

Telehealth 2.0

—
Expanding the reach
of healthcare in Asia Pacific



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Telehealth 2.0

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Key takeaways:

1. Need for Prevention, Better Diagnostics, and a Supporting Ecosystem

Standalone health platforms offering remote connectivity to patients face three major challenges in effectiveness. Firstly, acute episodic care remains the predominant starting point of the patient journey. Platforms have recognized the value for wellness and prevention that needs to be the focus moving forward. Secondly, in therapy areas where frequent diagnostics play a crucial role, at least 20%¹ of the telemedicine cases rely on videos and images which are still not sufficiently high-quality to deliver a proper diagnosis. Various markets in Asia Pacific remain underserved on diagnostics, as physical examinations are still considered to be essential in the discipline to give accurate diagnostics. Lastly, even if telehealth has been rated as the most promising technology during Covid-19 by doctors, it will require a new operating model to remain sustainable in the post-pandemic era. Hence, it is critical to build a supporting ecosystem that is synchronous with the patient's demands and with the maturity of the healthcare system.

2. Differing Expectations

Healthcare stakeholders' perspectives and expectations on remote care are different. Patients want more convenience while healthcare providers are targeting more revenues. Providers are figuring out the best model to avoid conflicts with existing revenue streams while simultaneously continuing to stay active in the current set of models. Payors are keen to evaluate how best the platforms can help with cost containment.

3. Need for New Business Models

To address the gap in expectations between the different healthcare stakeholders, the focus of telemedicine providers should be on the need for new business models and operational processes. Successful telemedicine models are ecosystem enablers, bringing together different types of care and working hand in hand with additional players to offer a more appropriate and sustainable care. Examples include diagnostic support at convenient locations, rehabilitation centres, the use of digital therapeutics for disease management or leveraging wearable led data.

4. Need for New Roles and Contributions

Finally, this new business model of telehealth will require other healthcare stakeholders to play new roles and contribute to this ecosystem.

¹ Good Doctor

Telehealth 2.0

Expanding the reach of healthcare in Asia Pacific - using Orthopedics as a focal example

At a time when the pandemic restricted physical consultations, the adoption of telehealth accelerated, and the industry shifted from in-person care to virtual visits. This unprecedented situation unveiled significant benefits and opportunities.

With various viewpoints on the growing demand and untapped revenue streams, it is essential to have a forward-looking view that draws learnings from the challenges of today's healthcare systems.

Orthopedics will be used as a focal example to discuss the imperatives and opportunities of telehealth in this study, as its principles are also valid for other therapy areas.

If frequent lockdowns and controlled population movements persist, ageing populations in Asia Pacific may see a surge in the need of managing Orthopedics more effectively along with Cancer.

1 The key challenges and limitations of current remote care as a standalone model

1.1 Episode-based model

Most healthcare models are built for acute episodic care or initiated by patients on an as-needed basis. If a patient has musculoskeletal pain, he would reach out to a GP, and then follow up with a visit to a specialist. In the case of an injury, the journey may begin from the hospital or an ambulatory setting.

Telemedicine platforms in the emerging markets of Asia Pacific largely mirrors the existing healthcare systems to ensure an easier acceptance by the current user mindset (patients and physicians), and to align with the current regulatory frameworks. Currently, patients would connect to the platform, undergo approximately 10-15 minutes of consultation with the help of an AI or a software-based triage and obtain an online prescription. A follow-up may be scheduled, depending on the severity of the condition.

Episode-based models, however, may not be as effective in a rapidly ageing society, compared to a holistic wellness-based approach. For example, the daily calcium intake in SEA is 30%² lower than WHO recommendations. Experts suggest driving calcium intake through better managed diet and behavior techniques, could potentially reduce Orthopedics caseloads by at least 10-15%³. Such approaches require a series of sessions and follow-ups.

² WHO

³ Orthopedics specialist in Singapore and Indonesia



Platforms have recognized the value for wellness programs and preventative care, but the reach remains limited. Platforms are beginning to focus on a new type of user engagement, based on a long-term relationship with users. Still, in order to succeed, they would need to redesign

how chronic care is managed and incentivized. Payers also believe in the preventative care concept, but they have not completely figured out the business and distribution model for such solutions.

