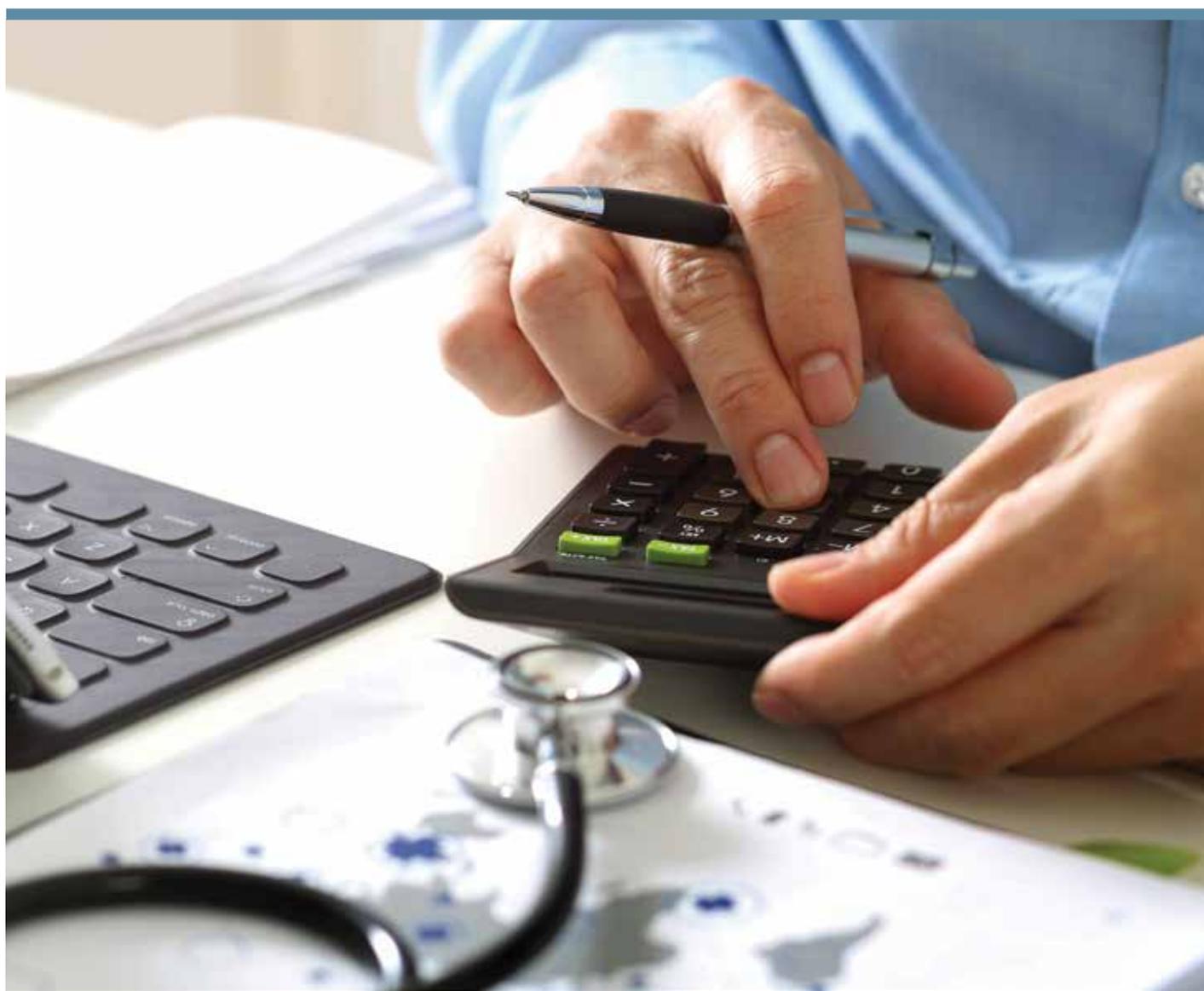


L.E.K.

Special Report

Paying for the Cure

Transforming the Financing of Novel Therapies



ACCESS
health international



**GALEN
GROWTH
ASIA**

Contents

Overview	2
Current healthcare payment models in the Asia-Pacific region.....	4
Designing an innovative healthcare financing solution	6
Conclusion	11

About ACCESS Health International

ACCESS Health International (ACCESS Health hereinafter) is a not-for-profit think tank, advisory group, and implementation partner focusing on improving health innovation globally. As ACCESS Health’s flagship initiative in Asia, Health Futures is a multifaceted effort to improve access to high quality affordable healthcare. Our focus is to assist the public and private sectors in Asia to create patient centered, high quality, integrated distributed healthcare systems. Such systems will provide a continuum of care from home to hospital enabled by information and innovative technologies. The core topic areas of Health Futures include aging, digital health, healthcare financing, and urban and rural health.

About Galen Growth

Galen Growth Asia was founded in late 2015 by five HealthTech (aka digital health) innovators. Since that day, we have established ourselves as the HealthTech Connector in the region. Having successfully created the links critical to creating a vibrant ecosystem, Galen Growth Asia has built a portfolio of solutions which will facilitate its deliberate focus on creating a significant financial and social value multiplier by enabling the key stakeholder groups to directly collaborate to prototype, evaluate and implement HealthTech solutions.

