



5 Trends Shaping the Future of Digital Health in 2022 | Asia Pacific

E-Book



APAC Digital Health Trends 2022

Trend 1. Rising data volumes create complexity

The volume of data continues to rise as we seek out new ways to synthesise it in order to make meaningful connections and provide actionable insights.

Trend 2. AI adoption in healthcare accelerates

With healthcare catching up to other industries in AI maturity, data will be both a critical success factor as well as a barrier to the successful application of AI.

Trend 3. Interoperability solutions unlock true power of data

As the cost to deploy interoperability solutions reduces, the dream of interoperability, both within organisations and outside, moves closer to reality.

Trend 4. Telehealth delivery moves to virtual care models

Telehealth moves from an isolated mechanism to deliver care outside the hospital to a more holistic, integrated model of virtual care.

Trend 5. The rise of the Internet of Medical Things (IoMT)

As the value of the IoMT market steadily grows, we're faced with a "data deluge" that may prevent us from unlocking the value of this technology.



Introduction

The digital healthcare landscape in Asia Pacific is evolving at speed. Fuelled by rising consumer demands, rapid advancements in technology, and more complex care needs, healthcare organisations are under pressure to deliver digital-first, seamless, and connected healthcare experiences. Coupled with growing security concerns amid increased cyber attacks, the rising cost of care, and an explosion in data volumes, healthcare organisations are turning to digital health technologies to make the complex simple.

In 2022, what trends are shaping the future of healthcare delivery in Asia Pacific? Which opportunities are ripe for innovation? And how can healthcare leaders ensure their organisations are equipped to take advantage of the emerging opportunities?



1. Rising data volumes create complexity

Just over a decade ago, the world's entire data storage capacity was around 487 exabytes. By 2025, it's estimated that we'll be creating the same volume in under two days. Data has long been a powerful ally for healthcare organisations in APAC, helping them make better-informed clinical and business decisions. But as volumes continue to rise, so does our difficulty in managing it. In 2022, healthcare organisations are searching for ways to integrate and harmonise their data to make meaningful connections that provide actionable insights.

The increased use of MedTech devices, apps and monitoring technologies means there's more data flowing into healthcare organisations than ever before. Of all industries, the healthcare sector is the leading generator of data, accounting for around 30% of the world's data volume.



In a poll of APAC
Health CIOs

73%

of respondents
said they were
leveraging the power
of analytics in their
organisations

Source: HIMSS 2021 Asia Pacific
Health CIO Report

While volume itself is not a problem, where the data resides is. And in a healthcare setting, much of our data exists in separate systems. In order to make use of this large amount of fragmented data, organisations are looking for ways to connect their information to ensure it's trusted, up-to-date, verified, and harmonised. They're searching for ways to make it flow seamlessly across all sources, be ready for action, and enable better decisions. This, in essence, is "healthy data".

Gartner singles out an enterprise data fabric as one potential solution, dubbing it "the future of data management". A data fabric continuously identifies and connects data from disparate applications to discover unique, business-relevant relationships between the available data points. It's been shown to reduce time for integration design by 30%, deployment by 30% and maintenance by 70%.

In 2022, healthcare organisations looking to take this approach one step further are exploring the use of smart data fabrics. Like data fabrics, smart data fabrics connect and synthesise data, but embed a wide range of analytics capabilities, including data exploration, business intelligence, natural language processing, and machine learning directly within the fabric, making it faster and easier for organisations to gain new insights, and power intelligent predictive and prescriptive services and applications.

This approach is enabling healthcare organisations to harness the power of every piece of available data, not just those that are already connected, helping them gain new insights and make better decisions for both the business and their patients. Importantly, it also allows existing legacy applications and data to remain in place, meaning organisations can maximise the value from their previous technology investments.

