

PUBLIC MENTAL HEALTH IN UNDERGRADUATE MEDICAL TRAINING: CURRENT PROVISION AND REQUIRED ACTIONS

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FOREWORD

Mental disorder accounts for a large proportion of global disease burden. Despite the existence of effective interventions to both treat and prevent mental disorder as well as promote mental wellbeing and resilience, implementation is poor particularly in low- and middle-income countries. Various reasons account for implementation failure including insufficient training at both undergraduate and postgraduate levels.

This report highlights the insufficient public mental health training during medical school. It also outlines the higher levels of mental disorder and burnout experienced by medical students which can result in broad impacts including on educational outcomes, subsequent careers and a sustainable medical workforce.

The report sets out recommended actions to support public mental health training during undergraduate medical education. As such, this will support improved understanding about interventions to sustainably improve the mental health of both medical students and the patients they will see during their careers.

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Dr Afzal Javed

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EXECUTIVE SUMMARY

Mental disorders account for a third of global disease burden (Vigo et al, 2016). Reasons for this include high prevalence, most lifetime mental disorder arising before adulthood, and the broad impacts of mental disorder (Campion et al, 2022). Annual global economic costs of mental disorder are projected to exceed US\$6 trillion by 2030. Particular groups such as medical students and doctors have higher risk of mental disorder and burnout compared to the general population.

Effective public mental health interventions exist to treat mental disorder, prevent associated impacts, prevent mental disorder, and promote mental wellbeing and resilience (Campion et al, 2022). However, most people with mental disorder globally do not receive treatment, with a much larger treatment gap in low- and middle-income countries (WHO, 2021; Campion et al, 2022). There is negligible coverage of interventions to prevent mental disorder or promote mental wellbeing and resilience. This implementation gap breaches the right to health and results in population-scale preventable suffering, broad impacts and associated economic costs. Evidence based PMH interventions also exist for undergraduate university students but are not implemented which affects development of a sustainable healthy medical workforce.

Public mental health (PMH) involves a population approach to improve coverage, outcomes, and coordination of PMH interventions (Campion et al, 2022). This supports efficient, equitable and sustainable reduction of mental disorder and the promotion of mental wellbeing of populations.

Public mental health (PMH) training for doctors, with a foundation in undergraduate medical education (UGME), is an important aspect of addressing this PMH implementation failure. Various drivers exist to support PMH training in undergraduate medical education including:

- Impact of mental disorder across medical specialties and sectors
- High levels of mental disorder experienced by medical students and doctors
- Impacts of implementation failure of effective PMH interventions outlined above
- WPA's 2020-2023 Action Plan which promotes PMH as a guiding principle
- UN Sustainable Development Goal of universal health coverage which includes mental health

Key elements of PMH training in UGME include (Campion, 2019; Campion et al, 2022):

- Impacts of mental disorder and wellbeing
- Prevalence of mental disorder and wellbeing
- Risk and protective factors for mental health
- Higher risk groups
- Effective PMH interventions provided by different sectors
- Assessment of population coverage of PMH interventions including for higher risk groups
- Causes of PMH implementation failure
- Required actions to address PMH implementation failure

Such training enables medical students to use and refer to appropriate PMH interventions in all specialties as well as use interventions to protect their own mental health.

Key findings

- Current undergraduate psychiatry training focuses on treatment of mental disorder and associated physical health impacts. Promotion of mental wellbeing and prevention of mental disorder appear to be particularly underdeveloped areas of teaching
- There appears to be lack of information in undergraduate medical education (UGME) about coverage of PMH and associated interventions
- There appears to be a lack of cohesive PMH training and no current PMH guidance for UGME medical educators
- PMH online training modules exist but have not been developed for medical students
- Medical students have higher risk for mental disorder and burnout than the general population. Evidence based PMH interventions exist for undergraduate university students but are not implemented

Recommendations

1) Develop public mental health training guidance for medical educators

- Key elements of PMH training include impact of mental disorder and wellbeing, risk and protective factors, higher risk groups, effective PMH interventions, their level of population coverage including for higher risk groups, and required actions to address implementation failure

2) Collaborative working between psychiatrists and medical educators

- Psychiatrists and medical educators should work together at national and local levels to implement minimum standard of PMH training in UGME

3) Required research into undergraduate public mental health education

- Audits of level of PMH in UGME curriculums
- Research on mental health medical educators', medical students' and doctors' knowledge and perception of PMH
- Required actions to address gap in PMH training

4) Create opportunities for students interested in public mental health

- E.g. PMH electives

5) Develop guidance to support medical schools to meet public mental health needs of medical students

- Addressing the PMH needs of medical students is a key part of developing a sustainable workforce and can be achieved through a combination of early treatment and prevention of mental disorder as well as the promotion of mental wellbeing and resilience
- Guidance should include the use of mental health needs assessments to inform:
 - Estimated numbers of medical students with mental disorder in each medical school
 - Level of implementation of interventions to treat mental disorder, prevent mental disorder, and promote mental wellbeing and resilience
 - Required actions to address the PMH implementation gap

1. INTRODUCTION

Public Mental Health (PMH) has become increasingly prominent in the past decade. In 2015, the UN Sustainable Developmental Goals (SDG) included mental health as a global priority goal for the first time (Votruba & Thornicroft, 2016) reflecting the importance of a global population approach to mental health. The WPA 2020-2023 Action Plan made PMH a guiding principle which includes PMH training (Campion & Javed, 2022). The European Psychiatric Association launched a Public Mental Health Section in 2023. The Royal College of Psychiatrists set up a Public Mental Health Implementation Centre in 2022 which supports PMH training and integration of PMH into the RCPsych postgraduate training curriculum. The World Federation of Public Health Associations launched a Public Mental Health Working Group in 2023.

