

Original Article

Comparative analysis of educational systems in the specialty of community medicine in Iran and other countries

Mohammad-Reza Sohrabi ^{1,2} , Marzieh Nojomi ³ , Alipasha Meysamie ⁴ , Navid Mohammadi ⁵ , Rozhin Amin ⁶ , Zahra Hajhashemi ² 

¹ Department of Community Medicine, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

² Social Determinants of Health Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

³ Department of Community Medicine, School of Medicine, Iran University of Medical Sciences, Tehran, Iran.

⁴ Department of Community Medicine, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran.

⁵ Department of Community Medicine, School of Medicine, Ghazvin University of Medical Sciences, Tehran, Iran.

⁶ Faculty of Health, School of Health Policy and Management, York University, Toronto, Ontario, Canada

Corresponding author and reprints: Mohammad-Reza Sohrabi, Professor, Department of Community Medicine, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Email: m.sohrabi@sbmu.ac.ir

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Abstract

Background: Community-oriented medical education is emphasized globally, with community medicine in Iran playing a pivotal role. Despite its long history, the specialty has faced challenges in job placement and curriculum overlap. This study aimed to compare community medicine educational programs in Iran with those of other countries to identify areas for improvement and alignment with international standards.

Methods: The study was a qualitative study which conducted in two phases. Phase one involved developing a review model by examining programs from three universities and refining it through qualitative feedback from local and international faculty. Phase two entailed implementing the model to gather data from universities worldwide offering similar programs, followed by analysis by an expert panel.

Results: Key discrepancies identified include program duration (3-6 years internationally vs. 3 years in Iran), thesis extension periods, and multidisciplinary faculty composition. While core content and educational settings were similar, international programs employed more comprehensive evaluation methods and extensive field training.

Conclusion: Aligning Iran's community medicine program with international standards requires incorporating multidisciplinary faculty, adopting diverse evaluation methods, and expanding field training opportunities. These adjustments can enhance the quality and effectiveness of the program, better preparing graduates for public health challenges.

Keywords: Community Medicine; Curriculum; Education; Iran.

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Introduction

Community-oriented medical education is a central focus in many countries worldwide. In Iran, the specialty of community medicine has been

established to oversee community-oriented medical education. Community medicine was first introduced in Iran during the 1950s. Initially, this specialty accepted

residents for a few years and was managed in collaboration with Johns Hopkins University. However, the admission of residents was halted in 1979, only to be resumed in 1984 with the formation of the Ministry of Health and the recognized need for this specialty. Despite the training of over two hundred graduates in this field, the job positions for community medicine specialists in the health system have not been properly defined or, if defined, not implemented.

Criticism has been directed towards this specialty, including overlaps with other fields and the lack of courses that provide the capability to deliver services within the health system. One distinct feature of community medicine in Iran is that, unlike other specialties introduced by individuals who studied abroad or designed entirely based on foreign models, community medicine was developed domestically based on needs identified in the 1980s. Over time, individuals shaped the specialty with prevention-oriented approaches, ranging from managerial to clinical aspects at the individual level, leading to varied educational methods across different universities.

In 2004, the training program for this specialty underwent a review as part of a project and was subsequently re-evaluated by the Board of Review in 2008. Despite these changes, the Ministry of Health did not adequately employ the graduates, and in 2018, individual perspectives of the then-Minister led to a two-year suspension of the specialty and a weakening of community medicine departments.

Given the domestic roots of this specialty, this study aims to compare the educational programs of community medicine in Iranian universities with those of other countries. By utilizing the experiences of these countries, this research seeks to provide recommendations for revising and strengthening the educational program of community medicine in Iran.

Methodology

Phase One: Developing the Educational System Review Model

In this phase, an initial review model of educational systems was extracted by examining three universities from different countries. This model was reviewed and finalized through qualitative methods involving at least fifteen faculty members from within the country and two faculty members from abroad.

Phase Two: Implementing the Comparative Review Model

This phase involved searching for all universities offering community medicine or similar specialties and extracting their information based on the criteria established in Phase One. By searching the internet, universities with community medicine or similar specialties, such as public health, preventive medicine, preventive and community medicine, and global health, have been identified. Their educational models have been extracted and relevant information in areas such as curriculum and content, educational settings, faculty composition, educational content, graduates' competencies, and the overlap of similar specialties were gathered and classified. This information then analyzed and summarized by an expert panel. By comparing this information with the community medicine specialty in Iran, the expert panel ultimately provided recommendations to the Secretariat of the Specialty Council and the relevant board.

Research Limitations

The limitation of accessing all information through the internet. To overcome this limitation, additional information was gathered via email and requests to the relevant departments.

