Breaking the health-poverty trap:
How fintech can improve access to healthcare in Asia

Foreword

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Covid-19 has laid bare the growing chasm between the relatively few who can access and afford high quality healthcare and the many who cannot. Before the pandemic, hundreds of millions were forced to choose between health and wealth, with individuals and families driven into financial ruin due to the cost of care or treatment. Now tens of millions more have been faced with this impossible choice, many of them from traditionally underserved and marginalized communities.

Never has the need for equitable and affordable access to high quality care been more critical. And never have the opportunities been greater for the financial services sector and *Fintech for Health*.

Fintech solutions can help fill the gap between what governments are willing to pay for when it comes to health and what those in need are able to afford. ***Breaking the health-poverty trap: How fintech can improve access to healthcare in Asia*** demonstrates the feasibility and importance of harnessing Fintech for Health's potential as a solution to the complex problem of improving health equity for all.

The speed with which Covid-19 spread across the globe—devastating individual lives, entire communities, and significant portions of our global economy—proves that the status quo will not hold. As widespread infectious disease outbreaks are increasing in frequency and the number of people with chronic conditions continues to rise, we must find new ways to ensure that everyone is able to access and pay for the health interventions they need, when and where they need it, whether that be in a major urban center or an isolated rural community.

Fintech for Health introduces new approaches to healthcare payments, banking, and insurance and provides people with unprecedented access to healthcare services, information, and mutual aid through new technologies. By putting patients at the center of all solutions, working across sectors, and providing integrated services, we can create a system whereby all people can access high quality health services without risking financial catastrophe. This rare moment in history offers a singular opportunity for those within the financial and technology sectors to improve the lives of hundreds of millions of people across the world.

On behalf of ACCESS Health, we would like to thank MetLife Foundation for their support in defining and developing *Fintech for Health*. Through our joint vision – the finance sector with the healthcare sector – we can make a difference.

Foreword

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Financial Health Strategy Lead
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The World Health Organization (WHO) estimates that more than 100 million people around the world are pushed into poverty every year because of healthcare expenditures. The pandemic is erasing years of progress and is exacerbating this push, with an estimation by the World Bank of an additional 88 to 115 million people entering the ranks of extreme poverty by 2021.

There have been many efforts around the world to decrease the costs of healthcare, particularly for low-income people – national health initiatives, free clinics, and reduced priced medicines offered by public, private and non-profit players.

And, in the financial services sector, there have been some products designed specifically to cover health care costs – health savings accounts, hospital indemnity, and even loans. But, the efforts to bring together the financial services and healthcare sectors have been fewer. Technology offers the opportunity to bridge this divide, making it possible for healthcare, governments and financial providers to collaborate, co-create and scale new and innovative solutions to address the ever-rising cost of care and burden on communities. Technology offers the potential for faster iteration of ideas, across a much wider physical and sectoral landscape.

ACCESS Health International and MetLife Foundation have co-designed the first-ever regional platform that brings together leading finance and healthcare providers as well as startups with the purpose of finding innovative solutions that increase low- to moderate-income people's ability to afford and access healthcare services. The platform objectives are three-fold: 1) To test and scale projects that help people pay for and afford the care they need, using a combination of digitally enabled healthcare and financial solutions, 2) To promote cross-sectoral innovation in healthcare access and affordability, and 3) To conduct research on best practices, blending finance and healthcare innovations.

This white paper seeks to spur further dialogues and action - locally, regionally and internationally - around the need, challenges and opportunities for healthcare providers, governments, technology providers and financial services providers. The goal of the Fintech for Health program is to forge and support partnerships that can build solutions to enable low- to moderate-income people utilize high quality healthcare services in an affordable and timely manner without jeopardizing their family's financial health.

MetLife Foundation is pleased to partner with ACCESS Health on the Fintech For Health platform where fintech and healthcare providers can work together to design, test, and scale high-quality health financing solutions for those who need it most.

About ACCESS Health International

ACCESS Health International is an international non-profit think tank, advisory group, and implementation partner. We work to improve access to high quality and affordable healthcare. We also work to reduce health disparities by shaping the social and environmental determinants of health. We conduct practical, evidence-based research. We cultivate partnerships. We foster health innovation. We establish long term, in residence, country and regional programs.

About MetLife Foundation

At MetLife Foundation, we are committed to expanding opportunities for low- and moderate-income people around the world. We partner with nonprofit organizations and social enterprises to create financial health solutions and build stronger communities, while engaging MetLife employee volunteers to help drive impact. MetLife Foundation was established in 1976 to continue MetLife's long tradition of corporate contributions and community involvement. From its founding through the end of 2020, MetLife Foundation provided more than $900 million in grants and $87 million in program-related investments to make a positive impact in the communities where MetLife operates. Our financial health work has reached more than 13.4 million low- and moderate-income individuals in 42 countries. To learn more about MetLife Foundation, visit metlife.org.

Executive Summary

No one should have to choose between health and poverty. Yet around the world, an estimated 925 million[1] people per year face healthcare costs that put them at risk of financial catastrophe. In Asia, the levels of catastrophic health are dire. Every year, one third of all new cases of poverty in Southeast Asia are due to healthcare costs.

The formidable link between healthcare costs and poverty, or simply the link between wealth and health, have led the global community to call for the cycles of poverty and ill health to be broken.

At the United Nations Sustainable Development Goals 3.8 in 2015, governments around the world committed to Universal Health Coverage (UHC)—the right of every individual to access needed health services, of sufficient quality, without posing undue financial hardship.[2] UHC is not only a global ambition; it has set a common standard and expectations of what healthcare should be.

In this paper, we focus on the specific challenge of ensuring that healthcare in Asia can be accessed "without posing undue financial hardship" and revealing how fintech solutions can and are helping people to better afford the healthcare they need. As governments and societies strive to make good on the promise of UHC, there is an urgent need to address the high out-of-pocket burden that people face in paying for healthcare that is beyond the scope of what many current UHC policies can achieve.

To address the reality of persistent health financing challenges, we need strategies and solutions that will overcome inequities in healthcare quality, access, and affordability.

What role can the financial services and fintech sector play in improving access to health? For most people, access to finance is the single biggest determinant of access to good-quality healthcare. When finance is the bottleneck to healthcare, those of us in the sector need to step across our professional entrenchments and seek the expertise and innovations from those who know financing best.

In 2020, ACCESS Health International with support from MetLife Foundation created the *Fintech for Health Innovation Platform*[3] to bring together the financial services and healthcare sectors to address longstanding health financing challenges and improve how low- and moderate-income people in Asia afford and pay for healthcare. The *Fintech for Health Innovation Platform* currently focuses on six countries: Bangladesh, China, India, Malaysia, Nepal, and Vietnam.

The problem statements, case studies, and innovative solutions presented in this paper are largely derived from our research and initial lessons from this endeavour and are applicable globally. We share three key takeaways on why *Fintech for Health* is so urgently needed and how to achieve/accomplish/catalyse it.

Three Key Takeaways

1. Health financing must be patient-centered.

In the healthcare industry, we often talk about patient-centered care, which is a paradigm for ensuring that service delivery meets patient needs and preferences. But rarely do we consider health financing in the same way. Patients in low- and lower-middle income countries in the Asia-Pacific region on average pay for half of their healthcare expenses out of pocket[4], yet financing is often discussed and analyzed at the health systems level, not at the personal level. To create effective and realistic financial solutions, we need first to understand patients' financial decision-making regarding accessing healthcare, which is based on known and unknown indirect costs of care, and the ability to access trusted and transparent financing. Taken together, individuals then consider their willingness and ability to pay.

2. This is a CALL to bring sectors together.

The population that is unbanked or underbanked is disproportionally low-income and is the same population that UHC policies seek to support. The development goals of UHC and Universal financial access are essentially the same—to ensure that people are financially sound while pursuing both a better quality of life and health. The financial services sector has a direct and important role to play in creating financial solutions for healthcare.

3. The best solutions will be bundled, integrated, and comprehensive.

Fintech can be used to deliver three types of solutions: information, healthcare services, and financing (i.e., financial products and services). Information may include health education, doctor appointment scheduling, and transparent pricing (e.g., consultation fees, diagnostics, treatment), and COVID-19 screening sites. Examples of healthcare services would be telehealth consultations and e-pharmacies. In the realm of patient-facing health financing, we may highlight insurance marketplaces, claims processing, digital savings and lending, and crowdfunding. Patients' needs rarely fall into just one category. To be patient-centered, solutions providers must consider the totality of patient needs and preferences, partnering when necessary and delivering accordingly, so that patients have what we all deserve: options.

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Introduction

Wealth equals health

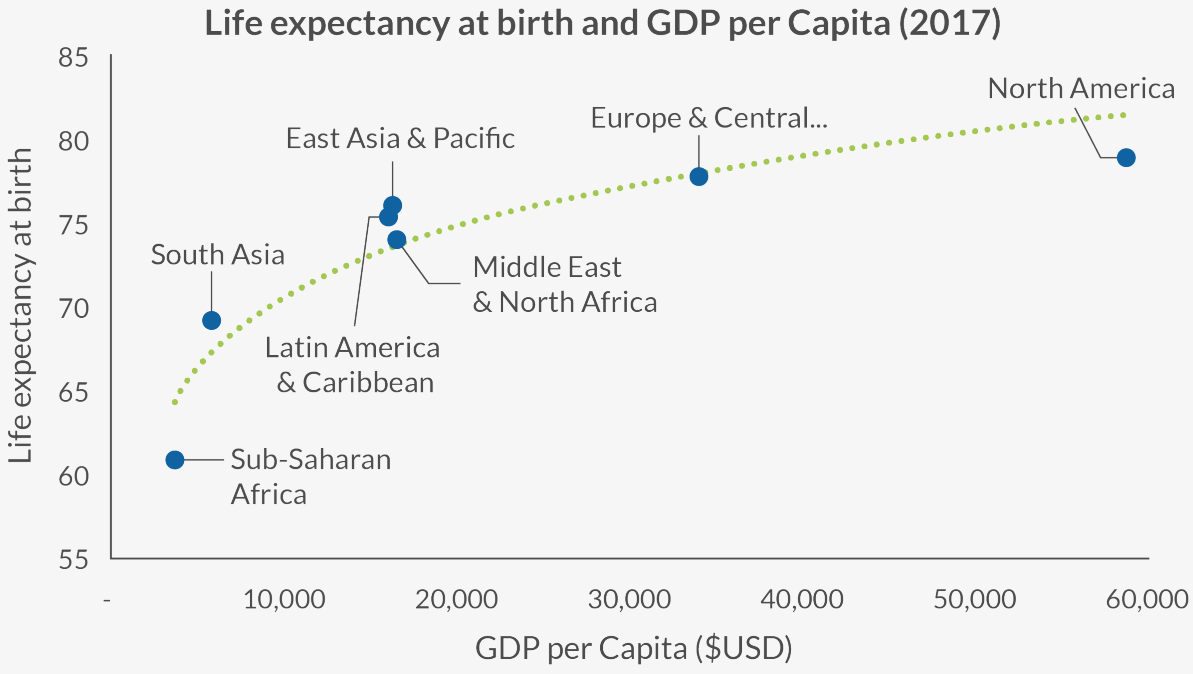
Health is a cherished human right, underpinning our definition of well-being and quality of life. In 1946, the World Health Organization set this principle on paper, compelling nations and world leaders to recognize that, "The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition."