The WPA has long been established in medical education: More than 20 years ago, the WPA and the World Federation of Medical Education (WFME) published a global core curriculum in psychiatry for medical students (Walton & Gelder, 1999). Health promotion and prevention were major themes which run through this core curriculum, and it was recommended that *'curricula now have to focus also on prevention of illness and promotion of health given only marginal recognition in conventional curricula.'* and that *'students should recognise the importance of the promotion of mental health and the prevention of psychiatric disorders'*.

WPA's work with undergraduate medical education (UGME) continued with the 2018 programme to improve undergraduate psychiatric education (Ng & Javed, 2018). Part of this strategic plan included assessing level of undergraduate psychiatric education and revising WPA recommendations on the undergraduate psychiatric education curriculum (Ng & Javed, 2018).

2. DEFINING PUBLIC MENTAL HEALTH

This section outlines why PMH is important including the impact of mental disorder and wellbeing. It summarises risk and protective factors as well as the existence of evidence based PMH interventions. It then sets out the implementation failure of PMH interventions and required PMH practice to address this

Impact of mental disorder and wellbeing

Mental disorders account for an estimated third of global disease burden (Vigo et al, 2016). This is due to high prevalence, most lifetime mental disorder arising before adulthood and a broad range of impacts (Campion et al, 2022). Mental wellbeing also results in a broad range of impacts.

Risk factors, protective factors and higher risk groups

Certain factors are associated with increased risk of mental disorder. Given majority of lifetime mental disorder arising before adulthood, such factors are even more important to address during childhood and adolescence. In particular, child adversity accounts for a large proportion of adult mental disorder (Bellis et al, 2019; Dragioti et al, 2022). Similarly, certain factors are associated with mental wellbeing.

Particular groups are more vulnerable to mental disorder and poor mental wellbeing compared to the general population due to clustering of risk factors. Such groups include those with chronic physical health conditions, intellectual disability, migrants and refugees, particular minority ethnic groups and LGBTQ+ people. Healthcare workers including doctors and medical students are also at higher risk of mental disorder and poor mental wellbeing (section 6).

Public mental health interventions

Evidence-based PMH interventions exist to treat mental disorder, prevent associated impacts, prevent mental disorder from arising, and promote mental wellbeing and resilience (WPA, 2020; Campion et al, 2022). Public mental health interventions can also be considered by primary, secondary and tertiary levels of prevention and promotion (Campion, 2019; Campion et al, 2022) (see table 1). Mental disorder prevention and mental wellbeing promotion may overlap since interventions which promote mental well-being can also prevent mental disorder.

Table 1. Different levels of mental disorder prevention and mental wellbeing promotion (Campion, 2019; Campion et al, 2022)

Mental disorder prevention	Mental wellbeing promotion
Primary prevention: Prevention of mental disorder from arising	Primary promotion: Promoting protective factors for mental wellbeing
Secondary prevention: Early identification and treatment of mental disorders and associated impacts	Secondary promotion: Early promotion in people with recent deterioration in mental wellbeing
Tertiary prevention: Prevention of relapse and associated impacts of mental disorder in people with an established mental disorder. This includes access to good quality treatment	Tertiary promotion: Targeted promotion for people with chronic poor mental wellbeing. People with poor mental wellbeing are several times more likely to have mental disorder (Campion, 2019), and promoting well-being for people with mental disorder is an important facet of recovery

Different of PMH intervention are delivered by various sectors including healthcare, education, workplace, local government, criminal justice and voluntary organisations as well as through broader policy and legislative interventions.

Public mental health implementation gap

Despite the existence of evidence-based PMH interventions, most people with mental disorder globally do not receive treatment, with the treatment gap far greater in low- and middle-income countries (WHO, 2021; Campion et al, 2022). There is far less coverage of interventions to prevent associated impacts of mental disorder, and negligible coverage of interventions to prevent mental disorder or promote mental wellbeing and resilience. This implementation gap breaches the right to health and results in population-scale preventable suffering, broad impacts and associated economic costs.

Public mental health practice

Public mental health (PMH) involves a population approach to improve coverage, outcomes, and coordination of PMH interventions (Campion et al, 2022). Such practice supports efficient, equitable and sustainable reduction of mental disorders and promotion of mental wellbeing of populations.

