Australia's top 5 emerging risks and opportunities for healthcare businesses.

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Introduction:

Healthcare leaders give their insights into how best to navigate the upcoming risks for your healthcare business, workforce, and ecosystem with tangible strategies to ease the effect of our industry's emerging challenges.

Shifting consumer trends, emerging long-term effects of the global pandemic, and resource-intensive workloads are squeezing healthcare businesses now and will continue to over the next few years.

Many believe it's time to truly innovate or be left behind. Digital transformation is already at play across much of the public and private sectors but there's a growing need for interoperable data and digital platforms that can help mitigate the complex challenges facing healthcare in the future.

The implementation of digital health initiatives across Australia is accelerating. The Australian Government will invest $870.5 million into the modernisation of its health system between 2021 and 2022 to deliver innovative new methods for providing models of care and improving healthcare delivery, access, and efficiency. Secure data sharing plays a major role in this strategy.

We're currently facing the reality of an entirely new digitally-enabled healthcare ecosystem. However, this broad adoption of digital technologies brings with it many benefits as well as new security, strategic, and operational risks. Therefore, as the expectations of stakeholders grow, so too does the pressure on health business decision-makers.

How healthcare organisations succeed in the wake of these challenges will depend heavily on how prepared they are to face these risks that will inevitably emerge. Business leaders should understand these risks, the strategies they can put in place to get ahead of them, and the opportunities to come.

In this article, we outline the biggest technological, regulatory, societal and cultural, and socioeconomic risks facing healthcare businesses in the near future. In doing so, we will provide strategies to mitigate these risks from some of Australia's leading doctors, clinicians, and technology specialists.

Contributors

The leading Australian doctors, clinicians, and technology specialists who share their insights

Chris Smeed

CEO and Co-Founder, Cubiko

Chris Smeed is the co-founder and CEO of Brisbane-based software startup Cubiko, an innovative platform dedicated to helping general practices gain insights into their practice business and operations every day. For the last seven years, Chris has seen first hand the opportunities that can be realised through harnessing the power of practice data, having worked across practice management and practice support roles himself.

Since 2012, Chris was the Director of Finance and Business Development at Inala Primary Care (IPC), a large not-for-profit healthcare organisation pushing the boundaries of quality services available to disadvantaged communities.

Chris is a co-surveyor for AGPAL and a Director for a number of companies across both the not-for-profit and commercial start-up space and is renowned for his enthusiasm, high energy, commitment, and proactive approach to making practice life healthier.

Peter Marceta

Cybersecurity Specialist

Pete is the Regional Sales Manager for SE Asia Large Enterprise at a market leading Cybersecurity company. He's spent the last decade working across APAC/Europe and North America working with businesses from all verticals across all aspects of technology. His approach to cybersecurity is that it should not be considered an inhibitor, but rather an enabler for digital and business transformation and agility.

Professor John Fraser

Intensive Care Physician, Director, Critical Care Research Group & Director, President Asia-Pacific Extra-Corporeal Life Support Organisation

Professor John F Fraser is Founder/Director of the Critical Care Research Group (CCRG), The Prince Charles Hospital & University of Queensland; Director of ICU St Andrew's War Memorial Hospital; President Asia-Pac Extracorporeal Life Support Org; Founding member of the global clinical trials ECMOnet & CoChair Queensland Cardiovascular Research Network; co-founder of the COVID-19 Critical Care Consortium, BiVACORTM a total artificial heart designed to take over the complete function of a patient's failing heart, and med-tech start-up De Motu Cordis; and is leading the ICU Of the Future project designed to improve patient centred outcomes The future of intensive care.

Deana Scott

Certified Health Manager, Founder and CEO, VMORE, Workforce Program Lead and Chair AIDH Cybersecurity CoP

Deana is Certified Health Manager, respected advisor and entrepreneur who has contributed to the virtual healthcare services model having founded Australia's first 'Virtual Medical Office' (VMORE) in 2007.

Deana's unique entrepreneurial journey has been featured in the Australian Financial Review and, in 2020, was the recipient of an AusIndustry Entrepreneurs Business Growth Grant.