About L.E.K. Consulting

L.E.K. Consulting is a global management consulting firm that uses deep industry expertise and rigorous analysis to help business leaders achieve practical results with real impact. We are uncompromising in our approach to helping clients consistently make better decisions, deliver improved business performance and create greater shareholder returns. The firm advises and supports global companies that are leaders in their industries — including the largest private- and public-sector organizations, private equity firms, and emerging entrepreneurial businesses. Founded in 1983, L.E.K. employs more than 1,200 professionals across the Americas, Asia-Pacific and Europe.

For more information, go to www.lek.com.

Overview

With a growing and increasingly prosperous middle class that is still not able to fully pay for long-term advanced therapy, it is time to rethink the traditional models of funding cutting-edge and high-cost pharmaceuticals and medical devices. Properly designed, innovative financing models may enable more patients to access new treatments without the fear of crippling financial consequences.

As drivers of innovative therapies, life sciences companies are now called upon to do more than ever to ensure the uptake of life-extending products through new arrangements with players within and outside the life sciences industry.

The middle-class population in the Asia-Pacific region constitutes a large proportion of the world's middle class and is expanding at a rapid rate. India is projected to have 10% of the world's middle class by 2020, while the fast-growing Southeast Asian countries are projected to account for approximately 15% of the world's middle class by 2030. This trend, combined with a rapidly aging population and the increased burden of chronic diseases, has led to a growing demand for health services, including innovative therapies and pharmaceuticals.

Many countries are moving toward universal health coverage by enacting healthcare reforms that extend accessibility and affordability to the general population. However, at present, these reforms generally offer a basic package of care and preclude innovative therapies. For example, universal healthcare in Indonesia and the Philippines covers only generic drugs or basic standard of care, and not high-cost advanced therapies.

Furthermore, private health insurance has a low penetration rate in Asia-Pacific countries, even in those with a high percentage of the middle-income population — Southeast Asia, China and

Key points

- Patients may not pay for innovative therapies for reasons other than ability to pay
- Unlocking willingness to pay requires design of human-centered programs that overcome patient barriers, including risk and payment timelines
- Technology and on-the-ground support are necessary to ensure patients' adherence and behavioral change to return to health

India — which have between 5% and 10% penetration. With very basic public coverage and low uptake of private insurance, there is a high out-of-pocket (OOP) payment burden for innovative therapies.

While health technology assessments (HTAs) are on the rise to promote value-based care, drugs are deemed to be “essential” based on their cost-effectiveness. However, innovative therapies that are not essential at the population level can be the determinant between life, death or financial ruin for the individual and his or her family.

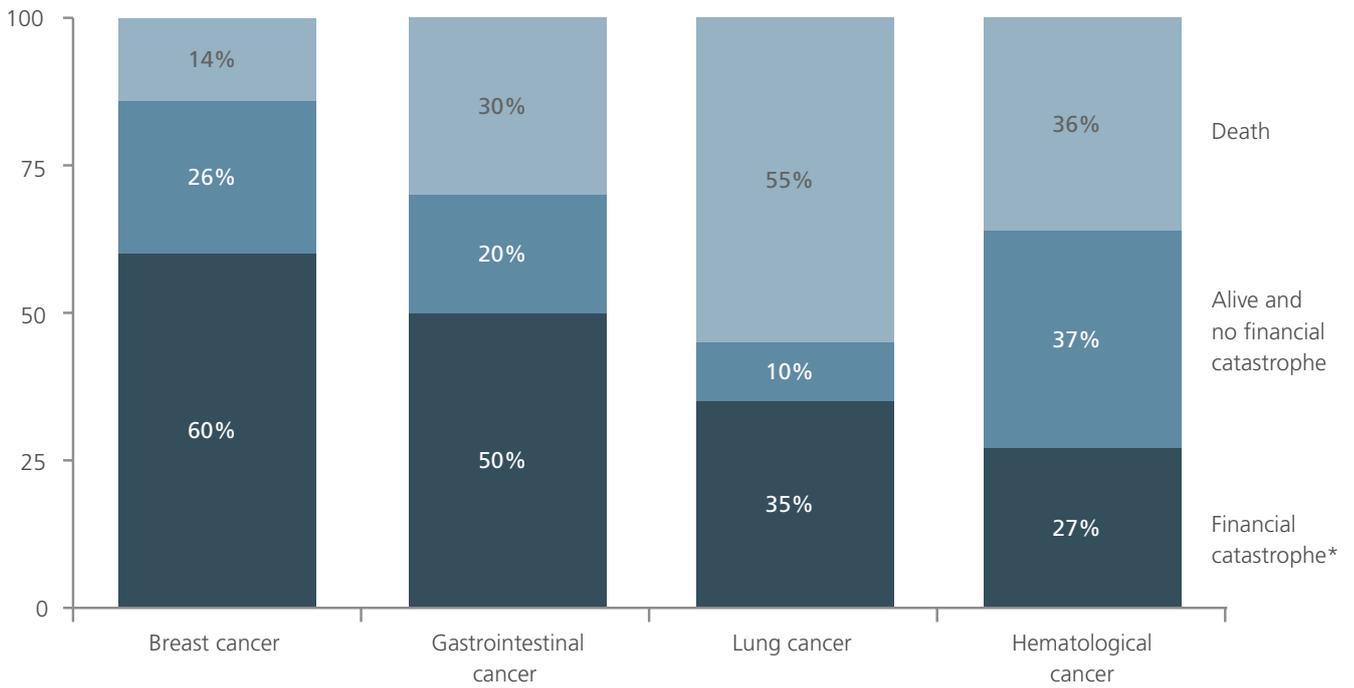
Several studies have reported that middle-class households in the Asia-Pacific region face a high risk of impoverishment after paying for healthcare OOP, putting them below the poverty line.¹ For instance, ACTION Study's large observational study of the household burden of cancer in Asia has shown that more than 75% of new cancer patients in Southeast Asia experience financial catastrophe or die within one year of diagnosis (see Figure 1). Innovative oncology treatments are among the most expensive drugs in Southeast Asian countries, with many drugs costing more than 30% of total annual household income. Approximately 5% of cancer patients and their families were pushed into poverty within 18 months of initiating cancer therapies, according to the study.