To find out more about PMH, see the WPA PMH Working Group webpage at <https://www.wpanet.org/public-mental-health>

3. RELEVANCE OF PUBLIC MENTAL HEALTH IN UNDERGRADUATE MEDICAL EDUCATION

Relevance of PMH in UGME include (Campion, 2019; Campion et al, 2022):

- Large proportion of disease burden due to mental disorder (Vigo et al, 2016)
- High prevalence of mental disorder affecting a large proportion of the population
- Early onset of mental disorder with majority of lifetime mental disorder arising before adulthood and then continuing to impact across the life course
- Broad range of impacts of mental disorder: Health impacts include several fold increased rates of various health risk behaviours (smoking, alcohol/ drug use, self-harm, physical inactivity), increased risk of different types of physical illness, 7-25-year premature mortality depending on the disorder mainly due to physical ill-health, and several fold-increased rates of suicide. Broader impacts include on educational and employment outcomes, crime and violence, and stigma and discrimination
- Comorbidity of mental disorder with physical health conditions and people with physical health conditions being at several-fold increased risk of mental disorder
- Higher rates of mental disorder in medical students and the medical workforce compared to the general population
- Existence of evidence-based PMH interventions to treat mental disorder, prevent associated impacts, prevent mental disorder from arising, and promote mental wellbeing and resilience
- Failure to implement evidence-based PMH interventions resulting in population-scale preventable suffering, broad impacts including across different medical specialities, and associated economic costs

As well as the above, specific drivers exist to support PMH in undergraduate medical education including:

- Broad impacts of improved implementation of PMH interventions on a range of outcomes including a mentally healthy medical workforce
- WPA's 2020-2023 Action Plan which promotes PMH as a guiding principle
- UN Sustainable Development Goal of universal health coverage which includes mental health

Given different types of PMH intervention are delivered by various sectors as outlined in the previous section, PMH is an important collaborative responsibility and opportunity. Appropriate PMH training in undergraduate education lays the foundation for students to develop their PMH knowledge.

Key elements of PMH training include (Campion, 2019; Campion, 2020; Campion et al, 2022):

- Impact of mental disorder and wellbeing
- Prevalence of mental disorder and wellbeing
- Risk factors, protective factors and higher risk groups
- Effective PMH interventions and associated cost-effectiveness
- Population coverage of effective PMH interventions including for higher risk groups
- Steps to address PMH implementation failure

4. METHODS

A literature review was initially conducted to assess PMH in medical education. This used search terms including “public mental health”, “population mental health”, “preventative psychiatry”, “mental health promotion”, (“health promotion” or “preventative medicine”) and (“psychiatry” or “mental health” or “mental disorders”). The search yielded few relevant PMH results with regards to undergraduate medical education and related terms, so a broader search was carried out.

A further search examined the current state of undergraduate psychiatric education, and opportunities for change. This was conducted via PubMed database, with review-level evidence prioritised, and bibliographic mining for relevant research. Broader internet searches were conducted to research medical school curriculums and curriculum guidance. This was then analysed by searching for relevant key terms including “psychiatry”, “mental health”, “prevent”, “promote”, “population”, “public health”, “wellbeing” and “resilience”.

In order to further understand the perception of PHH in UGME, a short survey was created and disseminated to WPA members (see Appendix 2.0 for survey questions). The results of another online survey of 17 medical students about PMH was included. Informal interviews were conducted with one medical student and two junior doctors.

5. PROVISION OF PUBLIC MENTAL HEALTH IN UNDERGRADUATE MEDICAL EDUCATION (UGME)

- a) Undergraduate psychiatry overview including public mental health
- b) Public mental health guidance in UGME
- c) Public mental health training and associated resources
- d) Perception of public mental health in UGME by medical educators and students
- e) Barriers and facilitators to creating change in undergraduate psychiatry curriculum

5a) Undergraduate psychiatry overview including public mental health

The International Federation of Medical Students' Associations (IFMSA) is a student run organisation that connects medical student associations across 130 countries which amounts to 1.4 million medical students. The IFMSA is focused on improving medical student mental health through promotion and prevention, improving advocacy and awareness of mental health, reducing stigma and improving integration of mental health within primary care (IFMSA, 2023). The IFMSA website at <https://ifmsa.org/mental-health/> outlines 21 activities across National Member Organisations (NMO) that are aligned with this programme.

A partnership between WPA and the International Federation of Medical Students' Associations (IFMSA) was developed to improve undergraduate psychiatric education (WPA, 2018). The WPA/IFMSA partnership led to the largest global survey to assess psychiatric education globally which included data from 83 countries (Pinto da Costa et al, 2019). The survey found that most countries had a mandatory psychiatric course (81/83) with mandatory didactic learning and clinical placements. The duration of the course varied with most countries (66/83) having theory classes that lasted over two weeks and 37/83 countries reporting psychiatry theory classes for over 30 days. Two thirds of countries had under 30 days of clinical placements. The survey provided an overall snapshot of presence of psychiatry in the medical school curriculum although did not provide details of the course including presence of PMH teaching. In another evaluation of undergraduate psychiatry training in Arab countries, only 30% included clinical training (Okasha & Shaker, 2020).

Published reviews about undergraduate psychiatric education have focused on students' perception of psychiatry (Velikić, 2021), stigma (Petkari et al, 2018) and increasing recruitment of students into psychiatry (Sampogna et al, 2022; Farooq et al, 2014; Nortje & Seedat, 2013). However, far fewer articles highlight that preventative psychiatry is required in the medical curriculum (Jiloha, 2017; Christodoulou, 2018).

While psychiatry has traditionally been taught in stand-alone blocks, there are efforts to increase integrated psychiatry starting early in UGME, as an integrated approach is associated with positive findings for learning experiences and attitudes towards psychiatry (Russell et al, 2020).