2. AI adoption accelerates in healthcare

Until now, Artificial Intelligence (AI) in healthcare has largely been a result of grant-based research to promote innovation in clinical care. Coupled with significant concerns about patient safety and a lack of quality data, the healthcare sector has lagged behind other industries in the deployment of AI. However, in 2022, fuelled by technology advances and greater investment in infrastructure to support AI, we're seeing an acceleration in the adoption and application of AI technology in healthcare.

By 2024, McKinsey estimates that more than 50 per cent of technology interactions will be augmented by AI-driven speech, written word, or computer-vision algorithms. There's little doubt that AI technology will feature in almost every industry. In healthcare, AI has the potential to make care better, faster and more accessible for all.

As the benefits and potential of this technology are emerging, adoption and investment within healthcare is also on the rise. McKinsey's analysis into The State of AI in 2020 found that healthcare organisations were leading the way in AI investment, with 44% of healthcare organisations surveyed saying they have increased investment in AI in each major business function.

For many healthcare organisations, data is both a critical success factor as well as a barrier to successful adoption. According to IDC's AI in Healthcare report, 46% of respondents reported that data volume and confidence in their data were among the top critical factors in successful AI adoption. The heterogeneity of data sources, incomplete and duplicate data, and the lack of standards are all barriers to creating an enterprise data platform to feed AI.

To harness the power of AI in your healthcare organisation, it's important to first establish the organisational and technical infrastructure required to support AI initiatives. Data needs to be rationalised, normalised, and harmonised to create "clean", usable data.

To enable AI, interoperability is also a top priority for organisations, both within an enterprise and increasingly with other health and non-health organisations that are part of the AI ecosystem. By sharing data and best practices, healthcare leaders can better understand how to successfully implement, understand and use AI to support improvements in care outcomes, patient experience and access to healthcare services.



**The Asia Pacific
AI market in
healthcare is
estimated to
grow with a
CAGR of**

50.8%
**from 2020
to 2027**

**Source: Research and Markets Asia
Pacific Artificial Intelligence in
Healthcare Market Forecast to 2027**



3. Interoperability solutions unlock true power of data

Connected, meaningful data is one of the most important tools in the digital health toolkit. Having access to rich, real-time, trusted data improves decision making, operational efficiencies, and patient outcomes. But the amount of data, as well as the number of data sources, is on the rise. And this is causing fragmentation and a dilution of the power of available data.

Data creation is at explosive volumes, especially in healthcare. But it's not just the amount of patient data that has increased, it's also the number of sources that data is flowing from. Medical devices, patient records, hospital databases and data lakes all house crucial data within the healthcare system. Without a way to connect these siloed data sources, accessing real-time data remains an uphill battle.

Standards such as the Fast Healthcare Interoperability Resources (FHIR) and tools such as Application Programming Interface (API)s are closing this gap in the explosion of data and sources in the region, making data more accessible, computable, and usable. In 2022, these two approaches will make synthesising data from multiple sources more achievable, providing the information needed to improve decisions and outcomes across the healthcare continuum.

As well as connecting data internally, this technology has the ability to open up interoperability beyond the walls of individual health facilities within the APAC region. FHIR and APIs are making it easier to share information across organisations, uncovering opportunities to participate in cross-organisational initiatives, training and collaborative research projects.

Over the last few years, the cost to implement and manage APIs has reduced significantly. With more predictable and stable cost models, healthcare organisations have been able to ensure that new data projects are interoperable by design, which is expanding use cases and encouraging more interoperability within the region.

The key to succeeding with these initiatives is flexibility. It's important to choose a platform that can support the range of interoperability standards. While FHIR will see increased usage in future interoperability use cases, support for existing standards such as HL7v2 and CDA will still be required for the medium-to-long term. Ensuring the flexibility of your platform is key for both the project's success, as well as to enable further uses of the data within other applications or initiatives.



