

▶ SPECIAL REPORT:

# HEALTHCARE RISKS

There's much to look forward to as medicine progresses in leaps and bounds. But with new innovations come new risks

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# Future healthcare risks and their remedies

We are staring at a decade of rapid healthcare development and innovation. What risks will these achievements create and how can risk managers mitigate them?

**F**ew societal developments can match progress in healthcare. According to the World Health Organisation, the total global expenditure for health is \$6.5 trillion. As health and its perpetuation is seen as an objective good in every society, we can expect this trajectory of investment, development and innovation to continue unabated into the future. Today's children are expected to reach 100 years old, and it is healthcare technology that will carry them there.

As this ever-expanding circle of healthcare development spreads, the risks will be broad, fast to develop and vital to mitigate. Just as the medical motto goes, prevention is better than cure, the same applies to the risk management implications of healthcare developments. So, what will the provision of healthcare look like in 10 years' time? And what are the key medical advances that are expected to transform healthcare as we know it today?

## THE FUTURE OF HEALTHCARE

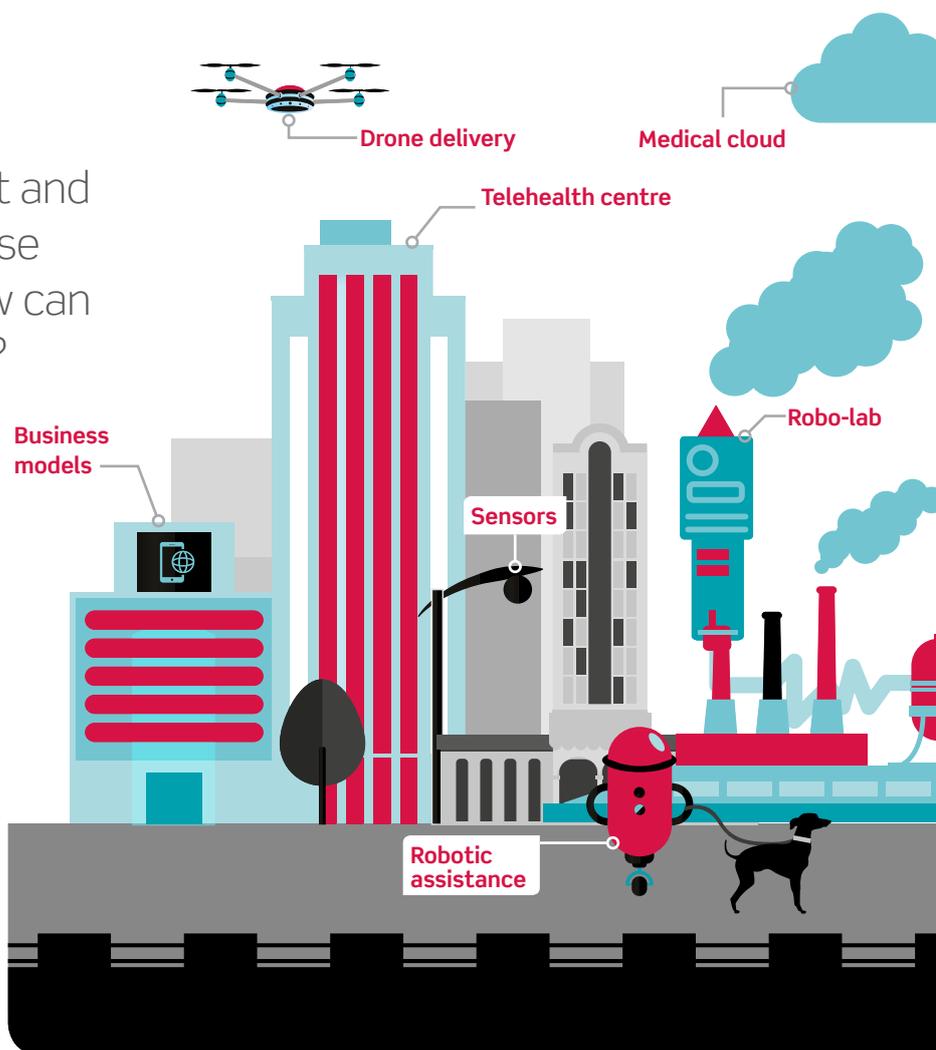
Mohit Grover, life sciences and health care industry leader, Deloitte Southeast Asia, says there will be five major aspects to the healthcare provision of the future.