De-stigmatisation of mental disorder is important part of the undergraduate psychiatry placement since a large proportion of the patients who doctors see have a mental disorder. Clinical placements that include outpatient psychiatry, with opportunity for students to see patients that recover is reported as useful for combatting stigma and improving attitudes towards psychiatry as a speciality (Petkari et al, 2018). Psychiatry is also in a recruitment crisis, and researchers are keen to destigmatise both mental illness and the field of psychiatry as these are also factors that promote medical student interest in psychiatry (Sampogna et al, 2022). Public mental health teaching supports de-stigmatisation through understanding about prevalence of mental disorder including among medical students (section 6) and associated impacts and risk factors which allows students to understand aetiology of disease from a biopsychosocial model of health. Teaching students about PMH interventions also highlights that mental disorder is both treatable and preventable thereby further contributing to de-stigmatisation.

5b) Public mental health guidance in undergraduate medical education

Medical schools are accredited from regional agencies that create medical education standards, to ensure a uniformity of graduating junior doctors in their region. These standards include core curriculum outcomes as well as guidelines for how medical school conduct themselves, e.g., in accountability, pastoral and welfare support. The World Federation of Medical Education (WFME) has a recognition programme for regional agencies. They also create global standards for undergraduate medical education.

These standards are usually broad in nature although do not include specific content such as PMH. Searches of PMH and similar terms such as “health promotion” and “illness prevention” “population health” with “psychiatry” “mental health” and core curriculums did not yield results, and there appears to be no pooled learning objectives or content inclusion for psychiatry. Therefore, broader searches were made using terms for health promotion and illness prevention as starting points.

A 2018 review searched for health promotion and illness prevention in medical regulators institutions globally (Hays, 2018). Three national medical regulators from the UK, Canada, and Australia respectively, explicitly mention health promotion and preventative medicine in their standards. At the time of the review, the WFME also included health promotion and prevention in their standards. The review states that “the greatest success in extending medical education to include health promotion and illness prevention has been in the development of undergraduate medical education standards by regulators”. The most recent WFME 2020 standards now take a broader view of content standards, and do not mandate the inclusions of topics. This is because there is little evidence base for what needs to be in a medical school curriculum (WFME, 2020). Population health is suggested as content that might be included if deemed relevant.

The WPA published a Checklist of training curriculum which includes PMH as a knowledge criterion (WPA, no publication year). However, the checklist does not specify the detail or areas of PMH knowledge required. A WPA Position Statement on High Quality Post-Graduate Training in Psychiatry highlights the need for training to include PMH (WPA, in press).

Case example 1 of PMH guidance in UGME: UK General Medical Council

The UK General Medical Council (GMC) sets outcomes that UK medical students must meet by the time of graduation (GMC, 2018). Health promotion and illness prevention is specifically highlighted as outlined in table 2.

The GMC also sets guidance for medical schools to support students with mental health conditions. Their guidance states that *“Medical schools should put preventive measures in place to promote good mental health and well-being in their students”* (GMC 2015).

Table 2. GMC guidance on health promotion and illness prevention (GMC, 2018)

Newly qualified doctors must be able to apply the principles, methods and knowledge of population health and the improvement of health and sustainable healthcare to medical practice. Students must also gain skills to look after their own mental wellbeing. Newly qualified doctors must demonstrate awareness of the importance of their personal physical and mental wellbeing and incorporate compassionate self-care into their personal and professional life. They must demonstrate awareness of the need to:

- *Self-monitor, self-care and seek appropriate advice and support, including by being registered with a GP and engaging with them to maintain their own physical and mental health*
- *Manage the personal and emotional challenges of coping with work and workload, uncertainty and change*
- *Develop a range of coping strategies, such as reflection, debriefing, handing over to another colleague, peer support and asking for help, to recover from challenges and set-backs*

Case example 2 of PMH guidance in UGME: Royal College of Psychiatrists

The Royal College of Psychiatrists (RCPsych) is the UK professional body in charge of psychiatry training and standards. The RCPsych has a Core Curriculum for undergraduate psychiatry which includes the public health importance of mental health and prevention of mental illness (RCPsych, 2017):

- “Outline the public health importance of mental health nationally and internationally in terms of personal, economic and social functioning, including a knowledge of prevalence, disability, chronicity, carer burden, cultural attitudes and differences, suicide, and service provision.”
- “Describe the principles and application of the primary, secondary and tertiary prevention of mental illness.”

5c) Public mental health training and associated resources

This section includes three examples of PMH in medical training as well as information about some training resources.

Case example 3: Mental health Gap Intervention Guide

WHO launched the mental health Gap Action Programme Intervention Guide (mhGAP-IG) in 2010. The mhGAP-IG provides non-specialist healthcare workers with evidence-based guidance and tools on assessment and management of priority mental, neurological and substance use (MNS) disorders. The guide is a model that can be adapted to local cultures. It is accessed as a book, online as a pdf, or as a mobile app at <https://www.who.int/publications/i/item/9789241549790>

The mhGAP-IG is an example of training to support improved recognition and treatment of mental disorder that has been utilised by medical schools. Medical schools in Sierra Leone, Somaliland, Nigeria, Ukraine, Georgia, Armenia, Kyrgyz Republic and Mexico have integrated the mhGAP-IG into their undergraduate medical curriculum (Chaulagain et al, 2020; Pinchuk et al, 2021; WHO, 2020; Iversen et al, 2021). In these institutions, the training led to better knowledge about assessing and managing MNS (Chaulagain et al, 2020; Pinchuk et al, 2021). Student's evaluation of the training across several countries was positive including on its structure, organisation and ease of use (Pinchuk et al, 2021).