51%

of healthcare executives

say data integration and interoperability are the most significant barriers to achieving their strategic priorities related to data analytics

Source: Sage Growth Partners: Bad Data, Bad Analytics, Bad Decisions

4. Telehealth delivery moves to virtual care models

A global pandemic, alongside rising consumer expectations, has made telehealth a permanent fixture of the global healthcare landscape. In 2022, we're seeing telehealth move from a mechanism to deliver care outside the hospital to a more holistic model of virtual care. Using integrated technologies, healthcare providers are moving towards delivering quality, connected care, underpinned by seamless patient experiences.

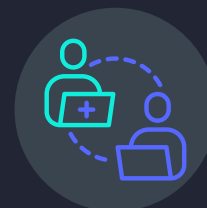
Not merely a passing trend, telehealth has become an important part of the way we deliver health care today. Telehealth continues to rise, according to McKinsey, who reports 38 times higher uptake in 2021 compared to the pre-Covid baseline. Healthcare professionals in the region are embracing this trend, seeing it as a valuable opportunity to improve access to healthcare. The HIMSS 2021 APAC Health CIO Report found that 88% of participants would continue to leverage connected health technologies following the pandemic.

In 2022, telehealth will evolve to become virtual care, a more holistic way of treating patients outside the hospital. Enabled by connected devices, information systems, and data, virtual care provides fast and reliable delivery of comprehensive information from across the care continuum. This, in essence, is authentic care - agile, flexible care delivery in any setting, at any time.

As health professionals embrace this hybrid way of delivering care, the challenge then becomes how to seamlessly blend remote and in-person care. As we move beyond isolated video interactions and phone calls, how can we integrate telehealth into our digital operating systems and enable it to meet individual care needs, while improving patient access and experience?

Like any other technological innovation, it's not a case of simply "turning it on". Virtual healthcare delivery needs to be integrated into your broader technology landscape, including patient records, hospital information systems, connected devices and beyond. Carefully considering the patient experience is key, ensuring you continue to deliver quality care in any setting, at any time.

In order to make this new model a reality, organisations must look to their foundations first and foremost. Speed, reliability and integration are essential building blocks for a strong virtual care delivery system. Equally, it's just as important to build a system that is flexible enough to evolve over time. Virtual care is just one aspect of delivering healthcare, and by considering it in the broader scheme of healthcare (a system that is continually evolving), organisations will be able to adapt to continue to deliver better experiences for patients and providers alike.



88%

of APAC
healthcare CIOs

said they would
continue to leverage
connected health
technologies following
the pandemic

Source: HIMSS 2021 Asia-Pacific
Health CIO Report



5. The Rise of the Internet of Medical Things (IoMT)

The use of smart technology has been growing steadily over the past several years, and in 2022 there are few industries it hasn't infiltrated. Healthcare is no exception. Rapid innovation in medical technology has led to an increasing number of connected medical devices that are helping healthcare professionals generate, collect, analyse and transmit data. This connected ecosystem of data and devices - referred to as the Internet of Medical Things (IoMT) - is revolutionising the way healthcare is delivered.

Over the last decade, rapid advances in technology have led to the development of an increasing number of connected medical devices that are able to generate, collect, analyse and transmit data. From connected glucose and heart monitors for patients with chronic diseases, to ingestible sensors revolutionising disease diagnostics and monitoring, the IoMT is enabling more efficient, accurate and cost-effective healthcare delivery.



The IoMT has the potential to transform fragmented healthcare systems into a connected system of care, powered by real-time patient data. As well as reducing rising costs, it has the ability to improve patient outcomes, streamline clinical operations, and deliver more personalised care. The opportunity is not lost on health professionals in the region who are rapidly adopting IoMT solutions. According to an IDC study of Asia Pacific healthcare providers, nearly 75% of healthcare providers have already deployed an IoMT solution, and one-third have strong plans to implement IoMT solutions in their care delivery system by 2022.

