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Iran's Achievements in Health, Three Decades after the Islamic Revolution

Iran's Health Innovation and Science Development Plan by 2025

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Abstract

Background: Iran has made significant development in health and its scientific productivity, but a cohesive approach through a long-term plan is required to utilize knowledge for the country's health and development of health science and technology. As a part of a national agenda for development of "Comprehensive Scientific Map of the Country", the draft of the plan in the health-sector has been prepared.

Methods: A combination of two normative and exploratory approaches has been adopted to prepare the plan. For each part of the plan, a project defined. The group-projects developed their parts and consequently the draft of the plan developed. In the normative approach, the Islamic-Iranian values besides the country's vision for the year 2025 were assumed. National Innovation System concept used to analyze the related environment. Expert panels, using foresight methods, mainly prepared the information required for developing the plan. To finalize the plan, the draft was disseminated and receiving feedbacks, the document was polished appropriately.

Results: The long-term plan in the health sector has been prepared with the participation of around three-hundred experts. This plan includes vision, goals, monitoring and evaluation indicators, priorities, scenarios, policies, strategies, and requisites.

Conclusion: The main challenges were as follows: considering equity in health, balance in choosing priorities (primordial and primary prevention against advanced technologies), and the role of the government in knowledge management.

Keywords: *Research, Science, Technology, National Innovation Systems, Policy, Iran*

Introduction

The gap between the potential and practical roles of knowledge in the health of people is well-known (1). The important point is that the knowledge chain should not only be considered as a means to conduct research, but as a complete collection of structures and support systems that will lead to utilization of knowledge in population's health. Therefore, what guarantees knowledge utilization for better health is the development of an innovation system in which health and health equity can be achieved (2). According to the definition, innovation is conversion of an idea into an application, product, new service or improvement of a presentable finding. Innovation is the creative management of knowledge to meet specific demands and needs of the society (3).

In recent years, research has had a relative growth in Iran, characterized by fast growing scientific publications (4). However, an analysis of the country's innovation system shows weaknesses and threats that prevent utilization of knowledge-based development (5).

Iran's long-term plan of Science, Technology and Innovation is actually a response to this need that research and knowledge production should transform from an event into a regular process and serve as a means to the country's development. This plan has been prepared for

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all the Science and Technology domain and Innovation system of the country and is so-called as the 'Comprehensive Scientific map of the Country'. According to the definition 'Comprehensive Scientific Map of the Country' is "a coordinated and dynamic collection of goals, policies and requisite for planning strategic evolution of Science, Technology and Innovation system based on Islamic-Iranian values that has a long-term perspective and realization of the country's long-term development vision". 'Iran's Health Innovation and Science Development plan' is also part of this long-term comprehensive plan, which in addition to covering the components present in the comprehensive map is significant as a stand-alone plan.

The goal of this paper is to introduce this plan, its main components and the most important issues raised in its preparation.

Material and Methods

National Innovation System (NIS) was adopted mainly to analyze the supporting system of science, technology and innovation (after defining a network of public and private organizations whose activities and interactions lead to the shaping, entrance, improvement and spread of innovation) (6). In fact, the collection of goals, policies, strategies, and requisites (including infrastructures and activities) have been designed to prepare a concordant network of support systems for achieving the visionary goals of the country by 2025.

Almost 300 researchers, managers and experts in the health system's, medical education, and health research participated as panel experts or researchers during 1 yr. Thirteen panels were the main source of required information to prepare the first draft. Then the panels' outputs were combined and polished by a group of experts whose members were present in all the previous panels. The draft was published and 2000 hard copies were sent to a list of academic and health care providers. In addition, the file was digitally reviewed and uploaded in the site specifically allocated to the project (www.medmap. ir). Drafts were reviewed and individuals' opinions and criticisms were collected.

Considering the visions of the Islamic Republic of Iran by 2025, the goals of the science and technology long-term plan was developed. In other word, the goals specified in the national vision had to be met through the long-term goals of the science and technology plan. Islamic-Iranian values were assumed principles.

The explorative approach was chosen to prioritize branches of science and technologies. The expert panels, using the foresight techniques, explored the trends (social, technological, economical, environmental, and political) and the future's scenarios. Additionally, expert panels made an opportunity to involve the stakeholders in the development of the plan (7).

Results

The draft of 'Iran's Health Innovation and Science Development plan by 2025' is to be approved by authorities. This plan includes vision, goals, monitoring and evaluation indicators, priorities, probable scenarios for the future, policies, strategies, and requisites (including infrastructures and activities).

The evolution that must occur to prepare an innovation support system has been defined in nine policies: 1) policy making, management and legislation development, 2) improvement of financial resource allocation and conduction of research, 3) increasing capacity to create knowledge, 4) facilitation of knowledge sharing and diffusion, 5) human resources development, 6) entrepreneurship facilitation, 7) increasing capacity to provide health goods and services, and 8) taking norms and community participation into account, and 9) facilitation of communication, For each policies two level of strategies and its requisites developed. First strategy level includes those strategies, which related to the system as a whole and can improve the infrastructure. Second level addresses the strategies to develop the priorities of the science, technology, and innovation system.

The project most important challenge was to keep the balance between the results driven from normative approach and values and the priorities were adopted during panel of expert session by foresight methods. Three main issues were as follows:

a) One of Iran's health system doctrines, like other health systems, is affordability while the industrial world is pursuing and investing in advanced science and technologies because of the market elasticity and increased technological abilities.
b) Priority of topics such as health promotion and preventive medicine which do not necessarily require hard technology but will occur by changing people and service providers' behavior. These technologies will not be achieved easily.
c) The role of the government, such as Health Ministry, in governing the national Science, Technology and Innovation system; on one hand, the intervention of the government may slow down the procedures, and on the other hand, it must be balanced in supporting people.

Discussion

The NIS can be used as a suitable framework to analyze the Health Science, Technology and Innovation's structure and functions. Based on this framework, the system actors are defined and their roles and performances are specified with development of policies, strategies and requisites. As mentioned above, the most important challenges of the this planning cover three issues of equity, attitude towards priorities, and the role of the government in Health Science, Technology and Innovation development.

Equity in health is an important national value, the consideration of which has led to the formation of a successful Primary Health Care system in Iran (8). The recent advice made by the 'Commission on Social Determinants of Health' also refers to the issue of equity in all policy developments (9). Utilization of Health Science and Technology must also consider equity; otherwise, class discrimination will rise and its social aftermath will be undesirable. For similar reasons, health promotion and preventive medicine are the main priorities in the Health Science and Innovation Development, and should not be replaced by advanced technologies.

Health is a public right. In Iran, not only is the government in charge of the health system, but it is also responsible for the support, distribution and delivery of financial resources for supporting people, and ensuring their rights are reserved (10). Education too is people's right, but the government's responsibility towards it differs from that in health. Public education of people is necessary; however, the idea-to-practice chain in research and higher education can be strengthened by the participation of private sectors and companies. Here the government should defend public rights by observing professional ethics, intellectual property and human identity in the health profession.

The draft of the 'Iran's Health Innovation and Science Development plan by 2025' has now been prepared. Since preparation of the map is a widely discussed issue, its significant outcome is initiation of dialogues about the future and significance of innovation in the country's development. Implementation now is the main concern. An appropriate selection of The Science, Technology and Innovation long-term plan will be included in the fifth 'Five-Year Socio-Economic Development plan'. There is hope for this plan, but in order to implement this twenty-year agenda the other requisites should be met too. With that in mind, the roadmap has been foreseen as a dynamic activity to allow reviews at various intervals.

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