With a longstanding commitment to supporting industry and the next generation of digital healthcare professionals, Deana's most recent contributions include Director of the Medical Software Industry Association, Mentor for Women in Technology (WiT), Ambassador for the Australian Association of Practice Managers (AAPM) and Advisory Board Chair for emerging health technology companies.

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Dr John Hall

Rural Generalist, Past President Rural Doctors Association of Australia

Rural Generalist, Past President Rural Doctors Association of Australia

John is the immediate past President of the Rural Doctors Association of Australia (RDAA). He has spent most of his medical career working as a Rural Generalist, GP Obstetrician in rural Queensland and was the owner of a large practice in Queensland's Darling Downs region for 13 years.

He is a passionate advocate for rural maternity services and rural hospitals.

John was the Director of Medical Services for Ochre Health for 2020 - 2021, while also continuing to provide a wide range of clinical services in multiple rural locations across Australia. He is currently working clinically in St George & Mackay in QLD and is working towards his MBA/MPH through JCU.

William Pamment

Co-founder, SimConverse

William drives the international education and company growth at SimConverse. His medical research background in Surgery, Education and Future technologies ensures the product and company continue to address the biggest gaps in healthcare education in the most efficient way. SimConverse use AI to play the role of any patient, colleague or casualty in any given communication scenario throughout the healthcare vertical.

Dr Nishanth Krishnananthan

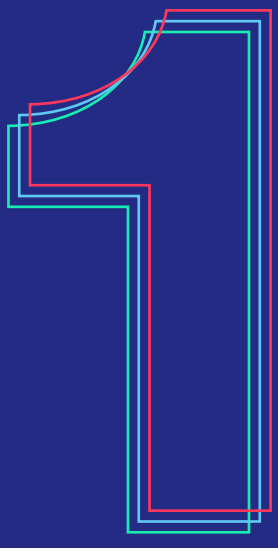
Medical Doctor, Co-Founder and CO-CEO, Vantari VR

Nishanth is a Surgical doctor in NSW Health with over 10 years of experience in medicine and surgery in metropolitan and rural hospitals He has authored a Urology textbook which has been published internationally, and co-created an online mentorship platform for doctors and medical students. He co-founded Vantari VR in 2017 to eliminate medical error and bring a new gold standard for medical training.

Dr Silvia Pfeiffer

Co-Founder and CEO, Coviu

Silvia is the CEO of Coviu, a telehealth software company that has helped thousands of healthcare businesses offer video consultations during the COVID19 crisis. Silvia has more than 20 years of experience with Web video technology in Google, Mozilla, NICTA, and CSIRO. She co-edited the standards that made video a prime citizen of the Web and underpin the likes of Netflix, YouTube, and Coviu. Silvia has a PhD in computer science, a masters in business management, has published two books on HTML5 video and most recently one for healthcare businesses to be successful with video consultations.



ONE

Risk: Ransomware and data breaches are on the rise in the era of digitisation

Data security challenges like the use of ransomware (where attackers render systems inoperable until a 'ransom' is paid), data breaches (where sensitive Personally Identifiable Information, or PII, is leaked), malware and viruses, as well as other malicious attacks are some of the greatest threats to healthcare businesses in the era of digital transformation.

While hospitals, primary care providers, and other specialists jump head-first into the digital health insurgence, taking up AI-based tools, software platforms, telehealth initiatives, data collection, and online collaboration in research, clinical care, and training, the risk of these threats becomes even more tangible.

Data protection and security is a shared responsibility between a healthcare consumer's ecosystem of care, including software companies who store and process data and the primary care and other specialist practices that individual's information has been shared with.

Chris Smeed, CEO of healthcare practice intelligence platform Cubiko, explains, "If there's anything the past 18 months has taught us, it's how vulnerable and sensitive patient health information really is. As more healthcare functions move online over the next few years, it's vital that practices take the necessary steps to ensure that their practice and patient data is protected from outside threats."

