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 â??extremely beneficial for training and surgery simulation.â?

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 patientsâ?? apple watches and other devices.

[According to Carbon Health](#) cofounder Caesar Djavaherian, for telemedicine to expand, heal thcare professionals will need â??a broader list of actual ailments that we can take care of virtually,â?• 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, â??depending on the connected devices that patients have in their homes.â?

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 â??sensors that monitor patient health and the condition of machines to wearables and patientsâ?? mobile phones.â?•

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

According to Â Dr. Joost Huiskens, Â technology such as this can also help in the short Â term Â in providing Â clinicians with Â â??an overview of everything happening in the hospital,â?• so that they Â can be Â â??alerted in real Â time should an anomaly in the data reveal changes that need urgent attention.â? Â

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

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

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

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

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

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

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

Forbes Â claims Â that Â machine learning and artificial intelligence Â also has the power to advise Â genomic medicine, which is â??when a person's genomic info is used to determine personalized treatment plans and clinical care.â? Â

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

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

The emotional Â impact Â Â

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

Watching Â thousands of people Â suffer Â and managing a virus that is still not fully understood Â has caused Â

many medical professionals, includingÂ those who have been working in the field for years, to come underÂ significantÂ pressure.Â Â

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

Terri Rebmann, a nurse researcher and director of the Institute for Biosecurity at Saint Louis University, toldÂ *The Medical Futurist*,Â â??TheÂ anxiety of knowing you might be at risk when youâ??re doing your job can be very challenging for health care workers.â?Â

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

ThisÂ isÂ aÂ particularlyÂ critical element of medical educationÂ asÂ demand for staff has accelerated the graduation of many medical students, placing them in a high-stress situation very early on in their careers.Â Â

The economicÂ impactÂ

The coronavirus outbreak isÂ alsoÂ likelyÂ to haveÂ a hugeÂ economicÂ impactÂ on the medical industryÂ and,Â consequently, medical education.Â

While itâ??s difficult to predictÂ theÂ extent, there is no denying thatÂ managingÂ theÂ coronavirus has cost a significant amount.Â Â

AsÂ Martin McKee and DavidÂ StucklerÂ explain forÂ *Nature Medicine*, a reduction in economic activity means a reduction in the circulation of money andÂ alongside that,Â reducedÂ tax revenues.Â

They write thatÂ healthcareÂ systemsÂ mayÂ suffer, along with struggling to fundÂ the â??publicÂ health countermeasures needed to control the pandemic.â?Â

DeployingÂ newÂ technologyÂ onÂ such a large scale requires funding, however itâ??s a crucial component if the medical industry and medical education are going to function successfullyÂ in our new reality.Â Â

There is alsoÂ the continued cost ofÂ personal protective equipment, testing,Â and other equipment used to directly treat COVID-19 patientsÂ that needsÂ to be considered.Â Â

Itâ??s alsoÂ clearÂ thatÂ economic decline can have a direct effect on the health of individuals, asÂ those whoÂ begin to struggle financially are likely toÂ faceÂ newÂ health pressures.Â Â

This isÂ a serious threatÂ in countries like the US whereÂ 8.5%Â of peopleÂ donâ??t have health insurance.Â Â

As we have demonstrated, itâ??s looking increasingly likely that disruptions toÂ the medicalÂ industry Â will be a reality for some time.Â Â

Professors Poh-Sun Goh and JohnÂ SandarsÂ from the National University of Singapore and Edge Hill University Medical School respectively,Â recently said: â??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.â?•

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The use of innovative technologiesÂ and processesÂ may soon be essential componentsÂ inÂ the long-term future of medical education.Â

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

Due to changing variables, such as the length of the pandemic andÂ extent of theÂ economic impact, it â??s still difficult toÂ predictÂ the full extent ofÂ theÂ transformation that medical education will experience.Â Â Â

For greater insightsÂ into the potential impact ofÂ COVID-19 on medical education,Â pleaseÂ signÂ up Â toÂ theÂ first ever virtualÂ [QSÂ Subject Focus Summit:Â The Future of Medicine: Challenges and Opportunities in this Disruptive Era](),Â from theÂ 4-6Â August.Â