A person's health and well-being are intrinsically of merit. However, if they are viewed merely as functions of economic output (as is common these days), we can be equally satisfied in recognizing that health increases workforce productivity[5].

Good health—channelled through work—brings in wages that are used to improve standards of living. Healthy workforces spur the national economy. Older generations can therefore continue to admonish younger generations with the adage, "Health equals wealth."

Yet, this direct link between health and wealth has also meant that—for most of the world's population—good health is bound to good fortune. Healthcare does not necessarily flow to those who need it most, but to those who can afford it most. In short, wealth equals health.

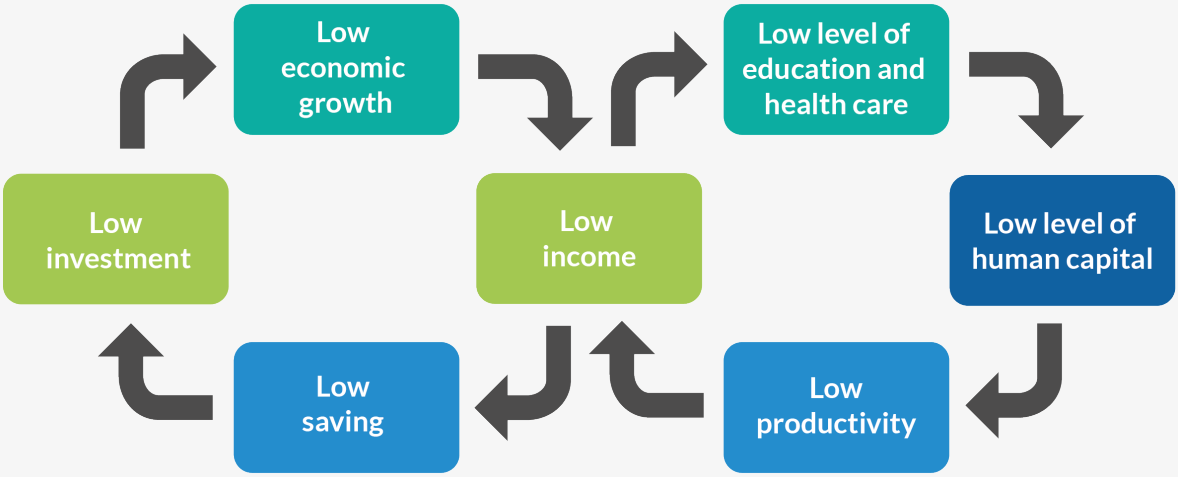
Figure 1: Life expectancy and GDP per capita



Poverty trap

One's ability to work and thereby generate wealth is undermined by poor health. And the money that is needed to pay for healthcare is often out of reach. The poor cannot easily save, borrow, or raise funds to cover the treatment for illness. Thus, a cycle of poverty and poor health continues, one that is recognized by experts simply as the "poverty trap."

Figure 2. Cycle of poverty and ill health



Though poverty is not always related to health, economists recognize that ill health is the one of the biggest factors driving people into poverty.[6] For this reason, most societies attempt to provide financial protection against catastrophic healthcare costs—mostly commonly through public financing (subsidized healthcare or social health insurance), private insurance, and charitable endeavours. While these forms of financial protection provide an important foundation for healthcare financing, they leave consistent gaps, causing individuals to bear a large portion of their healthcare expenditure out-of-pocket.

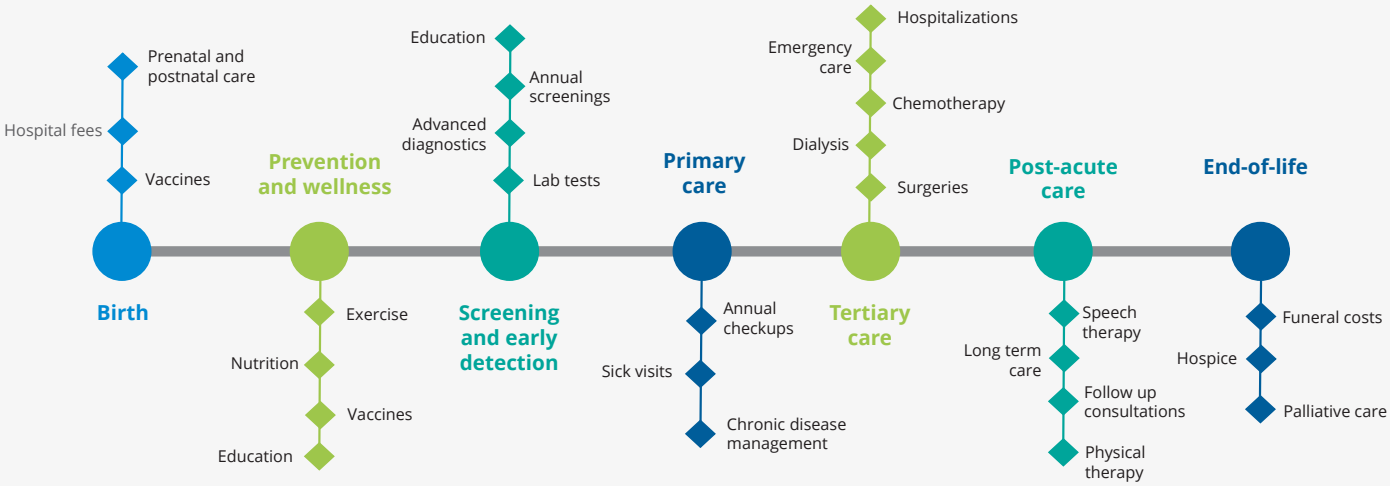
A 2019 report by the World Bank summarizes this financing challenge saying, "Healthcare is different from other budget items in several key ways (cf. Arrow 1963). Its consumption is irregular and unpredictable. This reflects the fact that curative healthcare is valuable only in the event of illness, the timing and nature of which is substantially beyond the control of the individual…The consequent reduction in expenditure on other budget items – whether in the current period or in other periods – is therefore associated with a reduction in welfare rather than an increase, as is the case with other goods and services."[7]

The Five Healthcare Challenges

Every Healthcare Journey is Accompanied by a Financial Journey

The *Fintech for Health Innovative Platform i*s our starting point for addressing the financial challenges a person faces throughout life in paying for and accessing care. By identifying specific points where individuals are most likely to pay out-of-pocket and are vulnerable to high costs, we home in on where and when fintech solutions may have a role to play across the life cycle.

Figure 3. Healthcare Financial Journey



At any given point when an individual needs healthcare, there are specific types of challenges to affordability and access that he or she may face. We identified five common attributes of healthcare costs that are preventing ordinary people from accessing timely and quality healthcare services:

1. Healthcare costs are expensive.

Medical costs are outstripping inflation. While in 2019 the worldwide inflation rate for goods and services was 2.9%, the global trend for healthcare costs stood at 7.8%.[6] In the Asia-Pacific region the upward trend in healthcare costs is even more alarming, with a regional average of 8.6%—three times the global inflation rate for goods and services.

2. Healthcare costs go beyond the cost of treatment alone.

Indirect costs are the costs associated with accessing healthcare but not directly linked to the delivery of healthcare services or to the treatment itself. One such example is the cost incurred when traveling to a healthcare facility to receive services. People who live in rural and remote areas, where medical facilities, clinicians, and healthcare workers are few and far between, generally have poor access to healthcare. This is particularly evident in Asia, where 66% of the population in South Asia live in rural and remote areas[7] and in East Asia and the Pacific, where 41% of the people live in rural areas.

> **"Except for inexpensive care that presents no serious financial burden to the consumer, out-of-pocket spending is without doubt the worst way to pay for health services. Almost any form of prepayment is preferable."**
>
> **– Philip Musgrove**

3. Healthcare costs are out-of-pocket.

Out-of-pocket spending on healthcare costs is one of the greatest threats to the financial security of people around the world. Out-of-pocket expenses are payments made directly by individuals to healthcare providers at the time of service.[8]

For low- and moderate-income people, the level and unpredictability of healthcare costs that are paid out of pocket imposes significant financial vulnerability on the individual and household who may have little savings or assets to pay for the cost of healthcare at the time of service. They may have to raise funds from friends and family, turn to informal lenders and loan sharks, or forego necessary treatments.

For this reason, prepayment of healthcare in the form of insurance premiums, taxation, and savings are always preferable. In Asia, out-of-pocket (OOP) expenditure as a proportion of all sources of healthcare financing varies significantly, with 11% in Thailand to 74% in Bangladesh[9].

4. Healthcare costs are unpredictable.

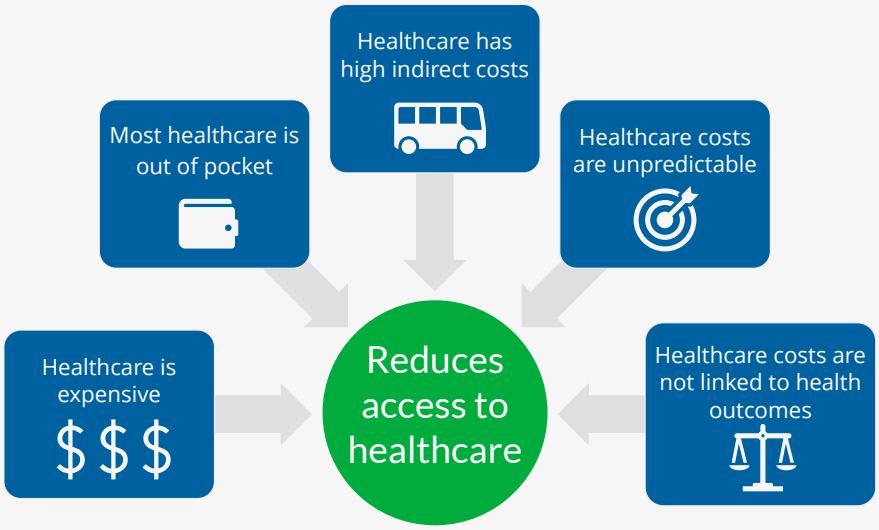
No one plans to fall ill or have an accident, nor does anyone anticipate pregnancy complications, an autoimmune disease, or a novel coronavirus. Yet the costs of treatment often go well beyond a household budget. When a woman in Bangladesh or India is diagnosed with advanced stage breast cancer, she cannot wait the typical 3-6 months to access treatment in the public healthcare system and when she does, innovative medicines may not be available. But seeking care in private facilities[10] involves incurring an outsized cost compared to public hospitals.