Findings

The goal of the first phase was to develop a model for reviewing social medicine educational programs for use in subsequent phases. The second phase aimed to gather

Table 1: Proposed Headings for Feedback Using Likert Scale

Heading	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Objectives					
Graduate Roles					
Graduate Competencies					
Curriculum Content					
Clinical Training					
Field Training					
Educational Settings					
Course Evaluation Methods					
Educational Strategies					
Program Type: Residency or PhD					
Educational Department Name					
Faculty Composition					
Similar and Overlapping Disciplines					
Country of Program Implementation					
Per Capita Income of the Country					
Life Expectancy					
Health System Model					

information about various universities' programs based on the model designed in the first phase.

To achieve this, the research team utilized the residency training program from Iran, as well as programs from universities in Canada and the USA. Using the insights from the research team, the following headings were extracted. These headings were structured into Table 1 using a Likert scale and sent for feedback to 24 faculty members and experts in social medicine, medical education, and social medicine specialists with additional training in medical education. Participants were also asked to suggest any additional items for completing the form.

Following three rounds of follow-up, 20 participants completed and returned the questionnaire. The results from this stage are as follows:

- Response Rate: 83.3%
- Average Age of Participants: 51 years (Standard Deviation: 5.2 years, Minimum: 43 years, Maximum: 64 years)

- Faculty Membership: 19 participants were university faculty members and one was employed at the Ministry of Health
- Average Work Experience: 17 years (Standard Deviation: 5.1 years)

To calculate the score for each heading, "Strongly Agree" was assigned a score of 1, "Agree" a score of 2, "Neutral" a score of 3, "Disagree" a score of 4, and "Strongly Disagree" a score of 5. The mean for each heading was calculated, and the results are presented in Table 2.

The highest mean was 2.3, and the lowest was 1.45. Given that a mean of 4 or higher indicates a predominance of negative opinions, and none of the headings achieved this score, all criteria, except for the last three (life expectancy, per capita income, and health system model), had a mean below 2, indicating a predominance of positive opinions. Therefore, all criteria will be included in the model.

Additionally, several items were suggested for addition to the headings, which, after

Table 2: Results of Feedback on Reviewed Headings

Heading	Minimum	Maximum	SD	Mean	N
Objectives	1	4	.733	1.30	20
Graduate Roles	1	5	1.234	1.55	20
Graduate Competencies	1	4	.940	1.40	20
Curriculum Content	1	4	1.100	1.50	20
Clinical Training	1	3	.759	1.45	20
Field Training	1	4	.696	1.20	20
Educational Settings	1	4	1.129	1.70	20
Course Evaluation Methods	1	4	.999	1.55	20
Educational Strategies	1	4	1.099	1.55	20
Program Type: Residency or PhD	1	4	.961	1.58	19
Educational Department Name	1	4	.887	1.45	20
Faculty Composition	1	4	.999	1.55	20
Similar and Overlapping Disciplines	1	4	.988	1.65	20
Country of Program Implementation	1	3	.800	1.47	17
Per Capita Income of the Country	1	5	1.261	2.30	20
Life Expectancy	1	5	1.395	2.45	20
Health System Model	1	5	1.317	2.05	20

consolidation and addressing overlaps, were summarized as follows:

1. Admission Process for Entry Examination
2. Location of the Social Medicine Department (Medical School or School of Public Health)
3. Possibility of Pursuing Advanced Studies After Graduation
4. Employment Settings for Graduates (Public Sector, Private Sector, etc.)
5. Payment Model for Graduates

Considering the importance of the comprehensiveness of the model, the aforementioned items were added to the headings. The final headings and additional items for completing the headings are presented in phase 3 as the model for collecting educational program information for social medicine.

In phase 2 the educational system and curriculum of community medicine or similar disciplines in 15 countries were evaluated. The results are as follow:

1. Doctor of Public Health (University of Toronto, Canada)

- **Responsible Faculty Name:** Dalla Lana School of Public Health
- **Educational Department Name:** Clinical Public Health Division
- **Admission Process for Entry Examination:** CV and Interview
- **Program Duration:** 4 years
- **Program Type:** Dr of Public Health
- **Faculty Composition:** Multidisciplinary
- **Similar and Overlapping Disciplines:** None specified
- **Program Objectives:** Use of scientific evidence in complex clinical decision-making and policy
- **Graduate Roles:** Leadership role in public health policy and clinical settings
- **Graduate Competencies:** Data analysis, management, policy and planning, training and workforce development