¹ Van Doorslaer, Eddy, et al. “Paying out-of-pocket for health care in Asia: Catastrophic and poverty impact.” Erasmus University, Rotterdam and IPS, Colombo (2005).

Figure 1
ACTION Study's observational study on household burden of cancer in Asia

Patient outcome 12 months after diagnosis by cancer type

(2015)
Percent



*Financial catastrophe is defined as medical expenditure that exceeds 30% of annual household income; study covers Southeast Asian countries, i.e., Malaysia, Indonesia, the Philippines, Thailand, Vietnam, Myanmar, Cambodia and Laos, Sample size: n=9,513.
Source: ACTION Study Group. "Catastrophic health expenditure and 12-month mortality associated with cancer in Southeast Asia: results from a longitudinal study in eight countries." *BMC Medicine* 13.1 (2015): 190.

Current healthcare payment models in the Asia-Pacific region

Most global biopharmaceutical and medical devices companies adopt local pricing strategies to match the purchasing power of the local population; however, the pricing insufficiently accounts for the burden of OOP costs on the middle class. Pharmaceutical companies have historically adopted patient assistance programs (PAPs) to offer high-cost new therapies for free or at a discounted rate to the lowest-income population.

While public reimbursements may subsidize some innovative treatments (consider the Medication Assistance Fund (MAF) in Singapore), they play a smaller role in reducing the OOP burden for new therapies. In this area, pharmaceutical companies have attempted to lessen the burden through discount and volume-based PAPs.

However, the effectiveness of current payment models faces a variety of challenges:

- High administrative burden for healthcare professional/patient/caregiver to enroll in the programs and lack of streamlined processes for means testing
- Designed for the poorest patients and exclude the middle class, which makes up the majority of the population
- Lack of understanding of local landscape and patient journey, thereby failing to provide sufficient value to major stakeholders (i.e., patients, providers)
- Designed entirely by pharmaceutical companies, with little or no collaboration with other key stakeholders (healthcare workers, local governments, patient groups)
- Lack of guaranteed long-term subsidy or funding

The shared contribution model or PAP is the most common program in the Asia-Pacific region, while several disease-specific or outcome-based insurance and financing programs are emerging in the market.

Shared contribution/contribution in-kind in PAPs

Shared contribution/contribution in-kind programs that provide discounts to patients who meet certain socioeconomic criteria are the most widely used financing programs designed by biopharmaceutical companies. Successful programs have streamlined the approval process (i.e., through online application), or they provide value-added support for other aspects of patient care, such as doctors' training.

For example, Novartis' Glivec PAP is the first direct-to-patient access program that has been implemented on a global scale. Novartis collaborates with The Max Foundation to manage the means-testing processes in Singapore, the Philippines, Indonesia and India, while working directly with Malaysia's Ministry of Health to give contributions in-kind through the SHARE-CARE program. In China, it has a long-standing collaboration with the China Charity Federation to donate drugs. Dr. Reddy's Sparsh program in India offers online registration and streamlined logistics to reduce treatment initiation time, as well as offering palliative care for rural patients and training for doctors.

Advantage	<ul style="list-style-type: none">• Expand access to lower-income populations, thereby greatly mitigating risks of major financial and health consequences
Disadvantages	<ul style="list-style-type: none">• Do not preserve the monetary value of therapies for the drug manufacturers• Many PAPs pose a high administrative burden for healthcare professionals, patients and drug manufacturers due to the means testing

Insurance schemes

Disease-specific insurance. Disease-specific insurance products have expanded patient access to high-cost or innovative therapies. In several countries, pharmaceutical companies have collaborated with local insurance and reinsurance providers to give coverage for high-cost treatments. For example, Roche works with more than 18 local insurance companies to support the development of 12 cancer insurance products in China. Understanding market incentives and risks is crucial — Roche teamed up with Swiss Re to convince local insurers to offer coverage, as the reinsurance backstops the downside risks in this new product offering. To help lessen the coverage risks, Roche provided the statistical data on the treatability of various types of cancer; Swiss Re calculated the costs and risks of treatment, designed and priced the policies for insurance, and provides reinsurance. As of 2016, 12-14 million people were covered under this program. The program receives high-level Chinese government support to boost the participation of private insurance companies in the country. The model is now being adopted in more than 20 countries around the world.

Advantages	<ul style="list-style-type: none"> Increases patient base May benefit patient health promotion, disease management and outcome, and may reduce total healthcare expenditure
Disadvantage	<ul style="list-style-type: none"> Does not ensure that the designer of the program will directly benefit with sales of their own products

Outcome-based reimbursement/risk-sharing. In a trend toward value-based healthcare, risk-sharing schemes are gaining popularity even in the private sector. As outcomes are also dependent on patient behavior, patient compliance and adherence are taken into account.