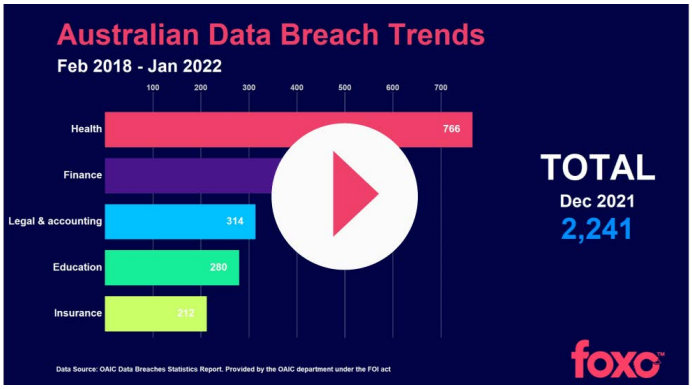
While 92% of providers of various healthcare solutions are promoting the use of digitisation for healthcare facilities, around 75% of healthcare facilities including clinics and hospitals are underprepared when it comes to responding to cyber-attacks. Globally, healthcare is the most expensive industry for a data breach with an estimated cost per event at USD 7.13 million.

Solution: Implement a "zero trust" architecture

Not only should healthcare providers ensure they are compliant in their data handling, they have an opportunity now to develop their own standards and procedures around the information they're giving companies and people access to.

Cyber security specialist, Peter Marceta, says, "Organisations must move towards what the industry calls a "zero trust" architecture. All users, devices, infrastructure, and software need to have no access until they can be verified. Once verified, they should be locked down to access only what they need to, and their usage should be monitored and adaptively enforced, changed, or revoked."

He warns that organisations also need to be careful of accidental or malicious data breaches by monitoring what information users are sending over public email, storage, cloud services, or social media.



Notifiable Data Breaches Trends (Feb 2018 - Jan 2022)

Foxo recently achieved HIPAA compliance to show that our platform meets stringent industry standards around data protection and storage, security testing, user verification, user access controls, file sharing, and, of course, personal data. We understand that organisations must have security top-of-mind heading into this new era of digital-first business.

Peter Marceta suggests that there are opportunities that lie within data protection practices saying, "Cybersecurity is actually an enabler for businesses rather than a burden. Focus on designing modern security, network and cloud architectures to allow your organisation to achieve its business digitisation goals faster."

Deana Scott, Founder and CEO of medical practice management company, VMORE, adds that, considering healthcare remains at the top of most official data breach notification reports, good cyber hygiene should be practised by every individual within the healthcare sector because responsibility now sits more broadly, not just with the IT department.

Deana says, "Organisations need to strengthen their controls around individual credentials and ensure they are also reviewing their supply chain's risk posture… there needs to be greater investment in infrastructure and education."

TWO

Risk: Healthcare faces major shortages in clinical workforce and skilled researchers

By 2030, the World Health Organization projects a worldwide workforce shortfall of about 18 million healthcare workers. Regions where the workforce is already compromised face further risks of severe undersupply.

With an interest in GP training starting to diminish in some areas and many training positions remaining unfilled across practices throughout Australia, the pressure could be set to rise for workforces across the industry. This problem is compounding due to COVID-19 restrictions blocking the flow of international medical graduates into the country.

A wave of pathology is set to inundate GP practices from communities that have delayed seeking face-to-face care during COVID-19. With higher rates of presentations when it comes to cancers and chronic illness, not only are GPs facing capacity and workload issues, hospitals will bear the brunt of this "knock-on effect" when more people come through the system to be hospitalised. This may lead to "bed blocking" and ramping up ambulance resources.

Chris Smeed says, "It's not just about doctor recruitment, we're also facing nurse workforce shortages, and many practice managers are leaving the industry after years of service. There are caps on migration which is exacerbating the problem. It's becoming really difficult for practices to recruit and retain staff."

Not only this, Professor John Fraser, Director, of the Critical Care Research Group & Director of the Intensive Care Unit at St Andrew's Hospital, says, "There's been a massive hit to highly skilled international researchers coming to Australia. My own team has been reduced from 92 to 40."

If highly-trained and skilled researchers across in-demand fields are not able to so easily collaborate on a global scale, valuable research into areas of need could be jeopardised.

