

SPECIAL COMMUNICATION

THE EVOLVING FIELD OF PUBLIC HEALTH, THE GLOBAL DISEASE PATTERNS AND THE NEED FOR CAPACITY BUILDING OF PHYSICIANS FOR HEALTH IN PAKISTAN

Muhammad Ahmed Abdullah, Babar Tasneem Shaikh

Health Services Academy, Islamabad-Pakistan

Amongst all its South Asian and Eastern Mediterranean neighbors, Pakistan is still struggling with major public health hurdles, from elevated rates of stillbirths, infant, neonatal and under-five mortality, and maternal mortality compounded with low contraceptive prevalence rates, a surge in infectious diseases, and a notable burden of non-communicable diseases. The question arises: Are we nurturing a sufficiently skilled public health workforce? Complicating matters is a fragmented, unregulated healthcare system marked by non-uniform healthcare delivery and an acute dearth of proficient human resources. WHO's health system strengthening framework considers the health workforce as one of six critical building blocks, essential for effective public health interventions. Yet, the existing undergraduate MBBS curriculum in Pakistan tends to conflate "community medicine" with "public health," despite the latter's much bigger canvas, applications and centrality in global health in today's world. The subject of community medicine in medical colleges is still imparting rudimentary health concepts, definitions and an obsolete curriculum. To tackle evolving global health challenges, diseases patterns and cross border nature of infections, it's imperative to re-visit the MBBS curriculum. This would entail integrating scientific domains such as epidemiology, health economics, medical statistics, sociology, psychology, and health management sciences. Emphasis should be placed on cultivating research skills, promoting evidence generation, and fostering the use of information for informed decision-making. Furthermore, innovative methods for student assessment, program evaluation, and practical experiences are indispensable. Collaboration among public health practitioners, academics, and medical educators is indispensable for crafting a comprehensive and technically robust curriculum. Pakistan urgently needs an updated MBBS curriculum to confront the public health exigencies of the present era. Such a curriculum must embrace interdisciplinary subjects and inventive assessment techniques, ensuring that medical graduates are equipped to address contemporary public health emergencies.

Keywords: Undergraduate Medical Education; Public Health; Community medicine; Pakistan

Citation: Abdullah MA, Shaikh BT. Revisiting the MBBS curriculum: Strengthening public health education in Pakistan. J Ayub Med Coll Abbottabad 2024;36(1):198–200.

DOI: 10.55519/JAMC-01-12741

INTRODUCTION

Amongst the comity of developing nations, amidst political, economic and security menaces, Pakistan is faced with dismal health indicators and numerous public health challenges. A triple burden of disease, encompassing communicable diseases and non-communicable diseases exacerbated by under-nutrition stemming from poverty, illiteracy, and ignorance, further complicates the landscape.¹ The prevailing mixed health system is largely feeble and lacking in regulation, resulting in disparate levels of care provision and leaving many individuals and families to navigate health challenges independently, devoid of state-controlled social and financial risk protection.² Given this extensive array of public health challenges, the imperative for a robust public health workforce becomes evident.

Country has a robust medical education system, imparting training to undergraduates in public as well as the private sector³ producing thousands of doctors every year. The undergraduate medical curriculum offers community medicine syllabus in fourth year, along with other para-clinical and pure clinical subject. In Pakistan, the taxonomy of community medicine is frequently conflated with public health. This confusion arises because most faculty members hold postgraduate qualifications in public health, which are then utilized to instruct MBBS students in community medicine. Nevertheless, the domain of public health is far more holistic than community medicine, as it encompasses not only communities but the health system.

The state of affairs

The undergraduate medical curriculum is overseen by the Pakistan Medical and Dental Council.

Community medicine is classified within the pre-clinical subjects and is allocated 200 hours for teaching and learning, representing 8% of the total instructional time. Summative examinations for community medicine are typically conducted at the conclusion of the fourth year, within the third professional examination. While some institutions adopt an integrated modular approach, disseminating the curriculum throughout the first four years of their MBBS programs, others opt to deliver it entirely during the fourth year.⁴ The following key areas have been designated for teaching this subject; concept of health and disease, introduction to public health, health systems in Pakistan, general epidemiology and research methodology, biostatistics, demography and population dynamics, nutrition and health, reproductive and child health, environmental health sciences, occupational health, prevention and control of infectious diseases, control and prevention of non-infectious diseases of public health importance, arthropods and their public health importance, mental health and behavioral sciences, disaster and accidents and health planning and management. Assessment strategies for this content encompass a range of methods, including Multiple Choice Questions (MCQs), Short Answer Questions (SAQs), Objective Structured Practical Examination (OSPE) stations, and Viva Voce exams.

Public health is a dynamic and continually evolving field, shaped by shifting demographics, emerging diseases, evolving technologies, and changing social, economic, and environmental factors. Its landscape is characterized by ongoing research, innovations in healthcare delivery, and adaptations to new challenges and opportunities. With the globalization of health threats and the interconnectedness of communities worldwide, public health practitioners must remain vigilant and responsive to emerging trends and threats. Flexibility, adaptability, and a commitment to evidence-based practices are essential in navigating the complexities of public health in an ever-changing world. As our understanding of health determinants expands and new interventions emerge, the field of public health continues to evolve, driving progress towards healthier communities and populations. The present undergraduate medical curriculum of 'community medicine' unfortunately does not even address the community's health needs.^{5,6} To meet the global commitments and to comply with international health regulations, Pakistan's public health workforce needs to be trained accordingly. While it may not be feasible for all trainee physicians to

attain expertise in public health, a strong curriculum delivery holds promise for cultivating a workforce of future clinicians capable of contributing effectively to the realms of public health and preventive medicine. Currently, our approach tends to be reactive rather than proactive, leading to heightened burdens on our already strained health system. It is imperative that we shift towards a proactive stance, as solely reacting to complex issues further strains our fragile health infrastructure. Furthermore, public health education must be practical and experiential, offering opportunities for students to engage in hands-on learning, fieldwork, and community-based projects. This approach fosters critical thinking, problem-solving skills, and the ability to apply theoretical knowledge to real-world scenarios. By instilling a proactive mindset through robust curriculum delivery, we can empower healthcare professionals to anticipate and address public health challenges before they escalate, ultimately promoting and safeguarding the well-being of our people.