As with cost, the type and volume of care needed may also be unforeseeable, based on an interplay between a person's own biology, extent of illness, environmental factors, and the risk of complications. Therefore, two people may have diabetes, cancer, or cardiovascular disease but the treatment prescribed, and consequently the costs for each individual, will vary significantly.

5. Healthcare costs are not linked to healthcare outcomes.

In healthcare, we do not pay for results, we pay for what we use. In most healthcare systems, costs are often determined by "inputs," i.e., products and services delivered. Outcomes are not guaranteed by hospitals or doctors. At the level of the individual patient, this disconnect between costs and outcomes puts tremendous financial pressure on a household and may not result in better health. For those who face severe and life-threatening illnesses, this is a gamble that could result in death or bankruptcy and generational (whole-family) poverty.

Figure 4. Five persistent health financing challenges across Asia



The Challenge to Finding Solutions

Indeed, a person's health journey and underlying financial journey are unique and a function of their circumstances. Based on what we have learned through the *Fintech for Health* program and informed by our research on case studies, interviews, and discussions with fintech and healthcare organizations around the world, we have developed typical "personas" representing everyday people who experience health financing challenges.

Our personas from Malaysia, Vietnam, Bangladesh, and China are representative of many other countries where people face multiple financing challenges that impede access to the care that they need. For low- and moderate-income people, steady income, robust savings and assets, and adequate health insurance are rarely possible.

The personas describe individuals who face multiple financing-related obstacles in the context of their households and communities. It is tempting to find one-dimensional solutions, but until we recognize and build for complexity of real-life solutions, we will fall short of providing true solutions.

Let us first look at Ibrahim's story (Figure 5). In the last three decades, there has been a 13% increase in global longevity[11] spurred by breakthroughs in science, public health, sanitation, and overall standards of living. Greater longevity has also been accompanied by a rise in chronic diseases associated with age, such as cancer, cardiovascular disease (CVD), and dementia. Improved standards of living have brought unprecedented changes so that our habits of daily life compromise our health – diets shifting towards greater quantities of unhealthy and processed foods, the rise of tobacco smoking and vaping, environmental carcinogens – leading also to higher rates of diabetes, cancer, and CVD.

Here, Ibrahim is a Malaysian gentleman soon approaching his seventh decade of life who has to manage his blood sugar levels and pay for out-of-pocket expenses related to his diabetes care.

Figure 5. Ibrahim's Journey

Ibrahim is a 67-year-old man living in Selangor, Malaysia with his eldest daughter and her family. Five years ago, he was diagnosed with Type II diabetes and, while he walks and stretches daily in the local park, for the last year he has had to use insulin to control his blood sugar. His diet consists of mostly rice, vegetables, and chicken cooked in vegetable oil. Ibrahim enjoys eating packaged baked goods and sweet milk tea on a daily basis. He visits his primary care provider regularly and, with helpful reminders from his daughter, works hard to adhere to his blood test and medication regimen.

$$$ Too expensive

Out of pocket

Indirect Costs

Unpredictable

Uncertain outcomes

HEALTH STATUS		FINANCIAL STATUS	
OOP insulin and blood testing strips	Lifelong	Owns home, farm, livestock Minimal savings	Significant physical assets
Cost	**Duration**	**Net worth**	**Liquidity**

Problem: Malaysian public insurance provides a lump sum to Ibrahim for his diabetes costs. However, due to the higher need for and cost of insulin in Malaysia, this sum does not cover his yearly diabetes expenses. In addition to this, Ibrahim's monthly income is very low and therefore, the monthly out-of-pocket costs of insulin and testing strips are a large financial burden.

Not all financing barriers are related to the high cost of treatments. The indirect costs that arise from accessing healthcare (e.g., transport costs, lost wages) as well as the fallout of ill health and disability are substantial.

Here, Rashida, a young pregnant mother faces a problematic pregnancy that also threatens the financial stability of the household.

Figure 6. Rashida, a pregnant woman unable to go to her antenatal check-ups

Rashida is a 23 year old Bangladeshi woman who lives in a slum area outside of Dhaka with her husband, young toddler, and a elderly mother in law. She works as a cleaning lady in three separate households. Rashida is now pregnant with her second child. She needs to visit the hospital for at least four antenatal checkups to ensure the well-being of herself and her baby. Her pregnancy is already a complicated one and living in poor conditions have made things more difficult for her. While her husband works as a labourer, they need both incomes to be able to support the growing family.

$$$ Too expensive

Out of pocket

Indirect Costs

Unpredictable

Uncertain outcomes

HEALTH STATUS		FINANCIAL STATUS	
Antenatal visits are free, but transport costs and time off work is costly	She needs to reduce strenuous work for next 5 months	No savings Wedding jewellery	Wedding jewellery is on hand for emergency
Cost	**Duration**	**Net worth**	**Liquidity**

Problem: Rashida doesn't have any savings or stable source of income. If she stops working completely for 5 months as her doctors advises, her family will suffer hardship. How will she ensure a safe motherhood and reduce the risk of health issues for her newborn?

Reproductive health and family planning are part of the basic package of primary healthcare services that women still struggle to access in many parts of the world. In Vietnam, which has approximately 40% rate of abortions[12], access to safe contraceptive methods is challenged by issues around sensitivity and stigma and the affordability of long-term contraceptive methods.

Binh (Figure 7) would like to access long-term contraception to reduce her chances of an unwanted pregnancy while maintaining her privacy.

Figure 7. Binh, a factory worker in Vietnam in need of reproductive health services

Binh is a 20 year old woman working in a factory in an industrial zone outside of Hanoi. She buys oral contraception from the local pharmacist, but as a single woman prefers long term contraception to maintain her privacy and give her peace of mind against missed doses. However, it has an upfront cost of USD $120 and she can only afford to pay USD $1-3 per month. The government offers subsidies, but it requires filling out many forms and going to a district hospital, for which she'll need to take time off work and travel to another town.

- $$$ Too expensive
- Out of pocket
- Indirect Costs
- Unpredictable
- Uncertain outcomes

HEALTH STATUS		FINANCIAL STATUS	
USD $120 for implant and doctors fees	3 years	Little savings, Income covers basic expenses and rest is sent home	Not applicable
Cost	**Duration**	**Net worth**	**Liquidity**

Problem: Binh cannot afford the upfront costs of the implant but would be able to pay for it in instalments. She also cannot afford to take the time off work to travel to a district hospital and is worried about her privacy being protected.

Let us now look at the case of Xiaoming (Figure 8) in China who has been diagnosed with cancer and requires innovative therapy that is not covered by public insurance. The increasing rate of scientific breakthrough and innovation are helping people to live longer lives and reduce disability or suffering, but these innovations – particularly in the areas of pharmaceuticals and medical devices – are often beyond the financial reach of many in developing as well as developed settings.

Figure 8. Xiaoming unexpectedly faces tough decisions about his cancer diagnosis

$$$ Too expensive

Out of pocket

Indirect Costs

Unpredictable

Uncertain outcomes

Xiaoming is a 25-year-old deliveryman who lives alone in a small apartment in Beijing. After a health check-up, the doctor diagnosed his illness as non-small cell lung cancer (NSCLC). Immune checkpoint inhibitors targeting either programmed cell death protein 1 (PD-1) has become routinely part of the clinical approach for management of NSCLC. And drugs such as Keytruda and Opdivo already launched in China. The doctor suggestions triweekly immunotherapy for one year.

HEALTH STATUS		FINANCIAL STATUS	
Drugs for immunotherapy are costly and not covered by social health insurance	Triweekly immunotherapy needed over a year	20K savings	Middle liquidity-can get no more than half cash from savings
Cost	**Duration**	**Net worth**	**Liquidity**

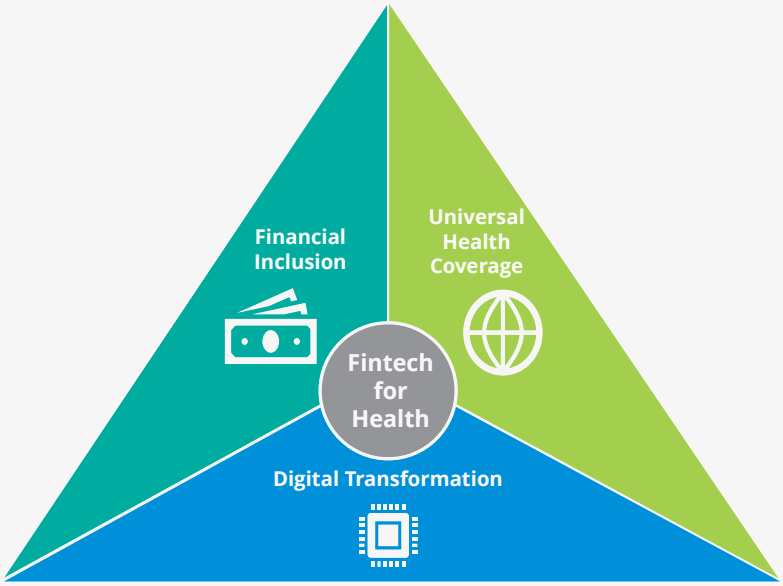
Problem: Although social health insurance he had can pay for up to 70% of healthcare costs, drugs for immunotherapy such as PD-1 are not in the reimbursement list. Moreover, he is a blue-collar deliveryman without employer-sponsored insurance program. What he is facing is not only staying at home without income but high out-of-pocket spending.

Fintech for Health

The Opportunity

Three trends have emerged in the last decade that provide a powerful opportunity to help countries break out of the health-poverty trap.

Figure 9. Fintech for Health is enabled by three global trends.



DIGITAL TRANSFORMATION

The change that occurs when new digital technologies affect the value of existing goods and services

FINANCIAL INCLUSION/HEALTH

The availability and equality of opportunities to access financial services for all

UNIVERSAL HEALTH COVERAGE

All people have the right to high quality affordable healthcare

Trend 1: Digital transformation is driving health transformation.