Case example 4: University College London Medical School and public mental health

UCL Medical School takes a spiral and integrated approach to mental health, where mental health knowledge is included from year one, and is taught both as a distinct topic and in conjunction with relevant specialties. Some material is developed in collaboration with people with experience of mental disorder, who are usually previous or current service users, and specialists. The primary health department has links with the public health team, and some senior primary care medical educators have public health backgrounds.

In analysis of UCL learning objectives (LOs), there appears to be a holistic PMH approach across all years (UCL, 2023). This includes a LO to '*recognise the mental health continuum and nature and range of mental health problems in the population across the life course*'. Additionally, there is a LO to '*describe how public health policies, health promotion, economic development and environmental interventions, often have more profound health benefits than biomedical treatments*'. Alongside these, there are LOs pertaining to challenging mental health stigma, understanding the relationship between society and concepts of mental health, health inequalities, changing attitudes towards mental health, and the relationship between physical and mental health.

In different years, there are different LOs specific to mental health and the specialties covered in that year. For example, in women's health, students must recognise the cause and management of mental health issues in pregnancy and post-partum period.

Whilst the analysis of UCL's learning objectives suggests there is adequate PMH coverage, without an audit on PMH education it is hard to ascertain the level by which it is taught and prioritised by students. Mental health knowledge, including the above Learning Outcomes

are assessed via multiple choice Applied Knowledge Tests (AKTs) and Clinical and Professional Skills Assessments (CPSAs) in each year.

Table 3. Tertiary prevention training at UCL Medical School

Fourth year medical students at UCL undertake a mandatory articulate rise course on physical health of people with severe mental illness (SMI), as a part of their primary care teaching (PCPH Med Ed, no published year). The interactive online course teaches students about the increased preventable physical health risk factors that people with SMI have and explains the resources available to reduce this. This includes explaining the UK physical health annual screening offered to people with SMI. Then, a case study of a patient with schizophrenia and various cardiovascular risk factors is discussed. Suggestions for interventions are given, including diet and weight management, smoking cessation support, physical health screening, and opportunities to improve social interaction.

Key points of learning (PCPH Med Ed, no published year).

- Patients with SMI have greater risk of poor physical health and higher premature mortality than the general population
- Significant amount of preventable physical illness in group of patients
- Annual physical health reviews as opportunity to screen and intervene for physical health conditions
- There are many resources to promote physical health in patients with SMI

A team of GP tutors with an interest in mental health developed the course, which was then also reviewed by Experts by Experience (Schartau, personal communication). The course is taught in conjunction with a day of mental health in primary care, where students meet patients in the community, and gain an understanding of the intersect between chronic physical and mental illness.

This course falls under the remit of **tertiary prevention** (prevention of associated physical health impacts of mental disorder) and **tertiary promotion** (improving mental wellbeing by promoting social interaction).

Public mental health training resources

Table 4 from the website of the WPA PMH Working Group includes examples of PMH training resources. However, such resources are tailored towards postgraduate education or healthcare workers, and do not include resources for training medical students. An exception to this is the MhGAP-IG which is an example of an intervention that improves mental health knowledge to improve diagnosis and treatment (see case example 3) but it is not a comprehensive PMH education programme.

Resources should be considered through adaptation of PMH training programmes to the needs to medical students.

Table 4. Examples of PMH training materials from website of the WPA PMH Working Group at <https://www.wpanet.org/public-mental-health>

- African Mental Health Research Initiative (AMARI) <https://amari-africa.org/>
- Alan J Flisher Centre for Public Mental Health
 - Public Mental Health Master of Philosophy <http://www.cpmh.org.za/>
 - Post Graduate Diploma <https://www.cpmh.org.za/teaching/post-graduate-diploma-in-public-mental-health-2023/>
 - Master of Philosophy (Public Mental Health) https://www.wpanet.org/files/ugd/842ec8_21c0318468b44a778aeae4f9b2257201.pdf
- London School of Hygiene and Tropical Medicine / Kings College London: Masters in Global Mental Health <https://www.lshtm.ac.uk/study/courses/masters-degrees/global-mental-health>
- MindEd, Health Education England and e-Learning for Healthcare: Public mental health e-Learning Programme <https://www.lshtm.ac.uk/study/courses/masters-degrees/global-mental-health>
- University of Ibadan, Nigeria: Mental Health Leadership and Advocacy Programme https://www.wpanet.org/files/ugd/842ec8_ec457601f6074d71a4f276658eb1e299.pdf
- World Health Organization (2020): Enhancing mental health pre-service training with the mhGAP Intervention Guide: experiences and lessons learned <https://www.who.int/publications/i/item/9789240007666>

d) Perception of public mental health in undergraduate medical education (UGME) by medical educators and students

It is important to understand student and medical educators' perception of PMH in the UGME to support appropriate improvement.

Survey of medical educators and leaders regarding PMH in UGME

An online questionnaire was circulated to WPA members to gain understanding of their opinions about PMH (see Appendix 2.0 for full survey questions). Six responses were received including three respondents who were psychiatric medical educators/professors and three who were leaders of national psychiatric associations or societies. Three respondents were from South and East Asia, one from Australia, one from Europe with the origin of the sixth unknown.