In August 2017, Bristol-Myers Squibb (BMS) emerged as the first pharmaceutical company to introduce outcome-based insurance in China with a private healthcare payer. BMS aimed to attract and retain hepatitis C patients on asunaprevir and daclatasvir (ASV/DCV) therapy. ASV/DCV therapy has a cure rate greater than 95% among hepatitis C virus patients with genotype 1b without baseline NS5A. The treatment typically costs approximately RMB 60,000 (US\$9,450) per treatment cycle. The positive clinical data formed a basis for Shanghai Pharma (a company that holds a 30% share in BMS China and that is one of the largest pharmaceutical distributors in China) to manage risk by identifying the right patients and to partner with Huatai Insurance to create the Meixin Plan, an outcome-based insurance scheme, for eligible patients. The sign-up cost for the Meixin Plan is RMB 9.9 (approximately US\$1.50). An insured patient is required to upload test results monthly for the first 36 weeks of treatment, after which, if the patient fails to achieve a favorable treatment outcome, Huatai will compensate the patient up to RMB 30,000 (US\$4,725). However, the compensation is not available for patients who drop out of the treatment cycle, i.e., due to noncompliance.

Advantages	<ul style="list-style-type: none"> Reduces OOP burden Demonstrates value for money to insurer and patient Promotes treatment adherence and therefore extends average treatment days Increases patient base
Disadvantages	<ul style="list-style-type: none"> Increases total cost in initiating treatment (treatment + insurance premium) Requires strong data from clinical trial data and/or real-world evidence to convince insurance company to collaborate

Lending or Financing

Financing programs with low interest rates or interest-free payments, through collaboration between drug manufacturer and bank or financial institution, could improve the affordability of high-cost biopharmaceutical products. Such programs could lower the therapy initiation cost and increase treatment compliance. For example, in 2016, AstraZeneca, with the support of its distributor, started offering an installment payment plan for lung cancer patients treated with Iressa (gefitinib) in pilot cities in China, reducing the monthly drug cost for the patient from US\$2,500 to US\$680 (a reduction of about 72%).

Advantages	<ul style="list-style-type: none"> Effective in reducing cost barrier to initiate treatment Increases patient compliance to treatment
Disadvantage	<ul style="list-style-type: none"> Default risk

Designing an innovative healthcare financing solution

The Asian countries have varying levels of technology sophistication and healthcare market maturity. Although creating a successful innovative payment model in Asia would require an approach tailored to fit the local healthcare landscape in each targeted country, three key objectives need to be addressed (see Figure 2):

1. **Patient-centric solutions:** solutions that truly target the pain points of patients and physicians, developed through a strong understanding of the patient journey and when cost decisions are made.
2. **Value creation for drug manufacturer, patients and payers:** solutions that increase access by lowering overall cost of treatment while preserving the monetary value of the products for the life science company.
3. **Scalable solutions:** solutions that are easy to use and implement, where awareness and uptake can be readily driven, e.g., through collaborations with physicians and patient associations or large financial institutions.

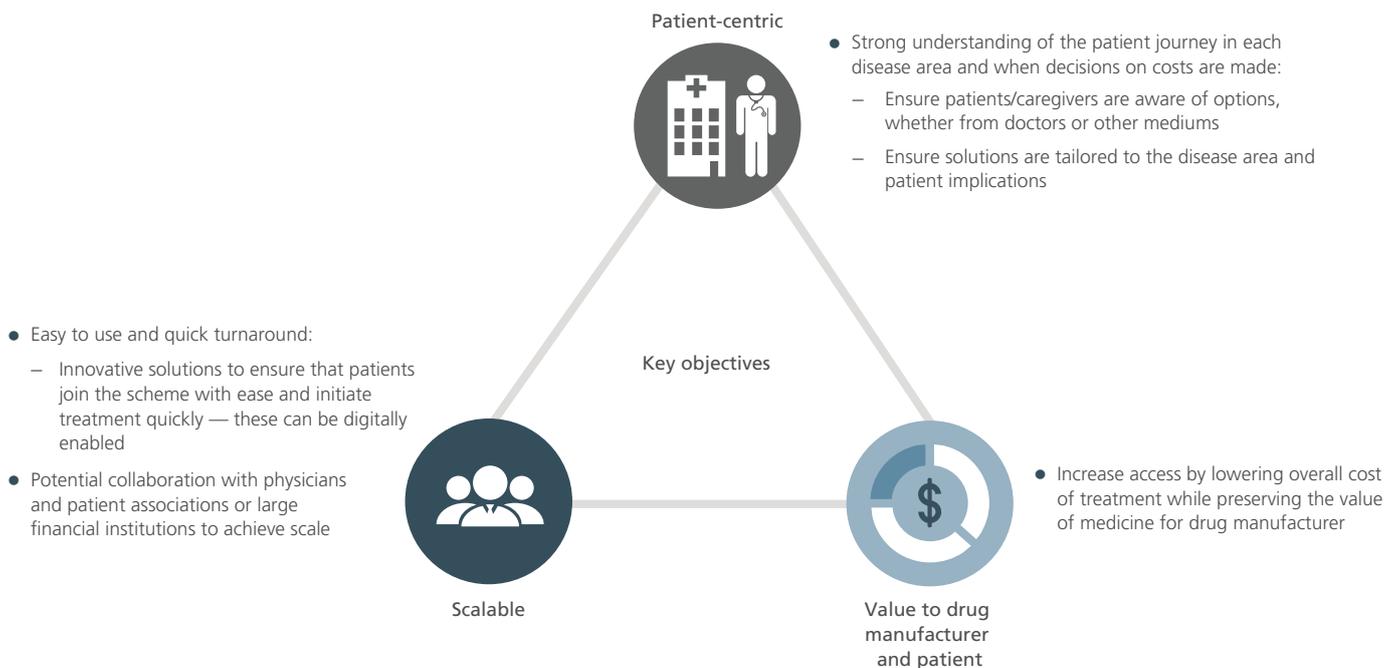
1. Create a patient-centric financial solution through design thinking

The key in any advanced payment thinking is to have a human-centered design. Significant research is necessary to understand what is preventing patients from being able to pay, what their “stumbling blocks” are (see Figure 3). We have identified three key issues that typically prevent patients from paying: cost, payment timing and perceived therapy risk.

