

# MARKETWATCH

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### Which technology are nurses most skeptical about?

According to a survey of more than 600 nurses conducted by LinkedIn last month, 25 percent of respondents said artificial intelligence will have the greatest negative impact on nursing. Only five percent believe it will have the greatest positive impact on the field.

“While remote patient monitoring systems, ‘smart’ devices and artificial intelligence are becoming more common, nurses are apprehensive about technologies that could interfere with their relationship with the patient and potentially take away from their ability to provide a personalized approach to patient care,” LinkedIn healthcare news editor Beth Kutscher said via email. “They’re also concerned that nurses will become overly reliant on what the technology says instead of trusting their clinical judgment.” As for remote patient monitoring, 10 percent see it having the biggest negative impact on nursing, while 47 percent perceive it as having the biggest positive impact. Twelve percent of nurses said “smart” devices/biosensors will negatively affect the field, and 41 percent said they will positively affect nursing.

Respondents’ thoughts on electronic health records are also noteworthy. While 75 percent of nurses indicated EHRs will have the greatest positive impact, 19 percent believe they’ll have the greatest negative impact. Despite these concerns, the majority of nurses seem optimistic about tech in the healthcare sector. Eighty-two percent of respondents said they have a somewhat or very positive view of how technology is affecting patient care. Additionally, 64 percent noted computer and tech skills are key to advancing their careers. The survey also asked about new entrants to the world of healthcare. Nearly 50 percent of respondents indicated they think companies like Apple and Amazon will make healthcare technology more user-friendly. “While nurses appreciate the positive impact that tools like electronic medical records have had on patient care, they often find the software hard or time-consuming to navigate,” Kutscher said. “Data entry is a burden.” They think the tech industry’s focus on consumers could be a good thing for healthcare, she added. Plus, over one-third of respondents said more competition in the market will increase innovation. Still, 36 percent of nurses surveyed said new technologies will require workforce retraining.

When asked which survey findings surprised her, Kutscher had this to say: “The reason we did this survey is because we’ve heard from a number of nurses that the documentation burden is one of the most frustrating issues of their job. So I was a bit surprised to see how overwhelmingly positive nurses were about technology.” There were, however, details to their general thoughts. Although nurses like when tech automates certain tasks, they dislike when it seems to be an obstacle between them and the patient, Kutscher said.



## In this issue...

### Philips launches tele-ultrasound system for Lumify platform

March 26, 2018 By Fink Densford

Royal Philips (NYSE:PHG) said today it launched a tele-ultrasound equipped version of its Lumify portable ultrasound designed to work with compatible smart devices and developed through a partnership with Innovative Imaging Technologies. The system is powered by IIT's Reacts collaborative platform, and is designed to allow remote clinicians to connect through the Lumify system, streaming audio, video and ultrasound imaging on the systems.

"By combining exceptional mobility and reliability, Philips Lumify with Reacts will open up new doors for the way clinicians collaborate, educate and train. This all-in-one tele-ultrasound solution will enhance care delivery by bringing even more confidence to ultrasound clinicians and removing longstanding barriers in education, support and training," Philips point-of-care biz lead Randy Hamlin said in a prepared statement. Amsterdam-based Philips said the new system allows users to perform face-to-face conversations through the Lumify systems with the ability to switch to cameras on smart devices to show probe positioning. The ultrasound imaging streaming can also be shared for simultaneous viewing and instruction, the company said.

"Philips was the ideal partner for this revolutionary collaboration. Reacts' secure, versatile and interactive collaboration platform deployed on technology solutions like Philips Lumify can change education and patient care models and enable a positive disruptive change to healthcare. For years, clinicians in the field have been trying to piece together systems that offer real-time, interactive tele-ultrasound capabilities. Now it has truly arrived," IIT CEO Dr. Yanick Beaulieu said in a press release. Earlier this month, Philips said it won FDA 510(k) clearance for its ProxiDiagnost N90 digital radiography-fluoroscopy system.



