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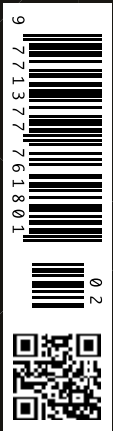
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Committing to the future of medicine



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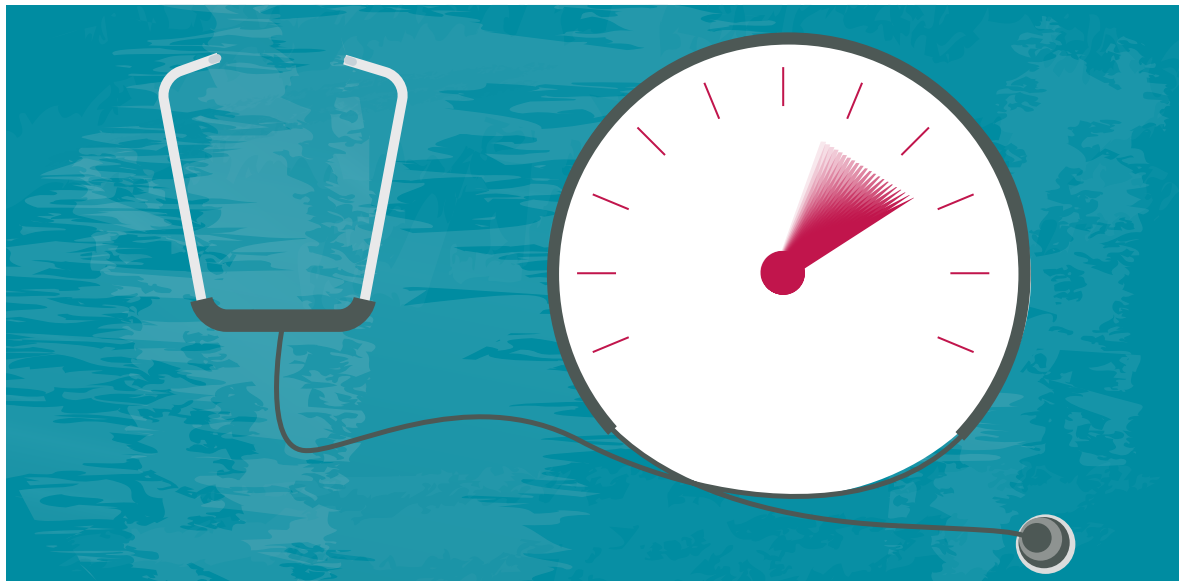


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The future is not so far off as a new book on future healthcare shows

A new book released by Jacobs Institute has its finger on the pulse of the lightning-speed changes happening in healthcare and how stakeholders will need to adapt to stay ahead.



Peering into the future of healthcare is less about predictions and more about implementing systemic change to unlock our potential. A commitment from the healthcare community would lead to dramatically improved patient care and cost savings for everyone in the healthcare pipeline. But we have to remove barriers and think outside the box.

The Future of Medicine book released by medical device innovation centre, Jacobs Institute (JI), based in Buffalo, NY, tackles a myriad of trends of which healthcare executives should be aware.

“We’ve built the JI on the premise that fostering innovation is the most important thing we can do to ensure improved quality of care for current and future generations,” said L. Nelson Hopkins, MD, and Adnan H. Siddiqui, MD, PhD, clinical leaders at the JI.

Virtual medicine

Disruption of traditional healthcare delivery, as we know

it, is already underway. Leaders such as Johns Hopkins Hospital, Montefiore Health System, Kaiser, and even the Centres for Disease Control (CDC) have virtual patient monitoring or physician consultation. Montefiore opened a 12-story ambulatory surgical centre—with no hospital beds. Patients do not want to wait for tests, diagnoses, and follow-up appointments. They want accurate answers now. Online chats and telemedicine are the solution. This represents a cost savings to hospitals that aren’t paying for traditional overhead. One of the key benefits to being virtual is the scalability. If a digital system works for your current patient volume, you can increase that exponentially with ease. Hospitals that are not moving toward virtual medicine will lag behind early adopters and will not reap the benefits of cost savings.