Industry after industry, nation after nation, the use of digital technology has redefined the way we live, interact, and do business on a global scale. As of 2019, the World Bank estimated that 57% of the world has access to the internet, 67% access to a mobile phone, and 47% access to 3G, 4G, or 5G networks (GSMA). We shop online, find jobs online, learn online, find partners online, and now we are seeking healthcare online.

The unprecedented scale and pace of changes driven by technology have brought innumerable benefits as well as threats. Technology is one of the rare innovations that has been quick to spread and penetrate across all income levels and national GDPs. Although not a panacea to poverty (misused, it exacerbates poverty), we see the alignment of digital technology with important social and political movements as a catalyst to break vicious cycles of poverty, inequity, and ill health.

Trend 2: Fintech is rapidly increasing access of financial and other digital services among the low- to moderate-income segments.

Through the premise of financial inclusion, fintech has and continues to make remarkable contributions toward increasing access and usage of financial services among low-income people. In just the past six years, 1.2 billion people worldwide have gained access to bank and mobile money accounts due to digital financial technology.[13]

While significant gaps remain for underserved segments (e.g., extremely poor or digitally excluded older adults), fintech continues to show potential in moving beyond transactional services and toward the enabling of targeted, appropriate, and conveniently delivered financial solutions that can improve financial health for low- to moderate-income people.

By leveraging ABCD (AI, Blockchain, Cloud, and Data) technologies and Open APIs, fintech allows for partnerships and technology integrations at a pace, scale, and ease that were inconceivable a decade ago and with a degree of personalization that would otherwise be impossible. By extension, we see a huge untapped potential/ opportunity for healthcare providers to leverage the power of fintech in increasing accessibility and affordability of healthcare services.

Trend 3: Worldwide, countries are making progress towards universal health coverage.

In 2015, world leaders committed to the goal of UHC in the landmark Sustainable Development Goals (SDG) meeting of the United Nations. SDG 3.8—the UHC commitment—set the vision that, "all people and communities can use the promotive, preventive, curative, rehabilitative and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship."[14]

The three pillars of UHC— access, quality, and cost—are delineated in the following objectives:

- Equity in access to health services—everyone who needs services should get them, not only those who can pay for them.
- The quality of health services should be good enough to improve the health of those receiving services.
- People should be protected against financial risk, ensuring that the cost of using services does not put people at risk of financial harm.

UHC is an explicit attempt to delink wealth from health and break the health-poverty trap.

Why do we need Fintech for Health?

While UHC is the ideal state of paying for and guaranteeing care, it is not feasible for many countries in the short term. Indeed, the UN General Assembly has set the commitment for all countries to achieve universal health coverage *by 2030*. Until then, while families face childbirth complications, cancer, diabetes, or a host of other costly diagnoses and medical events, they need trusted and transparent sources of funding that do not involve selling income-generating assets, borrowing money from loan sharks, or foregoing care because of costs.

In Asia, the health financial protection gap stands at approximately USD $1.8 trillion[15]. The combination of low levels of national spending on health and disproportionate burden on individuals to finance their healthcare at the point and moment of critical need leaves most people in Asia highly vulnerable to ill health and to poverty. (See Figures, 10 and 11 below).

Figure 10. Current Health Expenditure as a percentage of GDP

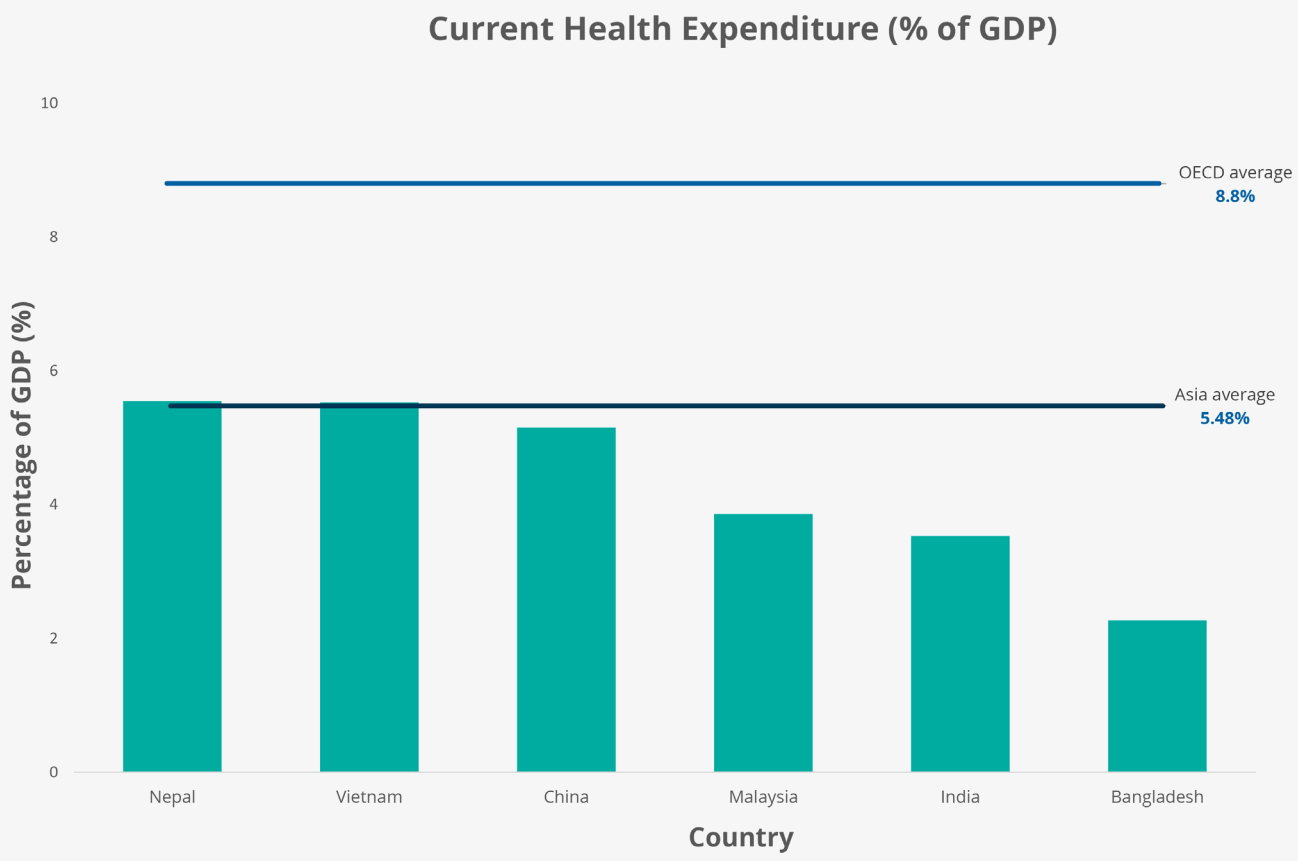
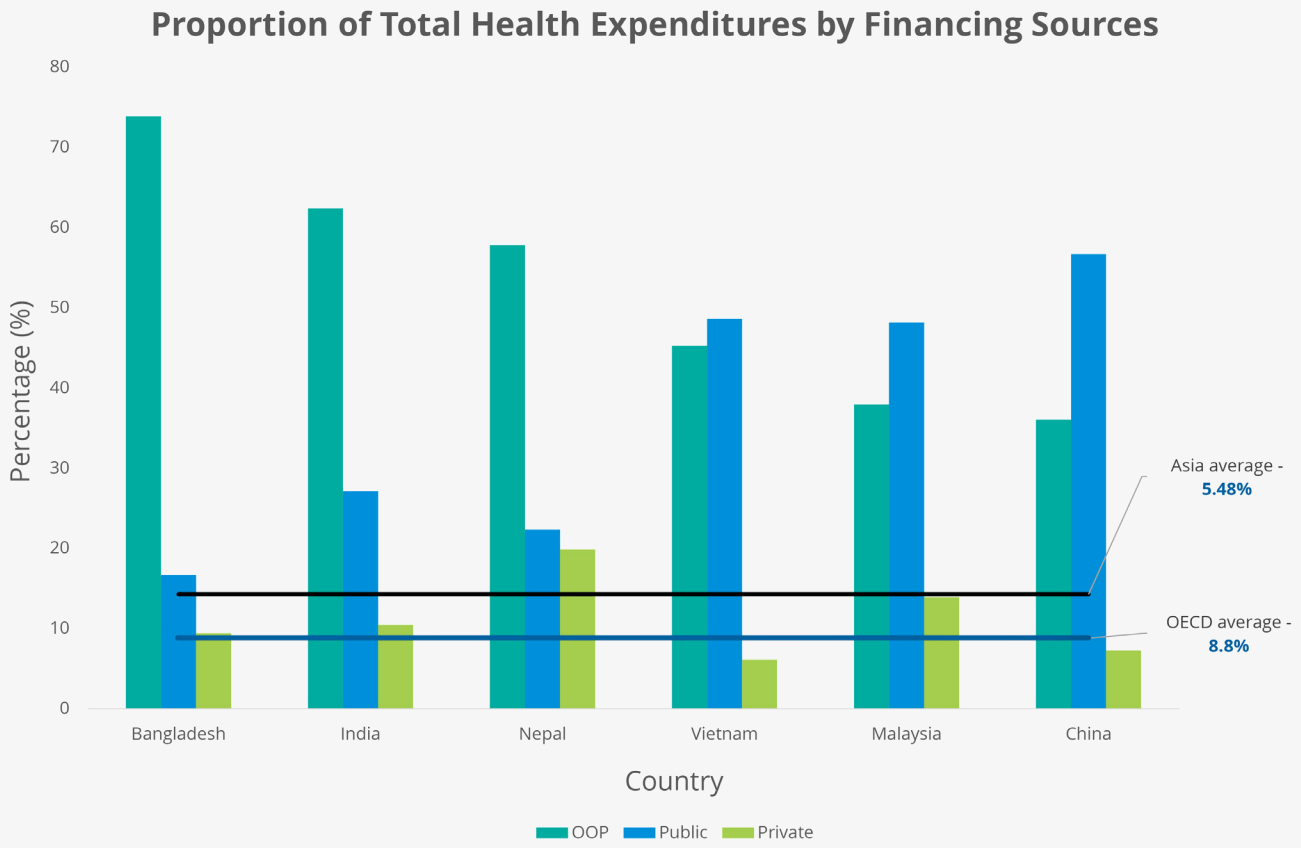


Figure 11. Proportion of Total Health Expenditures by Financing Sources (OOP, Public and Private)



When patients lack sufficient funding – whether public or private – to pay for care, they also lack access to the health and financial institutions that high-income people enjoy. As noted above, rapid adoption of mobile technologies means that low- to moderate-income people may have better access to a mobile phone than to a doctor or a bank. *Fintech for Health* aims to overcome these barriers while leveraging the three trends of digital transformation, fintech, and universal health coverage.

