



## What Motivates Talented Medical Students to Study Simultaneously at Master of Public Health (MPH)?

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### Abstract

**Background:** Nearly three decades ago, the Master of Public Health (MPH) academic degree was introduced to Tehran University of Medical Sciences' School of Public Health, Tehran, Iran. A new program for simultaneous education of medical, pharmaceutical and dental students was initiated in 2006. Talented students had the opportunity to study MPH simultaneously. There were some concerns about this kind of admission; as to whether these students who were not familiar with the health system had the appropriate attitude and background for this field of education. And with the present rate of brain drain, is this just a step towards their immigration without the fulfillment of public health?

**Methods:** This qualitative study was conducted in 2012 where 26 students took part in focused group discussions and individual interviews. The students were questioned about their motivation and the program's impact on their future career. The participants' statements were analyzed using thematic analysis.

**Results:** The primary motivations of students who entered this program were: learning health knowledge related issues, gaining a perspective beyond clinical practice, obtaining a degree to strengthen their academic résumé, immigration, learning academic research methods and preparing for the management of health systems in the future.

**Conclusion:** Apparently, there was no considerable difference between the motivation of students and the program planners. The students' main motivation for studying MPH was a combination of various interests in research and health sciences issues. Therefore, considering the potential of this group of students, effective academic investment on MPH can have positive impact.

**Keywords:** Curriculum, Graduate, Administration, Public health, Education, Iran

### Introduction

Ever since the 19th century, mentors of medical education have expressed their concern regarding the exclusion of discussions on "public health" and "prevention" in the medical students' curriculum (1). Over the recent years, adding the community's perspective about the management

of health programs in addition to the clinical skills in the curriculum of medical schools has gained constant attention (2). Some relevant organizations in the US, such as the Institute of Medicine (IOM) and the Anne Arundel Medical Center have reports, which encourage such processes (3).

IOM suggests that most of the medical schools' graduates should be trained in ecology and public health in the Master of Public Health (MPH) program (4). It is not confined to the US alone and is addressed in the medical education of both the UK (5) and Canada (6).

In Iran, the MPH program dates back to about three decades ago in 'Tehran University of Medical Sciences' (TUMS) School of Public Health. It has undergone some changes in terms of teaching quality and quantity of accepted students each year. Today various types of MPH programs are offered in this school (7); ordinary program, modular (holding each semester in two intensive weeks for up to six credits) and the simultaneous program for talented medical, pharmaceutical and dental students (MD-MPD or more correctly: MD-MPH, DD-MPH and PharmD-MPH, due to presence of dentistry and pharmacy students). Simultaneous education of pharmacy students has also been addressed at the international level to promote their research skills as well as their public health services (8). In 2006, a program for simultaneous education of MD-MPH was initiated, the main purpose of which was to familiarize talented students with health sciences and train physicians to think about the health on a more holistic dimension (9). Actually, the planners wanted to tailor a program, which could improve the graduates' perspectives regarding public health, even in their clinical practice. Eventually they wanted to find interested students among talented students who would select population health as their future career.

MD-MPH in TUMS lasts 2-3 years with 16 major units and 12 optional units. Afterwards, the program includes field training and finally a thesis, preferably a joint MD-MPH thesis, must be presented (7). Principal courses include principles of epidemiology and research methods, biostatistics, environmental health, public health nutrition, health management and health economics. Optional courses include a wide range of materials from evidence-based public health, molecular and genetic epidemiology, and policy analysis to adolescence health. In the US, the Association of Schools of Public Health identified 12 main do-

main and 19 competencies for the MPH program (10). Most of the identified domains are included in the main TUMS program including environmental health, biostatistics, epidemiology, health policy and management. However, part of the issues related to interdisciplinary and cross cutting competencies, such as social aspects and communications, are covered in the optional courses (11).

After a number of admissions in this program, it was necessary to evaluate the weaknesses and strengths of the MD-MPH program. Among various factors affecting the program's success in achieving the ultimate goal, the students' perspective concerning their enrollment in the program was quite important. Were the attitudes of students accepted in MD-MPH compatible with the expected objective of such a program's establishment? This question was proposed when some objected that there was no consistency between some of the students' concerns, motivations and interactions (with educational content of MD-MPH) and the overall objectives of the program. In the previous curriculum of MPH in the School of Public Health at TUMS, graduates of medical sciences schools (physicians, veterinarians, pharmacists and dentists) had to have three years of working experience after graduation in order for them to become familiar with the health administrative atmosphere. These critics argued that the necessary condition for entrance to the program was previous familiarization with the health service delivery system, and that the accepted students must have work experience in the field. In addition, some argued that immigration, so-called brain drain, was a recognized trend in Iranian medical education (12) and that we were actually preparing people for getting admission from foreign universities. It complied with a report by the International Monetary Fund, which estimated in 2006 that annually 150,000-180,000 Iranian people left the country (13).