Universal health records

Electronic health record (EHR) systems can cost more than a new hospital building. Add to that the cost of

cybersecurity, and you have a significant portion of a hospital budget devoted to a big problem. Open electronic medical records (EMR) would help, but no current open standard for EMR exists, despite the \$30 billion the U.S. government has paid in incentives for such a transfer. There are presently 245 different EHR systems in use. They are often over-customised for each speciality or hospital, leaving the information in useless silos with HIPAA laws and anti-kickback statutes exacerbating the information-sharing conundrum. With all this info in disparate locations, physicians cannot utilise artificial intelligence (AI) to mine patient data for information and trends that could lead to research breakthroughs or accelerate drug development. The solution to the dilemma lies, in this case, not with hospitals but with the EHR companies. Whichever one can deliver a platform—that can be utilised with AI that can access and translate the data into useful information while also integrating with various smartphone application monitoring systems - and creating it with global scalability in mind—will be the victor in these data wars.

“ ONE OF THE KEY BENEFITS TO BEING VIRTUAL IS THE SCALABILITY ”

Robotic surgery

In reality, robots are already in the operating room—for autonomously suturing soft tissue, guiding visualisation and assisting orthopaedic surgeons, helping neurosurgeons place electrodes in the brain, and more. The current cost of robotic surgical technology is high and requires a minimum patient volume in order to see return on investment.

However, economics will prevail, when a value-based approach is embraced by hospitals. Efficacy and efficiency of surgery improve with robots. New financial models to make robots more affordable—such as pay-per-procedure—will mean even small-town hospitals could offer the latest and greatest technology. When aligned with artificial intelligence, robots will be the preferred surgical method, with physician oversight. Eventually, nanotechnology could mean the end of invasive surgeries altogether.

Ambulatory surgical centres

Big box hospitals will begin to feel the effects of ambulatory surgical centres (ASCs), where low acuity surgeries

and procedures can be performed, such as endoscopy, joint replacement, and cataract surgery. There will be tremendous cost savings in having a procedure at an ASC versus at a hospital. Hospitals will not be left behind, however. Enterprising health systems will open ASCs independently or partner with physicians to do so.

Here—as with so many other catalysts of change in healthcare—patient satisfaction drives this migration to ASCs. First, they represent a greater cost savings to patients. For instance, in 2014, a cataract surgery cost \$5,672 at a hospital, compared to \$2,932 at an ASC. Additionally, patients appreciate the fact that ASCs are smaller and easier to navigate than an overwhelming hospital, and the team is specialised by procedure-type. The efficiency and quality of the care is superior, with equal or better outcomes. This smaller, specialised approach to surgery will complement the advances in robotic surgery, machine learning, imaging, and electronic medical records, creating a more streamlined healthcare experience.

Impact of tech

As healthcare leaders, we are on the cusp of significant changes that will impact the way we deliver care. Technology will empower patients in a way previously unseen, goading us to innovate and invest in everyone's future.

To learn more about the opportunities and roadblocks on the path to the future of medicine in surgery, staffing, innovation and data amongst other hot future healthcare topics, go to: www.futureof.org/medicine-1-0. ■

KEY POINTS



- ✓ Disruption of traditional healthcare delivery, as we know it, is already underway
- ✓ Ambulatory surgical centres are already being used and will lead to cost savings
- ✓ A key benefit to being virtual is the scalability
- ✓ EHRs and related cybersecurity can take up significant parts of healthcare budgets
- ✓ Hospitals lagging behind early adopters will lose out on savings
- ✓ EHR companies that can deliver smart platforms will be victors in data wars
- ✓ Budget-friendly robotics will lead to wide implementation of the technology
- ✓ Patient satisfaction will be one of the biggest catalysts in healthcare change