A Fintech for Health Approach

In summary, while there is a strong global commitment towards UHC, a substantial health protection gap remains and will continue to exist in the short to medium term. However, with rapid technological advancements both in healthcare as well as in financial services, there are significant opportunities to improve access and affordability of high-quality healthcare using technology and innovative financing solutions.

When we look at the illustrative cases of Ibrahim, Binh, Rashida, and Xiaoming, we see how different combinations of health financing challenges emerge to make healthcare access so difficult. The multifactorial nature of the challenge requires a multifactorial approach to solutioning.

A *Fintech for Health* approach is person-centered and focused on reducing the typical health financing bottlenecks through a bundled approach to financial, healthcare, and information services, typically built on or delivered via digital platforms. While fintech will not be a silver bullet solution to each health challenge, we will explore how fintech can be customized, bundled, or adapted to address one or more of these challenges.

What is Fintech?

Like the term health tech, fintech is a general term that encompasses businesses and technologies developed to enhance or automate financial services and processes. Technologies and concepts that commonly fall under the umbrella of fintech include digital identification, mobile money, digital payments and banking, blockchain. These technologies are deployed in the business to consumer (B2C) and business to business (B2B) models through digital financial services, including payments, savings, lending, advisory and insurance.

Fintech for Health Framework

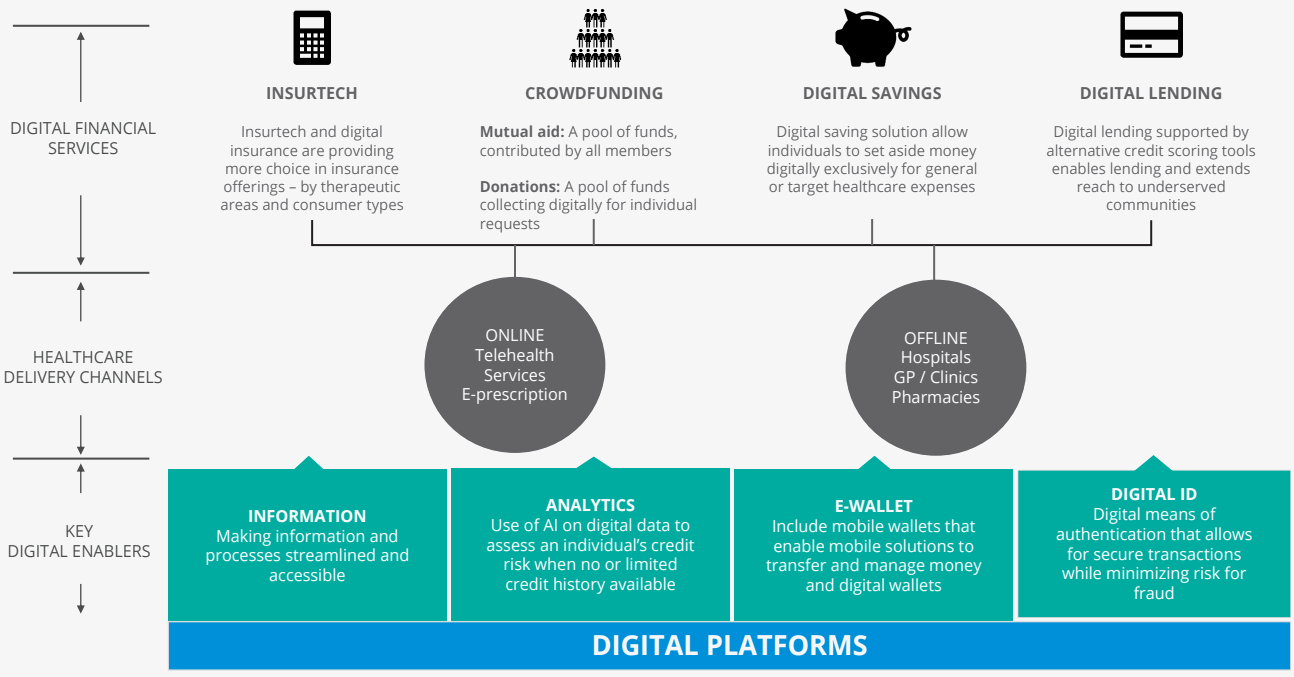
To define a framework for *Fintech for Health,* we found it useful to delineate fintech solutions into three components: digital financial solutions, key digital enablers, and the channel to healthcare services. We developed and refined this framework through successive iterations and discussions with fintech and healthcare providers to attempt to provide a common understanding of the challenges to be solved.

We recognize that the array of fintech solutions is vast and beyond what we have presented here, and that it will continue to expand as technology and business models evolve.

We propose a starting point to look specifically at solving health financing challenges where the burden on paying for care falls heavily on the individual. We recognize that fintech also has a significant role to play in lowering the overall cost of care by making healthcare backend systems more efficient and affordable, including for universal health coverage systems directly.

A *Fintech for Health* approach can be modified beyond the framework we present here, and indeed it should do so. The power of digital solutions lies in in its ability to be continuously iterated and tailored to solve for complex real-life challenges.

Figure 12. Fintech for Health framework to solve patients' health finance challenges



Key Digital Enablers

Technology and distribution networks have the potential to make healthcare and finance more targeted, affordable, scalable, and convenient. Using enabling technologies, healthcare and financing products become easier to deploy and scale, particularly in reaching underserved populations. In many under-resourced countries, technology is providing additional infrastructure for delivering affordable healthcare efficiently and that is in sync with user's preferences and behaviors. These countries have an opportunity to leapfrog legacy finance and health systems.

There are four main digital technologies that enable *Fintech for Health* models: information, analytics, e-wallets, and digital ID. The entire solution and underlying digital capabilities rest upon a digital platform or increasingly, a "superapp."

Digital platforms

Digital platforms have been reshaping the way we interact with, choose, pay for, and receive goods and services, offering convenience, affordability, and reach.

These platforms can take a multitude of forms, from websites to e-commerce sites, payments apps, ridesharing platforms, health messaging apps, medical claims systems, or e-governance platforms. Many such platforms begin with a core service (chat function in the case of WeChat and ridesharing in the case of Grab) and have begun to evolve as "superapps."

Digital platforms are an important base to deploy a *Fintech for Health* solution by conveniently connecting and linking financial solutions and healthcare providers to individuals.

In China, WeChat and AliPay tapped into their large consumer payments base to offer healthcare services and healthcare-specific financing options. The Grab and PingAn joint venture Good Doctor was designed to combine a superapp with a telemedicine platform to offer digital health services across Southeast Asia[16]. Digital platforms provide the essential infrastructure to deliver goods and services to people across geographies and distance.

Enabler 1: Information

The availability of information that is aggregated, tailored, and interpreted for individual needs has become a powerful force that empowers individuals to make decisions tailored to their personal requirements. In the sphere of fintech, price comparison sites allow people choose the most appropriate and affordable insurance, loan, or bank account, providing transparency and options. In healthcare, the availability of information is critical to guiding decision-making, from finding the right doctors, researching available treatment options, and managing their conditions. Increasingly, private insurance and pharmaceutical patient support programs are offering bundled solutions with digital health and healthcare "concierge services."

Enabler 2: Data analytics

In healthcare as in finance, data analytics are driving personalized risk assessments, market insights, and societal decision-making that can be powerfully harnessed to help people access financing for their healthcare. At the individual level, analytics have allowed for an astonishing degree of personalization and customization, including customized loans and insurance plans tailored to an individual's needs as well as desires. Importantly, data analytics has led to the emergence of entities providing "alternative risk scoring" that use non-traditional means of assessing a person's creditworthiness. As one billion[17] people in Asia are unbanked, these services are important to unlocking credit and capital and are being used to provide point of care loans at the time of need for individuals and their families.

At the societal level, policymakers and industries are using data analytics to shape our healthcare environment and experience. Using the data derived from *Fintech for Health* models, policy makers and health systems planners can assess health-seeking behavior at the community level by processing billing data, procurement pathways, and income data. Finance technologies may overcome some of the ongoing challenges in deriving aggregated information from fragmented and rudimentary electronic health records systems.

Enabler 3: Digital wallets

Digital wallets are a core technology upon which financial inclusion models are based because they offer users an opportunity to be paid wages and receive timely outside payments (e.g., family, government, employers), obviating distance, store value, make payments, and apply for other transaction services such as lending. Digital wallets open up the potential for social insurance payments and timely claims reimbursement without having to open a formal bank account.

Figure 13. Leading mobile money wallets in the six Fintech for Health markets

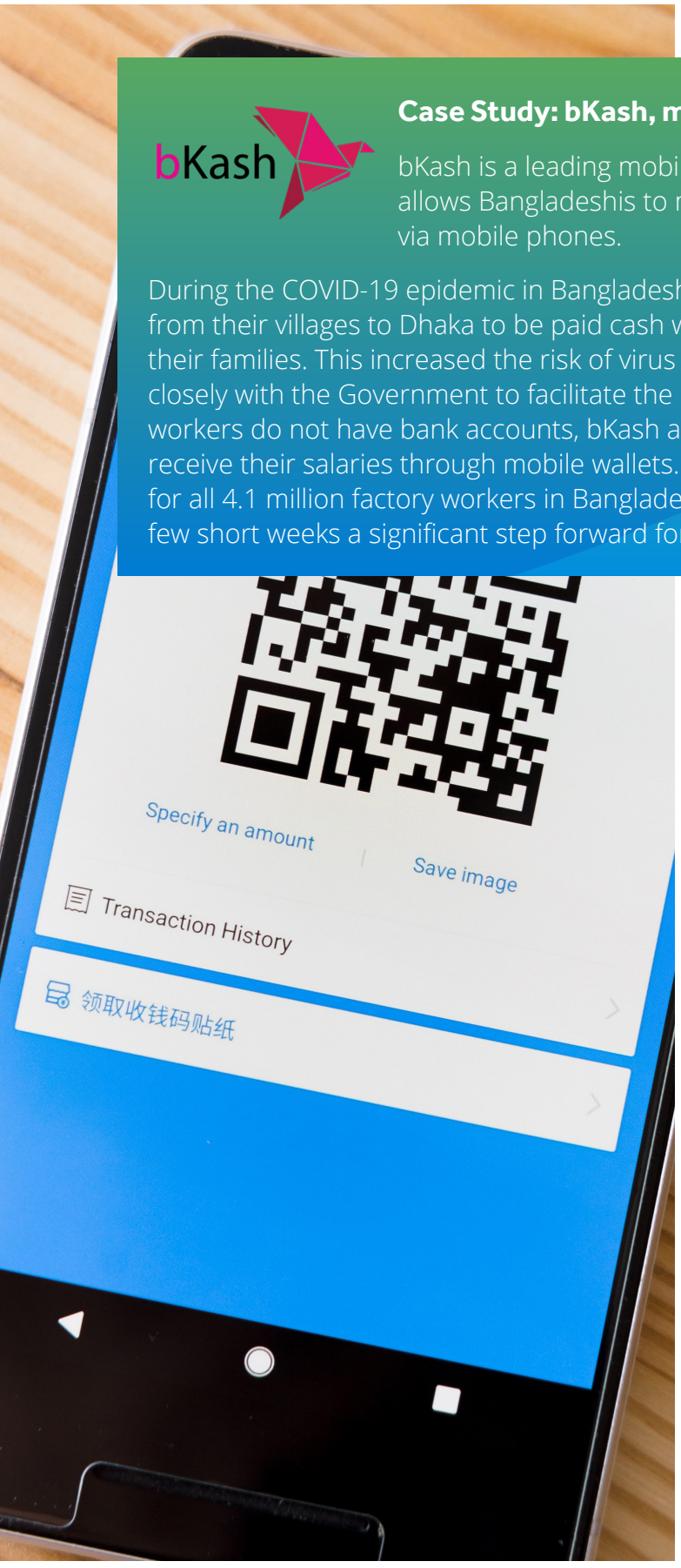


Figure 14. bKash and digital financial inclusion in Bangladesh

Case Study: bKash, mobile wallets in Bangladesh

bKash is a leading mobile financial service provider that allows Bangladeshis to make payments and money transfers via mobile phones.