In response to the question 'How well do you think the medical education covers PMH?', four respondents stated that PMH was not covered well enough with one stating that in their country, PMH was not taught. Another respondent stated that public health and psychiatry were both undertaught specialities. One respondent stated that to provide the definition of PMH was enough in medical education. Another respondent stated that there had been large changes to their national curriculum in January 2023, leading to an integrated curriculum that included PMH and management of common mental disorders to some extent.

In response to the question 'How relevant do you think PMH is in undergraduate medical school education?', four respondents strongly thought it was relevant: "This needs to become fundamental" "very relevant" and "It's important". One respondent stated that PMH education was important as their medical doctors would become basic health staff in the community. Another respondent stated that PMH may be of relevance to students interested in mental health. A further respondent stated that PMH would be more suitable as a postgraduate psychiatry topic.

In response to the question 'How might coverage of PMH interventions be improved in undergraduate medical education?', two respondents replied that PMH needed to be integrated with other disciplines: *'Teaching coming from several angles, including schools of public health, so that the relationship to psychiatry is seen as equivalent to the relationship between heart health and cardiology: not competitive but complementary.'* Two respondents stated that real world examples needed to be given. Another respondent stated that increased development of the syllabus and hours given to PMH would need to occur. A further respondent stated that mental health teaching should start early in the curriculum, with an integrated system, and mental health as one of the major subjects.

Although the sample size was very small, medical educators' responses support the finding that PMH is inadequately taught in UGME although there was large regional variation. Responses indicated that PMH is present in some medical schools which suggests the need for further research in level of PMH in curricula. The suggestions of teaching PMH in an early and integrated format is supportive of wider initiatives to integrate mental health teaching.

Interviews of to explore perception of PMH in UGME

One medical student and two recently graduated junior doctors who studied at different medical schools across the UK were interviewed regarding their perception of PMH. All the interviewees felt that their psychiatric placements focused predominantly on clinical psychiatry. They did not feel that they were taught mental health from a life-course or population approach, although were taught relevant epidemiology and risk factors for mental disorders.

Regarding relevance of PMH to their work, one junior doctor felt that PMH was relevant as many patients had mental health issues related to their care. However, another junior doctor did not feel that comprehensive knowledge would be applicable as a junior doctor and believed that suggesting PMH interventions to patients whose primary issue was not mental health, or screening for mental disorders went beyond their duties as a ward doctor. Both junior doctors felt that community mental health placements gave them a better insight into the relationship between socioeconomic inequalities and mental health.

Regarding PMH training, one junior doctor felt that PMH was adequately taught in public health lectures but not in psychiatry teaching or psychiatry placements. Another junior doctor felt that their medical education covered social determinants of mental health well but did not feel that they had adequate PMH knowledge. A final year medical student found that PMH was not taught adequately in their psychiatric or mental health teaching but suggested that it may have been taught in their pre-clinical population health lectures.

These interviews were limited by the small sample size and that interviewees were from the UK alone. However, responses raise questions about where PMH is taught and the importance of teaching students PMH with applicability in real life examples.

WPA Public Mental health Survey including medical students regarding PMH in UGME

The WPA has been involved in the development and dissemination of an international survey to explore PMH understanding, practice, training, barriers and opportunities by different sectors at <https://www.kcl.ac.uk/research/an-international-study-on-public-mental-health-work-opportunities-and-training>. The survey is also being disseminated by European Psychiatric Association (EPA), World Organisation of Family Doctors (WONCA), World Federation of Public Health Associations (WFPHA) and GAMIAN-Europe. Medical students are being asked to complete the survey including about PMH in UGME which will inform required actions.

e) Barriers and facilitators to public mental health curriculum change

Barriers

Medical school curriculums already suffer overcrowding and both public health and mental health are considered low priority by medical educators as low priority (Kadir & Schütze, 2022). This is likely to be compounded in the case of PMH, where psychiatry teaching may already be overstretched, and students may see psychiatry as low priority (Sampogna et al, 2022).

Another barrier is that PMH training is not currently adapted to for undergraduate medical education and the lack of frameworks for cultural adaptation.

Given that PMH has not been adequately taught at postgraduate levels to psychiatrists or public health professionals (Campion et al, 2022), a further barrier may be difficulty finding suitably trained medical educators. As well as the difficulty in initiating public health programmes in undergraduate medical schools, there is also difficulty retaining public health educators to continue the programme (Kadir & Schütze, 2022).

Facilitators

Facilitators of PMH into the curriculum include the PMH drivers mentioned in section 3. Beyond strong drivers, more practical facilitators include institutional support, ease of integration into curriculum and assessments, and PMH guidelines.

Institutional support is critical for increased public health teaching in the UGME (Kadir & Schütze, 2022). Such support needs to come through comprehensive policy, financial and logistic support including training clinical educators on mental health. Institutional support was also found to be a key facilitator for the establishment of the mh-GAP-IG programme in medical schools (Chaulagain et al, 2020; Pinchuk et al, 2021). This is most often in the form of medical school institutional support but may include national and regional level support (Pinchuk et al, 2021). Other facilitators included ease of integration of teaching, and that the programme did not require increased funding (Chaulagain et al, 2020).

Medical educators are in consensus of the essential need for public health in patient care and that public health topics should be integrated into their speciality, to enable their place in the curriculum (Kadir & Schütze, 2022). Additionally, public health is present in many curriculums and curriculum guides. This provides the groundwork to implement PMH knowledge into the curriculum.

