

The impact of the COVID-19 pandemic on medical education

The coronavirus pandemic has caused major disruption of systems worldwide, including education and health services. The duration and scale of the impact is yet to be established. The effect of the pandemic on medical education should be managed on the basis of early response, alternative education options and future changes and actions.

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Introduction

The pathway to successful completion of medical education has always been relatively predictable. To demonstrate their knowledge of and dedication to medicine, medical students usually need to gain certain competencies through studying, shadowing, and participation in clinical and non-clinical activities. This pathway has been suddenly and considerably disrupted by the COVID-19 pandemic, causing uncertainty, confusion and significant concerns about medical students' future careers and lives. Medical students are seeking alternative ways through which they can continue their education and many are also contributing to efforts to reduce the impact of the pandemic (Ferrel and Ryan, 2020).

The pandemic has led to a global crisis where well-established systems, such as healthcare and education, have been disrupted, with no viable alternatives immediately available. Therefore, facing and tackling the associated challenges should perhaps be based on the principles of disaster management: mitigation, preparedness, response and recovery (Coccolini et al, 2020). The impact of the COVID-19 pandemic on medical education can therefore be managed through the concepts of early response, alternative education options, and future changes and actions.

Current situation

The combination of reduced exposure to clinical sessions and the suspension or cancellation of attachments and electives will have noticeable impacts on medical education, particularly on final year medical students who are expected to gain certain structured competencies and skills before starting their careers (Ahmed et al, 2020). This is another challenge that the health service will have to face over forthcoming months and years.

In previous situations such as natural disasters and fires, medical students have been able to continue their education and even provide help in national efforts. However, as this pandemic is caused by a highly contagious virus, this is less easy, as students are at risk of acquiring and spreading the infection (Rose, 2020).

Early response

Medical students, medical schools, training providers and related professional committees should work closely and share the responsibility for minimising the negative impacts of the pandemic on medical education.

'Medical students' first responsibility is to their continuing education. They must not jeopardise their readiness to qualify in the future by taking on too many additional responsibilities.' (Gishen et al, 2020).

On the other hand, medical students should feel that they are well supported practically and emotionally (Gishen et al, 2020).

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The General Medical Council has speeded up the processing of final year medical students' applications for professional registration. In addition, the General Medical Council has asked medical schools to prioritise teaching and assessment for final year students according to their local policies, and to document any adjustments they make (General Medical Council, 2020). The General Medical Council has also strongly advised medical students to look after their health: 'If you're in a clinical environment, medical schools and placement providers should make sure that you're suitably equipped. If you have pre-existing health conditions that place you at increased risk of infection, you should discuss this with your medical school or local education provider' (General Medical Council, 2020).

Clear and open communication with medical students is vital at this time. They should be made fully aware of the scale of disruption of their educational experiences caused by the pandemic, the delivery of their intended teaching programmes, and academic regulations and policies. They should also be advised that significant benefits could be obtained from undertaking more academic activities in the future, such as tutorials, refresher lectures and publications (Smith and Bullock, 2020).

Alternative learning opportunities

Sophisticated technology is readily available which should provide excellent alternatives to the existing traditional methods of education and learning. Online teaching and assessment via virtual learning environments should be designed and structured in a similar way to face-to-face teaching sessions (Smith and Bullock, 2020).

The main difference between traditional and technology-based educational sessions is that the latter allow students to undertake the learning in their own time and in their preferred location. Technological solutions allow teaching to be delivered to groups or individuals, and can process the individual student's responses in real time. A good example is Zoom – an online meeting tool that can be used for education. It allows students to either attend the educational session face to face or access it in real-time from any location. It also allows synchronous sessions and the participation of multiple users at the same time (Kay and Pasarica, 2019). However, Zoom teaching sessions can be disrupted by technological difficulties, particularly in areas with poor Wifi or for students in countries with less internet infrastructure. The provider of the teaching session needs to plan for the learning curve required for students to use Zoom effectively, and not assume that all students have the required practical knowledge to use this. Furthermore, students could be prone to distraction and interactions among them could be stilted, particularly if they are unfamiliar with each other (Hagler, 2019).

Targeted medical volunteering opportunities could be considered as an alternative way of learning. They provide learning environments for medical students that could cover their educational needs and practical skills. However, the allocated tasks or responsibilities should be tailored to the knowledge level of the medical students, especially those in the early years of medical school (Gishen et al, 2020). Students should not be asked to carry out doctors' duties, and they should be supervised throughout these experiences. Local arrangements are needed to provide relevant induction, safety measures, equipment and support (General Medical Council, 2020).

To ensure an adequate response to an expected next wave of the pandemic in the winter, two American authors suggested a 'bold response' to the COVID-19 pandemic through an official policy of suspending the first year of medical school for 1 year. The incoming large number of medical students would be able to join a national service programme through online training on the management of infectious disease outbreaks (Bauchner and Sharfstein, 2020). However, implementing this approach as a policy is unlikely to be achievable because of potentially complex obstructing factors related to time, individuals' viewpoints, possible health implications for new medical students, and local systems.

Transforming the traditional education and training format

Wolanskyj-Spinner (2020) has expressed serious concerns about the effectiveness of medical education in its current format during serious crises like the COVID-19 pandemic. She says:

‘In the context of patient-centered teaching, today’s mandate to “flatten the curve” raises many questions that may reshape medical education. How can we train future doctors within the limitations of social distancing? In addition to web-based learning and digital content, can we simulate virtual patient encounters?’

These concerns have been also raised by Emanuel (2020) who advises that the reconfiguration of medical education should make the best use of available technology through online education and transformation of clinical training into models based on gaining competency, rather than being based on the time spent learning (Emanuel, 2020; Wolanskyj-Spinner, 2020).

Conclusions

The COVID-19 pandemic has resulted in major disruption of systems worldwide, including education and health services. People are working hard to control the spread of the virus, and to find effective treatments and vaccination. The negative impact of the pandemic is expected to persist for a long time, especially as the behaviour and pathophysiology of the virus is not yet well understood. Another wave of the pandemic over the winter is still a possibility. Therefore, both immediate and long-term measures should be put in place to tackle the serious difficulties faced by medical education and health services over the coming months and beyond. These measures should be based on the principles of shared responsibility at personal, local and national levels, in addition to providing alternative education and learning opportunities, and serious consideration of transforming existing methods of medical education and learning.

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Key points

- The COVID-19 pandemic has resulted in major disruption of systems worldwide, including education and health services.
- Medical students’ first responsibility is to their continuing education. They must not jeopardise their readiness to qualify in the future.
- Alternative learning measures should be implemented through the use of available technology, such as online teaching and assessment tools.
- Serious consideration should be given to transforming existing methods of medical education and learning.

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