Through design thinking, we can discern the patients’ key reasons for not paying for a specific therapy and combine this with agile development to rapidly design a payment scheme and to refine the initial ideas to remove these blocks.

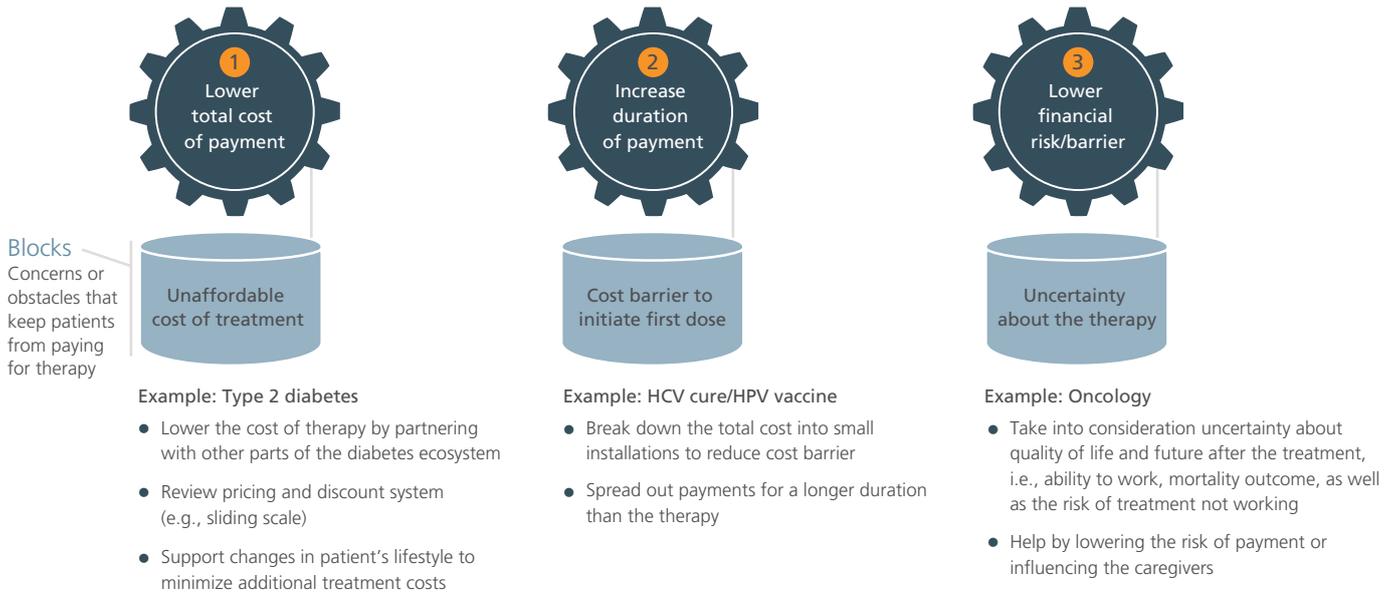
To design a practical financial solution that addresses patient blocks, we need to analyze the patient journey by disease area and verify patient financial pain points and blocks that influence patient choice or cause lack of compliance. Combined research and observation of middle-class patients through engaging

Figure 2
Key objectives of practical and sustainable innovative healthcare financing model



Source: L.E.K. research and analysis

Figure 3
Patient payment “blocks”

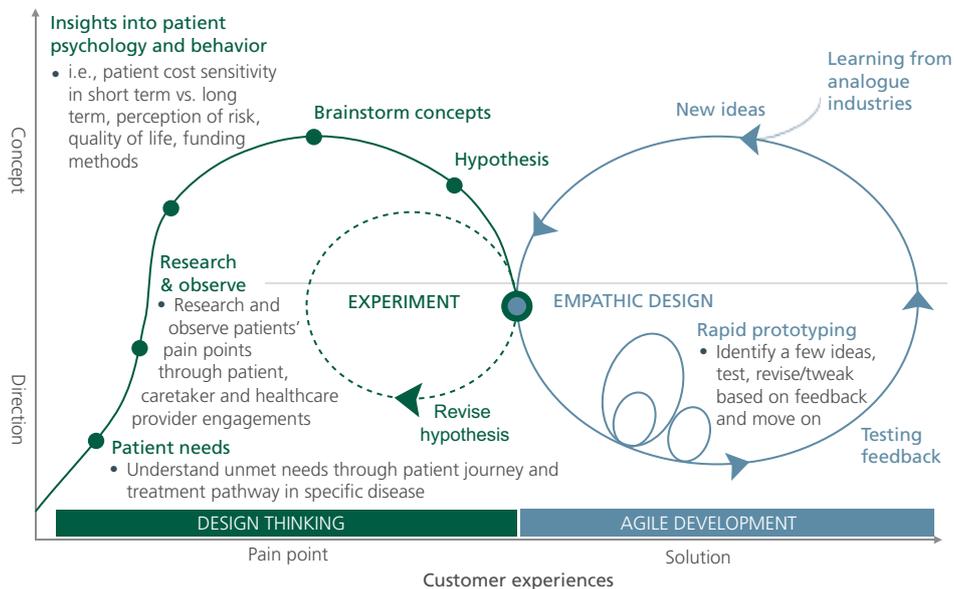


Source: L.E.K. research and analysis

patients, caretakers and healthcare professionals could generate the best insights into a patient's unmet needs and behavior, as well as help identify characteristics of the obstacles. It is also crucial to assess a patient's ability to afford treatment, their cost sensitivity in the short term versus the long term and their perceived risk for