Globally, medical schools test psychiatry knowledge using multiple question choice (MCQ) format (Pinto da Costa et al, 2019) which can be applied for PMH knowledge.

6. MEDICAL STUDENTS – A HIGHER RISK GROUP

A PMH approach involves proportionately targeting interventions at populations with a higher risk of poor mental wellbeing and mental disorder, as described in section 2. Doctors and medical students are at a higher risk of mental disorder and burnout compared to the general population. A recent meta-analysis found that physician burnout has large impact on staffing and sustainable health force and is associated with increased patient safety incidents (Hodkinson et al, 2022). Implementation of effective evidence-based PMH interventions will have positive impact both during medical school and across the life-course as a doctor. This section outlines the prevalence of mental disorder in medical students, the evidence-base for PMH interventions for medical students, and support for implementation into undergraduate settings.

Prevalence of mental disorder in medical students

Prevalence of mental disorders are higher among medical students compared to the general population. Reviews find that globally, a third of medical students have anxiety disorders (Quek et al, 2019) while other reviews find that prevalence of depression varies from 18% (DMSRG, 2023) to 27-28% (Tam et al, 2019; Puthran et al, 2016; Rotenstein, 2016).

Depression rates reduced during medical school training with first year students having the highest rates (33.5%) which fell to 20.5% at year 5 (Puthran et al, 2016). There is some regional variation with one systematic review finding a higher prevalence in medical students in Africa (40.9%) compared with the Western Pacific Region (18.9%) (Tam et al, 2019). The prevalence of depression for university students living in LMIC is 24.4% (Akhtar et al, 2020). Suicidal ideation ranged between 5.8% and 11.1% (Puthran et al, 2016, Rotenstein, 2016). Furthermore, reviews found even higher rates of anxiety, depression and suicidal ideation since the COVID-19 pandemic (Paz et al, 2022; Peng et al, 2023).

Regarding burnout, a systematic review and meta-analysis which included 17,431 medical students before residency found a 44.2% prevalence rate (Frajerma et al, 2019).

A national longitudinal study of UK medical students found high prevalence of symptoms of mental ill-health and hazardous alcohol use (Medisauskaite et al, 2023). Less supportive educational climates that were more competitive, reduced feelings of belongingness, greater stigma towards mental ill-health and lower intentions to seek help for mental ill-health, contributed to students' mental ill-health.

Public mental health interventions

As outlined in section 2, evidence-based interventions exist to treat mental disorder, prevent associated impacts, prevent mental disorder from arising, and promote mental wellbeing and resilience. Some reviews highlight interventions which can reduce common mental health difficulties in college and university students (Rith-Najarian et al, 2019; Worsley et al, 2022). Burnout can be prevented in physicians (Panagioti et al, 2017) although further research is need regarding prevention of burnout in medical students (Walsh et al, 2019).

A narrative review of medical student wellness highlighted that pass/fail grading systems and longitudinal collaborative learning approaches with peer support appeared to be protective

for student wellness while reduced distress was associated with maintaining enjoyable hobbies, cultivating social support networks and developing resilience (Klein & McCarthy, 2022). Faculty and administrator development was also necessary to support student wellness. A further review found that doctors and medical students needed to have confidence in an intervention for the intervention to be effective (Carrieri et al, 2022). It concluded that interventions to tackle doctor and medical student mental ill-health were likely to involve multiple stakeholders and the need to improve existing interventions.

Further research is needed regarding online interventions for medical student mental health (Ungar et al, 2022) and efficacy of interventions including in LMIC (Worsley et al, 2022; Osborn et al, 2022). Interventions have thus far been predominantly individually focused, and further focus is needed on interventions that target structural factors impacting on medical students' mental health (Worsley et al, 2022; Witt et al 2019).

Public mental health implementation gap for medical students

For instance, proportion of medical students with depression seeking treatment varied from 13% (Puthran et al, 2016) to 16% (Rotenstein et al, 2016). Medical students with mental disorders require early intervention to prevent subsequent impacts including on educational outcomes. Common reasons for not seeking treatment include impact on academic record and career, lack of time, fear of associated stigma and fear of unwanted intervention (Puthran et al, 2016). However, there is limited survey data regarding mental health service use among university students (Osborn et al, 2022).

Addressing the public mental health implementation gap for medical students

The WFME *Basic Medical Education Standards* states in their guidance for medical schools to provide psychological and welfare support (WFME, 2020). This includes setting up processes to identify students in need, and production and development of appropriate services. This is supportive of a PMH needs assessment approach.

In the UK, the General Medical Council (GMC), and the Royal College of Psychiatry (RCPsych) both have supportive statements for promoting medical student mental health (section 5b). In Australia and New Zealand, a consensus statement was released to promote medical student wellbeing (Kemp et al, 2019). This was the first of its kind in Australia and New Zealand, developed by 17 medical education leaders across the region. The statement outlines recommendations for medical schools to support student wellbeing across four regions: student selection, learning, teaching and assessments, learning environment, and staff development. There is emphasis on building a supportive curriculum that strengthens students' resilience. Recommendations for achieving this include providing support and a safe and inclusive environment, education to promote self-wellbeing, and enabling space for resilience skills to be developed. The statement also calls for medical schools to collaborate with students and student representatives and highlights the Australian Medical Students' Association (AMSA) work for promoting student and trainee wellbeing.