- **Curriculum Content:** Public Health, Population health and equity, research methods, Leadership, Global Health policy, financial leadership, Intervention research, Health systems and policy
 - **Theoretical Training:** 2 years
 - **Clinical Training:** None
 - **Field Training:** Case studies in health policy
 - **Educational Settings:** Classroom
 - **Course Evaluation Methods:** Attendance, written exam, presentation
 - **Educational Strategies:** Lectures, projects, small groups
 - **Per Capita Income of the Country:** 43,241.62 USD, 12.7% in Health
 - **Life Expectancy:** 82 years
 - **Health System Model:** Based on family physician and national health system
 - **Possibility of Pursuing Advanced Studies After Graduation:** Fellowship
 - **Employment Settings for Graduates:** Public Sector, Private Sector
 - **Payment Model for Graduates:** Tuition paid by graduates
 - **Graduate Satisfaction Rate:** Not specified
 - **Educational Resources:** Not specified
- 2. PhD in Epidemiology (University of Toronto, Canada)**
- **Responsible Faculty Name:** Dalla Lana School of Public Health
 - **Educational Department Name:** Epidemiology Division
 - **Admission Process for Entry Examination:** CV and Interview
 - **Program Duration:** 5 years
 - **Program Type:** PhD
 - **Faculty Composition:** Multidisciplinary
 - **Similar and Overlapping Disciplines:** None specified
- **Program Objectives:** Train independent researchers in epidemiology
 - **Graduate Roles:** Work, research, and teaching related to health, disease, disability, and preventive measures
 - **Graduate Competencies:** Evaluation of scientific literature, hypothesis generation, understanding applications of epidemiological studies, identifying and assessing existing data, resolving ethical issues related to epidemiological research, writing and defending a doctoral thesis
 - **Curriculum Content:** Public Health, Research methods (1 & 2), Quantitative methods (1 & 2), Seminar series in Epidemiology, Causal Mediation Analysis, Elective courses (behavioral sciences, health economics, or health policy, genetic epidemiology, ...)
 - **Theoretical Training:** 2 years
 - **Clinical Training:** None
 - **Field Training:** Case studies in health policy
 - **Educational Settings:** Classroom
 - **Course Evaluation Methods:** Attendance, written exam, presentation, thesis
 - **Educational Strategies:** Lectures, projects, small groups
 - **Per Capita Income of the Country:** 43,241.62 USD, 12.7% in Health
 - **Life Expectancy:** 82 years
 - **Health System Model:** Based on family physician and national health system
 - **Possibility of Pursuing Advanced Studies After Graduation:** Fellowship
 - **Employment Settings for Graduates:** Public Sector, Private Sector
 - **Payment Model for Graduates:** Tuition paid by graduates
 - **Graduate Satisfaction Rate:** Not specified
 - **Educational Resources:** Not specified

3. Public Health and Preventive Medicine Specialty (University of Toronto, Canada)

- **Responsible Faculty Name:** Dalla Lana School of Public Health
- **Educational Department Name:** Clinical Public Health Division
- **Admission Process for Entry Examination:** CV and Interview
- **Program Duration:** 5 years
- **Program Type:** Residency
- **Faculty Composition:** Multidisciplinary
- **Similar and Overlapping Disciplines:** None specified
- **Program Objectives:** Training specialists with the necessary skills to assess, maintain, and improve overall health levels and reduce health disparities in communities
- **Graduate Roles:** Research, teaching, and work in government, academia, and the private sector at local or global levels
- **Graduate Competencies:** Measuring community health needs and developing strategies to improve health levels
- **Curriculum Content:** Year 1 & 2: Family physician; Year 3: MPH; Year 4 & 5: Field rotations in Public Health settings
- **Theoretical Training:** Years 3-5
- **Clinical Training:** 2 years
- **Field Training:** 2 years
- **Educational Settings:** Classroom, hospital, health centers
- **Course Evaluation Methods:** Attendance, written exam, presentation
- **Educational Strategies:** Lectures, projects, small groups
- **Per Capita Income of the Country:** GDP per capita: 43,241.62 USD, 12.7% in Health
- **Life Expectancy:** 82 years

- **Health System Model:** Based on family physician and national health system
- **Possibility of Pursuing Advanced Studies After Graduation:** Fellowship
- **Employment Settings for Graduates:** Public Sector, Private Sector
- **Payment Model for Graduates:** 65,000 USD per year
- **Graduate Satisfaction Rate:** Not specified
- **Educational Resources:** Not specified

4. UCLA Internal Medicine & Preventive Medicine Residency Program (USA)

- **Responsible Faculty Name:** Jonathan & Karin School of Public Health
- **Educational Department Name:** Health Division
- **Admission Process for Entry Examination:** CV and Interview
- **Program Duration:** 4 years
- **Program Type:** Residency
- **Faculty Composition:** Multidisciplinary
- **Similar and Overlapping Disciplines:** None specified
- **Program Objectives:** Training current and future leaders in the field of preventive medicine
- **Graduate Roles:** Planning, implementing, and evaluating community-based programs
- **Graduate Competencies:** Understanding how social determinants of health impact public health and designing equitable interventions to improve collective health
- **Curriculum Content:** MPH (1 year), coursework and projects in various fields related to health policy and/or
- **Responsible Faculty Name:** Jonathan & Karin School of Public Health
- **Educational Department Name:** Health Division

