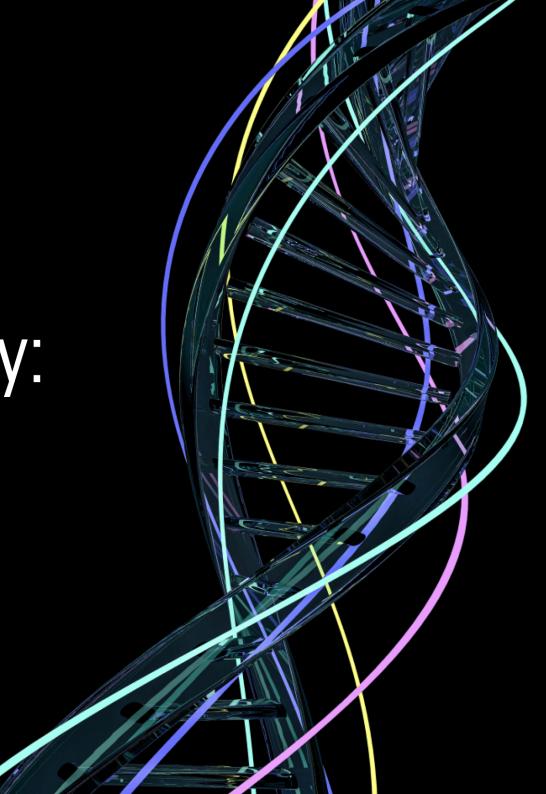
Baker McKenzie.

Hyper-Hybridity:

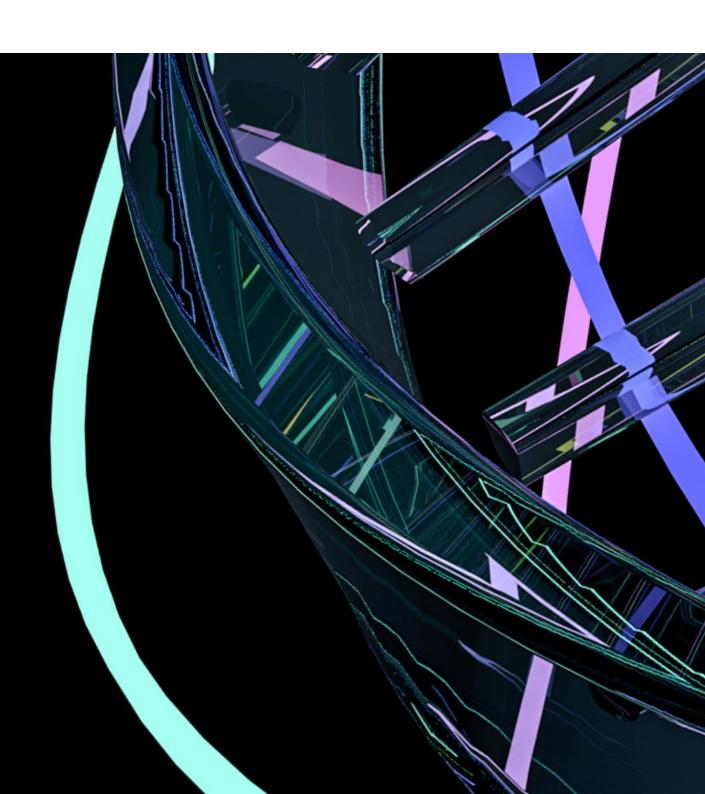
Defining a New Era of Digital Health Innovation in Asia Pacific

Resilience Recovery Renewal





Foreword



Scaling Innovation — Collaboration and the Rise of Digital Health

Digital healthcare is a globally booming market, set to reach USD 235 billion by 2023.¹ In the Asia Pacific region in particular, a rapidly expanding population, an empowered and tech-savvy middle class and physician shortage has created the perfect conditions for digital health innovation,² and COVID-19 provides an even greater imperative to develop future-proof digital health solutions and systems.

While growth in traditional healthcare is predicted to fall by 4.7% as a result of COVID-19, digital health will see fortunes rise by 12%. ³

Against this backdrop of change, we set out to discover from three distinct perspectives whether the healthcare ecosystem in the Asia Pacific region is structured to meet this opportunity. Do healthcare and life sciences (HLS), technology companies and financial sponsors have access to the resources, capital, expertise and certainty they need to support innovation at scale? Our research uncovers significant market pressure to develop new digital health solutions at an increasingly fast pace, within a siloed ecosystem that is not built for innovation at scale.

Significant investment is being ploughed into digital health in the region from both domestic and foreign investors. However, capital alone is not enough to meet demand. 77% of the ecosystem players we surveyed agree that meeting the need for new digital health solutions will require a step change in innovation.

The critical question is how? Collaboration through partnerships is cited as a top accelerator of digital health innovation — a way to harness the collective ecosystem to build new solutions and systems. We call this "hyperhybridity". Yet fragmented markets, regulatory uncertainty and conflict between key players are creating significant obstacles to effective collaboration and drag on digital health progress.