1.2 Inability to conduct physical examinations and need for up-to-date images

Teleconsultations rely on up-to-date images and diagnostic results for Orthopedics consultation and care. In nearly 20% of the cases⁴, physicians have expressed a need for physical re-examinations, re-tests or follow-ups. Examples include manual motor testing to determine the strength of an extremity, passive motion to detect pain with range of motion, 2-point discrimination, sensory examination and reflex testing⁵.

One survey on tele-Orthopedics in Australia⁶ showed that one of the biggest barriers was imaging related. While picture archiving and communication systems can be an enabler, the lack of a centralized access to imaging repositories from multiple providers posed challenges. Two such barriers include miscommunications between sites on the records of the patient imaging history before the teleconsultation, and the waiting time for discs of images to be sent over via mail. In parallel, participants of the survey expressed concerns over not being able

to accurately examine their patients physically in more subjective areas such as strength. This concern was addressed in some services using a trained allied health staff member on the patient's end.

In developing markets like the Philippines, senior key opinion leaders mentioned that physical examinations are still considered to be vital in the discipline. Additionally, the need to conduct follow-up diagnostics might lead to additional visits which per recent protocols, required thorough checks of Covid-19 exposure and testing.

⁴ <https://journals.sagepub.com/doi/full/10.1177/1357633X20938241>

⁵ https://journals.lww.com/fbjournal/fulltext/2020/07010/telemedicine_in_orthopaedic_surgery__challenges.2.aspx

⁶ <https://core.ac.uk/download/pdf/86634646.pdf>

1.3 The need for a supporting ecosystem to make care sustainable

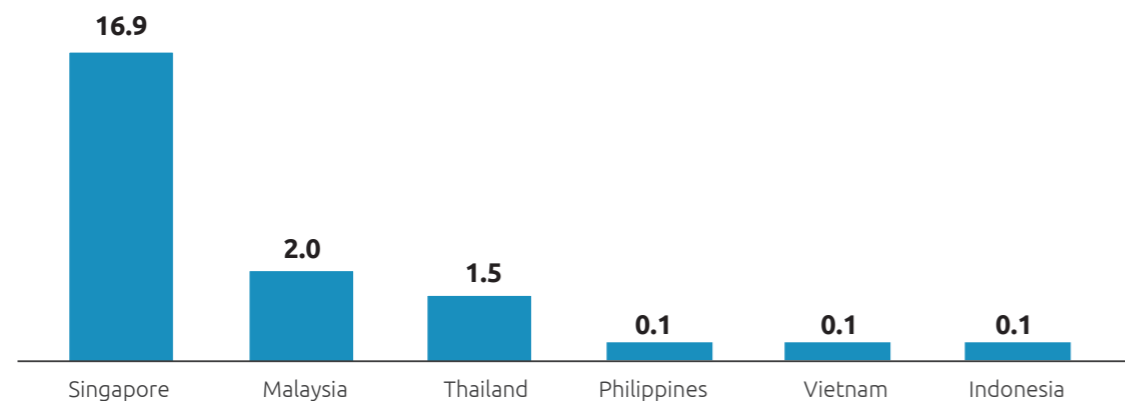
From providing the right technological support and home-based care so as to avoid fractures, and from the home delivery of drugs to clinician assisted tele-ortho centres, it is necessary to implement a broader ecosystem that is synchronous with the demands of the patient and maturity of the healthcare system.

Most consultations for teleorthopedics in Asia Pacific are still asynchronous, which require additional efforts on context setting and optimal integration with electronic health records (EHR)⁷.

For tele-Orthopedics to work as effectively as home-based consultations, consultations situated at a near-site with clinical and diagnostic support including telemetry support are critical, therefore raising the level of infrastructure requirements.