- **Admission Process for Entry Examination:** CV and Interview
 - **Program Duration:** 4 years
 - **Program Type:** Residency
 - **Faculty Composition:** Multidisciplinary
 - **Similar and Overlapping Disciplines:** None specified
 - **Program Objectives:** Training current and future leaders in the field of preventive medicine
 - **Graduate Roles:** Planning, implementing, and evaluating community-based programs
 - **Graduate Competencies:** Understanding how social determinants of health impact public health and designing equitable interventions to improve collective health
 - **Curriculum Content:** MPH (1 year), coursework and projects in various fields related to health policy and/or management, practical skills to design and implement public health interventions, education and tools catered towards paths to become future physician leaders of health systems, public health departments, and non-profit organizations
 - **Theoretical Training:** 1 year MPH
 - **Clinical Training:** 2.5 years rotations in hospital settings
 - **Field Training:** 6 months public health and health policy projects in health centers
 - **Educational Settings:** Classroom, hospital, health centers
 - **Course Evaluation Methods:** Attendance, written exam, presentation, thesis
 - **Educational Strategies:** Lectures, projects, small groups
 - **Per Capita Income of the Country:** 63,543.58 USD, 19.7% in Health
 - **Life Expectancy:** 78 years
 - **Health System Model:** Combination of insurance and public and private health services
 - **Possibility of Pursuing Advanced Studies After Graduation:** Fellowship
 - **Employment Settings for Graduates:** Public Sector, Private Sector
 - **Payment Model for Graduates:** 60,000 USD per year
 - **Graduate Satisfaction Rate:** Good
 - **Educational Resources:** Books, articles, government and international websites
- 5. Doctor of Public Health (Harvard, USA)**
- **Responsible Faculty Name:** T.H. Chan School of Public Health
 - **Educational Department Name:** Public Health
 - **Admission Process for Entry Examination:** CV and Interview
 - **Program Duration:** 3-4 years
 - **Program Type:** PhD
 - **Faculty Composition:** Multidisciplinary
 - **Similar and Overlapping Disciplines:** None specified
 - **Program Objectives:** Training high-level leaders to create change in public health
 - **Graduate Roles:** Solving complex public health problems
 - **Graduate Competencies:** Collecting, translating, and using scientific evidence to achieve real-world results in the field
 - **Curriculum Content:** Biological, social, and economic foundations of public health, as well as essential statistical, quantitative, and methodological skills
 - **Theoretical Training:** 2 years
 - **Clinical Training:** None
 - **Field Training:** 1 year
 - **Educational Settings:** Classroom, health centers
 - **Course Evaluation Methods:** Attendance, written exam, presentation, project

- **Educational Strategies:** Lectures, projects, small groups
 - **Per Capita Income of the Country:** 63,543.58 USD, 19.7% in Health
 - **Life Expectancy:** 78 years
 - **Health System Model:** Combination of insurance and public and private health services
 - **Possibility of Pursuing Advanced Studies After Graduation:** Fellowship
 - **Employment Settings for Graduates:** Public Sector, Private Sector
 - **Payment Model for Graduates:** Tuition paid by graduates
 - **Graduate Satisfaction Rate:** Not specified
 - **Educational Resources:** Books, articles, government and international websites
- 6. PhD in Public Health Sciences with Specialization in Epidemiology (University of Louisville, USA)**
- **Responsible Faculty Name:** School of Public Health and Information Sciences
 - **Educational Department Name:** Epidemiology and Population Health
 - **Admission Process for Entry Examination:** CV and Interview
 - **Program Duration:** 3-4 years
 - **Program Type:** PhD
 - **Faculty Composition:** Multidisciplinary
 - **Similar and Overlapping Disciplines:** None specified
 - **Program Objectives:** Training researchers in population-based epidemiology
 - **Graduate Roles:** Solving complex public health problems
 - **Graduate Competencies:** Evaluating scientific evidence, generating hypotheses, designing studies, using software for data management and analysis, effectively communicating findings to diverse audiences
- **Curriculum Content:** Each student designs their educational program in consultation with a faculty member
 - **Theoretical Training:** 2 years
 - **Clinical Training:** None
 - **Field Training:** 1-4 years of research for the dissertation
 - **Educational Settings:** Classroom
 - **Course Evaluation Methods:** Attendance, written exam, presentation, dissertation
 - **Educational Strategies:** Lectures, projects, small groups
 - **Per Capita Income of the Country:** 63,543.58 USD, 19.7% in Health
 - **Life Expectancy:** 78 years
 - **Health System Model:** Combination of insurance and public and private health services
 - **Possibility of Pursuing Advanced Studies After Graduation:** Fellowship
 - **Employment Settings for Graduates:** Public Sector, Private Sector
 - **Payment Model for Graduates:** Tuition paid by graduates
 - **Graduate Satisfaction Rate:** Not specified
 - **Educational Resources:** Books, articles, government and international websites
- 7. Public Health Specialty (Nationwide program through NHS, England)**
- **Responsible Faculty Name:** Faculty of Public Health
 - **Educational Department Name:** Health Division
 - **Admission Process for Entry Examination:** CV, entrance exam, and interview
 - **Program Duration:** 5 years
 - **Program Type:** Residency
 - **Faculty Composition:** Multidisciplinary
 - **Similar and Overlapping Disciplines:** None specified