This report explores trends and opportunities in digital health from the point of view of three key players in the ecosystem — HLS organizations, technology companies and investors. We explore:

- Rising pressure to accelerate digital healthcare innovation in Asia Pacific;
- Digital health technologies in development and regional opportunities for investors in next generation digital health solutions;
- How ecosystem players can effectively join forces to accelerate digital health innovation — aligning on patient care, effectively structuring collaborations and tackling contentious issues upfront;
- Structural challenges and legal considerations associated with digital health innovation in Asia Pacific and why this could signal a digital health shortfall;
- An action plan for effective cross-ecosystem collaboration.



Vanina CanizaGlobal Chair, Healthcare and Life Sciences



Elisabeth WhiteAsia Pacific Chair, Healthcare and Life Sciences

Key Findings:

83%

of respondents report rising market pressure to build new digital health solutions and systems.

USD 22 billion

Investors surveyed intend to direct USD 22 billion of funding into global digital health innovation.

74%

Capital alone is not enough to meet demand. Greater collaboration across the healthcare ecosystem would significantly accelerate progress, according to 74% of digital health players.

78%

Conflict between ecosystem players is creating barriers to more effective collaboration. 78% of HLS companies report concern that technology organizations push a commercial agenda over healthcare excellence.

71%

There's a knowledge gap between key players. 71% of technology players indicate that healthcare companies often lack the tech know-how to operationalize new solutions.

72%

Systemizing collaboration and structuring partnerships for success is key to digital health development in the future. 72% of digital health players believe a radical rethink of how innovation is organized, funded and scaled is required to meet demand for new solutions.

Digital health is blurring the lines of traditional healthcare innovation, with players across the ecosystem taking on differing roles and moving into new territory. The "health" companies are becoming more digital and learning the language of apps and how to interface with consumers in new ways. The "digital" companies are expanding into the more heavily regulated healthcare space. Both require the collective expertise and support of an increasingly diverse group of technical experts, financial sponsors and regulators to realize their potential.

Oren Livne | Partner, Princeton/New York

What is Hyper-hybridity?

We refer to hyper-hybridity as the evolution of collaboration in the digital healthcare ecosystem. More advanced than simply merging technology and HLS — for example, healthtech, medtech and biotech — hyper-hybridity is an envisioned future state of more systemic and strategic collaboration across the multidisciplinary ecosystem, including HLS, technology, financial sponsors, government bodies, academic and R&D institutions and patients.

About the Research

Hyper-Hybridity: Defining a New Era of Digital Health Innovation in Asia Pacific is based on independent research among 750 HLS, technology and financial players (including venture capitalists (VCs), private equity, banks and insurance companies) in the global digital healthcare ecosystem — leaders with responsibility for developing, operationalizing and financing digital health solutions. Interviews were conducted in Q3 of 2020.

HLS and Technology players from Asia Pacific markets surveyed include China, Hong Kong, Japan, Singapore, Australia, India and Thailand. For financial players, all of the above-mentioned Asia Pacific countries are represented as well as the US and Europe.

All of our respondents are active in the digital health space; 47% as innovators of digital health devices, 49% as investors and 57% in a technology or data capacity, with most playing a dual role. Digital health related activity also represents at least 10% of the focus of each of these organizations.

References:

- ¹ Global Digital Outlook Analysis, Health Europa, October 2019
- ² The Rise of Digital Health, ASEAN Post, March 2020
- 3 Global Digital Health Outlook 2020, Frost & Sullivan, August 2019





Next Generation Solutions — Mapping Digital Health Innovation

83% of digital health players report rising pressure to build new digital health solutions and systems. This primarily is driven by COVID-19, according to 60% of respondents, although financial sponsors are more likely to cite advances in digital health technology (65%) and cost pressure in healthcare systems (61%) as drivers for continued development of digital health.

What is Driving Digital Health Acceleration in Asia Pacific?

Digital health players cite five key drivers:

- 1. Disruption to traditional healthcare delivery and management arising from COVID-19
- 2. Advances in digital health technology
- 3. Cost pressure in healthcare systems
- 4. Perception of the healthcare sector as a "safe haven" for investment amid economic downturn
- 5. Requirement to provide personalized patient care

The Outlook for Innovation

Today, digital health players say innovation is focused on practical matters — protecting data and ensuring healthcare can be delivered in spite of COVID-19 disruptions. However, over the next one-to-three years, businesses will set their sights on incorporating more complex technologies including blockchain and robotics, as tech sophistication increases and costs fall.

Current digital health development and investment:

- 1. Privacy and cybersecurity
- 2. Clinical trial administration
- 3. Chat-bots
- 4. Remote monitoring
- 5. Telemedicine

Planned digital health development and investment (immediate):

- 1. Blockchain
- 2. Clinical trial administration
- 3. Robotics
- 4. Telemedicine
- 5. Health IT (i.e., hospital computer systems)

What is Shaping Digital Health Priorities?