Solution: Apply targeted recruitment and training strategies to build the pipeline

We know that now is the time for leaders to recognise the urgency of health human resources and double down on efforts at retaining professionals.

Rural Generalist and past president of the Rural Doctors Association, Dr John Hall, says, "GP practices will need to look at targeted recruitment strategies that offer quality training and support on the ground. Engaging in community intern and residency programs and registrar training will help them build the workforce pipeline."

He suggests that broadening the scope of practice for nurses so they can apply their skills in more areas will help with workflow and workforce pressures. "Engaging nurse practitioners, community pharmacists, and physician assistants to support doctors in primary care and hospital care will help to mitigate the workforce pressures," he says.

Meanwhile, integrating digital initiatives like telehealth effectively and efficiently to increase capacity with existing staff, at the same time, without compromising on safe and effective care, is the way forward for both GP practices and hospitals.

Chris Smeed suggests that retention is easier than recruitment and that "Using practice data to retain your practitioners" in combination with putting in place alternative methods of recruitment is actually an opportunity to not only put the digital tools in your repertoire to work for your business but also gain a firmer grasp on the motivations and attrition rate of your workforce.

With this also comes a need for organisations to support their healthcare workforce by improving their knowledge and capabilities in digital health technology, suggests Deana Scott. "Conversations around adoption, education, upskilling, and thinking about new roles and career pathways need to start now so that the sector is better prepared for a new tomorrow," she says.

In terms of bringing together skilled researchers for collaboration, Professor John Fraser says, "Online opportunities have exploded. We're far more effective in sharing data, and we now know how to transfer data efficiently and securely. I've made a 'million more' research opportunities because of this."

THREE

Risk: Clinical staff struggle with cognitive overload

There's a level of fatigue being felt across the health workforce, says Professor John Fraser; "Many people in the profession are reassessing their priorities..." due to the immense pressure that's amounted particularly for physicians, nurses, and clinical admin staff.

Cognitive Load Theory is the idea that working memory has a limited capacity and duration when dealing with novel information. When the capacity or duration of working memory is surpassed, learning, performance, and problem-solving is impaired.

With mental health and wellbeing a major global concern during these times, this has evolved into an extensive business risk that's come about as a direct result of the global pandemic. Deana Scott agrees that "Burnout across the entire industry" as being one of the biggest emerging risks right now. This is due, in no small part, to workforce shortages that lead to compounding workloads.

As Hospital and Health mentions, "Contributing system factors include excessive workloads and inevitable work and family conflicts, tension between disciplines, little opportunities for autonomy and perceived powerlessness, loss of meaning in work and poor leadership behaviour."

Professor John Fraser adds to this sentiment that it's both the mental health aspect and the added threat to physical safety that have doctors and other specialists struggling with the weight of their work; "Health professionals are well paid but they don't get danger money. Fighting COVID-19 can be more dangerous than putting out fires, and many in this profession are reassessing their priorities," he says.

Primary care specialists in rural areas could be disproportionately affected by fatigue and mental health issues related to overworking and the building cognitive load. Beyond Blue's National Mental Health Survey of Doctors and Medical Students found that doctors have substantially higher rates of psychological distress compared to both the Australian population and other Australian professionals, an issue exacerbated in regional areas by a comparative lack of access to mental health services.

Solution: Improve leadership, coaching initiatives, and access to support

Along with striving to solve the workforce shortage problem, improved leadership training and coaching around mental health and wellbeing should be put into place to tackle this. If the cognitive load issue becomes even more prevalent, particularly, in rural primary care practices, better coaching will be a way of at least helping clinicians to deal with the effects of this ongoing issue.

For example, evidence-based coaching is a systematic activity for promoting positive, goal-focused change, aimed at promoting professional and personal development and can help to achieve insight and behavioural change that enhances their workplace performance, their professional working lives and, most importantly, their personal wellbeing and sense of self.

This is to say that adding greater meaning to the work of health professionals and clinical admin staff could promote positive mental health outcomes, boosting performance and engagement, and lessening the weight of the cognitive load.

Enabling staff better access to support services should also help mitigate further problems down the track, like retention and performance issues. The Royal Australian College of General Practitioners (RACGP) now offers mental health training for rural primary care specialists.

