

**EDITORIAL****AN OVERVIEW OF INTEGRATED MODULAR CURRICULUM FOR UNDERGRADUATE MEDICAL PROGRAMMES IN SOME IMPORTANT COUNTRIES****Tehseen Iqbal**

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Several medical schools in the world including but not limited to the University of California, San Francisco (UCSF), the University of Michigan Medical School, the University of Liverpool, the University of Manchester, the University of Dundee, the University of Western Australia (UWA), and the University of Adelaide first adopted and then moved to a more integrated curriculum because of the concerns about the effectiveness of the integrated modular curriculum (IMC) and because IMC was not providing the necessary depth of knowledge. The All-India Institute of Medical Sciences (AIIMS), and the Christian Medical College (CMC) in Vellore, adopted but later reverted to the traditional curriculum. Other medical schools that have adopted and then left the IMC include the Armed Forces Medical College (AFMC) in Pune and the Maulana Azad Medical College (MAMC) in Delhi. History of IMC in medicine in some important countries is summarized here.

**Keywords:** Integrated modular curriculum, Traditional curriculum, more integrated curricula

Pak J Physiol 2023;19(3):1–2

The curriculum is an essential component of education, as it provides a framework for learning and helps to ensure that students acquire the knowledge and skills they need to succeed in their future careers. The components of a curriculum include the goals and objectives, content, instructional strategies, assessment, and evaluation. Goals and objectives define what students should know and be able to do by the end of the course or program. Content refers to the subject matter and materials used to teach the curriculum. Instructional strategies are the methods and techniques used to deliver the content. Assessment measures students' learning and progress, while evaluation assesses the effectiveness of the curriculum. These components are interrelated and must be aligned to ensure that students achieve the desired learning outcomes.<sup>1,2</sup>

The traditional curriculum, which is based on a subject-wise approach, has been criticized for being outdated, lacking in clinical relevance, and failing to prepare students for the practical aspects of clinical practice. An integrated modular curriculum (IMC), on the other hand, is designed to provide a more holistic and comprehensive approach to medical education, with a focus on problem-solving, critical thinking, and clinical skills. The Pakistan Medical and Dental Council (PMDC) has recommended the adoption of an integrated modular curriculum because the World Health Organization (WHO) has emphasized the importance of an integrated approach to medical education, stating that it can lead to better health outcomes and more effective healthcare systems.<sup>3</sup>

In Pakistan, some medical Institutions have adopted this system while others are reluctant, especially the teachers are showing reservations on the implementation of this system.<sup>4</sup> IMC facilitates

contextual and applied learning thus it enhances students' levels and depths of knowledge, but also develops learners' critical thinking to perceive in a diverse and wide range of situations.<sup>5</sup> We take an overview of this system in some important countries.

**United States of America (USA)**

Several medical schools in the United States have adopted and then left the integrated modular curriculum. One example is the University of California, San Francisco (UCSF),<sup>6</sup> which implemented an integrated curriculum in 2004 but later abandoned it in 2013 due to concerns about the effectiveness of the approach. The University of Michigan Medical School<sup>7</sup> adopted an integrated curriculum in 2006 but later shifted back to a traditional curriculum in 2015. Other medical schools that have experimented with integrated curricula include the University of Pennsylvania<sup>8</sup>, and the University of Virginia<sup>9</sup>. These schools have cited various reasons for abandoning the integrated approach.

These medical schools provide students with a strong foundation in basic medical sciences and clinical skills. MD program at Harvard Medical School has 'Pathways' curriculum<sup>10</sup>, Johns Hopkins University School of Medicine uses 'The Genes to Society Curriculum'<sup>11</sup> and University of Pennsylvania Perelman School of Medicine uses 'IMPACT Curriculum'.<sup>9</sup>

**United Kingdom (UK)**

Several medical schools in the UK have adopted and then left the integrated modular curriculum. The University of Liverpool adopted the curriculum in 1996 but later abandoned it in 2002 due to concerns about the lack of clinical exposure for students. The University of Manchester also adopted the curriculum in 1996 but later reverted to a traditional curriculum in 2004 due to concerns about the lack of integration between basic and



clinical sciences. The University of Dundee adopted the curriculum in 2001 but later abandoned it in 2007 due to concerns about the lack of clinical exposure and the need for more flexibility in the curriculum.<sup>12</sup> Some other schools which experimented it are: University of Nottingham adopted it in 1999 and left in 2008; the University of Leeds, adopted in 2000 and left in 2008; the University of Sheffield, adopted in 2000 and left in 2008; the University of Bristol, adopted in 2002 and left in 2008; the University of Southampton, adopted in 2002 and left in 2008; the University of Warwick, adopted in 2003 and left in 2008; the University of Aberdeen, adopted in 2005 and left in 2010. It is noteworthy that some of these schools have since adopted new versions of IMC or other innovative teaching methods.

#### Australia

The University of Western Australia<sup>13</sup> introduced the IMC in 2006, but later it was abandoned in 2012 due to concerns about effectiveness of the approach. The school returned to a more traditional curriculum structure, which is now focused on a problem-based learning approach-PLACES curriculum. The University of Adelaide<sup>14,15</sup> which adopted the IMC in 2007, moved away from this approach in 2016 and returned to a more traditional curriculum structure. The decision was made after a review found that the IMC was not meeting needs of the students and was not providing necessary depth of knowledge.