Patient engagement is critical to digital health development and is becoming a key driver of product differentiation in a highly competitive market. Individuals want to be in the driving seat when it comes to their health. As a result, HLS organizations are building patient support and enablement programs within their own digital environments — establishing direct routes to patients within strict regulatory limitations, increasing patient compliance without clinical intervention and providing an expanding pool of data that can be used to improve product effectiveness.

Isabella Liu | Asia Pacific Chair, Intellectual Property and Technology Group, Hong Kong

There is a universal expectation that healthcare should be digital. Patients are tech-savvy and actively seeking ways to integrate management of their own wellness and medical needs into daily digital life.

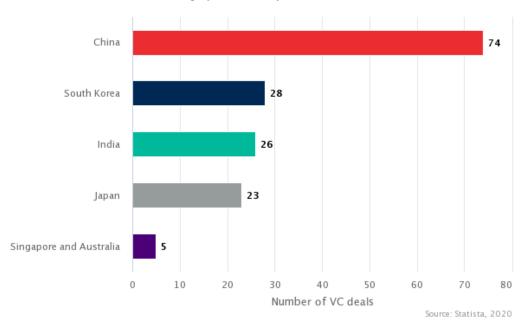
Vanina Caniza | Global Chair, Healthcare and Life Sciences, Buenos Aires

Increased Interest from Financial Sponsors

Financial players including private equity, venture capital, banks and insurance companies are highly optimistic about growth opportunities in digital health. Our survey results indicate that this group plans to direct some USD 22 billion in funding global digital health innovation at large — particularly at seed capital stage and Series A to C funding rounds. 77% agree that investment appetite has increased since the COVID-19 pandemic. Earlier in 2020, digital health venture capital (VC) deals in Asia Pacific largely centered on the developed and high-tech economies like China, South Korea, India and Japan, which saw the largest number of VC deals in Q1 2020 (See graph across).

However, 62% of respondents to our survey cited Singapore as their top destination in the region for intended new investment and development in digital health, followed by Australia (56%). This suggests Singapore is emerging as a key hub for digital health innovation and cross-jurisdictional deal making in Asia Pacific. While this is not an indication of reduced investment flows to traditionally larger life sciences markets, it does suggest that government efforts to attract investment elsewhere in the region will pay off. China is conspicuous by its absence at the top of the rankings, which may be symptomatic of rising investor concern over US-China trade wars.

Asia Pacific VC Activity (Q1 2020)



Tense China-US relations are likely to lead to a reduction in investment flow — particularly as data and matters of national security become increasingly intertwined. China has a nationally run healthcare system and, as a result, is undoubtedly cautious of Western influence and who is granted access to patient information.

Derek Liu | Partner, San Francisco

Can Governments Do More to Accelerate Digital Health?

According to our research, 72% of digital health players suggest that government intervention can be counterproductive to their efforts to innovate — referencing regulatory enforcement and crossjurisdictional fragmentation. However, there is clear evidence to suggest that grants, incubators and incentives are shifting the dial on digital health innovation.

Governments are placing a premium on healthcare innovation and many are creating frameworks and initiatives to direct and promote investment in particular areas of digital health, and to support homegrown startups looking to expand across the region.

Our evidence suggests that, while China, Japan and South Korea are likely to remain top destinations for investment, efforts to increase investment activity elsewhere in the region is raising the profile of markets including Singapore and Australia as innovation hotspots.