⁷ <https://academic.oup.com/view-large/204896151>

A: Average daily calcium intake in SEA countries [mg/d]



Source: International Osteoporosis Foundation

The ecosystem in Southeast Asia (SEA) presently exists in a fragmented manner – various markets are underserved in diagnostic facilities and healthcare providers (HCPs). Studies indicate that calcium intake is especially low in the emerging countries of Southeast Asia. DEXA scan machines that help with the detection of bone disorders, are in

shortage in most parts of SEA. This lack of supply hinders the effectiveness of post online consultation visits. If left unaddressed, this could lead to the introduction of similar inefficiencies at a scale that are already existing in the traditional care delivery models.

Some of the key concerns expressed by HCPs in Indonesia⁸:

Poor infrastructure support:

Limited funding:

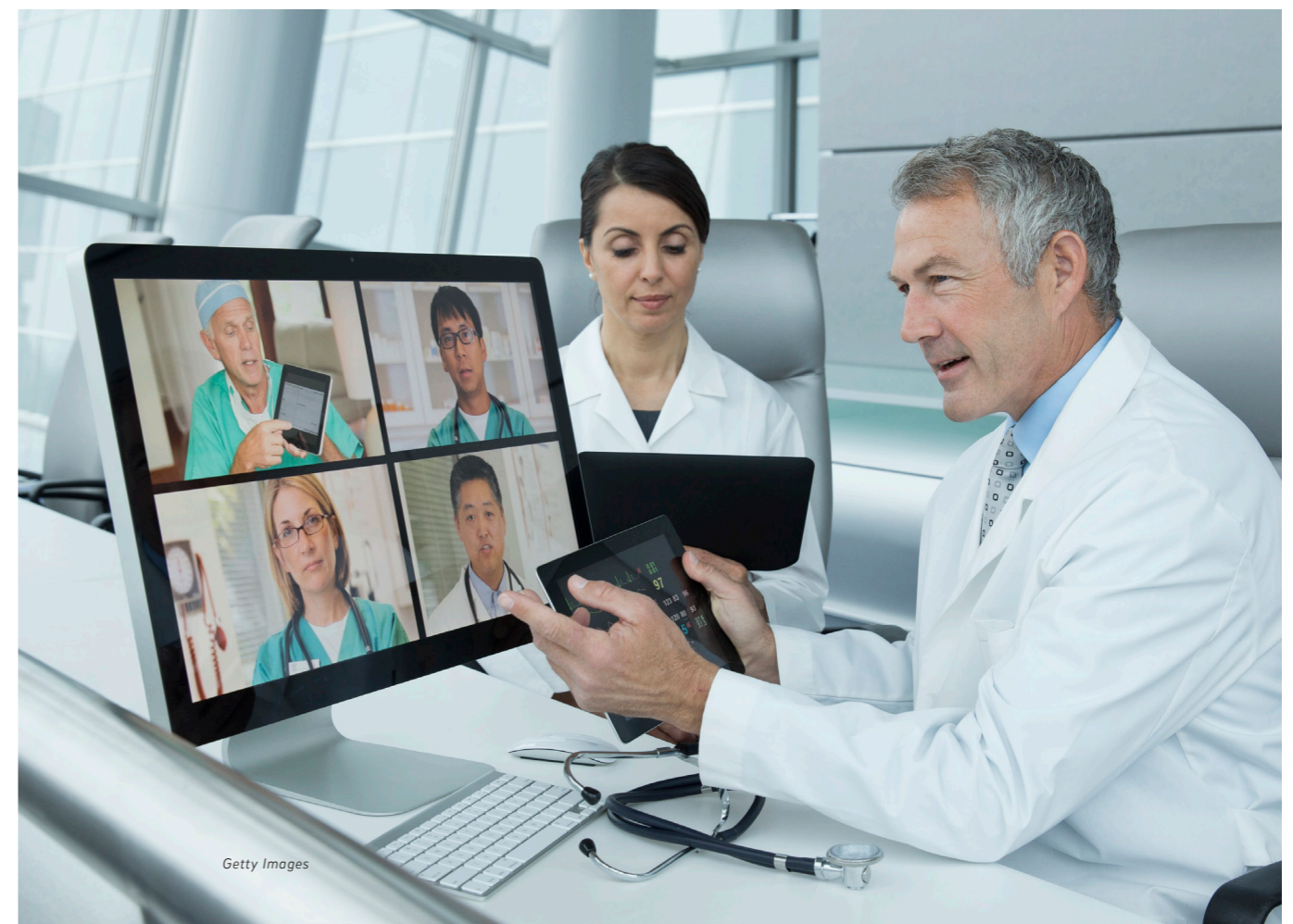
“
The operational cost for telemedicine is quite expensive, so I have to manage the budget properly to ensure that all services run smoothly.
”
Nurse, Primary Care

