

Online solutions for doctors

At the click of a mouse

Medicine technology in India has not been as transformed as some other industries, and it is unlikely to be so in the near future. However it is likely that information technology (IT) will have a more prominent role to play in medicine as time progresses. This article talks about some online solutions for doctors, which would play a big role in healthcare management of future.



Courtesy: www.photolibary.com

Medical profession leans heavily towards individualistic practices. True, it is more of an art than science. However, in the 'connected world' of contemporary times when all fields is re-engineering delivery of services to leverage the power of IT and Internet, medicine is still behind. Medicine has mostly limited its use of technology towards using Internet as a distribution medium of best practices and scientific studies.

The latest medical research is available online before the hard copy journal reaches a hospital's library. The information distribution extends to other areas, such as enabling a user to print pathology results without going to the lab to pick them up to more complex advisory services, such as telemedicine.



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Need of the hour

Today, it is hard to remember how things were before the era of IT and Internet. The impact an online system can have is immense. It alters industries as it combines the power of information and communication. It has revolutionized the working of banks, taxation, passport delivery and land records. Online systems will never make doctors redundant. Infact, they will evolve to be a great tool to increase the efficiency of healthcare. And, that is one of the ways to reduce the horrendous skew in demand and supply of healthcare in our country.

The number of medical professionals trying to explore IT is still a small number, given the enormity of healthcare requirements in India. However, one can definitely see IT awakening on doctor's part.

The medical community is feeling the power of this colossal entity, but it is not sure about how it can be leveraged or how to undertake methodical adoption.

Online update on knowledge

A good doctor is the one who keeps himself abreast with the latest developments in his or her area of interest. There are many online solutions for this. There are websites that give a compilation of clinical conditions & medications and a lot of other details. This is more informative for patients as laymen wanting to know more on specific disease. Some sites have logical deduction of probable diagnoses based on symptoms. Again, these solutions are just complementary to the doctor's analysis, and not a substitute. Such solutions help doctors not to miss certain input.

Medication & drugs are at the core of healthcare sites and provide detailed inputs on drugs as well as associated allergies. Online diagnostics imaging front portals score high on this. It provides a lot of updates and makes information more interesting through medical quiz contests. Decision support systems are coming up but there is none for India-specific diagnostics or treatment.

Online reference (Evidence-based medicine)

There is a subtle difference in being learned and being wise. While there is a danger in getting lost in sites with lot of inputs, the challenge remains in choosing what can be best path to treat the patient in front of the doctor. Evidence-based medicine is an established practice all over the world and various websites distribute guidelines for the same.

Most of them focus on specific specialties. Besides these sites that offer full guidance, there are other sites that have databases of research articles that are the basis for the evidence-based guidelines.

These sites act as a search tool and allow health professionals to identify the highest quality of evidence & also aid in improving healthcare decision making.

There are also international publication sites that are devoted to specific specialty like the *British Journal of Anaesthesia*, *International Journal of Cardiology*, etc.

Evidence-based treatment guidelines are invaluable, especially when a health insurer has to determine if the appropriate treatment was provided.

Online diagnostics

Online diagnostics is not restricted to one person transacting on-line, but a combination of skilled persons, equipment, together with patients/relations connected through IT online. This is better known as telemedicine.

We can simplify this further as:

Consultation with remote expert online (Online physical examination/collecting signs through video conferencing): Rural healthcare can only be done with such facilities where experts cannot be physically available, thanks to ISRO, which provides connectivity anywhere for the mobile unit. It is unclear in terms of awareness and acceptance from the patients, but the process will mature soon.

Diagnostics performed remotely, which is interpreted by an expert on-line (Interpreting the digital data generated by various machines):

Tele diagnostics is an established trend. Digital nature of the data is perfectly suitable for online systems. It is easy to interface the imaging diagnostics for they all follow DICOM standard. Equipment like pathology, ECG, etc pose a challenge of not having common standard, never the less they all can be connected to the digital world. The data gets transferred to the expert from remote location to the centre in a city where experts interpret the data and report.

Treatment: This is more of a dream than reality. One does need hospital infrastructure well-organised to be able to treat. Robotic surgery is practiced in the advanced nations, but in terms of the percentage of the total healthcare gamut, it is minuscule.

Post-care monitoring/consultation: This is a good candidate for online systems. There are systems available today for an intensivist or ICU in-charge to be able to remotely monitor the ICU patient for critical parameters and access ECG, SpO2 waveforms on the laptop while traveling in care.

Future outlook

The post-care consultation can best be done online. For complicated clinical conditions post treatment follow up visit are imperative. But online consulting systems can eliminate the necessity of traveling long distances for the patient with accompanying relation. Since the doctor is already aware of the background, there is less amount of uncertainty in the process. This forms of telemedicine has received good response as of now.

History tells tat it is not the strongest and the smartest that survives, but it is the one who adapts to the change fast. The healthcare community must realize that this is the light of digital revolution coming into healthcare. Online healthcare applications will change the rules of the game. **MM**



Courtesy: The amazing world of psychiatry