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How Physicians Can Prepare for Emerging Trends in Health Care Delivery



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By Christopher Ugo Oseh, MBBS

July 23, 2020

This trend clearly indicates the need for physicians who are both clinically and technologically savvy to provide health care in the future.

Health care delivery services have been transformed by advances in health technology, and technology-based health care seems to be gaining ground. According to a [McKinsey survey](#) taken in April 2020, the adoption of telehealth services by United States citizens increased from 11% in 2019 to 46% in 2020. Although much of this accelerated adoption has been linked to restricted health care access caused by the coronavirus pandemic, experts are projecting a further increase in telehealth service adoption post-pandemic as many clients realize they prefer to access health care remotely rather than consulting in person with their doctors in a hospital.

Health care providers are adjusting to this trend by creating and integrating technology-based systems into their health care delivery services. This trend clearly indicates the need for physicians who are both clinically and technologically savvy to provide health care in the future.

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Physicians are being required to interact with technology such as artificial intelligence (AI), health care cloud technology, and wearable sensors, all of which are being integrated into health care service delivery.

Patients can put on wearable sensors to collect vital signs and other relevant clinical data which is transferred to a series of AI-enabled computers to analyze, interpret, and store in a cloud network for doctors to access virtually. By accessing this technology, attending physicians can diagnose, monitor, or intervene promptly with the same level of accuracy available in hospital-based care.

Other health care delivery services influenced by technology include:

- **Medical data management:** Vital patient information can be stored and accessed through a secured cloud network. Thus, hospitals with this system provide log in details to doctors to access patient-specific data required in the clinical management of the patient.
- **Diagnostics:** Diagnostic equipment and devices have been enhanced with artificial intelligence tools to ensure early diagnosis of medical conditions, especially cancers. Artificial intelligence also helps radiologists and other physicians to rapidly identify pathological radiographs and suggests likely diagnoses which can be helpful during emergencies and for prompt clinical decision making.
- **Therapeutics:** Treatment options and guidelines can be easily developed from AI-analyzed and interpreted clinical data reports. For example, oncologists can view recommended radiation doses that are safe and effective for treating cancer patients.

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Many health care workers "with ready access to the [COVID-19] vaccine have declined it in large numbers. Staff in long-term care facilities were prioritized to receive the vaccine, but many are choosing not to get vaccinated. Why?" buff.ly/3lbQ6KL

How Can Physicians Stay Relevant?

Until recently, most medical school curriculum was devoid of health technology topics like artificial intelligence. Physicians without this health technology knowledge must now acquire it to stay relevant and effective in the future of medicine. Here are some areas where further education may be needed:

- **Clinical data science:** Doctors should seek to learn the basis of clinical data generation, formats, processes, and interpretation as well as legal and ethical considerations.
- **Artificial intelligence system/tools for health care:** Doctors should review the fundamentals of machine learning and artificial intelligence algorithms/models applicable to patient needs.
- **Health care cloud technology:** Doctors should be familiar with the basics of cloud computing, data processing, and storage in cloud network systems.²

Based on my own learning experiences, I would recommend physicians start with the **Essentials of Genomics Biomedical Informatics** because this course contains fundamental concepts of clinical data science and equips doctors with terminology required for effective communication with other health professionals such as data scientists. Afterwards, in-depth specialization courses such as **clinical data science** and **health informatics** should be taken to solidly grasp the concepts of health information and communication technology. These courses are self-paced, and you can opt to earn a certificate to show evidence of your expertise.



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You can find self-paced training on these topics through websites that offer free and low-cost online courses such as **edX**, **Coursera**, **Udacity** and **Linkedin Learning**, or look for more advanced training at medical schools including **Harvard Medical School's Office for External Education**.

What Skills Should Physicians Acquire?

The following skills can be acquired by consistent exposure and practice with technology-enabled devices coupled with applying health technology knowledge acquired from taking the recommended online courses above.

- **Physical skills:** This entails the ability to operate and navigate AI-enabled tools and equipment.
- **Cognitive skills:** Physicians must develop capacity to critically evaluate qualitative and quantitative data required to make clinical decisions.
- **Social and Emotional Intelligence skills:** These skills help providers to communicate effectively online with patients, especially when counseling and educating them.
- **Digital Skills:** This relates to clinical data analytics, processing, and interpreting capacities.²

In Summary

The health care industry has witnessed tremendous shifts in health care service delivery due to the application of technological advances in artificial intelligence, wearable devices, and cloud technology. Health professionals, including physicians, need both clinical and

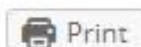


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2 THOUGHTS ON "HOW PHYSICIANS CAN PREPARE FOR EMERGING TRENDS IN HEALTH CARE DELIVERY"



ZAHWA AISYAH PUTRI

August 3, 2020 at 9:10 pm

Technology that are always be growing up as well and the doctors even such be intelligence. AI is important to depends on humans to now and in the future even it might be more growing up then.

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DRPIYUSH CHAUDHARY

July 23, 2020 at 10:43 am

In future there might be more challenges.
For, example- covid-Sars2
So, mostly we have to depend on humans
AI is important on the other hand simultaneously.

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