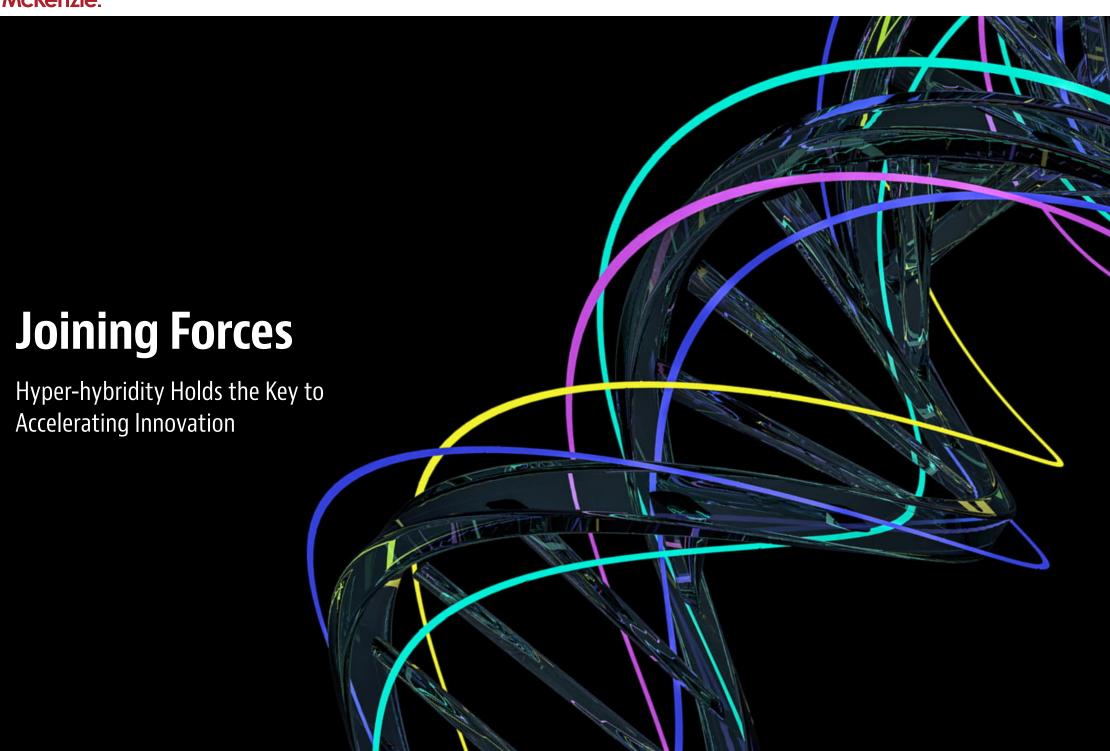
The Australian government is working hard to attract new digital health investment to the country — recently forming a AUD 500 million fund for innovation in this area. Clinical trials in particular represent a significant opportunity for innovation in Australia, incentivized by government R&D tax credits.

Kate Jefferson | Partner, Sydney

The Vietnamese government is seeking to modernize the healthcare system, with serving public health and achieving universal healthcare coverage as key priorities. Their strategy is to attract private investors, deploy public funds and encourage public-private partnerships. The healthcare sector is also tapping on high growth players from across the country's emerging digital economy — including digital health, Fintech, and e-commerce — to pioneer new approaches in telemedicine, personalized medicine, health payments, drug delivery and patient record management. These collaborations between government bodies, healthcare providers and technology companies as well as reforms in legal framework, will help Vietnam to overcome limitations and inefficiencies in the system. This will also create exciting investment opportunities and better patient and user outcomes in the healthcare space.

Chung Seck | Partner, Vietnam





The essential question for HLS, technology and financial organizations is how to scale-up innovation to develop and deliver new indemand digital health solutions.

Digital health players say that the primary accelerators of innovation center on access to cross-ecosystem expertise and resources. Collaboration with technology companies, government bodies, financial sponsors and medical experts are among the top five accelerators of digital health innovation, according to respondents.

There is both a need and a desire for better collaboration among HLS, technology and financial organizations. While 94% of respondents have at least some experience collaborating with other organizations outside their industry, only 38% believe that previous collaborations have been fully effective. A 74% majority responded that greater or more effective collaboration across the healthcare ecosystem would significantly accelerate innovation.

Structuring Collaborations

Insights from: Kate Jefferson | Partner, Sydney and Tracy Wut | Partner, Hong Kong

Despite the challenges of establishing, managing and exiting joint ventures, our research shows that this is the most common partnership structure for digital health collaborations. Formal strategic alliances and licensing arrangements are also prevalent.

Partnerships often step in where M&A strategies have otherwise failed to deliver value. There are many reasons for this, including acquisitions being undertaken at too early a stage (sometimes even before proof of concept), overinflated multiples being paid for assets resulting in targeted rates of return not being achieved, perceived synergies not coming to fruition and the failure of early stage innovations to obtain all necessary regulatory approvals and reach the market.

By contrast, collaborations mitigate risk and share costs at the same time as providing exposure to potential upside. It allows deal parties to access new distribution channels, customer bases and diversify R&D efforts, as well as navigate regulatory obstacles: for example, where Foreign Direct Investment (FDI) restrictions limit involvement in particular markets.

However, that is not to say that collaborations are simple to enter, manage and exit. Joint ventures fail more often than they succeed — usually when key players aren't able to execute the business plan or progress as expected. Therefore it is essential to spend time at the outset of any collaboration establishing which party will lead, the basis for success and effective exit. Failing to plan for termination and dispute is a common error that can jeopardize the value and viability of digital health innovation.

Similarly, we often advise partners to consider cultural alignment upfront — to what extent are goals, business practices and people processes shared? It is important to tackle these as practical not just theoretical issues.

Collaboration Sparks Success

There is a compelling correlation between collaboration and commercial success. Our research shows that the most successful organizations are fast movers that leverage partnerships to deliver.

