

# Dual-degree MBBS-MPH programs in Saudi Arabia: A call for implementation

Ahmed Abu-Zaid<sup>1,2</sup>, Abdulaziz M. Eshaq<sup>1</sup>, Khaled Alkattan<sup>1</sup>

<sup>1</sup>College of Medicine, Alfaisal University, Riyadh, Saudi Arabia, <sup>2</sup>College of Graduate Health Sciences, University of Tennessee Health Science Center, Memphis, Tennessee, United States

The Research Work Should be Credited to College of Medicine, Alfaisal University, Riyadh, Saudi Arabia

## ABSTRACT

Nowadays, any healthcare problem should be dealt with in a multidisciplinary approach that employs not only treating the symptoms of the problem but also its source. This simply implies the necessity to produce well-rounded medical graduates (physicians) who can competently integrate clinical knowledge/skills (for disease treatment) and public health knowledge/skills (for disease prevention). Moreover, the medical training (MD/MBBS curriculum) largely gives emphasis to the clinical skills needed to treat individual patients, whereas public health training (MPH degree) emphasizes the methods needed to improve the overall community health. Bridging the gap between patients and community is best achieved through a combined multidisciplinary training in both medicine and public health, that is, dual-degree MBBS-MPH programs are the way forward. In United States, for example, there are >80 medical schools that offer such joint MD-MPH programs, whereas there is none in Saudi Arabia. Herein, I call on higher education bodies to implement dual-degree MBBS-MPH programs in Saudi Arabia. To the best of knowledge, this is the first ever report to call for such an innovative implementation. Also, this short communication briefly sheds light on background, rationale, benefits, curriculum design, and future directions of such programs. The implications of this perspective (i.e. dual-degree MBBS-MPH programs) should not be limited to Saudi Arabia only; rather, it should be contemplated by the other medical curricula in the different countries.

**Keywords:** Medical curriculum, medical students, MPH degree, public health, Saudi Arabia

## Introduction

Worldwide, the healthcare systems are rapidly evolving and undergoing active modifications so as to adapt to the contemporary health-related challenges.<sup>[1]</sup> Examples of such challenges include dynamic alterations in: demographics, social determinants of health, communicable/noncommunicable disease patterns, emergence of endemic/epidemic outbreaks, environmental influences, occupational risk factors, political conflicts, and economic burdens. The healthcare stakeholders are under continuous pressure to improve the efficiency of healthcare

systems through quality assurance evaluations of clinical, governmental, and operational key performance indicators (KPIs). Afterward, problematic issues can be identified and subsequently rectifying measures can be implemented accordingly.

In Saudi Arabia, the Ministry of Health (MOH) bears the primary task of sustaining a healthcare system that meets today's well-being challenges.<sup>[2]</sup> Largely speaking, this task demands concentrated efforts geared toward: (1) development of health policies, (2) maintenance of public health promotion/disease prevention programs, (3) conduct of health-related research, and (4) delivery of health education training.

In Saudi Arabia, technically speaking, tomorrow's *frontline* healthcare workers are today's pool of matriculating medical

**Address for correspondence:** Dr. Ahmed Abu-Zaid, College of Graduate Health Sciences, University of Tennessee Health Science Center, Memphis, Tennessee - 38163, United States of America. E-mail: aabuzaid@live.com

### Access this article online

#### Quick Response Code:



**Website:**  
www.jfmpc.com

**DOI:**  
10.4103/jfmpc.jfmpc\_461\_18

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

**For reprints contact:** reprints@medknow.com

**How to cite this article:** Abu-Zaid A, Eshaq AM, Alkattan K. Dual-degree MBBS-MPH programs in Saudi Arabia: A call for implementation. J Family Med Prim Care 2019;8:352-5.

student graduates (i.e, the forthcoming physicians). The Ministry of Education (MOE) assumes the principal accountability in educating these generations of forthcoming physicians. The scholarly education of these forthcoming physicians takes place in medical colleges that follow the traditional Bachelor of Medicine, Bachelor of Surgery (MBBS) curricula. These MBBS curricula, to a larger extent, place only greater emphasis on clinical knowledge and skills, however, without much adequate emphasis on academic research skills<sup>[3]</sup> or public health education. A Master of Public Health (MPH) degree provides a satisfactory training in the practical aspects of public health.

Nowadays, any healthcare problem should be dealt with in a multidisciplinary caring approach that employs not only treating the symptoms of the problem but also its source. This simply implies the necessity to produce well-rounded medical graduates (physicians) who can competently integrate clinical knowledge/skills (for disease treatment) and public health knowledge/skills (for disease prevention). To that end, I call on the Ministry of Education (MOE) and relevant healthcare bodies to implement dual-degree MBBS-MPH programs in Saudi Arabia. To the best of knowledge, this is the first ever report to call for such an innovative implementation.