Considering such argues, a question was proposed: Did these students actually have a community-oriented view of health services and medical science and consider themselves in the position to solve current and/or future health problems at a

community level? Furthermore, MD-MPH might be gradually shaping in other universities around the country. So now, has after the program's initiation and stabilization in TUMS, and considering the quantity of students (which had increased considerably), it was time to examine their attitude and motivation in a qualitative study.

## Methods

The subjects were MD-MPH students of different academic years studying in TUMS. Sampling was done using the maximum variation method; therefore four of the students who withdrew from the program after a few months were also considered in the study.

The representatives of each educational group were contacted. After explaining about the research, we were provided with the students' contact information. They were then invited to participate in focused group discussion sessions after a comprehensive explanation about the research objectives and data collection procedure through phone calls. Five sessions were held with the presence of 4-7 students in homogenous groups (in terms of expressing their opinions). In each session, data was collected through focused group discussion (FGD). The first and last authors were the facilitators of most FGDs and took notes. The information was saturated following these sessions. The FGDs lasted approximately 1.5 hours each. The study was conducted in 2012. The interview guide consisted of five questions. The first was where and when the students first became acquainted with MPH. They were then asked about their motivation for studying in this program and their expectations about its achievements. To eliminating the effect of immigration from the students' motivations, they were asked whether they would still accept simultaneous education in MPH if it were suggested to them while studying in a well-known US university. Finally, they were asked about the perspective they had on their careers during the next fifteen years and how they thought MPH could help them.

Thematic analysis was used for data analysis (14). After each FGD and/or interview, its text was transcribed. Transcription was read several times and the data was categorized into two categories using constant analysis method. The two categories were the medical students' motivation for entering the MPH program, and its impact on their future career. Before the next interview, data was coded. At this point, the data was first read line by line and open codes (interviewees' statements) were extracted. The obtained codes were then compared to the previous codes and those conceptually similar were put in the same class. The classes were formed gradually. The themes were also compared and integrated if necessary. In some cases, one theme was divided into two or more themes, or the code was transitioned from one theme to another. Trustworthiness was increased by keeping documentation of the research, prolonged data exposure and the use of expert guidance and supervision.

In order to comply with ethics, the students were informed about the research's objectives and importance before each interview, and participated after giving verbal consent. The recorded interviews were used with their permission and they were assured that the obtained data would be used for research purposes alone. They were also reassured that no one other than the research team would have access to this information. At the end of each interview, the interviewees were rewarded with a gift.

## Results

This study's results are divided into two categories: the students' motivation for entering the MPH program, and its impact on their future career. Certain comments related to the extracted themes are included (word for word) in italic writing.

### **a. Students' Motivation for Entering the MPH Program:**

In this category, 8 themes were extracted as shown in Table 1.

**Table 1:** Topics and themes of the study on the medical students' motivation for simultaneous education in Master of Public Health (MPH)

	Themes
Students' motivation for entering the MPH program	<ol style="list-style-type: none"> <li>1. Learning new topics and gaining knowledge beyond clinical views</li> <li>2. Making a strong academic résumé and immigration</li> <li>3. Learning to research systematically and academically</li> <li>4. Interest in health systems' management</li> <li>5. Gaining new experiences and the tendency to take a new step in life</li> <li>6. A sense of competition with friends and classmates</li> <li>7. Getting to know new people</li> <li>8. Broadening the scope of action at a community level</li> </ol>
Impact of MPH education on future career	<ol style="list-style-type: none"> <li>1. Post-graduate education and/or getting an academic position</li> <li>2. Becoming a researcher</li> <li>3. Obtaining managerial position</li> </ol>

1. Learning new topics and gaining knowledge beyond clinical views: Over half of the participants (14 out of 26) stated that their interest in learning new subjects such as statistics, epidemiology, health economics etc. had motivated them to enter the MPH program. As they said, learning such subjects helped them have a broader view on community health and issues as compared to other physicians. It also helped them organize their system of thought. One participant had this to say: "... I concluded that MPH gives a broader view on medicine. A physician has face to face contact with the patients and treats them one-by-one. But MPH doesn't work in this way and it causes the physician to have the community and environment more involved in his/her work." Another participant stated: "Sometimes when the class is finished, I feel really good because of the different view it has given me regarding health issues."