Organizations with greater experience of collaborating with other ecosystem partners are:

19%

more likely to have experienced an increase in turnover in the past yearthan those with limited experience

31%

up to 31% more likely to have made inroads to digital healthinnovation — already investing in the top five systems* and solutions currently in development

9%

9% more likely to rate partnerships with peers across the ecosystem as effective than those with limited experience Technology and healthcare companies are fundamentally different — from how they are established and their growth trajectory to relationships with customers and regulators. While roles are becoming increasingly fluid, acknowledging these contrasting perspectives is key to bridging misalignment, identifying a shared mission and realizing a return.

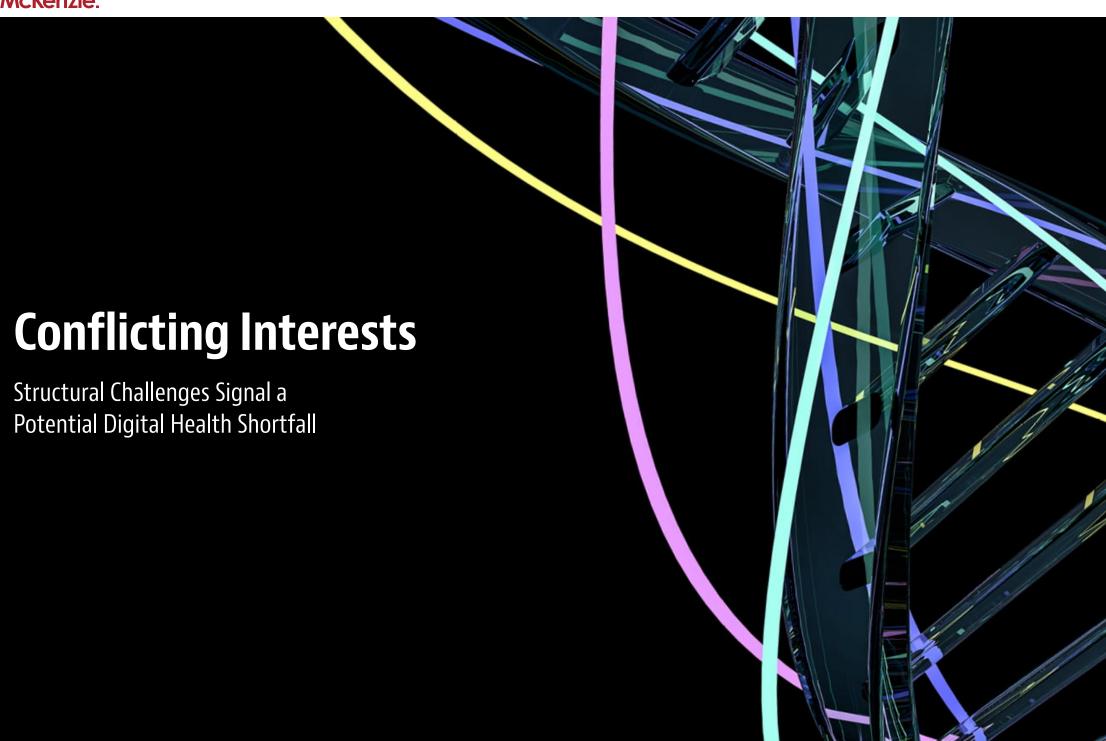
Jane Hobson | Partner, London

Technology players are not interested in being on the sidelines of a growing and lucrative market opportunity like digital health. They are unlikely to be satisfied in licensing their products and systems for use by even multiple life sciences innovators — they want to be a significant force in the market with a greater control and stake in digital health innovation. We expect to see more strategic alliances and partnerships as they expand their efforts to bring new solutions to market.

Toby Patten | Partner, Melbourne

^{*} This refers to the top five areas of planned digital health development and investment (1 to 3 years), highlighted in <u>section 1</u>; Blockchain, Clinical trial administration. Robotics, Telemedicine and Health IT (i.e., hospital computer systems)





Why are digital health collaborations not fully effective? The complex and fragmented nature of the healthcare ecosystem and misalignment between organizations are among the top barriers to accelerating innovation, according to digital health players — hindering efforts to develop and operationalize new healthcare technology.

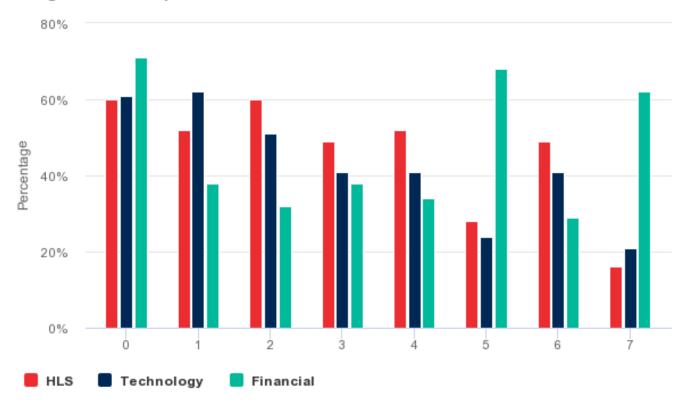
What's holding back progress?