## A Call for Implementation of Dual-Degree MBBS-MPH Programs in Saudi Arabia

### Background

In United States, there are >80 medical schools that offer such dual-degree MD-MPH programs, whereas there is, unfortunately, none in Saudi Arabia. Dual-degree MD-MPH programs offer concurrent solid core training in medicine (clinical skills) and public health (basic academic research skills and the art of disease treatment/prevention). Physician graduates of dual-degree MD-MPH programs have one foot in medicine and one foot in public health; thus, they are characteristically distinguished to bridge the gap between medicine and public health to promote human health and disease prevention.

### Benefits of dual-degree MD-MPH programs

Dual-degree MD-MPH programs extend numerous benefits to its matriculating medical students, specifically, and communities, at large. Students, the prospective advocates of joint medicine and public health, are the chief beneficiaries from admission into the dual-degree MD-MPH programs, and the projected benefits are endless. Such student related benefits of dual-degree MD-MPH programs include (1) rigorous combined training in clinical medicine and public health, (2) broader perspectives on health issues, (3) development of academic research specific and transferable competencies, (4) better application of evidence-based medicine practice, (5) promotion of community-based skills, (6) better managerial (leadership) learning experiences, (7) platinum prospects to make substantial community contributions in terms of health economics, environmental health, and public policy, and (8) superior

professional credentials when joining academic, governmental, and commercial organizations.

On the other hand, such community-related benefits of dual-degree MD-MPH programs include (1) bridging the gap between patients and community, (2) following a community-based approach to patient care, (3) solidifying the practice of evidence-based medicine, (4) providing a holistic impact on patient's health by taking into consideration underlying *social* determinants beyond mere *biological* causes, (5) better formulation of health laws, legislations, and policies that fall into the best interests of the healthcare system, (6) identifying effective methods of health interventions according to political, economic, and social determinants, and most importantly (7) promoting improved quality of life through effective disease prevention and treatment schemes.

### Curriculum of dual-degree MBBS-MPH programs in Saudi Arabia

Establishment of dual-degree MBBS-MPH programs in Saudi Arabia should not be viewed as an impossible mission and get rejected immediately. Implementation of such programs mandates a thoughtful appreciation of their importance to the Saudi Arabian healthcare system, first, and then it requires an orchestrated coordination between all the healthcare stakeholders to achieve the goal, second. To that end, as a beginning step, I recommend formulation of a nominated task force headed by Ministry of Education (MOE) and co-headed by Alfaisal University College of Medicine (Riyadh, Saudi Arabia). The task force members will consist of the following: the MOH, leaderships of individual medical colleges, Saudi Deans Committee (SDC), Saudi Commission for Health Specialties (SCHS), public health professionals, public and private healthcare firms as well as expert members of international advisory health/education organizations.

The basic curriculum of dual-degree MBBS-MPH programs should be modeled based on the well-established MD-MPH programs elsewhere in United States, for example. In fact, the MBBS (Saudi Arabia) and MD (United States) medical programs are comparatively similar in terms of the curricular learning objectives. However, the MPH component should be carefully customized to meet the healthcare challenges that are specifically pertinent to the Saudi Arabian community.

The curricular design of dual-degree MBBS-MPH programs will not experience a dramatic deviation from the traditional 6-year MBBS program; the first 3 years represent the pre-clerkship phase, whereas the last 3 years represent clerkship phase. The length of the dual-degree program may be extended for one more year if needed (a total of 7 years), although it is not necessarily required. The MPH degree requirements will be horizontally integrated throughout the MBBS program and will include three components: (1) completion of a specific number of

academic credit hours (core courses), (2) a practical field experience (practicum), and (3) a dissertation research (thesis).

Getting into specifics, the core public health courses (e.g. biostatistics, epidemiology, and community medicine) should be completed during the pre-clerkship phase. Gladly, this step is already in place in almost all medical schools; however, the adequacy of the public health content should be revisited. Importantly, the public health *concentration* areas should be specifically tailored toward the ones that meet the country-specific healthcare challenges and priorities, such as mass gathering (Hajj – annual Islamic pilgrimage), infectious disease (communicable/noncommunicable diseases and Middle East corona virus), maternal and child health, health policy, and others – as seen appropriately by the MOH. The practicum experience should take place during the clerkship years, through organized activities during family medicine/preventive medicine clinical rotations, internship electives, or summer breaks. The research thesis should be completed before the end of the dual-degree program; summer breaks should be utilized effectively, or possibly protected time slots should be offered during the clerkship years. The thesis should reflect culmination of the entire MPH educational experience, that is, applying the knowledge gained from course work and practicum experience into a scholarly communication (maybe a peer-reviewed manuscript). By the end of training, MBBS-MPH graduates will be uniquely positioned to undertake jobs in academic medicine, clinical research, community medicine, rural medicine, global health, and healthcare policy.