Three key strategies for reducing burnout, according to William Pamment, Co-Founder of AI-based training platform, SimConverse, are:

1. **Treat your staff well and with compassion.**
2. **Pay attention to rostering requirements, split the load of overtime, and anticipate the need to make extra hires early.**
3. **Invest in staff training. Don't expose yourself to "key man" risk where only one staff member is trained in certain key skills - if they leave, this could affect patient care.**

Deana Scott suggests there's a further opportunity here for investing more heavily into Artificial Intelligence to forecast and augment clinical decision making along with optimising operational tasks. She notes this as a "strategy to reduce burnout" by supporting the health workforce with tasks that could easily be automated and, through leveraging AI, assist in overcoming many health sector challenges. However Deana indicates there are barriers to broader engagement with AI which include the current lack of regulatory oversight, privacy concerns and the need for greater engagement between AI professionals and clinicians.

FOUR

Risk: Health professionals fail to keep pace with the ever-expanding medical curriculum

The medical curriculum (that is the required knowledge base for medical professionals) is expanding faster than our ability to process, teach, and assimilate it, leading to increasing sub-specialisation and deskilling across the healthcare sector in Australia and globally.

There are both internal (i.e. within a faculty) and external (societal and industry-based) challenges associated with this education issue facing students and professionals on a global level. According to Peter Densen, MD's "Challenges and Opportunities Facing Medical Education", these include:

Internal:

- **Medical education focusing primarily on biologic factors** (the disease) to the relative exclusion of behaviour (when "non-biologic factors make up a large proportion of premature deaths).
- **Inpatient versus outpatient education** (the disparity between 80% of clinical education occurring in inpatient settings and 80-90% of medicine being practised in the outpatient arena).
- **Implications of a faculty whose research is highly focused at the molecular or submolecular level** which could become too far removed from direct application to clinical medicine.

External:

- **Exponential and overwhelming growth of knowledge** with a need to define core concepts effectively.
- **Societal issues** including the need to factor in expanding health disparities, disease prevention, and the aging population as well as expectations of other healthcare stakeholders.
- **Individual factors** including the continued specialisation within medicine, pressure on our workforce, and practice preferences.
- **Technology and innovation** including high-resolution functional imaging (and the implications for physical diagnosis), simulation science, and the availability of information.

Researchers Fraser and Dunsten once showed that, even within narrow areas like cardiac imaging, trainees reading 40 papers per day, five days per week, would take over 11 years to bring themselves up to date with their speciality. And, by the time they had completed that task, another 82,000 papers would have been published. That's with the incorrect assumption that cardiac specialists only need to know about cardiac imaging.

Now, think about the amount of information that's required to become proficient in general care, covering the entire clinical practice spectrum. There's no wonder the gap in general knowledge and uptake in general practitioner roles is growing, and that doctors are following the sub-specialist path.

The problem is that this gap is creating significant risks across practices, hospitals, and the industry as a whole whereby patient care and outcomes are hanging in the balance.

Dr John Hall suggests additional challenges caused by this, saying, "Increasing sub-specialisation of care is causing inefficiencies and cost blowouts, making the general workforce more redundant and relegating them to low-value care," and that one of the biggest opportunities in healthcare is, "...a return to generalism across the medical specialties and primary care."

It's highly possible that access to and support in training and development is currently lacking and is the key to bridging the gap and reducing information overload.

Dr Nishanth Krishnananthan, Co-Founder and Co-CEO of Virtual Reality (VR) training company Vantari explains, "COVID-19 has brought to the forefront a lot of the existing issues we already have in medicine, whether it be a lack of access to simulation workshops, the limitations of mannequins mimicking real-life complications, the challenges of sourcing and maintaining cadavers, and finally, the subjective apprenticeship model which carries its own inherent risks."

Given our responsibility to patient care and outcomes as clinicians, there is an overwhelming need in 2022 to improve the way we do education and training in order to plug the gap of lack of experience or deskilling.

The big question is: How can we more efficiently train the next generation given the swathes of information new doctors must ingest now compared to 20 years ago?