innovative treatment. These insights will form the foundation of design ideas, which will be refined through agile development, where prototypes of payment models are tested to identify technical and logical barriers and then are effectively revised (see Figure 4).

Figure 4
Innovative financial model design processes — from design thinking to agile development



Source: L.E.K. research and analysis

2. Reform the pricing and payment scheme to create value to drug manufacturers, patients and payers

Depending on the characteristics of the obstacles in the patient journey, biopharmaceutical companies could reduce payment obstacles through influencing cost, payment duration or financial risk.

2.1 Lower total cost of disease management

For patients with chronic diseases that have high comorbidity and require significant spending beyond medication, the exorbitant total cost of payment for disease management poses a burden. For example, Type 2 diabetes patients require not only medication for treating diabetes and its comorbidities but also a special diet and regular clinical diagnostic tests. Partnerships between drug manufacturer, insurers, medical facilities and other players within the disease management ecosystem (e.g., nutritionists, gyms, exercise experts) could help lower the total cost of care and support changes in a patient's lifestyle to minimize additional treatment costs.

2.2 Increase duration of payment

Some therapies have a loading dose that significantly increases the cost barrier to initiating treatment. However, drug manufacturers can work with financial institutions to break down the total cost into smaller installments to reduce this barrier. For high-cost nonchronic therapies or vaccines, a company can spread payments beyond the duration of the therapy.

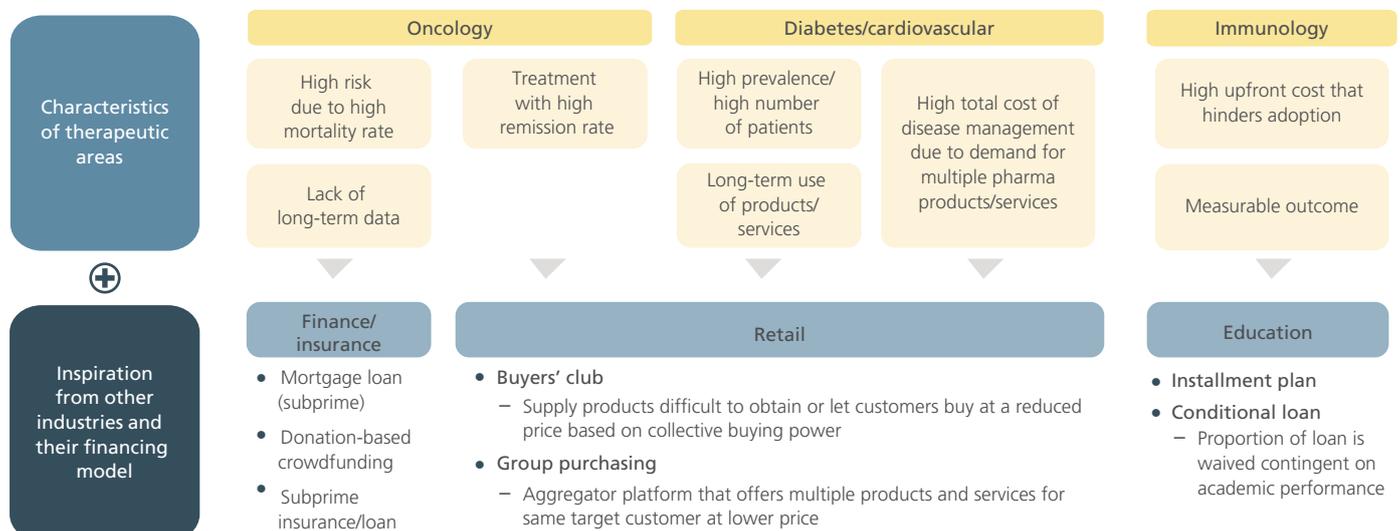
2.3 Lower financial risk/barrier

Although innovative therapies have gone through rigorous clinical trials, the lack of real-world evidence and long-term clinical results increases the perceived risk among healthcare professionals, payers (public and private insurance) and patients. Patients may have doubts about treatment outcome, quality of life and their future after the treatment — ability to work, mortality outcome and the value they will derive from the treatment in relation to its high cost. An outcome-based or risk-sharing financial model could lower the perceived risk for patients, public and private insurance schemes, and caregivers.

Designing new financial models could also start from identifying industries and systems that are analogous to the blocks that the patients experience in each therapeutic area. For example, risk-hedging financial models (i.e., subprime loans and donation-based crowdfunding) could inform a financial model for late-stage cancer, a disease with high mortality risk.

Plans for treating chronic diseases with high total disease management cost could be inspired by the food and beverage, retail, and lifestyle industries, e.g., buyers' clubs and group purchasing. Therapies for diseases with measurable outcomes could adopt the specifics of conditional loan or risk-sharing models. The detailed design of the payment model and customization to a certain therapy will require understanding of the model specifics, which could be derived from analogue industries, and the potential partners to successfully implement the model (see Figure 5).