Way forward

The undergraduate curriculum of community medicine in Pakistan, needs a change in both nomenclature and content. The world has changed and scientific domains have become clearer and more focused. Public health curriculum must be designed around all scientific domains of epidemiology, demography, health economics, medical statistics, sociology, psychology and management sciences.⁷ The competencies must build a deeper understanding of health inequalities, as well as the art of empowering people about health issues.⁸ Providing high-quality public health education opens up a plethora of career opportunities for recent graduates. To equip them for these diverse paths, it's essential to incorporate robust methods for teaching world-class research skills. This empowers graduates to generate reliable evidence, crucial for informing effective public health interventions. The unique context of South Asia, characterized by distinct genetics, disease burdens, mental health challenges, cultural norms, population dynamics, dietary habits, and exposure to infectious agents, underscores the region's significance in shaping global health systems.⁹ However, anthropological issues related to health remain largely understudied in Pakistan, highlighting a critical gap in understanding and addressing community health dynamics. Immediate attention is warranted for maternal and child health, given the ineffectiveness of previous national-level efforts. Rather than solely focusing on building healthcare

infrastructure for treating complex diseases, there's a pressing need to shift towards preventive approaches. By prioritizing preventive measures, we can effectively address the root causes of health disparities and promote the well-being of individuals and communities in Pakistan.

The turn of the millennium witnessed sweeping changes in epidemiological and demographic transitions globally, revolutionizing medical education.¹⁰ Pakistan confronts significant public health challenges, including elevated rates of stillbirths, infant and under-five mortality, maternal mortality, low contraceptive prevalence, infectious diseases, and non-communicable diseases. Addressing these issues necessitates a robust public health workforce.¹¹ Updating the MBBS curriculum in Pakistan is imperative to meet this demand. While "public health" and "community medicine" are often used interchangeably, it's vital to recognize public health as a broader, holistic field encompassing both communities and healthcare systems. The proposed curriculum for undergraduate medical students in Pakistan should incorporate updated content, including epidemiology, health economics, medical statistics, psychology, sociology, and management sciences. Moreover, integrating new methods of student assessment, program evaluation, and practical experience is essential to ensure that medical graduates possess the requisite knowledge and skills to contribute effectively to public health and preventive medicine initiatives in Pakistan.

Declarations

Ethical Approval: Not applicable.

Informed Consent: Not applicable.

Conflict of Interest: The author declares no competing interests.

REFERENCES

1. GBD 2019 Pakistan Collaborators. The state of health in Pakistan and its provinces and territories, 1990-2019: a systematic analysis for the Global Burden of Disease Study 2019. *Lancet Global Health* 2023;11(2):e229-43.
2. Muhammad Q, Eiman H, Fazal F, Ibrahim M, Gondal MF. Healthcare in Pakistan: Navigating challenges and building a brighter future. *Cureus* 2023;15(6):e40218.
3. Pakistan Medical Commission. [Internet]. [cited 2023 Dec]. Available from: <https://www.pmc.gov.pk/Colleges/PrivateDentalColleges>
4. Pakistan Medical and Dental Council. Guidelines for Undergraduate Medical Education Curriculum (MBBS). 2022. [Internet]. [cited 2023 Dec]. Available from: [https://pmc.gov.pk/Documents/Examinations/Guidelines%20for%20Undergraduate%20Medical%20Education%20Curriculum%20\(MBBS\).pdf](https://pmc.gov.pk/Documents/Examinations/Guidelines%20for%20Undergraduate%20Medical%20Education%20Curriculum%20(MBBS).pdf)
5. Claramita M, Setiawati EP, Kristina TN, Emilia O, van der Vleuten C. Community-based educational design for undergraduate medical education: a grounded theory study. *BMC Med Educ* 2019;19(1):258.
6. Alam AY, Abbas SM, Malik MR. Public health and the undergraduate medical curriculum: Are we preparing physicians for the 21st century? *J Pak Med Assoc* 2013;63:1241-7.
7. Gillam S, Maudsley G. Public health education for medical students: rising to the professional challenge. *J Public Health (Oxf)* 2010;32(1):125-31.
8. Basu S, Roberts C. Towards a public health curriculum in undergraduate medicine. *Educ Health (Abingdon)* 2012;25(2):98-104.
9. Chongsuvivatwong V, Phua KH, Yap MT, Pocock NS, Hashim JH, Chhem R, et al. Health and health-care systems in southeast Asia: diversity and transitions. *Lancet* 2011;377(9763):429-37.
10. Bailey S, Allwood D, Macklin N, Montori V, Bisognano M, Klaber B. Healthcare education needs radical reform to emphasize careful and kind care. *Br Med J* 2023;382:1505.
11. Khan SU, Hussain I. Inequalities in health and health-related indicators: a spatial geographic analysis of Pakistan. *BMC Public Health* 2020;20(1):1800.

Submitted: December 16, 2023

Revised: January 31, 2024

Accepted: February 1, 2024

Address for Correspondence:

Prof. Dr. Babar Tasneem Shaikh, Health Services Academy, Chak Shahzad, Park Road, Islamabad 44000-Pakistan

Email: shaikh.babar@gmail.com