

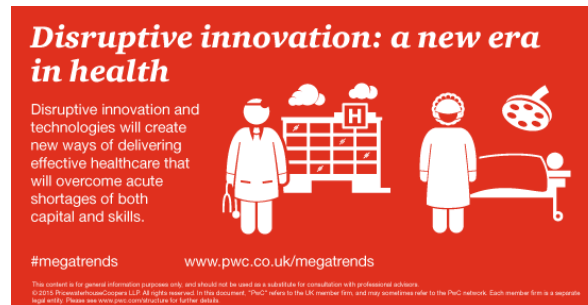
# Disruptive Innovation in Healthcare

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# 1 What is Disruptive Innovation ?

A new product, service, or business model is considered “disruptive” when it helps create a new market, eventually disrupting existing markets and displacing previous technologies. It creates a new market and value network or enters at the bottom of an existing market and eventually displaces established market-leading firms, products, and alliances.



Disruptive innovations tend to be produced by outsiders and entrepreneurs in startups, rather than existing market-leading companies. The business environment of market leaders does not allow them to pursue disruptive innovations when they first arise, because they are not profitable enough at first and because their development can take scarce resources away from sustaining innovations (which are needed to compete against current competition). Small teams are more likely to create disruptive innovations than large teams. A disruptive process can take longer to develop than by the conventional approach and the risk associated to it is higher than the other more incremental, architectural or evolutionary forms of innovations, but once it is deployed in the market, it achieves a much faster penetration and higher degree of impact on the established markets.

## 2 Disruptive Innovation In Healthcare

Healthcare technology isn't the same any more; we have come a long way from the time of stethoscope and eyeglasses.

With the development over times with the era of mobile phones increasing and the rising awareness amongst all walks of life, there has been an upgrade of various medical technologies to implement in the upcoming future.

People have come with disruptive innovation in healthcare. Some of the latest disruptive healthcare innovations are as given below:-

## 2.1 Telemedicine

Telemedicine is one of the most popular disruptive innovations in healthcare since the recent pandemic times.

Its the process of practising medicine at a distance, meaning that all the healthcare that is provided by a professional to a patient is done though telecommunication infrastructures that too from a different site. All four modalities of telehealth include:

(1) Live video conferencing, (2) Storage of data, (3) Remote patient monitoring and (4) mHealth.

At first, telemedicine had to face quite a few barriers, but now with the



Figure 1: A doctor Diagnosing via Video Conferencing

progress, its barriers have been lifted, and it is said to improve the upcoming future of the healthcare system.

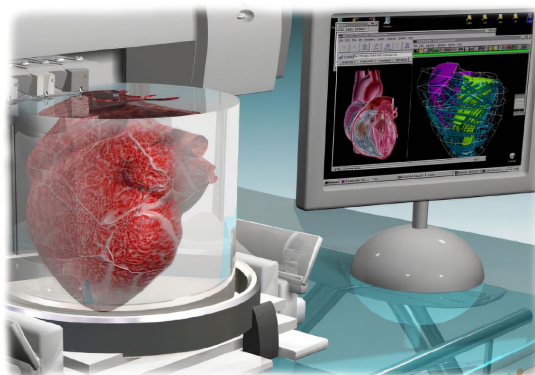


Figure 2: A Graphic of 3D Printed Heart

## 2.2 3D Printing

3-D printing is one of the famous disruptive innovations in healthcare. From helping in making medical tools to various constructive tools that range from plastic to stem cells. This bioprinting is used for the regeneration of medicine and supports tissue engineering. Not only this, but it helps in manufacturing even personalized pharmaceuticals.

The global shortage of donor organs can be solved via 3-D printing technology, the development of which is underway.

## 2.3 Nanomedicine

Nanomedicine is defined as the medical application of nanotechnology. This disruptive innovation can include a wide range of applications, including biosensors, tissue engineering, diagnostic devices, and many others. Our entire bodies are exposed to the medicines that we take, which can lead to unpleasant side effects and minimize the amount of medicine that reaches the places where it is needed. Medications can be more efficiently delivered to the site of action using nanotechnology, resulting in improved outcomes with less medication. For e.g. in treatment of cancer patients nanotechnology can be used to target the specific cancer cells not the nearby healthy cells.

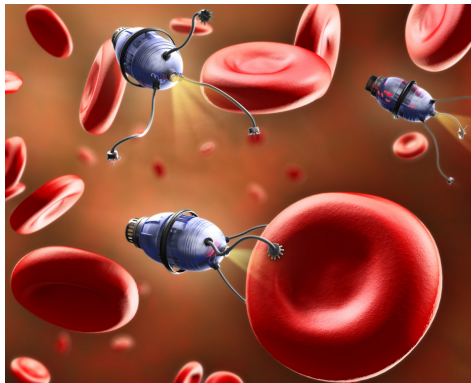


Figure 3: Nanorobots acting upon Particular Cells

## 3 Conclusion

There are many more disruptive technology in healthcare like augmented reality, precision medicine ,IoT,etc but its not possible to specify all of

them in two pages. Even though we see a noticeable change in disruptive innovation, one must understand that to bring a change like this; the administration should be trained to make the workflow as smooth and efficient as the technology is helping them do. As catering to patient needs moves and relies more on the automation and visible incorporation of innovative technology, we must understand that this is essential. Health care professionals will be leading this, and hence the technology and the professionals together will make the world a better place.

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