

# Exploring the causal factors for mental health problems experienced by medical undergraduates in the United Kingdom: a realist review

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## Citation

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## Review question

What are the causal factors for mental health problems experienced by medical undergraduates in the United Kingdom?

Sub-questions:

- What are the outcomes reported as a result of mental health problems that develop during medical undergraduate studies?
- What are the mechanisms acting at the individual, group, and institutional level that create the conditions for mental health problems to arise in medical students within the current UK education system?
- In what contexts do these mechanisms occur to produce the outcomes reported in the current literature?

## Searches

Following the principles of realist review as outlined by the RAMESES guidelines, our search strategies are envisioned to be iterative throughout the review process. However, the following search terms (and their associated synonyms) are anticipated to be important throughout: 'medical student', 'mental health', 'mental disorder', 'stress', 'well-being' (e.g. wellbeing/ well being), 'United Kingdom' (e.g. UK). This review will utilise the databases MEDLINE, EMBASE and PsycINFO, from which published works will be retrieved using a systematic search developed in conjunction with an information specialist. Subject headings relevant to each database will be used, e.g. MeSH for MEDLINE. References of retrieved papers will be hand-checked to find additional relevant materials.

This review will comprise of two separate search stages. The initial scoping search will aim to locate existing theories of mental well-being relevant to this population, including broader theories of how educational and workplace demands impact on this. Subsequent to this an initial programming theory will be developed. Following this a formal search will be developed to consider articles pertaining to UK undergraduate medical students only, so as to focus the scope of the study and evaluate the particular causal factors highly relevant to this population. Following modifications to the initial programming theory based on the literature analysis,

additional searches may be performed to accommodate. All such subsequent searches will be outlined in the final manuscript.

There will be no date-range restriction to the papers included, although emphasis will be placed on more recent works which pertain closer to the current medical student experience in a contemporary educational climate. Only studies published in English language will be included. Relevant grey literature may also be included, such as professional guidance documents, medical school policies and published stakeholder opinion pieces.

### **Types of study to be included**

There will be no restrictions and all relevant qualitative, quantitative and mixed methods studies will be included.

### **Condition or domain being studied**

Student mental health and well-being

Formal mental disorders and diagnoses

### **Participants/population**

Inclusion: Undergraduate medical students (pre-clinical and clinical) undertaking a UK-based medicine course

Exclusion: undergraduate medical students undertaking a course based outside of the UK; students on allied health courses

### **Intervention(s), exposure(s)**

This review conceptualises the experience of undertaking undergraduate medical training in the UK as a complex 'intervention' or process composed of multiple interlinked components acting at the individual, group and institutional level. These components each in turn have a subsequent influence on the outcome of mental health and well-being in medical students. Undergraduate medical training in the UK is traditionally a 5 - 6 year process that is subdivided into a pre-clinical and clinical phase. After successful completion of the course students are eligible to apply for the UK Foundation Programme and begin their practice as clinicians.

### **Comparator(s)/control**

Not applicable.

### **Context**

### **Primary outcome(s)**

This review aims to outline the causative factors for mental health problems experienced by UK medical undergraduates during their studies. This will be presented in a set of Context-Mechanism-Outcome (CMO) configurations, grouped by overarching theme. These CMO configurations will be then used to develop a detailed programming theory to provide an overall model for mental health problems and well-being in UK medical undergraduates.

### **Secondary outcome(s)**

None.

### **Data extraction (selection and coding)**

The initial scoping search will draw from a range of sources, including relevant grey literature, to locate current explanatory theories which the reviewers feel are applicable to the study question. Current models of mental health problems and mental wellbeing will be drawn from to formulate the initial programming theory.

For all subsequent searches a formal search strategy will be used. All titles and abstracts obtained from a systematic database search will be screened for eligibility, including potential relevance to the study question and for fit with our inclusion criteria. The resulting set of search results from separate databases will then be combined and duplicates removed to produce a list of potentially relevant articles.

Subsequently, full text documents of all relevant articles will then be obtained and read in full to screen for inclusion. Salient points from eligible studies will be summarised and coded into a bespoke table using MS Excel, according to their contribution to the development of our programming theory and the formulation of Context-Mechanism-Outcome (CMO) configurations specific to our aim. This will include:

- the contextual background to the study;
- the study methodology and outcome measures;
- the reported significant outcomes within the text;
- explicit mechanisms for these outcomes that the authors explore within the text;
- implicit mechanisms for the outcomes present, based on an overall interpretation of the paper;
- limitations to the study which need to be considered alongside the results to guide interpretation.

This process will be iterative and following any substantial changes to the initial programming theory the selection of which articles are deemed relevant to the review may evolve. If changes are made an explanation of the reason why this has been done and the changes made will be reported in the final manuscript.

### **Risk of bias (quality) assessment**

In line with RAMESES Quality Standards for Realist Synthesis, studies will be appraised in two main criteria:

1. Relevance: an evaluation of whether a given study is relevant to our study questions and whether a study can contribute to the process of development, refinement and testing of the initial programming theory
2. Rigour: an assessment of the scientific method and credibility (risk of bias) of a given study.

Articles which can contribute significantly to the development of the initial programming theory will be prioritised, with additional studies adding supporting information to these points. Whilst rigour is an important component of any review, for realist reviews it is the underlying mechanisms behind a result which are of most relevance, and the appropriateness of the study design in addressing our research question(s). Therefore, studies will not be excluded on the basis of poor academic rigour, although the limitations of drawing conclusions solely from such papers will be emphasised if there is a lack of other articles supporting the conclusions made.

### **Strategy for data synthesis**

Following data-extraction from the relevant primary sources, subthemes within the data relating to specific contexts, mechanisms and outcomes will be explored. The aim will be to synthesise a set of Context-Mechanism-Outcome (CMO) configurations showing how mental health problems arise in undergraduate medical students in the UK. These CMO configurations will be grouped thematically, with particular attention to whether a configuration is operating at an individual, group or institutional level (or indeed at multiple levels). This will inform the modification of our initial programming theory to produce a detailed programming theory informed by the current literature.

### **Analysis of subgroups or subsets**

None planned.

### **Contact details for further information**

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### **Organisational affiliation of the review**

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**Stage of review**

Review\_Ongoing

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Subject indexing assigned by CRD

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