74% of digital health players suggest that innovation in this area is accelerating in spite of structural challenges in the healthcare ecosystem — making it difficult although not impossible to collaborate effectively.

Similarly, conflicting priorities across the ecosystem may mean progress is an uphill struggle. HLS, technology and financial organizations have very different agendas when it comes to investing in digital health. Such conflicting priorities create competition for resources and also risk cannibalizing efforts to accelerate innovation, according to 75% of digital health players.

As a result, 72% believe a radical rethink of how innovation is organized, funded and scaled is required to meet demand for new solutions.

Digital health priorities



Clinical trial administration ranked as a high priority area for digital health innovation across all three groups. However, different groups surveyed also identified specific priority areas.

HLS Priorities

Unsurprisingly, healthcare and life sciences respondents have the highest focus on digital innovation for patient care.

Telemedicine is a priority for 60% of HLS organizations, as well as e-pharmacies (52%), e-records (49%) and chatbots (49%) for use in triage.

Technology Priorities

Technology respondents are agnostic — plugging into a number of areas of innovation.

Most notably, health IT is the top priority for 62% of tech organizations, as well as clinical trial management (61%) and telemedicine (51%).

Financial Priorities

Financial players are primarily interested in managing and monetizing patient data — particularly in relation to clinical trial administration (71%) and wearables (67%).

They also prioritize patient compliance tools like smart pills and packaging (68%).

'Move fast and break things' is an infamous technology industry mantra for a reason — it reflects the speed at which these organizations build, test, iterate and operationalize products. Yet where digital meets health, this approach can come unstuck. Life sciences innovation is a much slower burn, involving huge R&D programs, patient safety considerations and a far higher bar of regulation, compliance, cost and risk. These fundamental differences are bound to create logistical and cultural challenges when tech and health organizations innovate together, but both perspectives and skillsets are required to deliver new digital health solutions and there is a clear commercial imperative for making it work.

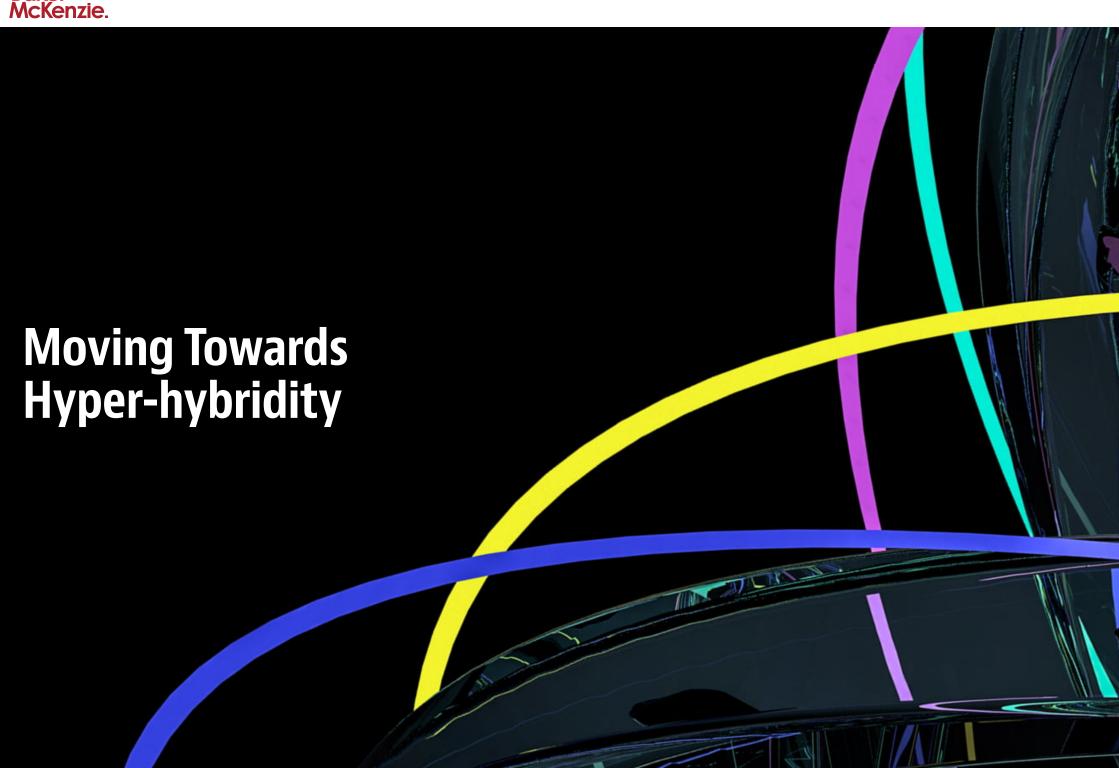
Toby Patten | Partner, Melbourne

Barriers to Hyper-hybridity

Conflicts in the perspectives and preferences of ecosystem players could hold back innovation and commercial opportunity in digital health. Should ecosystem players divide and deliver?