During the COVID-19 epidemic in Bangladesh, furloughed factory workers had to travel from their villages to Dhaka to be paid cash wages and then return to their villages to their families. This increased the risk of virus transmission. bKash has been working closely with the Government to facilitate the distribution of the salaries. As most workers do not have bank accounts, bKash as an integrated platform, is helping them receive their salaries through mobile wallets. The government responded by disbursing for all 4.1 million factory workers in Bangladesh by the end of April 2020, advancing in a few short weeks a significant step forward for financial inclusion.

Enabler 4: Digital ID

Digital identification allows governments and private sector enterprises to authenticate a person's identity and deliver services in an efficient, private, and secure manner. The World Bank refers to digital ID as a "game changer" and provides an opportunity for developing countries to leapfrog their developed counterparts by creating more efficient and modern systems.[18]

Digital identification uses biometrics, such as electronically captured facial features, iris patterns, or fingerprints to establish a unique identity. It replaces paper data with digital datasets, offering security, transportability, and efficiency. By using digital ID, governments can issue digital tokens that can be used to store financial data, health records, and eligibility for social benefits, thereby increasing access to these systems both online and offline,[19] particularly for underserved populations for whom these services would otherwise be out of reach.

Healthcare Delivery Channels

The linkage of digital financial services to traditional (brick and mortar clinics, hospitals) and digital (telemedicine) health delivery channels are helping to address the challenge of immediate financial needs for emergency or high-cost healthcare services. Moreover, digital access to finances for digital access to healthcare, where appropriate, provides an even more seamless, convenient, and affordable way for people to access healthcare.

Traditional healthcare organizations have a significant role to play in making new financing models accessible for their patients. These systems, or networks of systems, have the capability to counsel patients in their communities and to refer them to relevant resources. At the same time, nongovernmental organizations that are traditionally donor-funded are transitioning into a social enterprise model that focuses on customer service and technology integration. These organizations are increasingly looking at whole-of-person solutions, including consumer financial management for healthcare as a tool for sustainability.

In-person clinics, pharmacies, and hospitals are increasingly integrating telemedicine into their practices. This integration slowly gained traction over the last five years and has accelerated under COVID-19, as patients struggle to reach brick-and-mortar providers and fear further exposing themselves to the SARS-CoV2 virus. The regulatory landscape follows suit, allowing for greater insurance coverage of telemedicine consultations and paving the way for innovative partnerships.

Additionally, fintech platforms, including bKash and Pathao in Bangladesh, MoMo in Vietnam, and Tencent in China, are offering telemedicine services and insurance products directly on their platforms, which are promoted through their distribution networks. Digital payments companies have a significantly larger reach and customer market than digital health companies and can bundle such telemedicine and e-pharmacy services onto their payments platforms, as GoJek has done by integrating HaloDoc onto their platform.

Ride hailing platforms + telehealth

COVID-19 has accelerated the integration and user adoption of telehealth consultations via ride hailing platforms. As ride hailing platforms expanded in recent years to include food delivery and courier services, essentially becoming personal logistics companies, healthcare remained a considered and frequently talked about, but largely unexplored or non-implemented, sector for ride hailing platforms, with the exception of an early-to-market joint venture between Go-Jek and HaloDoc in Indonesia that gained notoriety in the region.

The Grab and Ping An Good Doctor joint venture—GrabHealth, launched in December 2019 saw requests for teleconsultations in Indonesia almost double by March 24th 2020 compared to pre-pandemic levels. Meanwhile in China, downloads of the Good Doctor app increased more than ten-fold in late January compared to earlier in the month, and the number of teleconsultation requests from overseas Chinese reached 10 million in the first quarter of 2020.

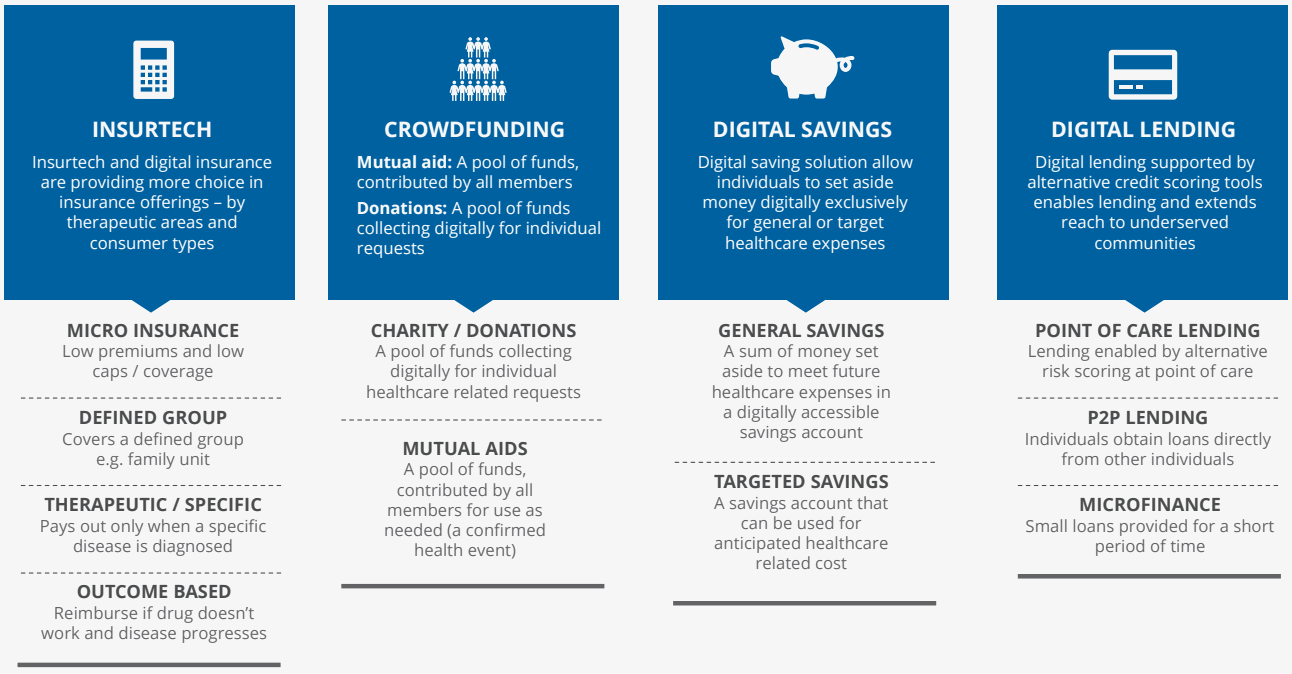
Since March 2020, joint ventures between ride hailing companies and traditional healthcare providers in South and Southeast Asia have continued to increase.

Pathao, a motorcycle hailing company in Bangladesh, has announced partnerships with Praava Health, Digital Healthcare Solutions, and Maya App to provide teleconsultations via its platform.

Digital Financial Services Archetypes

We have defined four main archetypes of innovative health financing solutions that can be offered to unbanked or underbanked consumers using technology: digital health savings, digital lending, crowdfunding, and insurtech. These financing models are not mutually exclusive; the most practical and impactful models will combine two or more archetypes.

Figure 15. Taxonomy of digital financial services and their use



Insurtech

Insurtech and digital insurance have expanded the ways in which people purchase insurance and the types of insurance available to them. Insurtech extends the reach of financial protection through underlying digital technologies (data analytics, blockchain, artificial intelligence) that are deployed for enhanced underwriting and risk assessment, claims management, improved customer experience, and distribution.

Insurtech has also enabled a diversification of insurance offerings. Microinsurance offers an affordable but limited form of financial protection to individuals who cannot afford traditional insurance and is typically offered as an add-on to other financial transactions or services. Companies like Digital Healthcare Solutions (DHS) in Bangladesh are offering microinsurance to Grameenphone subscribers in Bangladesh, while the Vietnam Women's Union offers credit-life insurance to its members.[20]

Defined group models provide insurance to small groups of people, such as family units, rather than individuals. PolicyBazaar[21] in India features several family health insurance plans that cover children, parents, and grandparents for hospital fees and give discounts on products and services, all for one premium.

With high unbanked populations, a growing middle class, and a traditionally low penetration of private insurance in China, India, and parts of Southeast Asia, there are enormous opportunities for the application of insurtech to address the low levels of financial protection in the region. A study by Swiss Re estimates that by 2029, the Asia-Pacific region will account for 42% of the global insurance premium, and China will become the largest insurance market by mid-2030.

Figure 16.
Case study: Digital Health-Care Solutions— microinsurance bundled with fintech platform

Case Study: Mobile based microinsurance bundled with digital health services in Bangladesh

Digital Health Services (DHS) is a mobile based digital health service provided to users of Grameenphone In Bangladesh. DHS is targeting other Asian emerging markets and is currently operating in Bangladesh.

DHS launched Tonic, one of Asia's first comprehensive mobile-based health and wellness services platform providing a myriad of digital health services from health information to telehealth and exclusive medically-related financial benefits. Tonic offers microinsurance products bundled with healthcare services at tiered levels.

5.5m DHS subscribers

4.4m With micro-health insurance

1,000+ Healthcare providers partnered

How does it work?