### VoCare unveils mobile multi-diagnostic and monitoring device

US-based firm VoCare has developed a cellular, medical diagnostic device Vitals360 for point-of-care use to measure six different health vitals and to remotely monitor patients. The telehealth solution collects data on blood glucose, pulse, blood pressure, oximetry, temperature and electrocardiography (ecg), and is integrated with WiFi, Bluetooth, as well as 4G LTE to facilitate wireless data transmission. Vitals360's capability to provide multi vital measurements is expected to aid in the management of various chronic disorders such as diabetes, congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD), and hypertension.



"The VoCare Vitals360 device along with GEMMS extensive experience in data management and interoperability will allow patient data to be captured easily from anywhere."

### Distribution News

#### 1. Smiths Medical inks distro deal for infusion therapy products

Smiths Medical plans to distribute its CADD infusion systems to non-hospital-based providers through a preferred partnership with Medical Specialties Distributors, the company reported today. As part of its new distribution model, Smiths will also make its infusion pumps and sets available to providers outside of the hospital setting through InfuSystem (NYSE:INFU) and Integrated Medical Systems. As part of its new distribution model, Smiths will also make its infusion pumps and sets available to providers outside of the hospital setting through InfuSystem (NYSE:INFU) and Integrated Medical Systems. The company touted its new model as simplifying the way that its customers place orders and receive CADD infusion therapy products from Smiths. "This new model will enhance our ability to focus on expanding our technologies, and bringing enhanced solutions to market," Carl Stamp, VP of global marketing and strategy, said in prepared remarks. "Selecting MSD as our preferred distribution partner provides a single-source service model, improving patient satisfaction and lowering the total cost of care."

#### 2. Report: Amazon gearing up for entry into medical supplies biz

Amazon (NSDQ:AMZN) is looking to up the ante in its medical supplies business and turn the unit into a major supplier to US hospitals and clinics, according to a Wall Street Journal report.

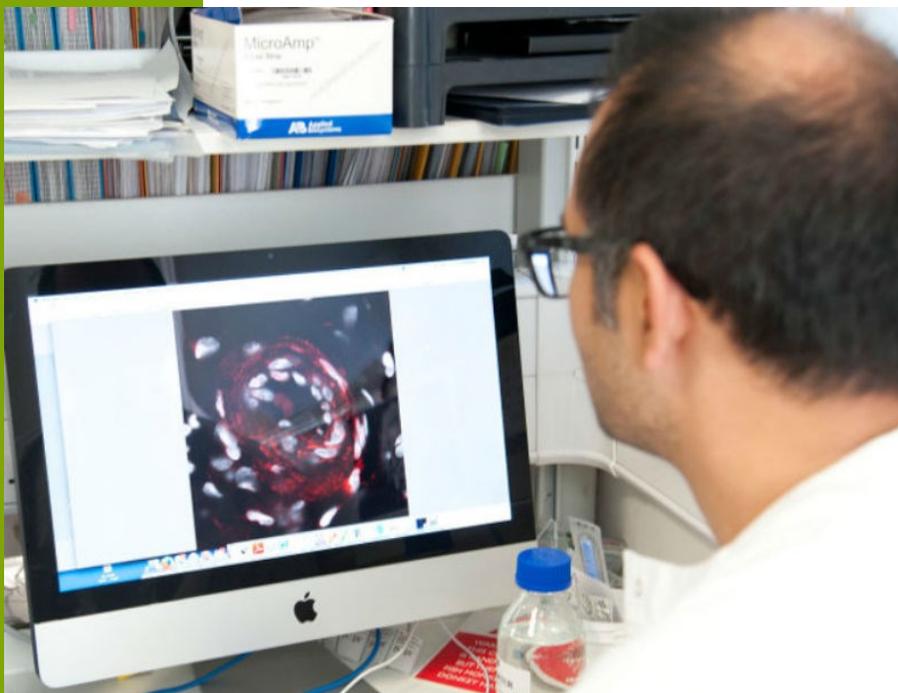
The online mega retailer has initiated a trial of a new system testing to see if it can use its Amazon Business site to supply healthcare products to a large midwestern hospital and its approximately 150 outpatient facilities, according to the report.