Group	Points of Conflict
HLS	78% of HLS respondents acknowledge that technology companies help to fill gaps in their technical knowledge, particularly in relation to applying data. But they also report concern that technology organizations push a commercial agenda over healthcare excellence (78%) and that the poor reputation of tech in relation to data privacy and cybersecurity prevents HLS partners from collaborating more closely with them on digital health innovation (73%). They also report frustration with financial sponsors. 72% say that promising digital health innovation has been interrupted as a result of investors seeking to exit collaborations prematurely. 69% also suggest that investors have unrealistic expectations of how quickly digital health collaborations can deliver results.
Technology	80% of technology players in digital health say that collaboration with life sciences companies helps them to accelerate digital health innovation. However, 78% also express that HLS partners don't always flag potential regulatory issues early and 71% that healthcare companies often lack the tech know-how to operationalize new solutions. Technology organizations also report larger issues that could hold back innovation. 72% say that cross-border restrictions on sharing data is preventing them from developing innovative new digital health solutions and systems. A further 70% suggest that incomplete or poor quality healthcare data limits their capacity to leverage it for digital health innovation.
	Investors are positive about their collaborators — particularly when working together. 71% say they are more likely to invest in digital health innovation where life sciences and technology are collaborating.





Digital Health Regulation

Insights from Ren Jun Lim | Principal, Singapore

Regulatory divergence across the Asia Pacific region increases the complexity of cross-jurisdictional collaboration. There is a lack of harmonization across both digital and healthcare regulation, leaving organizations to interpret how far existing healthcare legislation applies to the digital context on a market-by-market basis, and a lack of a comprehensive approach to manage risk. Enforcement of regulation is similarly fragmented.

As the digital health market in the region grows, there is political and practical interest in reaching consensus on these issues. The frameworks and regulations relating to software as a medical device may be a useful place to start. There is already a certain degree of similarity and shared goals in relation to digital health software across Asia Pacific, and robust standards in Singapore and Australia that could be considered for localization and implementation in other countries in the region.

While digital health is accelerating in spite of regulatory complexity, harmonization can provide a confident basis for greater investment and innovation. If regulation was designed to support cross-jurisdictional, cross-industry collaboration, we would expect to see digital health innovation accelerate by a huge order of magnitude.

How innovative digital health services and products should be regulated is a key issue for players in this space. Whether new services and products cross over into medical devices that require regulatory approvals or medical practice that may be provided only by healthcare providers, and if there is agreement on where these lines are across jurisdictions, is particularly pertinent.

Ryosuke Tateishi | Counsel, Tokyo

Data and IP Protection in Digital Health Collaborations

Insights from Elisabeth White | Asia Pacific Chair, Healthcare and Life Sciences

Data is the new gold. From healthcare records to wearable tracking data to payment information, it is the currency which drives digital health innovation and is shaping the next generation of digital health solutions and systems.

In the context of partnerships and collaborations, the protection and ownership of IP, relative contributions of each party and how IP may be used, licensed and commercialized is invariably a critical part of negotiations.

Increasingly, digital health players bring just as sharp a focus to data rights: ownership, access, use and commercialization in different contexts and across multiple platforms. It is critical to establish what relevant data collaborators bring into the partnership and, where a new and valuable dataset will be created, who is responsible for, has access to and is able to monetize this information and for what purpose.

Existing legal frameworks are not necessarily adapted or sufficiently agile to address emerging issues in healthtech data, and issues of proprietorship, privacy and data security are handled differently in various jurisdictions.

Creation and access to data and IP assets is often a very sensitive aspect of negotiations: different stakeholders may have competing philosophical and commercial drivers — particularly in relation to sensitivities around patient information, use of aggregated data and the role of Al. It is imperative to identify these interests and issues early in a collaboration or project, and seek to avoid subsequent disputes.

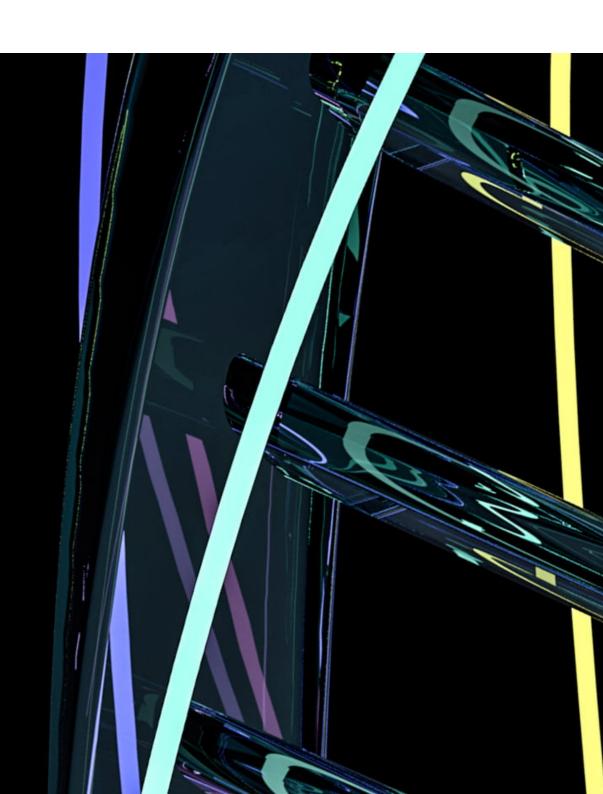
In any licensing agreement or partnership arrangement, intellectual property ownership is typically a long negotiation, especially in relation to data. Not only are these contentious issues to navigate between parties, but the law is evolving in how and whether data is treated as IP, asset or otherwise.

