

## Systematic Observatory in Various Fields of Medical Sciences: The Necessity of the Future Complicated World

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*Dear Editor,*

Similar to other sciences, medical sciences have witnessed fast progress and changes in the world around them in recent years. This factor, along with the relation of these sciences to the principal issue of health, has led the up-to-datedness of education in the fields of medical sciences to be of a particular place and importance. The up-to-datedness of education becomes more prominent, particularly when we pay attention to the fast environmental changes in the future as well. We will witness a more complicated environment for medical science education in the near future because of salient developments in the fields of technology, political and economic evolutions, demographic changes, etc. Therefore, one of the fundamental requirements to deal with these changes appropriately is to recognize the various changes influencing medical science education (1).

Some of these changes are related to social and demographic changes, including the increase in aging and the changes in the mean age of various beneficiary groups (service providers and recipients, students, and professors), the expectations of society and the workforce, and the pattern of migrations (2).

Some other changes are regarding the field of technology, such as the expanded use of telemedicine, changes in technology-based teaching methods,

including the metaverse, the increase of virtualization, the development of hybrid structures, the development of online learning, the increase of access to educational resources and services, the recognition of the source of many diseases, genetics-based treatments, and personalized medicine (3).

Economic and political evolutions, such as increasing financial limitations, reduced share of government in educational costs, the emergence of various business models, the entry of digital currencies into educational and competitive structures, and the specialization of the short-term educational courses market, increase the sensitivity to changes in this field (3).

In addition to the changes mentioned above, newfound diseases, lifestyle changes, increased immobility, increased unhealthy eating habits and reduced access to natural and organic food, the rampant growth of urbanization and its effect on villages and the increase of slum areas, environmental pollution, and climate change will also affect the field of medical science education (4).

The mentioned changes denote that in the field of medical science education, we should be sensitive to the features of the new and complicated environment and deal with them alertly. One of the methods that can be used to monitor changes and also to be assured of the up-to-dateness of medical science education is systematic observatory. "Observatory" literally refers to

an institution specially designed and equipped to monitor meteorological and astronomical phenomena and any building providing a broad view of the surrounding environment. Health observatory systems are defined as policymaking-oriented centers that carry out regular and continuous observations and analyses of health issues concerning a specific population and a geographic area (5).

Given the importance of this topic, during the previous years, actions have been taken to monitor education at the Institute for Futures Studies in Health, and the critical points of these actions are mentioned as follows. The first point is that observatory should be performed with the engagement of all beneficiaries in various fields of medical sciences. Shifting the importance of consciousness of the future and sensitization will help in the more serious engagement of beneficiary groups effectively. The next point is that observatory should be based on recognized scientific principles. Without paying attention to such principles, the produced evidence will be of low quality, and proper messages will not be produced. Another point is that observatory is a continuous process; therefore, we should rationalize our expectations toward it at the very first point. The last point is that observatory is an interdisciplinary process; thus, the engagement of social, economic, political, etc. experts in it will enrich it more and more and identify the dark facets of the future of the fields.

Observatory in the country's field of medical science education should be carried out systematically; the following recommendations are of particular importance to achieve such a goal.

- Definition of a specific program and structure for observatory, which certainly is not necessarily associated with adding institutional charts and organizations, and can be implemented by defining and entrusting tasks to universities with potential;
- Training the observatory fundamentals of fields and its importance to the beneficiary groups, including faculty members and students;
- Formulating an environmental survey mechanism in various fields of medical sciences with the engagement of various field's beneficiary groups;

- Facilitating the implementation of relevant projects at the national level (via the Nasr Center) and at the macro level of regions and universities;

- Networking among universities with the observatory potential in the country's field of medical science education and defining observatory activities in the field of medical science education in a convergent manner;

- Interpreting and sending observatory messages for policymakers at different national and academic levels.

Considering the remarkable changes in the coming world, the country's medical science education department seems to require a clear mechanism and program to monitor the changes and evolutions and to use the messages from this observatory in related decision-making. In such a program, the role of all beneficiary groups should be defined, and their power and potential should be benefitted to monitor changes and interpret and send relevant messages.

**Supplementary Material(s):** is available here [To read supplementary materials, please refer to the journal website and open [PDF/HTML](#)].

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