2. Making a strong academic résumé and immigration: Another motivation stated by over half of the subjects (14 out of 26) was to gain the valid degree, which was awarded after the program. In their view, this degree could be regarded as a positive score in their academic résumé. It could help them if they decide to immigrate, become a faculty

member or gain other positions alongside their clinical work.

As mentioned earlier in the methods section, the students were asked whether they would still apply for MPH if they were studying in US. Half of the subjects who mentioned immigration as one of their motivations for attending the MD-MPH said they would.

According to one of subjects: "It depends on how MPH is presented there. Maybe I would study it with even more interest. Half of my motivation for entering this program was to learn statistics, and this program could also help me in the US."

Two individuals stated that in such a case, they would study a discipline such as epidemiology from the beginning and not enter in the medical field. Other subjects said if they were studying in the US, they would not take part in MPH. One of subjects answered to this question as follows:

"In the US, if I wanted to be involved in public health work which is very unlikely, I would certainly study MPH. However, over there I would not need to know anything about it if I was to practice medicine. Whereas in Iran physicians need to study MPH, as they have no information about insurance and health economics. All courses

related to public health in the medical schools are presented during the first 2.5 years, exactly when students are running away from them and we do not remember anything about these courses. However, when you encounter these issues in MPH, you recognize their value and would like to know them, so that they may help you in the future."

3. Learning to research systematically and academically: Among the 26 participants, 11 individuals mentioned learning to research in a systematic and academic manner as their motivation for attending this program. It was the main motivation for some subjects. Many of the participants had had research experience before attending this program. However, they had some difficulties and attended the program, hoping to learn the principles and basics of research methods. One participant said:

"I had several research projects running that I didn't know if I was doing properly or not. In fact, I had concerns regarding epidemiology and research. I think I found the solution here. On the other hand, in my opinion, a large number of research works are carried out in our country. Somehow, rather than having scientific growth we have a scientific inflation. A large number of papers are published, but none of them is reflected in the health system. Thus, it is crucial that we find the problem and provide a solution".

The other subject said:

"The first time I heard about MPH was in one of the students' research center's workshops. One of the instructors was studying this program and advised us to attend. He said by studying MPH we would become familiar with the basics of the related issues and study them as academic disciplines".

4. Interest in health systems' management: some of the interviewees (10 out of 26) stated their interest in management topics and wanted to be assigned in a managerial position in the health system in the future. They believed the MPH program's teachings could partly provide for the necessary preparations. According to one participant: "I was interested in leadership. I was the leader of a team in a research project and a few individuals worked with me. Even at that small scale, I liked the role of leadership and wanted to have its knowledge."

5. Obtaining new experiences and the tendency to take a new step in life: Some subjects (4 out of 26)

stated that they wanted to do something else alongside their medical education and it motivated them to take part in the program. One of them said: "After completing basic sciences, I felt I had spare time. In addition, I had the spirit to go on an adventure and learn new things and wanted to study a discipline other than medicine."

6. A sense of competition with friends and classmates: A number of participants (3 out of 26) expressed that a spirit of competition with friends and classmates was what motivated them to enter the program. One of the participants said in this regard:

"When the registration for the program first started, I didn't register. Until some of my friends said they had registered in the program. That when I thought 'why shouldn't I participate!'."

7. Getting to know new people: Only one of the participants mentioned this. She said:

"MPH for me is not just acquiring a degree; it opened a door for me called "The School of Public Health", which is now like my own school. I go to its library frequently. When I have a question which my instructors cannot answer, I ask the PhD students. MPH for me is not just a lesson and a degree; it helped me enter a new dimension."

8. Broadening the scope of action at a community level: One participant said the MPH program helped them broaden their area of action in the community. According to him: "In the beginning of the program, one of the instructors asked me this question, and I said that if I was a surgeon, I would visit a maximum of 3 to 4 patients daily which would be a total of 30,000 to 50,000 patients during my lifetime. As I'm a selfish person, it does not satisfy me to have influenced only 40,000 to 50,000 lives after my working life. In order to broaden my area of action, obtaining skills other than medical skills are necessary which cannot be gained in medicine. Perhaps research and management are topics that can help."