The proliferation of devices, while positive, is also causing a proliferation of data. This data deluge can be overwhelming for healthcare providers to manage, and it's preventing us from unlocking the full potential of IoMT. In order to tame this flow of data, it's important to create systems that can capture and synthesise the data coming from these systems, transforming it into meaningful insights that will enable healthcare providers to make better decisions.

Nearly  out of 4 healthcare providers have already deployed an IoMT solution

Source: IDC Healthcare Insights: Internet of Things in Healthcare: Future of Connected Care

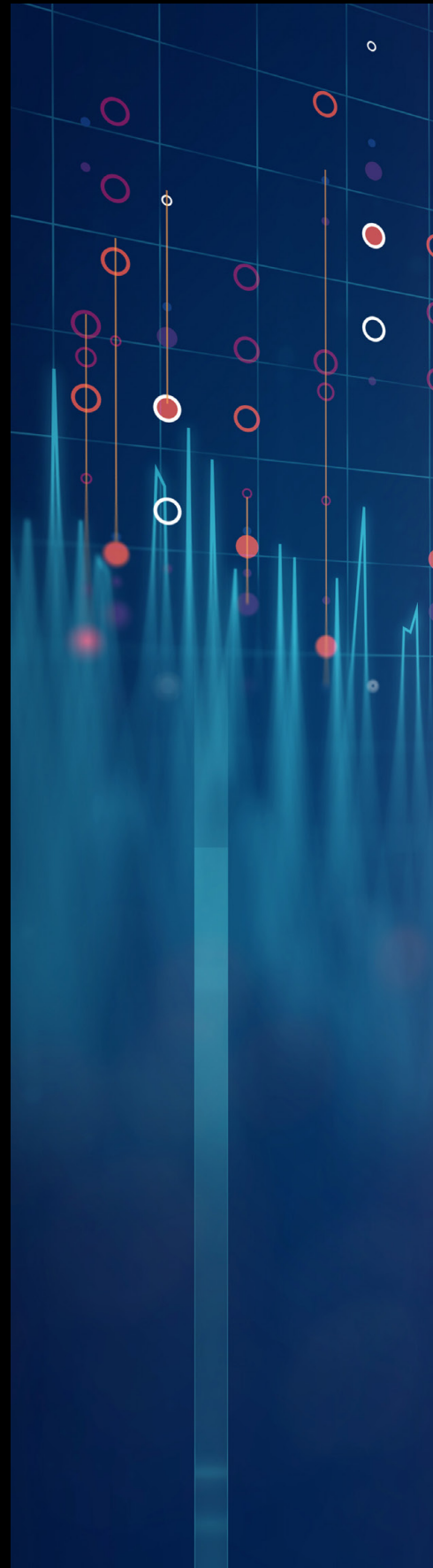


Conclusion

In the coming year, healthcare organisations will need to embrace the rapidly changing digital health landscape to ensure they're adapting to new and improved ways of delivering care to meet rising consumer expectations. AI, IoMT, smart data fabrics and interoperability solutions are unlocking the power of the masses of data that exists within healthcare organisations, waiting to be put to work.

To take advantage of these emerging technologies, healthcare organisations in the Asia Pacific region should focus on establishing strong foundations to ensure they're ready to capitalise on the opportunities when they appear.

- ✓ Focus on creating “healthy data” that is clean, accurate, and available anytime, anywhere;
- ✓ Establish the foundations for interoperability to ensure information can flow seamlessly across all sources, be ready for action, and enable better decisions;
- ✓ Build flexibility into your systems to equip your organisation to evolve with the dynamic digital health landscape.





Clean, Healthy Data for Innovation, Insight, and Better Care

Emerging tools and technologies, such as AI, Machine Learning, and connected devices, are nothing without their lifeblood: healthy data.

InterSystems provides connected health solutions that put unified, clean data to work for you. Whether you are looking for an off-the-shelf software solution to manage care or a healthcare-specific data platform to develop solutions, InterSystems can help.

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