"Firstly, patient-centred healthcare: everything from diagnosis, drugs to medical devices will be custom-designed to seamlessly integrate into a patient's daily life.

"Secondly, wearables will be at the forefront: always on and constantly collecting data, these peripherals are the basis of the medicalised quantified self."

Next on the list are digitised and decentralised doctors with improved connectivity and miniaturised diagnostic technology.

"Then there is the rise of the machines, including medical robots and artificial intelligence creating more efficient healthcare platforms that are powered by the insights of data analytics," Grover says.



**"EVERYTHING FROM DIAGNOSIS, DRUGS TO MEDICAL DEVICES WILL BE CUSTOM-DESIGNED TO SEAMLESSLY INTEGRATE INTO A PATIENT'S DAILY LIFE"**

Life sciences and health care industry leader, Deloitte Southeast Asia  
**Mohit Grover**

"Lastly, we will see evolved healthcare services that will be consumed continuously, lending itself to a subscription-based business model that focuses on high productivity and asset-light strategies."

Ben McLaughlin, head of Baker & McKenzie's Asia-Pacific Healthcare Group, says many forces are driving the rapid changes, from a rising middle class with money to pay for enhanced services, to government efforts to stem the rising tide of healthcare costs.

He adds: "There will be a focus on the delivery of medical services to people in their homes, rather than in a doctor's surgery or a hospital. Much of this will be long-distance delivery of services, through telemedicine, both for diagnosis and for therapy.

"There will be an increase in innovative, technology-driven healthcare solutions looking at



prevention rather than just treatment. [Currently] we only tend to receive medical attention if we are ill and usually rely on symptoms to drive us to seek a qualified medical opinion. Technology will be used to prevent us from becoming sick.”

Advances such as wearable technology, genome sequencing, collection, mining and analysis of big data, 3-D printing, nanotechnology, regenerative medicine, bionic technologies, and exoskeleton technology – to name just a few – will bring about this transformation.

### FEELING THE IMPACT

Of course, these new healthcare developments will have profound implications on hospitals, healthcare providers and patients.

### “TECHNOLOGY CREATES A NEW RISK EXPOSURE, SUCH AS THE POTENTIAL FOR LEAKS OF PERSONAL DATA”

AIG head of liabilities risk consulting, Asia-Pacific  
**Sheri Wilbanks**

Sheri Wilbanks, head of liabilities risk consulting Asia-Pacific, AIG says: “Healthcare providers will be looking to leverage technology for improving patient outcomes, controlling expenses and ensuring patient safety. Smartphone and tablet-enabled apps are now being used to lead patients at home through physical therapy routines.”

Such apps encourage the patient to comply with the regimen on a daily basis as prescribed, says Wilbanks, and reduces the amount of patient travel, which can be burdensome for elderly people.

Grover points to several major impacts on hospitals, healthcare providers and patients. “Across the world, public healthcare delivery is under pressure and will find difficulty bearing the burden and cost of caring for aging populations,” he says.

“The trend will be towards preventative care, system-level integration, and better defining accountability for overall holistic health of populations, rather than episodic and transaction-based treatments.”

According to Grover, there will also be emerging financial models, a move away from national health management to more regional and local solutions, and strategies to address cost issues and administrative waste.

### MAJOR RISK AREAS

These various healthcare developments will produce a wide range of risks, centrally linked to the marriage of technology and treatment.

“Technology creates a new risk exposure, such as the potential for leaks of personal data or the potential for internet-connected devices to be compromised,” Wilbanks says.

“The connectivity of devices is a powerful tool for achieving better patient outcomes in an efficient manner, but that connectivity is a vulnerable point.

“There is the possibility for third parties to enter and disrupt the device functionality through the connectivity point, or in general for the ‘drop’ in connectivity to make the device ineffective.”

Deloitte has identified three major regulatory and compliance risks arising from the future model: cyber security, patient and product safety, and fraud and abuse. Grover says: “On cyber security, when a medical device itself, or the integrity and availability of its data, is compromised due to a security breach, the loss of integrity may lead to faulty data which, in turn, may cause the device to malfunction or result in incorrect care decisions by medical practitioners.”

