Editorial

The New Wave of Healthcare Innovations in Response to COVID-19

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Abstract

A healthcare crisis appears to be the father of invention, if necessity is the mother of invention. If you're still not convinced, consider the rate at which innovations have been released in the past year in the wake of COVID-19. From novel vaccines created in months rather than years, to new technological platforms like as mRNA, to the sheer ingenuity and invention in how unique collaborations were formed to provide vaccinations and healthcare solutions - both worldwide and locally in India. The healthcare crisis has put inventive thinking to the test in ways it has never been tested before. The COVID-19 pandemic ushered in a new age of healthcare innovation, as well as a demand for knowledge about cutting-edge techniques and technology for improving care delivery.

Keywords: COVID-19; Innovation; Healthcare

The year 2020 marked the beginning of a new era in healthcare innovation. While the year will always be known as the year of the COVID-19 epidemic, it was innovation that allowed hospitals and healthcare systems to permanently change how care is given.

When researchers focus on addressing real-world issues and cooperate with cross-functional teams, healthcare innovation may emerge at an unparalleled velocity. Anyone, from anywhere, at any age, may invent, and this open-minded approach permits creativity to flourish when driven to solve a well-defined problem.

A new pharmaceutical medication takes an average of 12 years to develop from bench to market [1]. Other new healthcare technologies and techniques may take years and billions of dollars to develop before they are ready for commercial use. That is under "normal" standards. But what if things aren't as they seem? What if a global pandemic, such as COVID-19, swept across the population? What if a worldwide epidemic, such as COVID-19, spread across the population, inspiring everyone to come up with creative solutions to the present problem?

It's been over a year since the world has witnessed a dramatic acceleration in the pace of healthcare innovation, with usual timelines of years becoming weeks or days. COVID-19 solutions have been developed at a breakneck speed, with the added benefit of being very affordable to deploy. A prime example is an Indian clinician who invented a "Negative pressure aerosol containment box" [2] that enables isolation and negative pressure to minimize the threat of aerosol transmission in the ICU.

Another example of a practical solution to a real-world problem comes from a Professor at the Indian Institute of Technology, Delhi, who has developed an antibacterial coating for face masks and personal protection equipment using a new substance called N9 blue nano silver. The nanolayer coating, which has now been redesigned for anti-viral use, adds an extra layer of protection against virus-carrying droplets and aerosols [3]. The Ministry of Electronics and Information Technology's National Informatics Centre built the smartphone application Aarogya Setu for contact tracing, syndromic mapping, and self-assessment [4]. In addition, Bharat Biotech's ground-breaking breakthrough "Covaxin," created in partnership

with the Indian Council of Medical Research (ICMR) - National Institute of Virology (NIV), is a game-changer [5].

Countless researchers, technologists, physicians, midwives, and citizen biologists are using their various talents to save lives. Significantly, these solutions are budget effective, accessible to the general public, and address basic issues with consequences. However not all inventions succeed, these people's motivating efforts encourage fast cycle of innovation creation.

During the COVID-19 pandemic, how did the rate of innovation shift so dramatically?

Underfunding, regulatory review process, documentation requirements, ethics concerns, clinical trial testing, and disputes between investors such as insurance providers, biotech companies, biotechnology corporations, healthcare facilities, clinicians, and researchers can all thwart healthcare innovation in non-COVID-19 situations.

Increased financing from different grants, as well as a lack of executive or corporate priorities, have all contributed to the growth of COVID-19-related research. These aren't the only ones, though. COVID-19 has sparked international collaboration across a variety of disciplines, all with the goal of assisting communities in saving lives. Different academic backgrounds, lives, nationalities, ethnicities, talents, and capacities have all provided distinct views for generating innovation, and this bridge has been valuable. If physical separation regulations restrict human interaction, teamwork across various fields might be a hardship for individuals. Finally, healthcare innovation is a never-ending learning process that is refined over time as clinical data accumulates. Scientists and clinicians must keep an eye on the short- and long-term adoption of innovation in policy and practice as COVID-19 accelerates from a trot to a gallop.

Conclusion

A multi-sectoral approach to healthcare innovation is required: earlier than normal, strategic plans for incorporating efficient and effective innovative tactics for the community's priority healthcare needs, i.e. affordable innovation; and a long-term perspective for nurturing the culture that encourages such advancements; otherwise, noble intentions will continue to get muddled.

Bibliography

1. Kraljevic S., *et al.* "Accelerating drug discovery". *EMBO Reports* 5.9 (2014): 837-842.

2. Gupta V., *et al.* "Negative pressure aerosol containment box: An innovation to reduce COVID-19 infection risk in healthcare workers". *Journal of Anaesthesiology Clinical Pharmacology* 36 (2020): S144-147.

3. IIT Delhi-made antiviral nano-coatings to be used in medical. The Times of India (2020).

4. Digital Government: Research and Practice 1.4 (2020): 28.

5. Bharat Biotech.