“
Until today, I am unable to provide telemedicine service regularly, as the system in the health center I work at faces frequent internet connection disruptions.
”
General practitioner, Primary Care

Lastly, lower acceptance of telemedicine amongst senior KOLs and renowned doctors, all of whom can influence patients to adopt telemedicine, remains a challenge. They are reluctant to change the way they operate due to the potential risk of data loss, data leakage, incorrect data input, wrong data retrieval, breaching medical

ethics and other reasons that may lead to a misdiagnosis.

⁸ <https://bmcmmedinformdecismak.biomedcentral.com/articles/10.1186/s12911-020-01234-7>



Getty Images

2 Healthcare stakeholders' perspectives on remote care

2.1 Convenience driven consumers

Several wellness studies show that patients who received telehealth support are keen to continue, mostly driven by the convenience and efficiency that telemedicine has to offer. This is also supported by Roland Berger's global study on the rise of platforms in healthcare, which states that platforms that succeed are the ones which provides strong customer service. Postoperative Arthroplasty patients for example, have shown a strong or equally good range

of motion after surgery followed by face to face care.

Three key expectations were cited by Orthopedics patients in different surveys for the continued adoption of telemedicine; reduced travel and waiting time, lower costs, and convenience of remote follow-up care.

Reduced travel and waiting time



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Observational studies indicate that in remote areas, patients can save up to 83% of the travel time by going to the regional medical centre instead of the city-based hospital. Instead of wasting time on travelling and queuing for admission, patients appreciate the convenience of using live video and audio technology for post and pre-operative consultations from a clinic or site in the catchment area of their residence.

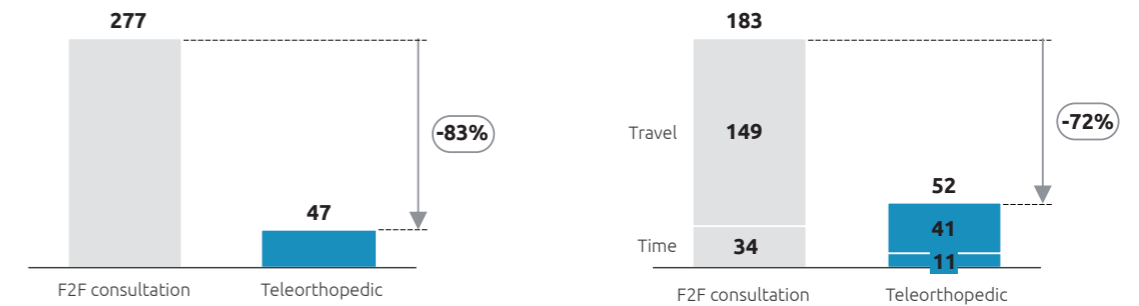
Lower costs



Getty Images

In SEA markets where a large part of the care remains self-pay, patients are beginning to recognize the cost benefits of telemedicine. The costs savings are derived from lower transportation costs and lower drug mark-ups from telemedicine platforms. Sample data from developed markets suggest that avatar-based virtual physical therapy (PT) can potentially offer a 3-month associated health-related cost savings, compared to the traditional clinic-based PT. This method offers equivalent clinical outcomes and patients demonstrated high satisfaction rates.