Figure 5
Example characteristics of therapeutic areas and analogue industries/financial models



Source: L.E.K. research and analysis

3. Increase scalability of financial model through partnerships

Partnerships with key stakeholders, such as large financial institutions, government, physicians and patient associations, in creating a financial model are vital to establish awareness, streamline the process and achieve scale. As the adoption of digital technology increases, healthtech and fintech startups are growing rapidly in Asia, not only to deliver differentiated experiences and customized services, but also to help lower the cost of program delivery (see Figure 6).

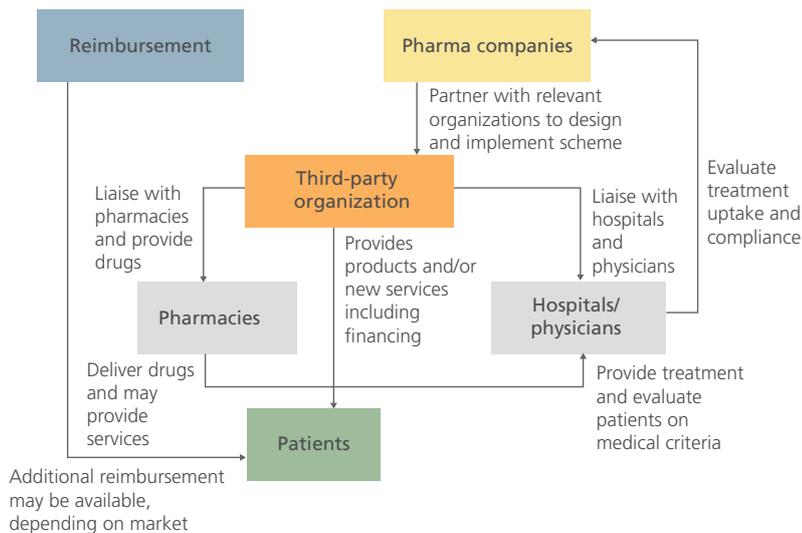
- Understand the attitude and propensity of healthcare providers to facilitate introduction of the scheme to the patient

Partners could be involved in a number of steps in the process to enable the innovative payment model (see Figure 7). Fintech, healthtech and data analytics companies are building solutions that could help, including strategies that accomplish the following:

- Increase awareness of disease, available treatment types and cost transparency

Figure 6
Common partnership structure in financing models in the Asia-Pacific region

Illustration of stakeholders' involvement in innovative financing payment model



Source: L.E.K. analysis

A detailed review of the payment environment is necessary to understand sustainability and scalability of any payment model. The assessment includes the following stages:

- Estimate the potential scale of the patient pool for an innovative payment program
- Verify major external variables, such as regulations that can influence the sustainability of the payment scheme
- Ensure that the external partners, such as financial institutions or fintech/healthtech companies, and the drug manufacturer can scale to the level of demand in the market

Benefit to pharmas

- Increase access for middle class
- Avoid price cut but increase affordability
- Add leverage in negotiation with local governments for reimbursement

Benefit to third-party organizations

- New financial product and services for insurance, banks and other partners
- Increase corporate visibility and improve brand name through social impact

Benefit to patients

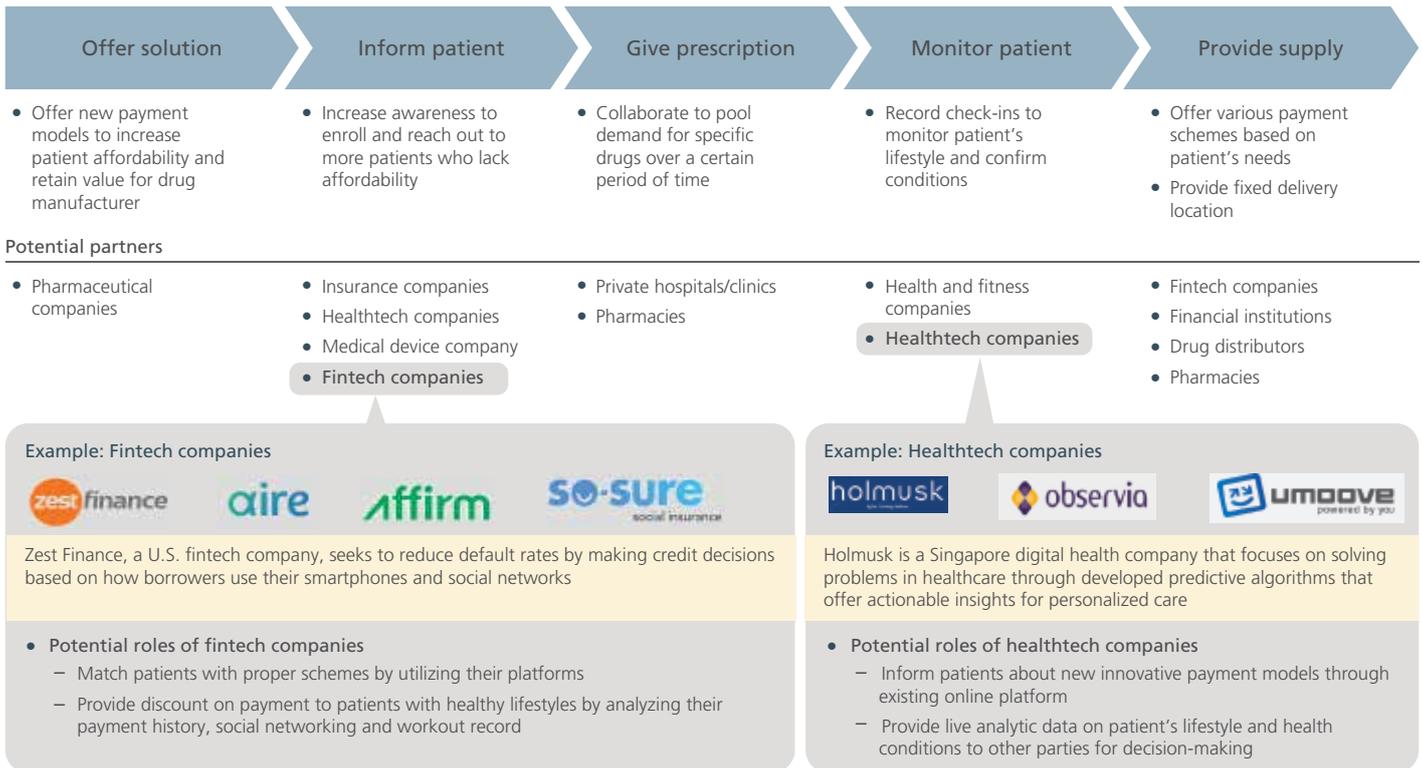
- Access to better treatments
- Relieve financial burden