Solution: Strengthen leadership and implement new technologies for knowledge-sharing and education

Not only do you need a captain to steer the ship; someone with the leadership skills to encourage doctors to embrace general care practice, but you also need to support them with the ability to deliver effective education and training in the face of information overload.

Digital technologies like health tech and cloud services are paving the way for medical training and education in uncertain times. Infrastructure, software, and data processing and analysis are making it possible for knowledge to be shared, results to be assessed, and insights to be extracted from medical research.

Dr Nishanth Krishnananthan explains that we should "...look at the digitalisation of healthcare training and future-proofing the way we engage and educate clinicians."

While there may never be a substitute for true hands-on experience involving a patient, using technology such as online training modules and wearables could bridge the gap between an inexperienced trainee and an expert proceduralist.

Deana Scott suggests VR training as being the next step for enhancing healthcare education. VR gives healthcare educators the ability to offer immersive experiences that replicate scenarios whereby participants can "plug in" in real-time to learning modules.

While embracing technology as part of this process adds to the solution, your overarching conversation and plan should revolve around change management. "Our Australian health ecosystem is one that's robust and highly regarded, but at times lacks thought leadership around innovation and visionary decision making, resulting in stagnation. It has to be a cultural change and a shift in mindset in order to move forward in healthcare," says Dr Nishanth Krishnananthan.

FIVE

Risk: The escalating demand for virtual care outstrips supply

It's no surprise that the need for digital technologies including telehealth capabilities is now at an all-time high. With distributed workforces, remote patients - particularly within the rural hospital setting - and pressure on patient and clinical workflows, digital technologies should be integrated into your business or at least must be front-of-mind moving forward.

Dr Silvia Pfeiffer, Co-Founder and CEO of telehealth software company, Coviu says, "From a business point of view, it's important that the learnings in digital healthcare are not lost and we continue to capitalise on the ongoing digital transformation of healthcare so we don't risk going backwards."

A recent Coviu survey shows that people want better choice and access when it comes to healthcare with 44% saying they would switch their GP to one that offers video telehealth 70% saying they believe all GPs should offer telehealth services. It's clear that the demand for modernisation in the way we consume healthcare services is on the up.

Long distances, expenses related to travel, lack of public transport, and extended waiting lists of local services are said to be some of the main barriers to healthcare access.

Dr Nishanth Krishnananthan agrees that there's a need to "improve access for patients regionally and remotely," and that even further to this, technologies that drive digital transformation like VR and AI are being preferenced by patients. He says, "There will be continued interest in wearables and digitisation. Patients clearly want to be active participants."

Not only this but there's a need for operational streamlining and the digitisation of the patient journey, according to William Pamment; he says, "We should make processes easier for healthcare workers to produce better experiences for patients."

Solution: Embrace true digital transformation to meet patient needs

It's time to embrace digital transformation initiatives in order to align with the needs of the people you're serving and focus on true patient-centred care. Considering telehealth as an option for your patients is a valuable first step. Whether that involves phone or video consultations, you can give your patients better choice, easier access, and convenience, as well as find new patients by opening up to digitisation.

Coviu's research shows that 90.2% of Australians believe video telehealth saves time and 66.7% believe video telehealth makes healthcare more accessible.

On patient-centred care and clinical workflows, Dr John Hall believes that True digital transformation is the way to go. He says, "End-to-end digital solutions that facilitate the normal processes in the delivery of patient care will make the doctor-patient interaction easier in the digital space, enabling the digital transfer of referrals, scripts, and other requests, as well as streamline the referral process to bring multidisciplinary teams together to provide the most effective care for patients in a timely way."

Sylvia Pfeiffer similarly thinks that as we move forward from the immediate threats of the global pandemic, "...it's now a matter of formalising some of the rushed-in and potentially cobbled together digital solutions into a unified technical environment that can take an organisation forward, make it more effective and more efficient."

According to Dr Nishanth Krishnananthan, the future is bright for healthcare. With 72% of health executives agreeing that extended reality will be widespread and impact every industry over the next five years, he believes that immersive technologies will be a mainstay for improving patient-centred care. He says, "From virtual reality in education and training to distraction therapy and rehab, and surgical planning, VR and augmented reality will see more and more applications."