The system is customized to the hospital's catalog of supplies and allows employees to compare prices on the Amazon Business marketplace to those it negotiates with through distributors, according to the Wall Street Journal.

When questioned about the test, Amazon said it is looking to offer a "marketplace concept" to hospitals that would not include contracts between hospitals and healthcare facilities and distributors and manufacturers, according to the report.

"Our goal is to be something new. We've been actively building out new capabilities and features," Amazon Business global healthcare lead Chris Holt said, according to the WSJ. "We're thinking about not how we can go mimic what's already out there, but rather how we can rethink safety and security of anything clinical."

Holt went on to say that the company was not looking to imitate current models, and that existing supply-chain options are dated and "not nearly as safe and secure" as needed, according to the report.

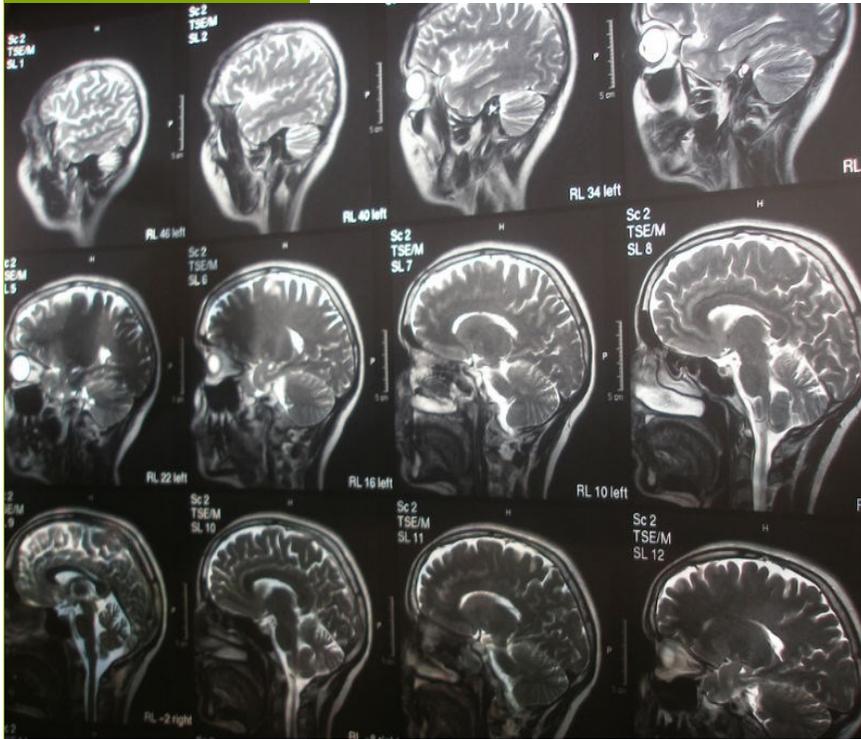


Deals and M&As this week: TELA Bio, Polarean Imaging, Cesca Therapeutics- 30 March 2018

Virtual cells predict success of sound wave cancer treatment. A virtual computerised cell model is being used to predict the success of a new cancer treatment technology which uses targeted sound waves to heat and destroy tumours.

## Neuroscientists increasingly use AI to understand the brain

By Charlotte Edwards



Cognitive neuroscientists are increasingly using emerging artificial networks to enhance their understanding of the human brain, according to a presentation at the 25th annual meeting of the Cognitive Neuroscience Society (CNS).

The presentation was presented by MIT Computer Science & Artificial Intelligence Lab principal research scientist Aude Oliva. She said: "The fundamental questions cognitive neuroscientists and computer scientists seek to answer are similar. They have a complex system made of components – for one, it's called neurons and for the other, it's called units – and we are doing experiments to try to determine what those components calculate."

Oliva's work suggests that neuroscientists are beginning to learn much about the role of contextual clues in human image recognition. By using 'artificial neurons', similar to lines of code, with neural network models, they can examine the various elements that determine how a human brain recognises a specific place or object.