- **Program Objectives:** Training current and future leaders in preventive medicine
- **Graduate Roles:** Planning, implementing, and evaluating community-based programs
- **Graduate Competencies:** Community health assessment, evaluation of intervention impacts, policy design and implementation, strategic leadership, understanding health promotion, health protection, academic public health, ethical and professional growth
- **Curriculum Content:** MPH (year 1), coursework and projects to gain core knowledge and skills in public health (years 2-4). Trainees act as consultants but with supervision (Year 5)
- **Theoretical Training:** 4 years
- **Clinical Training:** 2 years (before entering this specialty)
- **Field Training:** 1 year in local centers and 3 months in health protection
- **Educational Settings:** Classroom, health centers, academic centers
- **Course Evaluation Methods:** Attendance, annual written exam, presentation, thesis
- **Educational Strategies:** Lectures, projects, small groups
- **Per Capita Income of the Country:** 40,284.64 USD, 12.8% in Health
- **Life Expectancy:** 81 years
- **Health System Model:** Based on family physician and national health system
- **Possibility of Pursuing Advanced Studies After Graduation:** Fellowship
- **Employment Settings for Graduates:** Public Sector, Private Sector
- **Payment Model for Graduates:** 33,000 to 63,000 GBP per year
- **Graduate Satisfaction Rate:** Not specified
- **Educational Resources:** Books, articles, government and international websites

8. Doctor of Public Health (University of London, England)

- **Responsible Faculty Name:** Faculty of Public Health & Policy
- **Educational Department Name:** London School of Hygiene and Tropical Medicine
- **Admission Process for Entry Examination:** CV, entrance exam, and interview
- **Program Duration:** 4 years
- **Program Type:** PhD
- **Faculty Composition:** Multidisciplinary
- **Similar and Overlapping Disciplines:** None specified
- **Program Objectives:** Providing experience to tackle public health challenges
- **Graduate Roles:** Applying scientific knowledge for public health achievements
- **Graduate Competencies:** Analytical and practical skills necessary for management and leadership in public health, skills in conducting and evaluating research
- **Curriculum Content:** Health Policy & Practice, Understanding Leadership, Management & Organization, Techniques for research and advanced academic inquiry, Creation and interpretation of new knowledge
- **Theoretical Training:** 1 semester
- **Clinical Training:** None
- **Field Training:** Research project
- **Educational Settings:** Classroom, public health organizations
- **Course Evaluation Methods:** Attendance, annual written exam, presentation, thesis
- **Educational Strategies:** Lectures, projects, small groups
- **Per Capita Income of the Country:** 40,284.64 USD, 12.8% in Health
- **Life Expectancy:** 81 years

- **Health System Model:** Based on family physician and national health system
 - **Possibility of Pursuing Advanced Studies After Graduation:** Fellowship
 - **Employment Settings for Graduates:** Public Sector, Private Sector
 - **Payment Model for Graduates:** Tuition paid by students
 - **Graduate Satisfaction Rate:** Not specified
 - **Educational Resources:** Books, articles, government and international websites
- 9. PhD in Public Health (University of Manchester, England)**
- **Responsible Faculty Name:** Faculty of Biology, Medicine and Health
 - **Educational Department Name:** Faculty of Biology, Medicine and Health
 - **Admission Process for Entry Examination:** CV and interview
 - **Program Duration:** 4 years
 - **Program Type:** PhD
 - **Faculty Composition:** Multidisciplinary
 - **Similar and Overlapping Disciplines:** None specified
 - **Program Objectives:** Training leading researchers
 - **Graduate Roles:** Leading researcher
 - **Graduate Competencies:** Conducting research projects in three pillars: public health, preventive medicine, and health services
- 9. PhD in Public Health (University of Manchester, England)**
- **Responsible Faculty Name:** Faculty of Biology, Medicine and Health
 - **Educational Department Name:** Faculty of Biology, Medicine and Health
 - **Admission Process for Entry Examination:** CV and interview
 - **Program Duration:** 4 years
 - **Program Type:** PhD
 - **Faculty Composition:** Multidisciplinary
 - **Similar and Overlapping Disciplines:** None specified
 - **Program Objectives:** Training leading researchers
 - **Graduate Roles:** Leading researcher
 - **Graduate Competencies:** Conducting research projects in three pillars: public health, preventive medicine, and health services
- **Faculty Composition:** Multidisciplinary
 - **Similar and Overlapping Disciplines:** None specified
 - **Program Objectives:** Training leading researchers
 - **Graduate Roles:** Leading researcher
 - **Graduate Competencies:** Conducting research projects in three pillars: public health, preventive medicine, and health services
 - **Curriculum Content:** Academic writing, Critical analysis, managing thesis, statistics, Statistics in research, Qualitative data, Research Methods, research publication, Journal reviewing, Systematic reviewing training, Presentation skills, Communicating effectively, Teaching assistant training, Public and patient involvement, Social responsibility
 - **Theoretical Training:** 4 years
 - **Clinical Training:** None
 - **Field Training:** Research project
 - **Educational Settings:** Classroom, research organizations
 - **Course Evaluation Methods:** Attendance, annual written exam, presentation, thesis
 - **Educational Strategies:** Lectures, projects, small groups
 - **Per Capita Income of the Country:** 40,284.64 USD, 12.8% in Health
 - **Life Expectancy:** 81 years
 - **Health System Model:** Based on family physician and national health system
 - **Possibility of Pursuing Advanced Studies After Graduation:** Fellowship
 - **Employment Settings for Graduates:** Public Sector, Private Sector
 - **Payment Model for Graduates:** Tuition paid by students
 - **Graduate Satisfaction Rate:** Not specified
 - **Educational Resources:** Books, articles, government and international websites