### Future Directions and Interesting Research Questions

In the era of rapidly healthcare shifts, the MBBS programs will be continuously confronted with various challenges in terms of the quantity and quality of the health education related activities. Nowadays, medical (MBBS curriculum), and public health (MPH degree) education should not be regarded as two isolated entities, but rather closely interconnected and complementary to each other. Taken this philosophy into account, a plausible question pops up into mind: do the current medical MBBS curricula provide “adequate” education in public health? Exploring the perceptions of medical students and the SDC of Medical Colleges on this matter is an interesting research inquiry that is worth of future exploration.

Also, in Saudi Arabia, it is the time for particular medical residency training programs (e.g, family medicine, internal medicine, and preventive medicine) to “pilot” a trial of integrating a 1-year MPH degree component into its curricula. The inputs of the program residency directors and resident physicians are to be explored on this novel suggested proposal – this is an interesting research study. Of note, such similar programs exist in United States.

Dual-degree MBBS-MPH programs imply an arduous educational training in both medicine and public health. Hence, enrollment

into such programs may be only confined to a very finite number of students, at least during the initial implementation stages. In Saudi Arabia, no such programs are yet in place. However, it is worth mentioning that Alfaisal University College of Medicine (Riyadh, Saudi Arabia) is seriously considering a preliminary trial of a dual-degree MBBS-MPH program that will be offered to a selected number of its matriculating talented first-year students ( $n = 10$  male and 10 female students). The initial step-by-step outcomes of this preliminary (pilot) trial will provide beneficial quality assurance data that can be effectively utilized to guide the future directions.

Additional noteworthy dual-degree programs are MD-PhD, and Abu-Zaid *et al.* have recently called for their establishment in Saudi Arabia.<sup>[4]</sup> Dual-degree MD-PhD programs are regarded as the most steering curricula to graduate physician–scientists who are well prepared to pursue careers in academic medicine and scholarly biomedical research.<sup>[5]</sup> It should be noted that dual-degree MD-PhD programs are associated with more advanced research skills training than the MD-MPH programs.

### Conclusion

It is time to upgrade the current healthcare education systems to appropriately meet today’s well-being challenges. Largely speaking, medical training (MBBS curriculum) gives emphasis to the clinical skills needed to treat “individual” patients, whereas public health training (MPH degree) emphasizes the methods needed to improve the overall community health. Bridging the gap between patients and community is best achieved through a combined multidisciplinary training in medicine and public health, that is, dual-degree MBBS-MPH programs are the way forward. The MBBS programs should be reformed in order to graduate physicians, who will improve quality of life through application of clinical and research analytical skills, as well as promote prevention and treatment of health-related conditions. The implications of this perspective (i.e., dual-degree MBBS-MPH programs) should not be limited to Saudi Arabia only; rather, it should be contemplated by the other medical curricula in the different countries. Last, dual-degree MBBS-MPH programs cultivate engagement in community healthcare settings, and thus, they are anticipated to encourage more positive tendency toward pursuing family, community, and rural medicine careers to meet the country’s demands for primary healthcare.

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

### References

1. Salehi A, Hashemi N, Saber M, Imanieh MH. Designing and conducting MD/MPH dual degree program in the Medical School of Shiraz University of Medical Sciences. *J Adv Med*

- Educ Prof 2015;3:105-10.
2. Al-Hashem A. Health Education in Saudi Arabia: Historical overview. Sultan Qaboos Univ Med J 2016;16:e286-92.
  3. Abu-Zaid A, Alkattan K. Integration of scientific research training into undergraduate medical education: A reminder call. Med Educ Online 2013;18:22832.
  4. Abu-Zaid A, Alamodi AA, Alkattan W, Alkattan K, Obeidat AS. Dual-degree MBBS-PhD programs in Saudi Arabia: A call for implementation. Med Teach 2016;38:S9-11.
  5. Harding CV, Akabas MH, Andersen OS. History and outcomes of 50 years of Physician-Scientist Training in Medical Scientist Training Programs. Acad Med 2017;92:1390-8.