Benefit to government

- Relieve reimbursement funding burden

- Increase awareness and understanding of and access to available financing options
- Enable broader access to the financing options through the provision of live analytical data contextual to a patient's lifestyle and health conditions to aid other parties for decision-making
- Expedite and simplify the end-to-end process of these financing options
- Enable more-efficient treatment provisions, e.g., prescription fulfillment

Figure 7
Potential partnerships in innovative financing models



Source: L.E.K. research and analysis

"[The] insurance industry aims to move from curative to preventive coverage. If we can provide a solution that could benefit the patients' well-being, i.e., through collaboration with biopharmaceutical companies, providers of health monitoring and other ancillary services that help manage the disease, insurance companies would be more open to be on board."

CTO, healthtech startup

"With the current technology, we have collected a wealth of data, so much that we need artificial intelligence to make sense of the big data. If we could collect the data of our customers (with their consent), we would be able to create insurance with lower premiums and better coverage."

Chief digital officer, large multinational insurance company

"In Asia, financial institutions are generally risk-averse. Insurance companies require substantial data and assess potential scale to help us manage the risk. Hence, insurtech will take a longer time to evolve compared to the rate of fintech modernizing the banking industry. Even for large insurance companies, it will take a long time to design and launch health and life insurance products. ... Similarly, we need to understand the risk through clinical data, patient data and potential scale it could achieve to consider working with the biopharmaceutical companies."

SVP strategic engagement/insurance products, large multinational insurance company

Conclusion

Innovative financing models for high-cost therapies are still in a formative period in the Asia-Pacific region. This path has been explored before by more forward-thinking healthcare industry incumbents but has failed to gain broader traction for many of the reasons illustrated in this article.

We are at an inflection point, however, where the convergence of technology with sectors such as banking, insurance and health is creating exciting opportunities for the healthcare industry to broaden its reach into the Asian population and improve health outcomes across the income pyramid.

Many financial sector verticals in the Asia-Pacific region are rapidly evolving and expanding their products and services, enabling the established biopharmaceutical companies to engage with new

solutions and business models. The biopharmaceutical companies could leverage these opportunities to create financial models that will serve a greater proportion of the society, thus reducing the OOP burden for the large middle-class population and potentially disrupting the industry.

In order to benefit more people with improved healthcare, we need to increase disease awareness at a population level and broaden access to healthcare professionals. However, we should not lose sight of the fact that there is a compelling need to reduce the end-to-end patient journey costs, which will directly contribute to improving healthcare affordability.

Editor's note: For more information about this article, contact strategy@lek.com.

About the Authors



Fabio La Mola is a Partner in L.E.K.'s Singapore office and has over 18 years of experience across healthcare services and life sciences, strategy, organization, and performance. He has worked with clients across Southeast Asia, Europe, the Middle East and the U.S. Fabio leads L.E.K. teams applying analytic techniques and delivering insights for clients to solve complex strategic issues. He also works with organizations on go-to-market planning, product launches, portfolio optimization, commercial and operating model development, processes, operations, and organizational efficiency.



Dr. Chang Liu is the Managing Director for ACCESS Health Mainland China, Hong Kong and Singapore. Chang is the author of an annual Singapore health system update published by the Commonwealth Foundation and London School of Economics. He is also an author of the "Epilogue to Affordable Excellence," which documents the progress toward sustainable, high-quality healthcare in Singapore during 2013 and 2014. In addition, he is an adjunct professor in the Chinese University of Hong Kong and Duke Kunshan University.



Julien de Salaberry is the CEO and co-founder of Galen Growth Asia, Asia's only healthtech ecosystem builder, which is establishing, in partnership with corporations, government organizations, startups and key stakeholders, an integrated innovation ecosystem focused on healthtech innovators to disrupt and solve our healthcare system's pain points. After many years as a senior executive in the healthcare industry, Julien founded The Propell Group, a leading healthtech boutique investment and venture-building firm, based in Singapore.



L.E.K. Consulting is a registered trademark of L.E.K. Consulting LLC. All other products and brands mentioned in this document are properties of their respective owners.

© 2018 L.E.K. Consulting LLC