“On patient and product safety, gaps still exist in terms of responding to unusual risk events and patient safety controls. Regulators must invest in new capabilities, such as assessing information governance and cyber security, to meet new expectations from clinicians and patients.

“On fraud and abuse, regulators are putting emphasis on their scrutiny in their fraud and abuse enforcement efforts. An effective fraud and abuse analytic programme will likely allow enterprises to identify risks in real time, adjust to mitigate them, and avoid the potential burdens of government investigations and enforcement actions.”

#### RISK MANAGER PERSPECTIVE

In view of the wide range of innovations, how do risk managers go about mitigating the related risks?

Wilbanks says: “Risk managers may need to consult various individuals within their organisation to better understand what role technology plays in their healthcare organisation. Summarising this with a risk register is the first step in managing this exposure.

“Secondly, risk managers should consult with specialists and consultants in the technology risk and cyber risk fields. Lastly, risk managers would benefit from reviewing their risk mitigation techniques, both risk management and risk transfer devices.”

Sam Chee, risk manager, Parkway Pantai, foresees new medical malpractice liabilities and privacy vulnerabilities. “Risk managers need to understand new technologies being employed in a healthcare setting and work with stakeholders to manage the risks,” says Chee. “For example, the use of third-party mobile health applications may require us to either limit the detail of medical records, from a largely operational perspective, or invest in our own applications and storage solution to manage cyber risks, from a largely IT security perspective.”

Northern Health director of risk management Matthew Soo says there are two general risk treatment strategies for the medical advances of the future.

“Firstly, have a nominated governance body, such as a new technologies committee, reporting up to the executive and board, comprised of clinical and quality and safety representatives and OHS representatives to approve new technologies and regularly monitor their implementation,” he says.

“Secondly, have a procedure for screening suitability of new technologies – for example, a strong evidence base, ethical considerations addressed [and] privacy issues addressed.”

## THESE BREAKTHROUGHS HAVE THEIR DOWNSIDES

For Kelvin Han, ERM manager of National Healthcare Group, two future healthcare risks loom large: augmented reality (AR) and medical 3D printing.

He says: “Whilst the current Pokémon Go craze is bringing augmented reality into the mainstream, augmented reality in healthcare has seen surgeons use AR to plan for surgery and carry out operations in the operating theatre, while nurses use AR to find veins for injections.”

Han says the potential for medical 3D printing, or bioprinting, is tremendous and can help address cost, scarcity and/or efficacy: “Researchers have printed low-cost prosthetic parts, tailor-made sensors, organs, skin, drugs and even tissues with blood vessels.”

#### Augmented reality

Han says that daily extended use of AR may have an impact on the physical and emotional wellbeing of people, citing physical strain, eyestrain, nausea, motion sickness and flashbacks. The long-term implications also remain unclear.

“Risk mitigation may include limiting the use of the technology until it is more matured and investing in better AR technology – for example, a large field of view, lightweight,

natural eye optics, natural user interface,” he adds.

“There are also privacy and security risks, which can be mitigated by strengthening IT security measures, including the encryption of wireless data transmissions.”

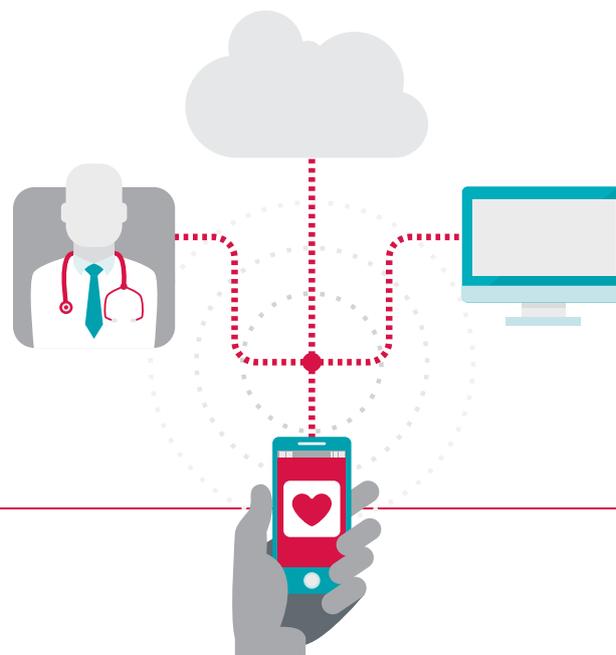
#### Medical 3D printing

Medical 3D printing presents risks relating to safety, economics and unrealistic expectations, Han says.