Table 5. Example of medical student mental health support: Clinical Student Mental Health Service in Cambridge University UK (Jacob et al, 2020)

- Cambridge school of clinical medicine supported the development of a 'Clinical Student Mental Health Service' for medical students. Students are referred or self-refer and triaged by a psychologist to receive a form of psychological therapy
- Results found that students had statistically significant reductions in levels of distress, depression, anxiety and suicide risk. Students also had significant improvement in functioning, and all graduating students gained employment as junior doctors
- Students were highly satisfied with rapid access and flexible service with 83% recommending the service to peers

7. SUMMARY

The main findings indicate the need for action to improve PMH education in UGME as well as a PMH focus on medical students' mental health.

While the landscape of psychiatry and PMH has changed in the past two decades, there is still little data on PMH teaching in medical schools. Global and regional reviews of UGME have focused on course duration and assessments regarding treatment of mental disorder, but not on specific broader PMH content. This makes it difficult to assess the representation of PMH in curriculums or comment on the quality of teaching. The survey data (section 5d) exemplifies the need for primary research or local curriculum audit into representation of PMH in the UGME since despite the very small number of responses, information on PMH representation in UGME that could not be identified through literature review was found.

This report highlights the lack of PMH in undergraduate medical education and published curriculum guidance. There appeared to be no in-depth PMH guidance for medical educators to teach PMH during undergraduate medical training. Furthermore, while PMH online training modules exist, they have not been developed for medical students (section 5c).

The literature search did not find examples of cohesive undergraduate PMH teaching, but where aspects of PMH teaching were found, these focused on improving treatment for people with mental disorder, and secondary and tertiary prevention of mental disorder and associated impacts. There was an absence of published material on mental health promotion and resilience, and primary prevention. There was also lack of reference to the PMH implementation gap and opportunities to address through PMH practice. Whilst this absence of published literature is not conclusive of absence in UGME, it does imply a lack of cohesive PMH education in UGME.

The WFME states that there is little evidence base for what needs to be taught in a medical school curriculum (WFME, 2020). This allows both scope for creativity and change as well as different agendas. In analysis of curriculum guidance (section 5b), regional curriculum guidance covers public health with preventative medicine and health promotion components. This, alongside regional guidance for psychiatric and mental health coverage, provides a theoretical supportive framework for medical schools to teach PMH. This could be strengthened by clear WPA guidance on both the need for and content of undergraduate PMH education. Both nation and local collaboration with medical schools and support via medical education institutions are essential for creating change (section 5e).

Specific PMH opportunities for undergraduate students interested in PMH is another potential area for development.

The report highlighted that medical students have higher risk for mental disorder and burnout compared to the general population (section 6). Evidence based PMH interventions for undergraduate university students exist to address. Medical schools require support to implement such interventions ensure a sustainable healthcare workforce.

8. RECOMMENDATIONS FOR PUBLIC MENTAL HEALTH IN UNDERGRADUATE MEDICAL EDUCATION

1. Development of public mental health training guidance for medical educators

This could include:

- Impacts of mental disorder and wellbeing
- Reasons for impacts
- Prevalence of mental disorder and wellbeing
- Risk and protective factors
- Higher risk groups including medical students
- Different types of PMH intervention including those relevant to medical student mental health
- PMH implementation gap and reasons
- PMH definition - a population approach to mental health to improve coverage, outcomes, and coordination of PMH interventions
- Required actions to improve coverage of PMH interventions including by medical schools and course organisers

2. Collaborative working between psychiatrists and medical educators

Psychiatrists and medical educators work together at local or national level in order to implement minimum standard of PMH training in UGME.

3. Further research into undergraduate public mental health education

- Local audit of presence of PMH in curriculums
- Research on mental health medical educators', medical students' and doctors' knowledge and perception of PMH
- Effective ways to deliver PMH training

4. Development of opportunities for students interested in public mental health

- E.g PMH placements

5. Development of guidance to support medical schools to meet public mental health needs of medical students

- Through a combination of early treatment and prevention of mental disorder and the promotion of mental wellbeing and resilience
- This includes the use of mental health needs assessments to inform:
 - Estimated numbers of medical students with mental disorder in each medical school
 - Level of implementation of interventions to treat mental disorder, prevent mental disorder, and promote mental wellbeing and resilience
 - Required actions to address the PMH implementation gap

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APPENDICES

Appendix 1.0 Glossary and common abbreviations

Curriculum	Documents that may include learning outcomes for students and frameworks for delivery of knowledge and assessment of education
Undergraduate medical education	The sum activities provided by medical schools to create competent junior doctors (WFME, 2020)
Undergraduate psychiatry	The teaching of psychiatry to undergraduate medical students
PMH	Public Mental Health
LMIC	Low- and Middle-Income Countries
LO(s)	Learning Objective(s)
UGME	Undergraduate Medical Education
WPA	World Psychiatric Association
WFME	World Federation of Medical Education

Appendix 2.0 PMH Survey sent out to WPA members

1. Your role, institution and country you are based in?
2. What are your priorities with regards to undergraduate psychiatric/mental health education?
3. How well do you think the medical education covers PMH?
4. How relevant do you think PMH is in undergraduate medical school education?
5. How might coverage of PMH interventions be improved in undergraduate medical education?
6. If you are happy for me to contact you for any follow up questions, please could you put your name and email address below