Grameenphone subscribers can sign up to four tiered packages:

1. Tonic free (Free)
2. Asha (monthly charge: BDT 47)
3. Astha (monthly charge: BDT 126)
4. Shurokkha (monthly charge of BDT 296)

Each package is an integrated offering including health insurance ('Tonic cash') and additional health services.

Package	Cash claims* (BDT)	Discounts	Online consultation	Health tips
Free	Up to 4,000 /yr	Up to 50%	Yes - Charged	-
Asha	Up to 40,000/yr	Up to 50%	Yes – 15 mins free	2 tips
Astha	Up to 100,000/yr	Up to 50%	Yes – 30 mins free	4 tips
Shurokkha	Up to 250,000 yr	Up to 50%	Yes – 90 mins free	10 tips

* The subscriber can claim cash if the subscriber gets hospitalized due to qualified medical conditions for 3 consecutive nights or more at government registered hospital

Cash paid into the mobile wallet

Crowdfunding

Crowdfunding has grown as a financial model that pools donations from a large number of people to fund individual causes, enterprises, and projects through community campaigns, either through direct donations or through mutual aid programs that provide a degree of financial protection for catastrophic care. Crowdfunding platforms such as Give. Asia rely on donations to cover large hospital bills or treatment costs that a family cannot afford.

Kitabisa in Indonesia found that a significant portion of the crowdfunding campaigns on their platform seek assistance for healthcare expenses, leading them to launch their mutual aid program, ***Saling Jaga***. While perhaps no other model points to systems failures more than donation-based crowdfunding, which tell stories of individuals and families facing extraordinary healthcare expenses and heart-rending circumstances, they are still a health financing band-aid when no other immediate solutions exist.

These platforms provide a direct way for beneficiaries to let people in their network and beyond know about their need for financial assistance while also giving the broader population the ability to donate charitable funds. In China, the crowdfunding model has expanded to provide additional basic financial protection through mutual aid platforms, which collect very small amounts of money per person (e.g., 10 RMB or $1.30 per month) from a very large population towards a fund that its members can draw upon in the event of a catastrophic health event.

This model incentivizes people to pay for financial protection through micro-contributions that are far lower than traditional insurance premiums. According to the Research Institute of Ant Financial's "*Online Mutual Aid White Paper*," mutual aid in China is projected to cover 450 million people, almost one-third of its population, by 2025.[22] These programs expanded in 2020 to start offering insurance programs such as Shuidibao (Figure 17) showing that mutual aid can be a stepping stone to full financial protection.

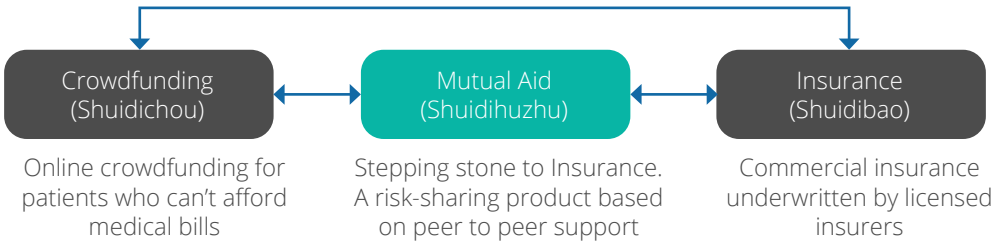
Figure 17. Case study: Shuidi, an integrated donations, mutual aid, and insurance model

Case Study: A mutual aid healthcare model in China

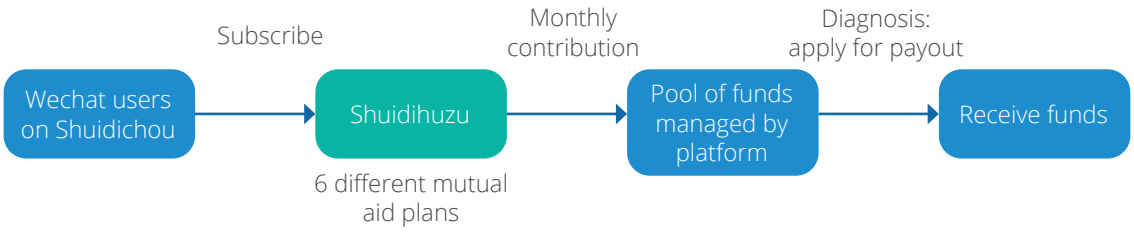
Shuidi (Waterdrop)

Shuidi Mutual Aid, offered by the health technology firm Shuidi, offers six low-cost mutual aid plans specifically for critical illness based on the needs and characteristics of target groups. Shuidi reaches target users through social media platforms such as WeChat and converts them through its affiliated product, Shuidichou, which offers short-term health financing for cash flow shortages. For a just over 1 RMB per month, members can receive up to 300,000 RMB for healthcare expenses. As of 2019, Shuidi Mutual Aid had 80 million subscribers, 70% of whom live in lower-tier cities and rural areas.

Shuidi Ecosystem



Patient journey



How does it work?

1. Users on the Shuidichou (crowdfunding) platform are invited to join Shuidihuzu the mutual aid program.
2. Users are able to choose between 6 different mutual aid plans that specifically cover critical illness based such as cancer, stroke and heart disease
3. Users chip in a small amounts of money every month (1,3 or 10 RMB) with payouts capped at 30,000 RMB. Users pay using WeChat
4. Upon health event/diagnosis, user applies for payout. Claims are jury reviewed by the participants and audited by the platform
5. Once approved, participant received payout in their WeChat account

Digital savings

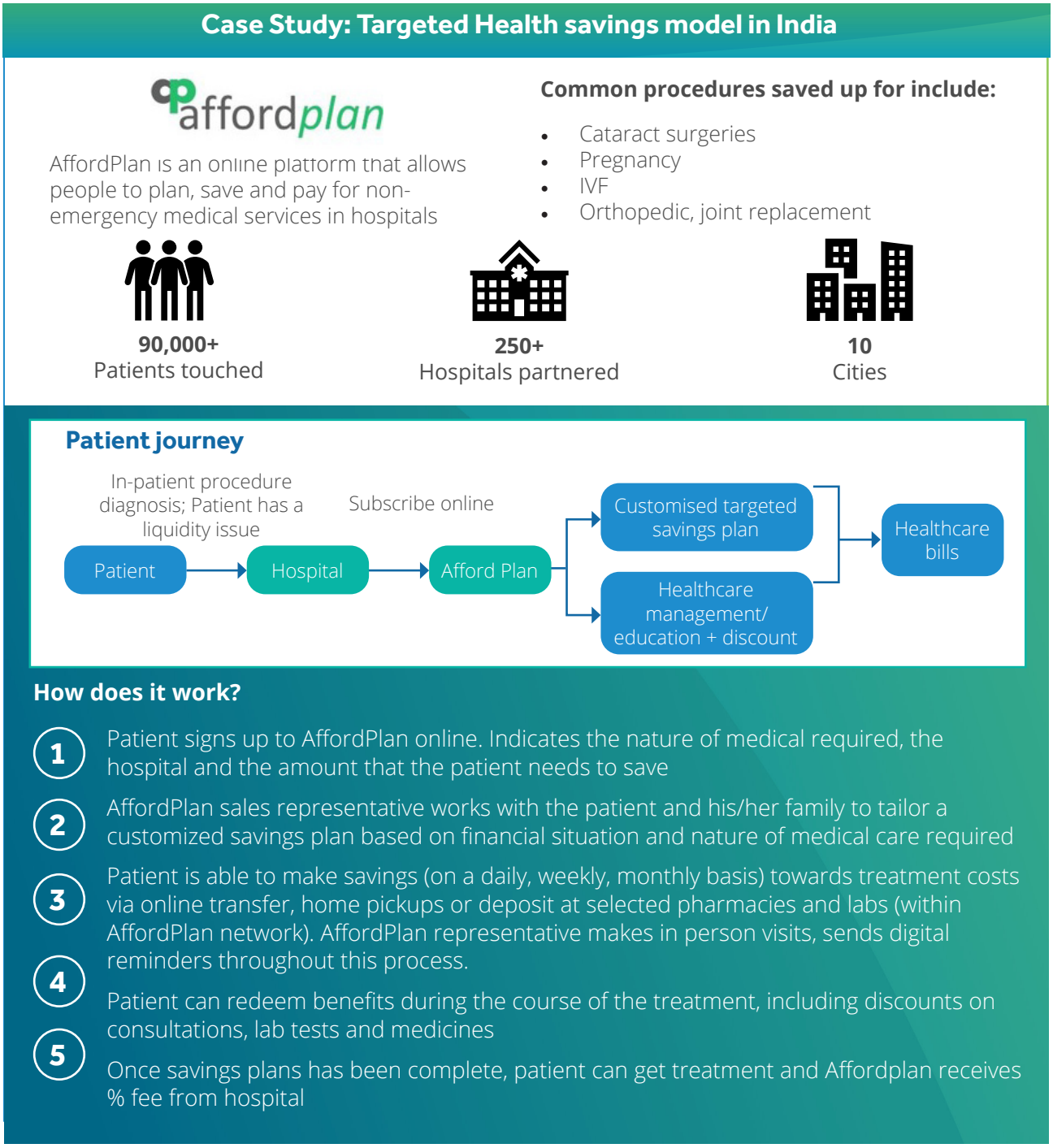
Digital savings is simply a digital version of a traditional savings account and a feature that most large banks around the world now offer. Digital savings accounts have several advantages over traditional savings accounts, including easy access to one's own savings when and where a person needs it. Importantly, digital savings are now being provided to vulnerable sections of society such as informal and low-wage workers, women, and marginalized groups who were previously excluded from or unable to use traditional banking services.

One of the most well-known examples of the use of digital savings for health is the M-TIBA initiative by CarePay, which was created as a joint venture between PharmAccess and the mobile network operator, Safaricom in Kenya. M-TIBA conveniently helps people to save small amounts of money for anticipated health expenses such as maternity care or elective surgery.

Subscribers can save, send, and receive funds for medical treatment through apps on their phone. Donors can send subsidies or vouchers to beneficiaries. Subscribers can pay for medical treatment at any M-TIBA-approved healthcare provider and clinic using their phones and can use funds to pay premiums for registered health insurance policies.[23] The M-TIBA model is now the gold standard for blended public and private financing.

In India, AffordPlan offers mobile health savings accounts (mHSAs) and patient-centered communication tools that enable integrated care and address challenges linked to high out-of-pocket payments and low-quality services.