Isabella Liu | Asia Pacific Chair, Intellectual Property and Technology Group, Hong Kong



Conclusion: Embracing Hyper-hybridity

An Action Plan for Effective Collaboration



According to digital health players, existing approaches and mechanisms are unlikely to achieve innovation at the speed required. We need a "next generation" ecosystem that channels the hybridity and multi-functionality of the sector, in which fellow collaborators can work more effectively together and access specialist knowledge earlier from across the ecosystem. There are opportunities for HLS, technology and financial sponsors to improve mutual understanding, alignment and scale up innovation. Building the cutting edge digital health tools of the future will depend on making this happen.

Powering Hyper-hybridity

How can collaborators build a more effective platform for collaboration?

Platform for Collaboration	Current Challenge	Key Takeaway
Align on patient care	78% of leaders believe collaboration on digital health is more effective when patient care is central to its purpose.	Explore how patient centricity can create a shared mission that unites interests.
Establish the parameters of partnership	71% of respondents report that it is challenging to establish mutually beneficial outcomes for digital health innovation.	Consider the appropriate structure to determine how closely connected success must be. For example, a licensing agreement or strategic alliance built around a particular need may be more suitable than a joint venture.
Consider contentious issues early	72% of organizations suggest that promising digital health innovation has been interrupted as a result of investors seeking to exit collaborations prematurely.	Address the conditions of termination upfront to avoid wasted effort and undue conflict.
Prioritise data ownership	Establishing IP rights over data has proven to be contentious, particularly as this information is increasingly valuable in the context of M&A and digital health collaborations. The treatment of data as IP	In relation to M&A, confirm through the due diligence process which parties have access to high value data, how it is stored and limitations on sharing and transferring this material. In relation to partnerships, it is also important to clarify who retains





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Additional Resources

Guides and Resources

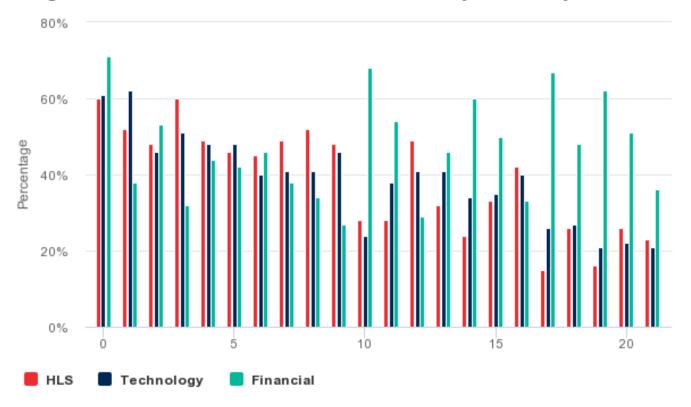
- Healthcare MapApp
- The Health Pod
- Global Healthcare & Life Sciences Webinar Series
- Podcast: The Acceleration of Innovation in Healthcare: The Rise of Digital Health Services
- Podcast: Inside the Global Battle for Healthcare Data
- Life Sciences Collaboration: Key Considerations in the COVID-19 Era
- COVID-19: A Global Review of Healthcare and Life Sciences Industry Issues

Related Articles

- Outside the Comfort Zone: Building Consumer Trust in Digital Healthcare
- EMEA: Digital Health Solutions Survey

Appendix

Digital Health Innovation Priorities of Ecosystem Players







The Resilience, Recovery & Renewal Model

Our Resilience, Recovery & Renewal model is helping organizations navigate the business and legal impact of the COVID-19 pandemic. While most businesses will pass through all three phases of the model, the phases themselves are non-linear and may recur or overlap, particularly for those with global operations. Wherever you are in your response to the pandemic, we will help you with the services and resources you need. Visit our Resilience, Recovery & Renewal Roadmap to Stability hub for more information. Also, visit our 3R Resource Center for the latest legal and regulatory updates from around the world.





Thank you for reading

Hyper-Hybridity: Defining a New Era of Digital Health Innovation in Asia Pacific