B: Patient's one-way travel time: F2F vs Teleorthopedic¹ [minutes]



¹ Estimated based on observations and papers from different markets

Source: NCBI

Convenience of remote follow-up care



Getty Images

The traditional care model for recovery after hip and knee arthroplasty involves intensive PT and/or in-person outpatient therapy. Given the long distances, Postoperative Arthroplasty patients in large markets such as Philippines and Indonesia may have to travel for PT rehabilitation. A combination of home-service arthroplasty PT training and virtual PT avatar provides equally effective PT training with convenience.

2.2 Payors like it, providers are beginning to appreciate it

In addition to the lower drug mark-ups, payors are also attracted to telemedicine for its shorter waiting times, potentially lower number of examinations conducted, and equally effective care. Orthopedics care is likely to see a care debt where a surge in number of cases is expected as the pandemic settles. Payors are already reeling under pressure from the Covid-19 impacts and are wary of the impact post-operative care might cause due to additional precautions. Universal coverage systems usually see at least 25% re-admissions and a strong outpatient to inpatient conversion. Reducing hospital visits will bring relief.

Clinicians are beginning to appreciate telemedicine. According to a study⁹ in Makassar City (Indonesia) on clinicians' perceptions of telemedicine system, results showed that nearly 70% agreed that telemedicine allowed quicker diagnosis and treatment. For orthopedic care, telemedicine can help orthopedic surgeons to prioritize urgent cases for surgical consultation and post-surgical follow-ups. In line with our global view, telemedicine platforms would cause the most disruption to outpatient care in ASEAN. Therefore, providers are also considering how best to balance between managing the disruption and growing in the new upcoming space.

⁹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6913748/> most disruption to outpatient care, hence providers are also considering how best to balance h.gov/pmc/articles/PMC6913748/

3 Evolving telemedicine from a service to an ecosystem enabler

3.1 Six Telemedicine business model archetypes in Southeast Asia

For telemedicine to evolve from a service to an ecosystem enabler, a wide range of telemedicine business models occupy the healthcare space in SEA. We identified 6 business model archetypes.

1. Health Information

A platform that provides health-related information to customers, such as doctor ratings, health articles, and other specific information that is perceived to be valuable for patients. Health information platforms can simply aggregate existing information or create new content through contracting HCPs or hiring HCPs.

2. Primary Care Access

A platform that provides digital services to improve patient's access to primary care / GPs. Interactions usually take place directly between the GP and the patient. Key stakeholders in this model are GPs and primary care clinics.

3. Primary Care+ Access

A platform that provides an amplified care model. In addition to GP services, they provide referrals / assistance with patient's access to tertiary care including diagnostic centers, specialty care providers, hospitals, rehabilitation centres and pharmacies. Digital services can vary from online booking and virtual follow-up care to specialist teleconsultation. The platform in most cases, however, does not have full integration with rest of the healthcare stakeholders.

4. Organization-to-organization Connector

A platform that enables providers to obtain specific clinical service or educational content from other providers. This model is gaining popularity in countries like Indonesia, which faces uneven distribution of quality HCPs. This model can connect HCPs in main cities with the GPs/midwives in primary care clinics (Puskesmas) to improve their quality of care at the community level such as cataract detection and preeclampsia detection in pregnant women.