10. Community Medicine Residency (Institute of Science and Technology, India)

- **Responsible Faculty Name:** Medicine
- **Educational Department Name:** Department of Community Medicine
- **Admission Process for Entry Examination:** CV and interview
- **Program Duration:** 3.5 years
- **Program Type:** Residency
- **Faculty Composition:** Multidisciplinary
- **Similar and Overlapping Disciplines:** None specified
- **Program Objectives:** Training primary care physicians to respond to community and national health needs
- **Graduate Roles:** Professor, researcher, epidemiologist, health planner, and implementer
- **Graduate Competencies:** Skills in health research, leadership, design, implementation, and evaluation of public health programs and policies
- **Curriculum Content:** Clinico-Social case studies, Epidemiology and Biostatistics, Nutrition, Entomology, MCH & Environmental Health etc., Analysis and presentation of data from Demographic survey, Morbidity Survey and Community Diagnosis, Development of Health Education Materials, Research Methodology, Family Health Advisory Program
- **Theoretical Training:** 1-3 years
- **Clinical Training:** None
- **Field Training:** 1-3 years
- **Educational Settings:** Classroom, primary health centers, community health centers, hospitals, industry visits, research centers, water and wastewater treatment plants
- **Course Evaluation Methods:** Attendance, annual written exam, presentation, thesis
- **Educational Strategies:** Lectures, projects, small groups, fieldwork, seminars
- **Per Capita Income of the Country:** 1,900.71 USD, 1.35% in Health
- **Life Expectancy:** 69 years
- **Health System Model:** Based on government and private systems
- **Possibility of Pursuing Advanced Studies After Graduation:** Fellowship
- **Employment Settings for Graduates:** Public Sector, Private Sector
- **Payment Model for Graduates:** 14,000 USD
- **Graduate Satisfaction Rate:** Not specified
- **Educational Resources:** Books, articles, government and international websites

11. PhD Public Health (Tata Institute of Social Sciences, India)

- **Responsible Faculty Name:** School of Health System Studies
- **Educational Department Name:**
- **Admission Process for Entry Examination:** CV and interview
- **Program Duration:** 3-6 years
- **Program Type:** PhD
- **Faculty Composition:** Multidisciplinary
- **Similar and Overlapping Disciplines:** None specified
- **Program Objectives:** Understanding health and healthcare as a social science
- **Graduate Roles:** Leadership roles in public health and management roles in healthcare and hospitals
- **Graduate Competencies:** Creating new healthcare strategies, integrating equity in health policies
- **Curriculum Content:** Communicable and non-communicable diseases; Health systems management with a focus on healthcare delivery, health financing, health inequity, and comparative health systems