In a recent study of more than 10 million images, Oliva and colleagues taught an artificial network to recognise 350 different places, such as a kitchen, bedroom, park and living room. They expected the network to learn objects

such as a bed associated with a bedroom but the network also learnt to recognise people and animals.

Machine intelligence programs learn very quickly when given lots of data, which is what enables them to analyse contextual learning at such a fine level. While it is not possible to dissect human neurons at such a level, the computer model performing a similar task acts as a 'mini brain' that allows researchers to gain a vague idea of how a real brain may function. Chair of the symposium, Dr Nikolaus Kriegeskorte, believes that these models have helped neuroscientists understand how people can recognise the objects around them in the blink of an eye. He said: "This involves millions of signals emanating from the retina, that sweep through a sequence of layers of neurons, extracting semantic information, for example, that we're looking at a street scene with several people and a dog.

"Current neural network models can perform this kind of task using only computations that biological neurons can perform. Moreover, these neural network models can predict to some extent how a neuron deep in the brain will respond to any image." Kriegeskorte acknowledges that artificial networks cannot yet replicate human visual abilities but believes that, by modelling the human brain, they are furthering understanding of both cognition and artificial intelligence. Oliva added: "Human cognitive and computational neuroscience is a fast-growing area of research, and knowledge about how the human brain is able to see, hear, feel, think, remember, and predict is mandatory to develop better diagnostic tools, to repair the brain, and to make sure it develops well."

## US researchers study new device to accurately identify stroke

"The visor-like device can identify emergent large-vessel occlusion in suspected stroke patients with 92% accuracy."



BIÇAKCILAR, Corporate Marketing

# Why Medical device integration?

In today's world, technology plays an important role in every industry as well as in our personal lives. Out of all of the industries that technology plays a crucial role in, healthcare is definitely one of the most important. This merger is responsible for improving and saving countless lives all around the world.

Medical technology is a broad field where innovation plays a crucial role in sustaining health. Areas like biotechnology, pharmaceuticals, information technology, the development of medical devices and equipment, and more have all made significant contributions to improving the health of people all around the world. From "small" innovations like adhesive bandages and ankle braces, to larger, more complex technologies like MRI machines, artificial organs, and robotic prosthetic limbs, technology has undoubtedly made an incredible impact on medicine.

In the healthcare industry, the dependence on integrated medical technology cannot be overstated, and as a result of the development of these brilliant innovations, healthcare practitioners can continue to find ways to improve their practice – from better diagnosis, surgical procedures, and improved patient care.

## Information Technology and Medicine

Information technology has made significant contributions to our world, namely in the medical industry. With the increased use of electronic medical records (EMR), telehealth services, and mobile technologies like tablets and smart phones, physicians and patients are both seeing the benefits that these new medical technologies are bringing.

With more and more hospitals and practices using medical technology like mobile devices on the job, physicians can now have access to any type of information they need – from drug information, research and studies, patient history or records, and more – within mere seconds. And, with the ability to effortlessly carry these mobile devices around with them throughout the day, they are never far from the information they need. Applications that aid in identifying potential health threats and examining digital information like x-rays and CT scans also contribute to the benefits that information technology brings to medicine.

## Medical Equipment Technology

Improving quality of life is one of the main benefits of integrating new innovations into medicine. Medical technologies like minimally-invasive surgeries, better monitoring systems, and more comfortable scanning equipment are allowing patients to spend less time in recovery and more time enjoying a healthy life. The integration of medical equipment technology and telehealth has also created robotic surgeries, where in some cases, physicians do not even need to be in the operating room with a patient when the surgery is performed. Instead, surgeons can operate out of their "home base", and patients can have the procedure done in a hospital or clinic close their own hometown, eliminating the hassles and stress of health-related travel. With other robotic surgeries, the surgeon is still in the room, operating the robotic devices, but the technology allows for a minimally-invasive procedure that leaves patients with less scarring and significantly less recovery time.

### Contact Us

If you have any specific area that you need information on, please contact Corporate Marketing so we can focus on the specific areas to research to speed up your efforts.

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