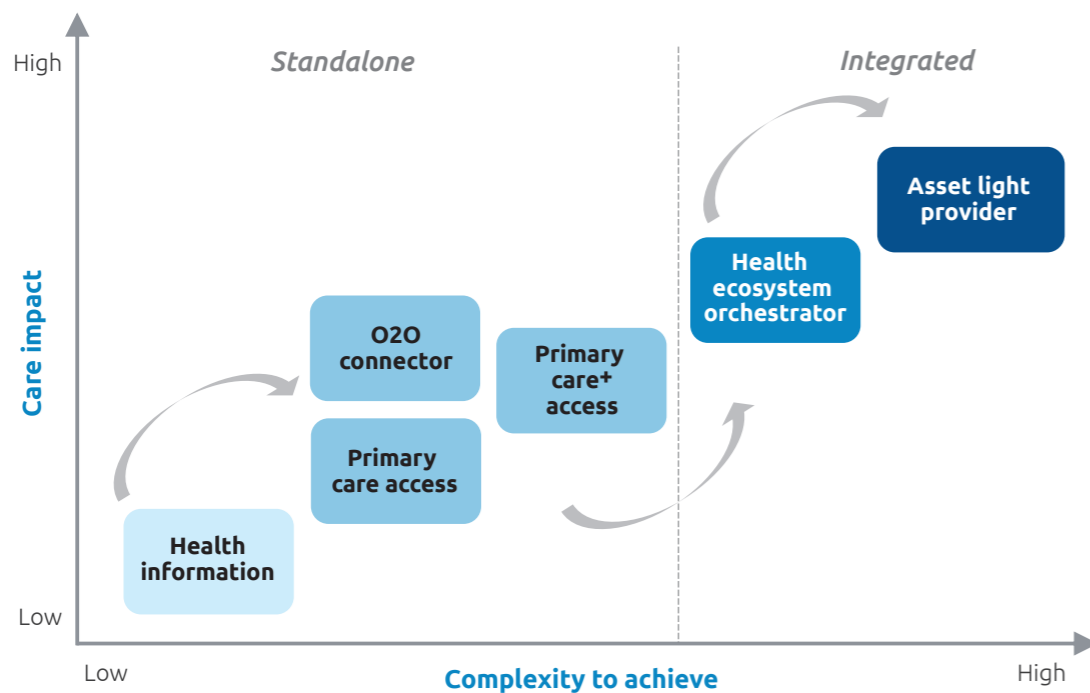
5. Health Ecosystem Orchestrator

A telemedicine model which coordinates more complex interactions and transactions between patients, providers, payors and other healthcare stakeholders in an integrated and seamless manner. The key objective of this model is to ensure affordable healthcare for the community by keeping patients within the network and removing redundancies. The orchestrator usually enables care by going beyond the traditional channels and partnering with adjacent players who have stakes in a healthier population like banks, telecoms and retail.

6. Asset-light healthcare provider

A platform that is aspirational today, but we envision the 'Uber' type model of healthcare, where essentially, a strong asset-light model powered by analytics directs patients across various parts of the value chain.

C: Telemedicine business model archetypes



Source: Roland Berger

D: Service coverage along patient journey by business model [non-exhaustive]

| Telemedicine business models | Patient journey | | | |
|-------------------------------|------------------------------|--|--|--|
| | Prevention | Diagnosis | Treatment | Follow-up |
| Health information | ✓ > Healthy lifestyle advice | ✓ > Health information platform (symptom driven) > Doctor & hospital rating | | |
| Primary care access | | ✓ > GP teleconsultation (e-diagnosis, e-Rx) | ✓ > Online drug delivery | |
| Primary care+ access | | ✓ > Specialist teleconsultation > Online booking > Telehealth kiosks, etc. | ✓ > Specialist teleconsultation > Online drug delivery > e-ICU | ✓ > Remote patient monitoring > Self-tracking app |
| O2O connector | | ✓ > Provider education platform (diagnosis, disease detection, referral) | ✓ > Provider education platform (Tx) | |
| Health ecosystem orchestrator | ✓ | ✓ | ✓ | ✓ |
| Asset light provider | ✓ | ✓ | ✓ | ✓ |

All of the standalone services integrated in one app; coverage is limited to own providers network to achieve cost reduction

Data from all standalone services collected in one app to be analyzed and push health advice (prevention and wellness) to patients