“With the safety risk, look at materials already in use and proven in surgery, such as titanium. Also rely on robust clinical trials and obtain regulatory approval for new treatments involving 3D printing,” he explains.

“With economic risk, medical device/implant manufacturers are heavily regulated, operate thorough testing and have deep pockets to absorb the cost of liability. Hospitals are effectively assuming the risk of failure and have to figure out how to manage the risk exposure accordingly.

“Finally, on unrealistic expectations, risk managers must work with a 3D printing company to fully understand the technology, including limitations, in order to manage expectations of the public, patients and staff.”



# Mitigating medicine's (alleged) costly slip-ups

As the medical negligence landscape shifts, we look at the impact on hospitals and how risk managers can mitigate the dangers

It can be a lengthy and costly process for hospitals when they become embroiled in medical negligence cases.

Edmund Kronenburg, managing partner of Singapore law firm Braddell Brothers, says patients' claims fall into three categories: pre-treatment or pre-surgery, the treatment or surgery itself, and post-treatment or surgery. Most, he says, "involve an allegation that the doctor or surgeon did not obtain proper consent for the procedure, usually an omission to mention a possible adverse outcome or withholding side-effects, risks or some important aspect of the procedure".

Mal Byrne, partner at law firm Tindall Gask Bentley, agrees that some complications can be due to surgical error or lack of follow-up care. "Plastic surgeons are often the subject of complaint due to the amount people pay for procedures and because surgeons are competing for work and raise expectations of patients about the outcome," he says.

Dealing with claims is a drain on hospitals' resources, says Kronenburg. It involves "not only management time, but having doctors and/or nurses being removed from active duty" since they have to attend lawyers' offices or court.

Byrne says public hospitals face huge challenges due to lack of funding, inexperienced staff working long hours with insufficient supervision and increasing demand.

## THE ROLE OF RISK MANAGERS

Leesa Soulodre, chief reputation risk officer, innovation advisor and digital director, RL Expert Group, says healthcare providers have two significant exposures: reputation and loss of reimbursements. The premise of healthcare risk management, she adds, "is that the risk manager should immediately identify, detect and report incidents and hospital-acquired patient injuries with liability potential".

Soulodre says risk managers' primary role is that of focusing on improving patient safety and overall standards of care, including both the health of the patient and the minimisation of financial risk.

A comprehensive risk monitoring and oversight regime, she says, "includes a life-cycle risk management approach to continuously defining clinical standards, ongoing reviews of patient outcomes, the systematic gathering and utilisation of data and ongoing monitoring of clinical practice".

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# WE MUST LOOK AT PATIENT AND HEALTH WORKER ISSUES TOGETHER



**BY DR. AILEEN KILLEN,**  
Head of healthcare risk consulting, AIG

The healthcare industry is ever-evolving, undergoing significant changes as organisations face increased demand universally, the challenges of servicing a growing ageing population, and rising costs for delivery of care. The healthcare workforce is central to these organisations' objectives.

However, workers are increasingly strained with high workloads and a range of health and safety issues. Traditional hazards like trips and falls are still the leading cause of healthcare worker injuries in Asia-Pacific and globally. But workers today are also exposed to biohazards, aggressive patients and risks from advanced medical equipment and treatments.

In recent years, healthcare workers benefited from increased knowledge and solutions for preventing some of those routine hazards, and from better technology such as height-adjustable electric beds, ceiling-mounted lifts and spring-loaded retractable syringes.

In addition to physical injuries, hospital nurses have a higher risk of experiencing psychiatric incidents. Minor psychiatric morbidities include feelings of tension, anger, anxiety, depressed mood, mental fatigue and sleep disturbance. And while mental disorders such as major depression and anxiety disorders are less common, often they are induced or aggravated by the work stress.

Risk managers play an important role in co-ordinating a holistic view of the safety profile of an organisation, looking at patient and worker concerns together. Risk managers must also create a learning organisation whereby both patient and worker-related incidents are fairly examined to identify the root cause, regardless of the outcome.

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