



What Will the Future of Medical Education Look Like?

Description

The coronavirus crisis has impacted both higher education and the field of medicine in a myriad of ways. As the crisis settles, how will medical education be reshaped?

The coronavirus crisis has shaken the foundations of nearly every aspect of our world, with its ripple effects predicted to be felt well into the future.

This means that we are now faced with a new reality; forcing almost every individual, business, and sector on the planet to adjust accordingly.

There is no doubt the field of medicine has been uniquely impacted by the pandemic.

Not only have we witnessed the importance of having a robust healthcare system, but the pandemic has created a critical need to transform various aspects of medical education to reflect the changing medical landscape.

While there is a significant level of uncertainty around how medical education will look in the post-pandemic era, this blog will explore some of the potential areas that may see significant changes.

If you would like to learn more insights about the future of medical education, sign up to the first ever virtual [QS Subject Focus Summit: The Future of Medicine: Challenges and Opportunities in this Disruptive Era](#).

Remote healthcare and education

Mobility restrictions implemented as a result of COVID-19 mean that online learning has been adopted by higher education institutions across the globe.

Fortunately, research by QS has demonstrated that prospective medical students are open to an increased level of online learning as part of their education.

According to a recent QS white paper, prospective medical and dentistry students are much less likely to want to defer their studies as a response to the coronavirus; 48% compared with 56% of respondents overall.

Prospective medical and dentistry students are also more interested in online learning than most, 70% compared to 64% overall.

However, not all elements of a degree can be transferred online easily, with remote learning creating obstacles for the practical elements of training.

Medical education relies on direct patient contact in order to create students ready for the workplace.

While this can be adapted to an online environment to an extent, questions arise as to how in-person training will be conducted in a world where the coronavirus is still present.

[Forbes magazine](#) identifies virtual and artificial reality as being one of the biggest technology trends that will transform medicine and healthcare in 2020.

During periods where in-person contact might be limited, *Forbes* claim the technology will be “extremely beneficial for training and surgery simulation.”

In terms of delivering care, students will need to learn how to work with new technology that will allow for the monitoring of mild illnesses from home, including the coronavirus in cases where the condition is manageable.

Telemedicine companies support this venture, supplying at-home features like blood pressure cuffs, at-home scales, and remote stethoscopes, as well as utilizing health data from patients’ apple watches and other devices.

[According to Carbon Health](#) cofounder Caesar Djavaheerian, for telemedicine to expand, healthcare professionals will need “a broader list of actual ailments that we can take care of virtually,” as there are some illnesses that do require in-person contact.

He adds that a wider range of illnesses might be treated virtually in the future, “depending on the connected devices that patients have in their homes.”

In the case of the coronavirus, an increased implementation of virtual training and treatment could lower the risk of contamination to health care professionals. This could help to keep them safe and allow them to continue to treat the wider public.

The utilization of data

During the global pandemic, the focus on data collection and analysis has surged significantly across the world.

With hourly changing trends, healthcare leaders have turned to analytics to help them make data-informed decisions.

Examples of new Internet of Things technologies, networks of internet connected objects, include “sensors that monitor patient health and the condition of machines to wearables and patients’ mobile phones.”

With access to more data, medical professionals can understand an illness better and develop well-informed courses of action for a greater number of patients in the long term.

According to [Dr. Joost Huiskens](#), technology such as this can also help in the short term in providing clinicians with “an overview of everything happening in the hospital,” so that they can be “alerted in real time should an anomaly in the data reveal changes that need urgent attention.”

For those countries that have struggled to manage the outbreak, the successful use of data could be a key step in rebuilding trust between the public and the healthcare system.

Using data to track healthcare trends and treatments is unlikely to stop any time soon and is sure to be a key feature of medical education and practice in the future.

Data can also aid in developing more tailored treatments for individual patients; something that will play an important role in protecting individuals in a potential second wave of the coronavirus.

Machine learning, computer algorithms that become more accurate with experience, is becoming a key player in this area.

[According to a paper in *The New England Journal of Medicine*](#), machine learning will drastically improve three key features of medicine in particular: prognosis, pathology, and diagnosis.

Prognosis is currently reliant on only a handful of variables that are analyzed by humans. Data could instead be drawn from electronic health records or claims databases, “allowing models to use thousands of rich predictor variables.”

Machine learning can then use this to make better estimates, which could in turn “transform advance care planning for patients with serious illnesses.”

[Forbes](#) claims that machine learning and artificial intelligence also has the power to advise genomic medicine, which is “when a person’s genomic info is used to determine personalized treatment plans and clinical care.”

Advanced technologies will help in the analysis of genomes and gene mutations, helping “the medical community better understand how diseases occur, but also how to treat the condition or even eradicate it.”

This is a key component in the fight against COVID-19 as a person’s genetic makeup can have a critical impact on how their body responds to the virus.

The emotional impact

Stories from healthcare professionals on the front line of the coronavirus pandemic reveal the huge toll it has taken on their emotional state.

Watching thousands of people suffer and managing a virus that is still not fully understood has caused many medical professionals, including those who have been working in the field for years, to come under significant pressure.

While treating patients, health care professionals also have their own health to consider.

Terri Rebmann, a nurse researcher and director of the Institute for Biosecurity at Saint Louis University, told [The Medical Futurist](#), “The anxiety of knowing you might be at risk when you’re doing your job can be very challenging for health care workers.”

As medical staff continue to treat coronavirus patients in the future, students will need to be taught how to manage their stress and anxiety, including how to recognize symptoms of post-traumatic stress disorder.

This is a particularly critical element of medical education as demand for staff has accelerated the graduation of many medical students, placing them in a high-stress situation very early on in their careers.

The economic impact

The coronavirus outbreak is also likely to have a huge economic impact on the medical industry and, consequently, medical education.

While it’s difficult to predict the extent, there is no denying that managing the coronavirus has cost a significant amount.

As Martin McKee and David Stuckler explain for [Nature Medicine](#), a reduction in economic activity means a reduction in the circulation of money and alongside that, reduced tax revenues.

They write that healthcare systems may suffer, along with struggling to fund the “public health countermeasures needed to control the pandemic.”

Deploying new technology on such a large scale requires funding, however it’s a crucial component if the medical industry and medical education are going to function successfully in our new reality.

There is also the continued cost of personal protective equipment, testing, and other equipment used to directly treat COVID-19 patients that needs to be considered.

It’s also clear that economic decline can have a direct effect on the health of individuals, as those who begin to struggle financially are likely to face new health pressures.

This is a serious threat in countries like the US where [8.5% of people](#) don’t have health insurance.

As we have demonstrated, it's looking increasingly likely that disruptions to the medical industry will be a reality for some time.

Professors Poh-Sun Goh and John Sandars from the National University of Singapore and Edge Hill University Medical School respectively, [recently said](#): "We consider that it will be highly unlikely that there will be a return to the previous approach to the provision of medical education as existed before the pandemic, especially the contribution of technology for enhancing teaching and learning."

The use of innovative technologies and processes may soon be essential components in the long-term future of medical education.

Institutions need to urgently adapt; training students to work alongside new technologies and processes and explore new ways to learn and practice with ongoing mobility restrictions.

Due to changing variables, such as the length of the pandemic and extent of the economic impact, it's still difficult to predict the full extent of the transformation that medical education will experience.

For greater insights into the potential impact of COVID-19 on medical education, please sign up to the first ever virtual [QS Subject Focus Summit: The Future of Medicine: Challenges and Opportunities in this Disruptive Era](#), from the 4-6 August.