Source: Roland Berger

3.2 The likely winners – orchestrators! But no winners take all in telemedicine

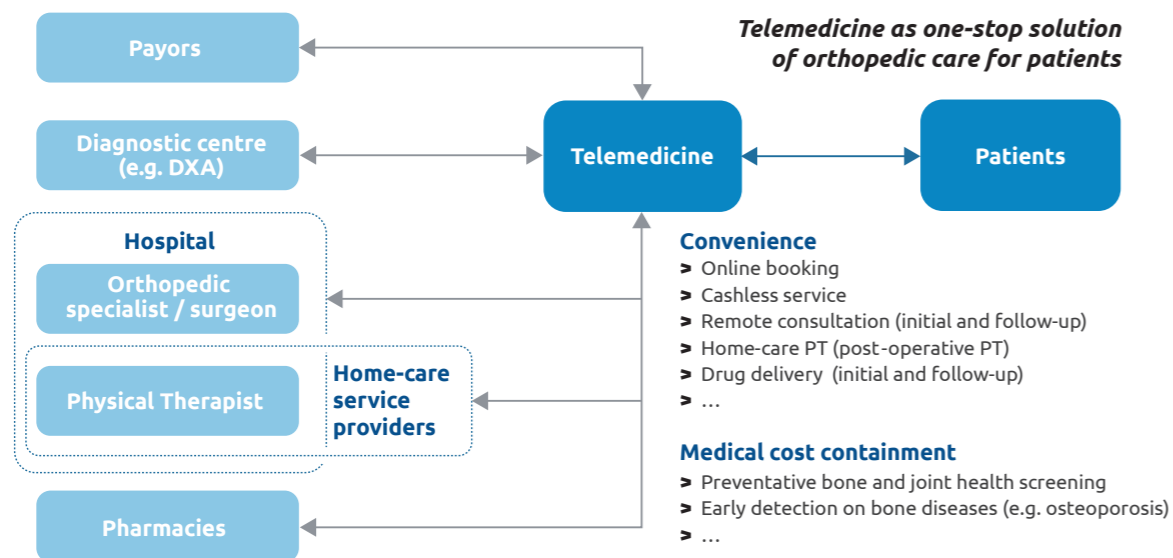
Most platforms are predominantly following the archetypes of Health Information, Primary Care and Primary Care+. However, the most impactful model in the future of APAC's fragmented landscape is likely the Orchestrator, as it can help drive integrated healthcare at scale. Given the current challenges with healthcare infrastructure, and the vast scope of services, we should view telemedicine as a Healthcare Delivery System instead of a tool or function. It should be a singular source for accessing relevant health information and decision making done at physical facilities.

The Orchestrator archetype is already prevalent in the offline forms in different shapes – health maintenance organization (HMO) led in the Philippines, MBMS led in Singapore and provider led in Indonesia.

With telemedicine, scaling the integrated healthcare model is much more feasible and effective.

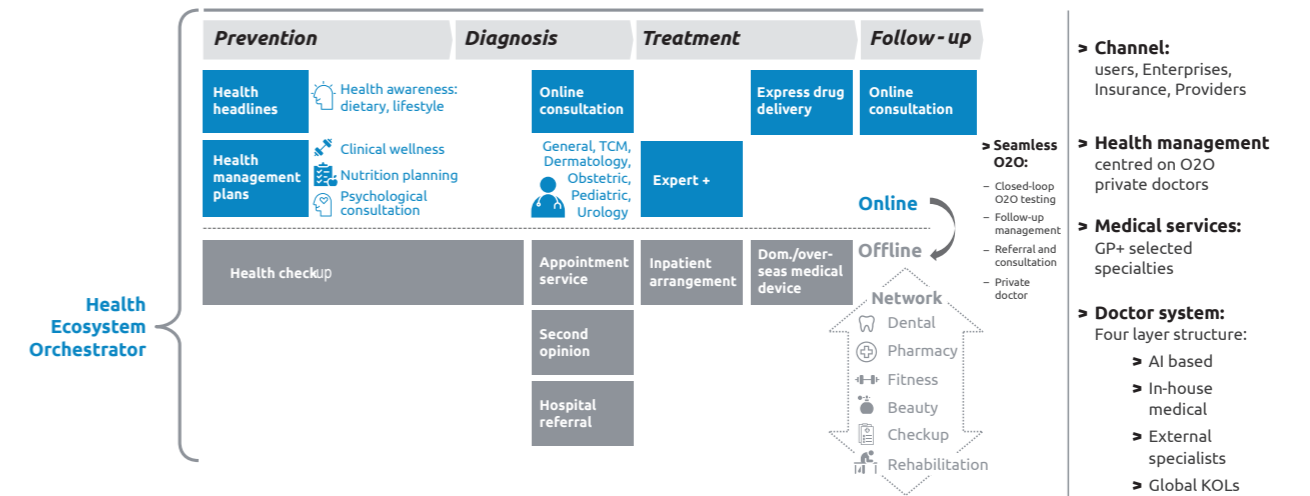
In the case of orthopedic care, as shown in Exhibit E, telemedicine can integrate several facilities in one platform such as payors, diagnostic centers, hospitals, home-care service providers and pharmacies. Services such as insurance claims, follow-up consultations or drug deliveries are all easily accessible and arranged via one platform. The challenges of standalone models can be mitigated. Developing payor led incentives and wellness programs would also become easier due to lower constraints of brand positioning and operating model flexibility. Per our simulations and observations using the Orchestrator model, the average waiting time can be reduced 50-70% and doctor capacity increased by 20-25%.