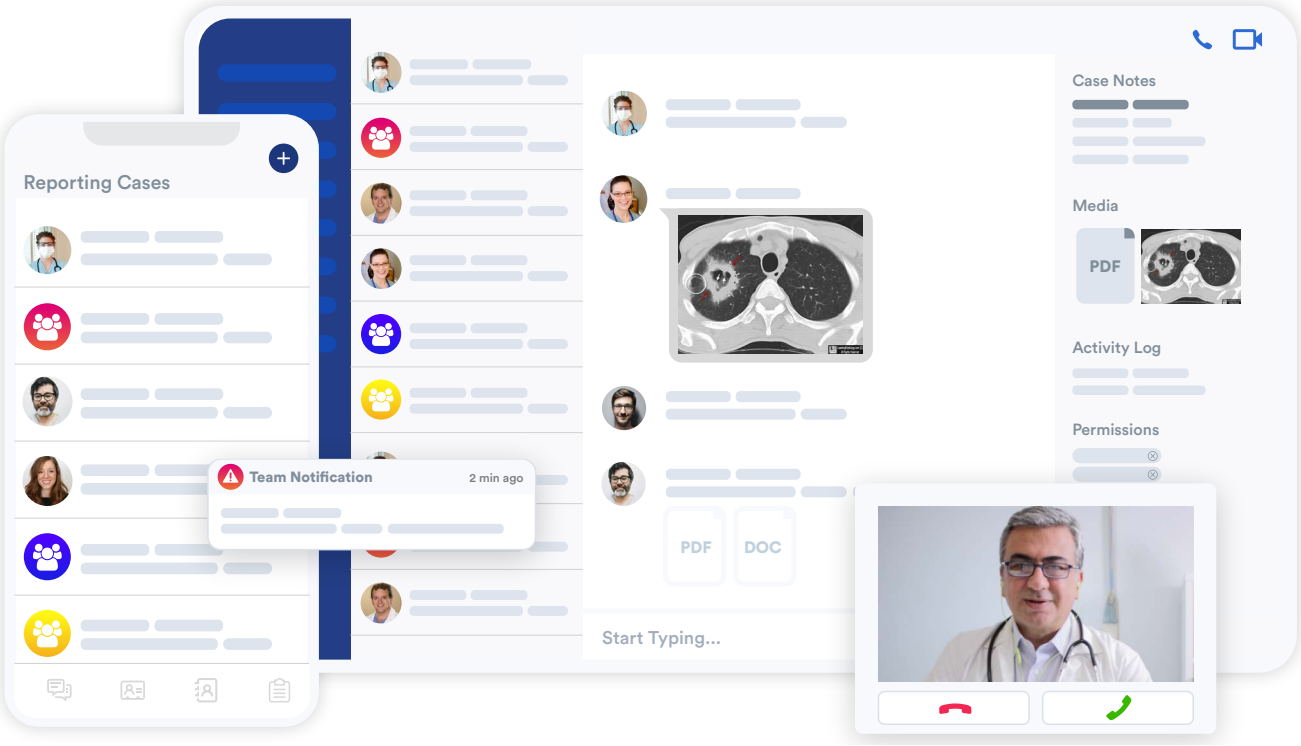
We're also seeing a number of emerging opportunities in remote patient monitoring, improving communication capabilities between clinicians in different organisations, and in digital therapeutics delivered through mobile applications. Digital healthcare is taking off and healthcare businesses should adapt or risk getting left behind.

Conclusion: Prepare your organisation for upcoming challenges and opportunities

When it comes to the most prominent emerging challenges the Australian healthcare industry is set to face in the coming years, leading, adapting, and innovating are three key actions we can take away as solutions for mitigating these risks.

At the same time, these challenges have and will continue to produce real opportunities to propel your healthcare business forward, stay ahead of the curve, and deliver elevated levels of training, collaboration, and care.

According to some of the leading industry personnel across the healthcare sector, businesses must not only be prepared for the upcoming risks but also be open to embracing the opportunities that are yet to come.



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