#### **b. Impact of Studying the MPH Program on the Individuals' Future Career:**

In order to investigate the impact of studying MPH on the individual's future career, students were asked about their expectations regarding their future careers after 15 years and how they thought MPH would help. It should be noted that the question was not asked from 4 of the subjects

who withdrew from the MPH program. Three themes were extracted in this category:

1. Post-graduate education and/or getting an academic position: Over half of the subjects (13 out of 22) said the MPH degree would help them achieve the following goals: immigrate for education, have a position in the university and become a faculty member, or make a strong academic résumé.
2. Becoming a researcher: Half of the subjects (11 out of 22) stated they wanted to do research work in the future and MPH teachings could help. Therefore, learning appropriate research methods through the MPH program could be useful.
3. Obtaining a managerial position: Some of the interviewees (9 out of 22) said they decided to obtain a managerial position in the health and treatment system in the future and their education in MPH could prepare them in this field by teaching management principles. One of them said:

*"I have decided to return to my hometown and become involved in its health system, at least as the director of a unit or head of a hospital. Therefore, I was eager to obtain a good perspective in this regard and to have its knowledge. Among the courses of MPH, I'm not too interested in statistics and epidemiology; however, I like economics and management."*

Four of the students in this research who were accepted in the MPH program, withdrew after two semesters. Gaining a degree for immigration was the primary motive for three of them. The fourth student mentioned the learning of statistical topics as well as making a strong academic résumé as his main objective when attending this program. Time-consuming classes, non-interesting topics and the fact that the final MPH degree was not as valid as they expected were the reasons given by these individuals as to why they withdrew from further studying MPH.

## Discussion

According to this study, the most important incentives for entering the MPH program stated by students included a broader view of commu-

nity health issues as compared to other physicians and assistance in organizing their system of thought. The MPH degree can be regarded as a positive score in the individuals' academic résumé. It could render useful if the students want to immigrate, become faculty members or accept other positions; making the degree a main motive for students to enter the program.

In this study, it was found that gaining knowledge beyond the clinical view and approach towards health issues was the majority of participants' motivation. In a study on the students of the University of Colombia, it was also found that the MPH program was quite influential when choosing a specialized field at the end of the period. Fields associated with primary health care were selected more than the national average (15).

Another important motive for attending this program was learning to research in a systematic and academic manner. A study on the educational capacities for the residents of radiology in the US suggested that studying two fields were increasingly growing and that the participation of residents in MPH or Master of Business Administration (MBA) was recommended by the chairpersons of the radiology departments (16). A study on medical students simultaneously studying MPH in the University of North Carolina showed that the primary motivation for post-graduate students entering this program was to enhance their research skills, whereas the medical students were mostly interested in the inequities of health services delivery, service to vulnerable social classes, and change in the health services delivery system (17).

Therefore, it seems that in addition to the mentioned contents, gaining the degree and preparing to manage the health system in the future are also important motives. In another study, the students of Tulane University also mentioned that this program could offer them a better future (18). In a study on 1108 medical students in the US, 17% of whom simultaneously studied MPH; it was found that simultaneous education graduates had a better chance of completing generalist primary care residency and employment in higher academic institutions. In terms of research, they had 3 times more chances to get grants from national institutes of

health and had twice the number of published papers (19).

MD-MPH program started in 2006 in TUMS, so there were 6 groups of accepted students at the time of study, some of whom had graduated. Therefore, it seems that the results were not affected by the novelty of the program (whether in terms of program implementation or conceptual perceptions of the medical students toward this dual degree). The weakness of the study is that the subjects were all either studying or had just graduated and therefore had yet to enter the job market. Therefore, this study does not provide any information on the perspective of working graduates. In addition, it should be noted that this study could be used as the basis for a quantitative study on the same group of the students, for the frequency in the representative sample to be obtained. Of course, it should be noted that considering the sensitivity of this study's objective, a qualitative approach was justified. Furthermore, the common motives among participants and the lack of differentiation in the program's goals do not imply the program's success; the program and its graduates must be evaluated separately.

By holding this program, the aspects of clinical and health, sciences can be promoted. It is possible to provide the necessary ground for the presence and participation of the program's graduates in the management of national macro-health areas. By shifting the country's health service delivery system towards family medicine (20), it seems that the importance of students having knowledge beyond the clinical view becomes more important, and this program is able to train people with managerial capabilities for this purpose. Similar findings were obtained in a study of the MD-MPH graduates of Brown University. Considering the current needs of service delivery system in the US, it was proposed that the program be strengthened (21).

## Conclusion

Apparently, the students' motivation is close to the goals of the program planners. Holding short-

term programs to introducing the MD-MPH to students before their admission may also be useful. The outcome of the program should be studied based on achievements of graduates and the careers they obtained. The program can then be advised to other universities.

## Ethical considerations

Ethical issues (including plagiarism, verbal consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc) have been completely observed by the authors.

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