- **Theoretical Training:** 1-6 years
 - **Clinical Training:** None
 - **Field Training:** 1-6 years
 - **Educational Settings:** Classroom, health policy center, hospital management center, public health center
 - **Course Evaluation Methods:** Attendance, annual written exam, presentation, thesis
 - **Educational Strategies:** Lectures, projects, small groups, fieldwork, seminars
 - **Per Capita Income of the Country:** 1,900.71 USD, 1.35% in Health
 - **Life Expectancy:** 69 years
 - **Health System Model:** Based on government and private systems
 - **Possibility of Pursuing Advanced Studies After Graduation:** Fellowship
 - **Employment Settings for Graduates:** Public Sector, Private Sector
 - **Payment Model for Graduates:** Tuition paid by students
 - **Graduate Satisfaction Rate:** Not specified
 - **Educational Resources:** Books, articles, government and international websites
- 12. Community Medicine Specialty (The Aga Khan University, Pakistan)**
- **Responsible Faculty Name:** Medical College
 - **Educational Department Name:** Department of Community Medicine
 - **Admission Process for Entry Examination:** CV and interview
 - **Program Duration:** 4 years
 - **Program Type:** Residency
 - **Faculty Composition:** Multidisciplinary
 - **Similar and Overlapping Disciplines:** None specified
 - **Program Objectives:** Training public health specialists with knowledge in social medical sciences
- **Graduate Roles:** Researcher, professor, health service designer and implementer in social settings
 - **Graduate Competencies:** Creating, implementing, and evaluating public health interventions, teaching medical students, conducting public health research, providing preventive and therapeutic care in primary settings
 - **Curriculum Content:** Academic activities: Journal clubs, lectures, workshops; Research: dissertation, rotations in public health domains including population health, epidemiology, occupational health, health policy, non-communicable diseases; Service: rotations in clinical departments, teaching
 - **Theoretical Training:** 1-4 years
 - **Clinical Training:** 1-4 years
 - **Field Training:** 1-4 years
 - **Educational Settings:** Classroom, primary health centers, community health centers, hospitals, research centers
 - **Course Evaluation Methods:** Attendance, annual written exam, presentation, thesis
 - **Educational Strategies:** Lectures, projects, small groups, fieldwork, seminars
 - **Per Capita Income of the Country:** 1,193 USD, 3.4% in Health
 - **Life Expectancy:** 67 years
 - **Health System Model:** Based on government, private, and humanitarian systems
 - **Possibility of Pursuing Advanced Studies After Graduation:** Fellowship
 - **Employment Settings for Graduates:** Public Sector, Private Sector
 - **Payment Model for Graduates:** 3,000 USD per year
 - **Graduate Satisfaction Rate:** Not specified
 - **Educational Resources:** Books, articles, government and international websites

13. PhD in Health Sciences (The Aga Khan University, Pakistan)

- **Responsible Faculty Name:** Medical College
- **Educational Department Name:**
- **Admission Process for Entry Examination:** CV and interview
- **Program Duration:** 4 years
- **Program Type:** PhD
- **Faculty Composition:** Multidisciplinary
- **Similar and Overlapping Disciplines:** None specified
- **Program Objectives:** Training leaders in academia, government, and industry
- **Graduate Roles:** Researcher, professor, scientist
- **Graduate Competencies:** Creating, implementing, and evaluating public health interventions, teaching medical students, conducting public health research, providing preventive and therapeutic care in primary settings
- **Curriculum Content:** Year 1 & 2: Core Courses/Field experience; Year 3 & 4: Research, Thesis
- **Theoretical Training:** 1-2 years
- **Clinical Training:** None
- **Field Training:** 1-4 years
- **Educational Settings:** Classroom, research centers
- **Course Evaluation Methods:** Written exams twice a year
- **Educational Strategies:** Lectures, projects, small groups, fieldwork, seminars
- **Per Capita Income of the Country:** 1,193 USD, 3.4% in Health
- **Life Expectancy:** 67 years
- **Health System Model:** Based on government, private, and humanitarian systems

- **Possibility of Pursuing Advanced Studies After Graduation:** Fellowship

- **Employment Settings for Graduates:** Public Sector, Private Sector

- **Payment Model for Graduates:** Not specified

- **Graduate Satisfaction Rate:** Not specified

- **Educational Resources:** Books, articles, government and international websites

14. Community Medicine Specialty (Hacettepe University, Turkey)

- **Responsible Faculty Name:** Faculty of Medicine

- **Educational Department Name:** Public Health Department

- **Admission Process for Entry Examination:** National Exam

- **Program Duration:** 4 years

- **Program Type:** Residency

- **Faculty Composition:** Multidisciplinary

- **Similar and Overlapping Disciplines:** None specified

- ****Program Objectives**

14. Community Medicine Specialty (Hacettepe University, Turkey)

- **Responsible Faculty Name:** Faculty of Medicine

- **Educational Department Name:** Public Health Department

- **Admission Process for Entry Examination:** National Exam

- **Program Duration:** 4 years

- **Program Type:** Residency

- **Faculty Composition:** Multidisciplinary

- **Similar and Overlapping Disciplines:** None specified

- **Program Objectives:** Training specialists to identify community health problems, find their causes, and design policy solutions

