates	Holding conferences and festivals to glorify and encourage donations and health system sponsors	
57	(13)	Organizing degree designed courses	
58	Advocating	Organizing certificate designed course	
59	and	Granting scholarships for research or education	
60	empowering medical scientists	Proposing standards to promote quality of scientific seminars and conferences and the method for their evaluation	
61		Endowment of research grants	
62		Publication of books	
63	(14)	Publication of scientific journals	
64	Publishing	Publication of bulletin	
65		Publication of reports of investigations and studies in the AMS web page	
66	(15)	Self- assessment of the activities	
67	Observation, assessment, and evaluation	National health sector observatory	
68		Observatory of medical education and research	
69		Ministry of Health and other governmental organizations correlated to AMS and its objectives via interview with deputies of minister of health and counterparts in other organizations and ministries	
70	(16)	Supreme council of cultural revolution and other national academies via interview with the secretary of the supreme council of cultural revolution and the secretaries of other academies	
71	Acceptability among stakeholders	General population via interview with their representatives in the parliament and related commissions	
72		Healthcare providers via interview with board of I.R Iran Medical Council, board of I.R. Iran Nursery Council, and other related organizations	
73	(16)	Industry (those related to medical science) via interview with the union of pharmacists and the union of medical equipment and biologic products providers	
74	Acceptability among stakeholders	Scholars and scientific committees via interview with a sample of scholars introduced by scientific committees	
75	(continued)	Members of AMS scientific communities via interview with the premier of the community	
76		AMS staff via interview with the bureaus officials and authorities of the units	
77		International organizations via interview with representatives of international organizations working on health issues in the country such as: WHO, UNICEF, UNFPA	

AMS: Academy of Medical Sciences, ECO: Economic cooperation organization, OIC: Organization of Islamic conference, WHO: World Health Organization, UNICEF: United Nations Children's Fund, UNFPA: United Nations Population Fund, NGO: Non-governmental organizations

*AMS stakeholders include: policy makers, healthcare workers, scholars, industry and society; **Regenerative medicine is a new way of treating injuries and diseases that uses specially-grown tissues and cells (including stem cells), laboratory-made compounds, and artificial organs. Combinations of these approaches can amplify our natural healing process in the places it's needed most, or take over the function of a permanently damaged organ; ***"Personalized Medicine" refers to the tailoring of medical treatment to the individual characteristics of each patient to classify individuals into subpopulations that differ in their susceptibility to a particular disease or their response to a specific treatment. Preventative or therapeutic interventions can then be concentrated on those who will benefit, sparing expense and side effects for those who will not

Discussion

The objective of this study was to define a model according to which the Iran AMS could be assessed thoroughly, and so the AMS strengths and weaknesses could be spotted precisely. This would assist improving the credibility of our medical academy. During our study, there were a few items that have not been accounted in the articles of association of the Iran AMS. It is highly recommended to include

them in the next revision of AMS articles of association and strategy plans:

1. Although the strategy plan of the Iran AMS seems comprehensive enough, but revising of it biennially according to successful strategies implemented by other medical academies around the world would be essential

2. Scientific and organizational collaboration with international organizations such as UN agencies, IOC, and Economic Cooperation Organization plays an irreplaceable role in

promoting the national, regional, and international level. Considering the AMS in the conjoint activities of Iran's authorities with these organizations is recommended

3. It is suggested that Iran AMS strongly advocates donations and voluntary working in the health sector. This will be both in the favor of health system funds and helping the AMS to become financially independent

4. AMS web page should be designed and developed in a user-friendly format for all of the stakeholders, including: Scholars, policy makers, healthcare providers, general population, industrial parties, other academies, academic centers, research institutes, and international organizations collaborating with AMS

5. It is proposed to revise the structure of scientific communities of the AMS and to organize working groups focusing on hot topics of health issues such as: Drug abuse, nutrition and obesity, accidents and injuries, ecosystem pollutions, and mental health. It would have the advantage of providing health system policymakers with evidence-based solutions

6. Dedication to a multidisciplinary council and scientific communities would enhance the probability of implementation, and the efficacy of AMS advices due to its comprehensive nature

7. Establishment of capable secretary with 1 or 2 expert along with AMS scientific communities would increase the efficacy of them

8. Scientific collaboration between AMS scientific communities would enhance holistic view of problems and facilitate offering comprehensive solutions

9. Considering the growing demand of the society for medical high techs, it is strongly recommended that the AMS adopt a suitable strategy to collaborate with medical industries and their productions, imports, and exports. It would have the benefit of avoiding unnecessary inquiries and provisions and makes the science of "health technology assessment" become improved

10. It is good to mention that international connections of the AMS should be reinforced, so the presence of AMS members in other academies of medical science around the world and the presence of their peers from other academies in AMS become facilitated. I would

be in the favor of working on conjoint scientific projects, publication, and meetings

11. Participation of representatives of stakeholders in seminars hold in AMS makes its environment and activities more familiar with them and by participation of them the AMS activities will be more demand-oriented based on their priorities

12. AMS in developed countries such as United States and Great Britain exhibit various certificated-oriented or degree-oriented training courses. Many "PhDs by research" are also granted frequently. These courses draw so many young research scholars and talented scientists to the academy who serve to compensate the insufficiencies of academy in human resources

13. Members of scientific communities of French National Academy of Medicine participate proactively in seminars and conferences of reviewing items that have been discussed. This would promote the scientific level of conferences and seminars. It is highly suggested to implement such disciplines with the collaboration of Deputy of Health Minister in education

14. Bulletin plays an important role in introducing AMS to stakeholders. Bulletin are ideal to have some specific topics clarified in, such as: AMS financial balance, completed projects, and activities, news about seminars and meetings, introducing newly elected members and retired ones, intercalating condolence and greeting messages, and publication of scientific material in a plain language. Regular publication of them would better introduce AMS to its stakeholder.

As the aim of this study was to develop a mode to evaluate Iran AMS, it is recommended to evaluate the concurrent organizational structure and activities of AMS according to indices and measures listed in table 2 in order to determine the probable applicability and feasibility of the model itself and to revise it.

It seems establishing a well-defined system with a trained staff devoted to assess the AMS activities, would be in the favor of evaluating the AMS annually and by publication of strategic reports, AMS strengths would be reinforced and its weaknesses would be reformed.

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