#### India

Several medical schools in India have adopted and then left the integrated modular curriculum. One such example is the All-India Institute of Medical Sciences<sup>16</sup> which introduced the IMC in 1997 but later abandoned it in 2009 due to various reasons, including the lack of trained faculty and inadequate infrastructure. Another example is Christian Medical College<sup>17</sup> in Vellore, which adopted the integrated modular curriculum in 2005 but later reverted to traditional curriculum in 2014 due to concerns about the quality of education and the need for more clinical exposure. Other medical schools that have adopted and then left the integrated modular curriculum include the Armed Forces Medical College in Pune and Maulana Azad Medical College in Delhi.

Curriculum is a dynamic document that is updated according to the technological advancement, changing socio-cultural and economic conditions of a society. While the above-mentioned medical schools were leaving the integrated modular curriculum, these

medical schools never lost their international recognition.

#### REFERENCES

1. Marsh CJ, Willis G. (Eds). Curriculum: Alternative approaches, ongoing issues. Upper Saddle River (NJ): Pearson/Merrill Prentice Hall, 2007. Retrieved from: <https://uaeu.on.worldcat.org/oclc/62741449>. [Accessed: 29 Aug 2023]
2. Posner GJ. (Ed). Analyzing the curriculum. McGraw-Hill Education; 2004.
3. World Health Organization. Transforming and scaling up health professionals' education and training. 2013. Retrieved from: [https://iris.who.int/bitstream/handle/10665/93635/9789241506502\\_eng.pdf](https://iris.who.int/bitstream/handle/10665/93635/9789241506502_eng.pdf) [Accessed: 16 Jul 2023]
4. Anwar MI, Kiani JA, Nadeem N. Integrated modular curriculum: design, delivery and assessment during first two years of medical education —a review at AJK Medical College, Muzaffarabad, Pakistan. Pak J Med Health Sci 2018;12(4):1591–5.
5. Waqar T, Khalid T. Integrated-modular system for under graduate medical students: faculty's perception. Pak Armed Forces Med J 2019;69(3):465–71.
6. UCSF School of Medicine. School of medicine revamps curriculum to reflect changing health practice 2013. Retrieved from: <https://www.ucsf.edu/news/2013/06/106036/school-medicine-revamps-curriculum-reflect-changing-health-practice>. [Accessed: 28 Jul 2023]
7. University of Michigan Medical School (2015). Medical school curriculum shifts back to traditional model. Retrieved from: <https://medicine.umich.edu/medschool/node/3076>. [Accessed: 28 Jul 2023]
8. University of Pennsylvania Perelman School of Medicine. IMPaCT (Integrating Medicine Patient Care Transitions) Curriculum. Retrieved from: <https://www.med.upenn.edu/student/curriculum/>. [Accessed: 29 Aug 2023]
9. University of Virginia School of Medicine. Curriculum. (Cells to Society Curriculum). Retrieved from <https://med.virginia.edu/md-program/ume-md-curriculum>. [Accessed: 29 Aug 2023]
10. Harvard Medical School. Curriculum. Retrieved from <https://meded.hms.harvard.edu/education/md-program-curriculum> [Accessed: 29 Aug 2023]
11. Johns Hopkins University School of Medicine. Curriculum. Retrieved from: <https://www.hopkinsmedicine.org/som/curriculum/> [Accessed: 28 Aug 2023]
12. Straus SE. Geriatric medicine. BMJ 2001; 13;322(7278):86–9.
13. The University of Western Australia. Medical School-2017-18 Guidebook. Retrieved from: <https://www.uwa.edu.au/schools-/media/Faculties/HMS/Docs/MD-Guidebook-2023.pdf>. [Accessed: 31 Aug 2023]
14. Australian IPE Curriculum Renewal. Retrieved from: [https://nexusipe-resource-exchange.s3.amazonaws.com/AustralianIPECurriculumRenewal\\_2014.pdf](https://nexusipe-resource-exchange.s3.amazonaws.com/AustralianIPECurriculumRenewal_2014.pdf). [Accessed: 31 Aug 2023]
15. The University of Adelaide. Bachelor of Medicine and Bachelor of Surgery degree. Retrieved from: [https://www.adelaide.edu.au/degree-finder/bmbbs\\_bmbbs.html](https://www.adelaide.edu.au/degree-finder/bmbbs_bmbbs.html). [Accessed: 31 Aug 2023]
16. All India Institute of Medical Sciences. MBBS Curriculum. Retrieved from: <https://aiimsbhurbanewar.nic.in/admin/Document/Notices/MBBS%20Curriculumbe99644b-1bd1-462c-9534-b7f5c941118f.pdf>. [Accessed: 31 Aug 2023]
17. Christian Medical College Vellore reverts to traditional curriculum. <https://www.cmch-vellore.edu/SinglePage.aspx?> [Accessed: 31 Aug 2023]

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Received: 2 Sep 2023

Reviewed: 15 Sep 2023

Accepted: 18 Sep 2023

**Conflict of Interest:** No conflict of interest declared

**Funding:** None