- **Graduate Roles:** Working in health centers, the Ministry of Health, universities, and as consultants in the private sector
- **Graduate Competencies:** Determining community health levels, providing strategies to improve health, evaluating public health programs, conducting research, and educating communities
- **Curriculum Content:** Epidemiology, Biostatistics, Health management, Health policies, Occupational Health, Environmental Health, Communicable disease, Women's Health, Child and adolescent Health, Geriatrics, Health promotion, Health education, Communication, Demographics, Community mental health, Health economics, public health ethics, Injuries, Public health concepts; Clinical rotations in infectious diseases, Psychiatry, women's health, Internal Medicine, Pediatrics
- **Theoretical Training:** 2 years
- **Clinical Training:** 6 months during years 1-3
- **Field Training:** 2 years
- **Educational Settings:** Classroom, health centers, hospitals, research centers
- **Course Evaluation Methods:** Written and practical exams, thesis
- **Educational Strategies:** Lectures, projects, small groups, fieldwork, seminars
- **Per Capita Income of the Country:** 8,538 USD, 5% in Health
- **Life Expectancy:** 77 years
- **Health System Model:** Based on government and private systems
- **Possibility of Pursuing Advanced Studies After Graduation:** Fellowship
- **Employment Settings for Graduates:** Public Sector, Private Sector
- **Payment Model for Graduates:** 2,800 USD per year
- **Graduate Satisfaction Rate:** Not specified
- **Educational Resources:** Books, articles, government and international websites
- **15. Public Health Medicine (Royal Australasian College of Physicians, Australia)**
- **Responsible Faculty Name:** Australasian Faculty of Public Health Medicine
- **Educational Department Name:** Public Health Department
- **Admission Process for Entry Examination:** Physician + MPH + CV
- **Program Duration:** 3 years
- **Program Type:** Residency
- **Faculty Composition:** Multidisciplinary
- **Similar and Overlapping Disciplines:** None specified
- **Program Objectives:** Training specialists for the health and care of populations
- **Graduate Roles:** Independent consultant
- **Graduate Competencies:** Health promotion, disease prevention, community health needs assessment, providing services to communities and small groups, public health research
- **Curriculum Content:** General professional practice, Communication, Leadership, Teamwork, Cultural Competency, Pacific Islander health, Ethnic Minority Health, Information, Research and Evaluation, Public health research and teaching, Public Health program evaluation, Policy, Health promotion and disease prevention, Health protection and risk management, Infectious disease, Chronic disease, Mental Illness and Injury prevention, Health sector advocacy and management
- **Theoretical Training:** 1-3 years
- **Clinical Training:** None
- **Field Training:** 1-3 years
- **Educational Settings:** Classroom, health centers, hospitals, research centers

- **Course Evaluation Methods:** Written and practical exams, thesis
- **Educational Strategies:** Lectures, projects, small groups, fieldwork, seminars
- **Per Capita Income of the Country:** 51,812 USD, 9.4% in Health
- **Life Expectancy:** 82 years
- **Health System Model:** Based on government and private systems
- **Possibility of Pursuing Advanced Studies After Graduation:** Fellowship
- **Employment Settings for Graduates:** Public Sector, Private Sector
- **Payment Model for Graduates:** 51,000 USD per year
- **Graduate Satisfaction Rate:** Not specified
- **Educational Resources:** Books, articles, government and international websites

Discussion

The comparative analysis of community medicine educational programs between Iran and other countries has revealed several key insights and areas for improvement. The duration of training programs in other countries ranges from 3 to 6 years, with some universities including up to 2 years dedicated solely to clinical training. In contrast, the program duration in Iran is 3 years. This shorter duration may limit the depth and breadth of clinical and field experience that trainees can acquire (1, 2).

Additionally, some universities allow for up to 2 additional years for completing a thesis, which provides students with ample time to conduct in-depth research and contribute significantly to the field (3, 4). This flexibility in extending the program duration could enhance the research capabilities of Iranian trainees if adopted.

Despite these differences, the core content and educational settings of the programs are largely similar across the universities examined. This indicates that the

fundamental principles and competencies required for community medicine are universally recognized and implemented (5, 6).

A critical aspect observed in the programs from other countries is the multidisciplinary nature of faculty composition. This approach ensures that students receive a well-rounded education, incorporating diverse perspectives from various health disciplines (7, 8). Implementing a similar approach in Iran could enhance the quality of education and better prepare trainees for the multifaceted challenges in community medicine (9, 10).

Moreover, the comparison highlights the comprehensive evaluation methods employed by other universities, including written and practical exams, presentations, and thesis work. These diverse assessment strategies ensure a holistic evaluation of students' knowledge, skills, and competencies (11, 12). Adopting similar assessment methods in Iran could provide a more accurate measure of trainees' capabilities and readiness for professional practice (13, 14).

The findings also emphasize the importance of field training and practical experience in public health settings. Programs in other countries integrate extensive fieldwork, allowing students to apply theoretical knowledge in real-world contexts (15, 16). Expanding field training opportunities in Iran could enhance the practical skills and confidence of trainees, making them more effective in their future roles (17, 18).

In conclusion, while the residency program in Iran shares many similarities with those in other countries, there are areas for improvement that could enhance the overall quality and effectiveness of the program. By extending the program duration, incorporating multidisciplinary faculty, adopting diverse evaluation methods, and expanding field training opportunities, the community medicine educational program in Iran can better align with international

standards and better prepare its graduates for the complex challenges in public health (1, 2, 3, 4).

Authors' contribution

MRS developed the study concept and design. AM, MN, NM, ZH, RA acquired the data. MRS, AM, MN, NM, ZH, RA analyzed and interpreted the data, and wrote the first draft of the manuscript. All authors contributed to the intellectual content, manuscript editing and read and approved the final manuscript.

Informed consent

Questionnaires were filled with the participants' satisfaction and written consent was obtained from the participants in this study.

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Conflict of interest

The authors declare that they have no conflict of interests.

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