E: Role of Telemedicine in Integrated Healthcare (Orthopedic case)



Source: Roland Berger

F: Health Ecosystem Orchestrator as a one-stop solution provider



Source: Roland Berger

Exhibit F illustrates how the Orchestrator model covers all stages of the patient's journey from prevention to follow-up using a single platform. However, we do not expect Orchestrators to be the sole dominant model. In specific markets, Primary Care and Primary Care+ models focusing on specific services and therapy areas will continue to thrive due to

a variety of reasons including patient / consumer preference, healthcare infrastructure development and regulations.



4 Changing roles of key stakeholders in successful Telemedicine platforms

Several healthcare stakeholders would need to keep up with their evolving role and contribute to this ecosystem:

1. Policy makers and regulators should develop supporting policies to enable telemedicine and define standards and protocols. In Singapore, seven key disease areas have been identified on where telemedicine can be the first point of care. Processes should be laid out in sync with the broader healthcare policy. Telemedicine investments could help reduce inefficiencies at a broader scale for equitable healthcare.

2. Healthcare providers should seize the opportunity with instituting synchronous models and invest in infrastructure for a seamless online to offline integration. Provider models would get disrupted, and while they are focusing on reducing costs currently, investing in telemedicine and rebalancing outpatient capacity should be explored

3. Payors with incentive linked programs can significantly influence patient's behavior on choosing preventative care and wellness. Health insurers can digitally steer their customers toward a network of preferred partners. Given telemedicine's promise of cost containment, and the likely scale payors offer to platforms, we expect payors to be the most active stakeholders in telemedicine.

4. Tech startups and medical tech firms' collaborations enable telemedicine to provide more value-added services to patients with less capital and technology investment. For example, handheld diagnostic was perceived to help drive access and care in underserved markets, but with telemedicine-led healthcare banking on convenience, handheld diagnostic devices could enable the use of pharmacies and mobile booths for quick and easy diagnostics. In the United States and Nordics, home testing is already picking up traction.

5. Pharmaceutical companies can drive patient and HCP engagement at scale and adopt strategies to go beyond the pill. We are already seeing an increase in partnerships where pharmaceutical companies are working with platforms on overall disease management. In the process, pharmaceutical companies are collecting / getting access to invaluable insights. Real-life evidence from telemedicine platforms may be more sought after and surpass data from clinical trials.

In the myriad range of possibilities, we advise stakeholders to pro-actively engage with platforms but avoid the 'Death Valley' of POCs and pilots by holistically building not just engagement models, but an entire business model. With opportunities unfolding and no clear best practice established yet, waiting on the sidelines for trends to emerge may prove to be an expensive choice.

We welcome your questions, comments and suggestions.

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Explore other insights by Roland Berger



Future of health 2 | The rise of healthcare platforms

Healthcare platforms are set to become part of the 'new normal'. The option for players of creating or joining a platform will change the healthcare market beyond recognition, strengthening the position of tech companies and startups, empowering providers and consumers, and redefining roles for insurers. What makes some platforms more successful than others? And, crucially, who will be best positioned to own the patient interface in the future?

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