Figure 18. Case study: AffordPlan, an online platform to help people save for healthcare



Digital lending

Digital lending offers credit through digital platforms and, combined with alternative risk scoring technology, provides affordable loans to someone without a credit history. This can be offered by a single company, like Arogya Finance (see Figure 16) or as an intermediary platform between banks and individuals. Digital platforms also enable individuals to lend money via peer-to-peer payments technology in a secure and safe manner and without having to withdraw cash or visit a wire transfer service. Microfinance institutions provide short-term loans that can be used in conjunction with microinsurance to cover a person's out-of-pocket healthcare expenses while waiting for insurance reimbursement.

Figure 19. Case study: Arogya Finance—alternative risk scoring stimulating digital lending for the underbanked

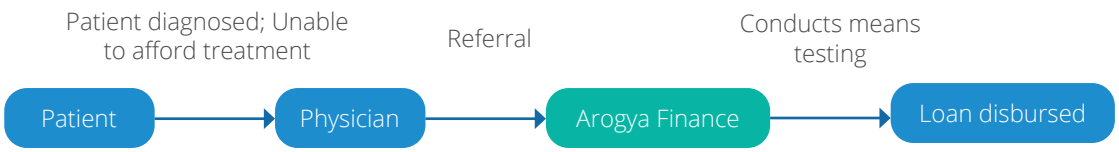
Case Study: Point of care digital health lending model in India

Arogya Finance is a social healthcare venture, which offers medical loans to the traditionally un-bankable, using innovative risk assessment tools that do not require collateral.

Two main product offerings:

1. Emergency digital healthcare loans using alternative risk scoring for point of care loans, delivered digitally in 3-4 hours and re-paid in manageable instalments
2. Pre-approved lending cards for future healthcare needs, whereby a patient is pre-screened for the loan amount and terms of the loan, the provider receives a guarantee of payment from Arogya Finance, and the loan is re-paid in instalments.

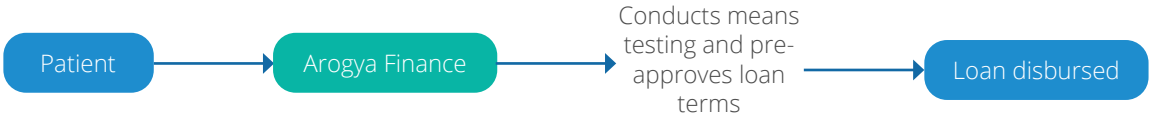
Patient journey: Emergency digital healthcare loan



How does it work?

1. Patient diagnosed with critical illness and is unable to pay for treatment. Physician refers patient to Arogya Finance online platform or offline agent
2. Arogya Finance undertakes rapid screening and administers a psychometric test to determine creditworthiness and risk-taking profile. Disburses loan within 3-48 hours. If approved patient start treatment right away. Arogya pays hospital directly.
3. Borrower pays back Arogya in manageable instalments

Patient journey: Pre-approved lending cards



How does it work?

1. Potential borrowers are pre-screened for the loan amount and terms
2. When borrower is in need of a health loan, Arogya will check that there has been no material change in financial outlook of borrower
3. Upon approval, hospital or health provider receives the guarantee of payment. Customers can pay back in instalments

The Fintech Ecosystem

The fintech ecosystem consists of government regulators, startups, telecommunications companies, banks, financial service organizations, and fintech associations. Each of these organizations have a role to play in enabling advancement of the sector, creating the right products that people want, negotiating partnerships that make good business sense, and providing the infrastructure and regulatory path for innovation.

The maturity of this ecosystem, particularly the regulations on fintech and financial services, determines the speed with which *Fintech for Health* models can be launched and scaled to deliver impact. Given the emergence of the COVID-19 pandemic, regulations in financial services around the world are changing rapidly to enable financial inclusion and the—not hyperbolically-- life-saving access to digital financial services in a time of sudden loss of income and limits on movement.

The fintech ecosystem centers on the people it is solving for, which in this case is low-income people who lack access to traditional financial institutions and services. It consists of government regulators, startups, telecommunications companies, banks, financial service organizations, and fintech associations that design with and provide financial products and services for low-income populations.

The Application Of Fintech To Solve Patient Problems

In this section, we describe different but common health journeys in Asia and what a *Fintech for Health* approach may look like. These illustrative solutions are informed by our research on case studies and interviews, as well as the projects we are currently working on to forge partnerships between the fintech and healthcare sectors in the six countries studied.

Illustrative patient journeys in Asia

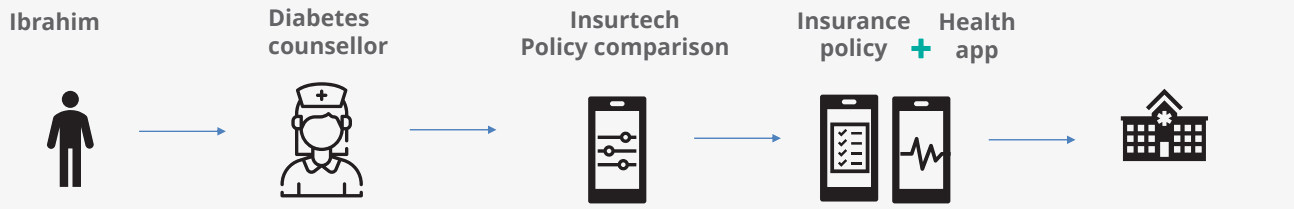
Persona	Country	Health Issue	Health Financing Challenges				
			Expensive (1)	Indirect (2)	OOP (3)	Unpredictable (4)	Delinked (5)
Ibrahim	Malaysia	Diabetes	●		●		
Rashida	Bangladesh	Antenatal care		●			
Binh	Vietnam	Contraception		●	●		
Xiaoming	China	Cancer	●		●	●	●

Solving for Ibrahim

While Malaysia boasts one of the strongest public health financing systems among middle-income countries in Southeast Asia, the OOP costs of chronic disease management are substantial for ordinary Malaysians. While Ibrahim can receive little-to-no cost services from the nearby hospitals and clinics in Malaysia, the recurrent OOP costs of tests trips, counselling sessions, and treatment related to diabetes-related complications are significant. A *Fintech for Health* approach to Ibrahim would enable him to manage both his condition and his finances to pay for care that is not already covered. Ibrahim is not alone in this struggle in Malaysia.

There is a growing trend of "diabetes insurance" policies. Instead of excluding people with diabetes, these new types of insurance packages provide protection for diabetics against the costs of worsening illness. As an incentive, people who manage their condition well receive favorable premiums. For example, MSIG Gluco SafeGuard[24] insurance in Malaysia has partnered with a health tech company to provide diabetes management support to keep patients healthier and claims lower (up to 40%). This insurance is also geared towards protecting those at risk, such as Ibrahim's daughter, who recently discovered she is pre-diabetic.

Figure 20. Illustrative patient journey for Ibrahim



STEP 1: Ibrahim is a middle-aged man who has Type 2 diabetes and struggles to control his glucose levels.

STEP 2: Ibrahim attended a family festivity and did not pay attention to his diet. He ended up in diabetic shock and was taken to the hospital. There he met a counsellor who encouraged him to better manage his condition and pointed to new services that help him to manage his condition and help him avoid catastrophic costs should he fall sick again.

STEP 3: Ibrahim's daughter uses an insurance aggregator that identifies the plans her father is eligible for. She finds one that is targeted for people with pre-existing Type II diabetes. She decides to also sign up for a diabetes-specific insurance as well as her doctor has informed her that she is pre-diabetic

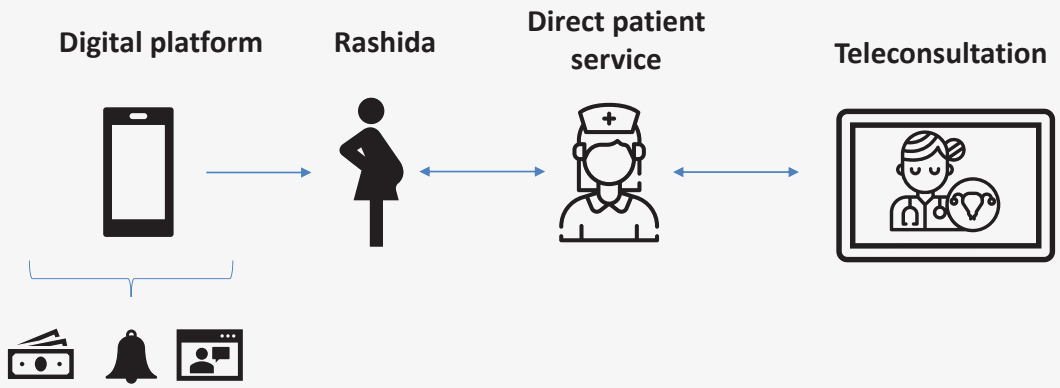
STEP 4: Ibrahim signs up for a digital insurance plans that offers discounts for better lifestyle management, diabetes management app to collect and track data, and counselling via app

STEP 5: By entering blood glucose data through the diabetes app, Ibrahim and his daughter can save up to 40% on their insurance premiums. They can use the insurance plans in panel hospitals throughout Malaysia

Solving for Rashida: Delivering high-quality and affordable antenatal care virtually

For her first child, Rashida saw a local midwife for basic check-ups and delivered her baby at the hospital. However, for her second child, she found out through her local community health worker that she can get government financial support and easier access to antenatal care delivered virtually, as depicted in an illustrative solution in Figure 22.

Figure 21. Illustrative patient journey for Rashida



STEP 1: Rashida receives support for her pregnancy through a maternal and child healthcare app. A digital wallet embedded within the app provides digital cash transfers from the government to support her pregnancy. The app also provides notifications on antenatal visits and tips for her pregnancy

STEP 2: Rashida goes to her local clinic which is staffed by a community health worker who is skilled in basic health services.

STEP 3: The community health worker connects with an obstetrician from Dhaka's main hospital who walks her through a step by step procedure for physical examination of Rashida and medical information.

Rashida's situation is not unique, nor is the exploration of teleconsultation for improved antenatal care. Throughout the region, public and private initiatives are focusing on upskilling workers through teleconsultations and telemedicine. Thanks to local teleconsultation, Rashida does not have to choose between expensive visits to the city or foregoing antenatal care altogether.

In 2020, Access to Information (a2i), a program of the Government of Bangladesh that catalyzes citizen-friendly public service innovations by simplifying governance and bringing services closer to people, has been exploring the introduction of teleconsultations for antenatal care to provide access to the services that are inaccessible to so many women like Rashida.

In 2017, the government of Bangladesh in collaboration with the World Bank launched a G2P cash assistance program, which is digitally paid every quarter, to support pregnant women.

Current cash transfer programs for health in Bangladesh

Maternal Health Voucher Scheme (MHVS)

This scheme focuses on reducing maternal mortality. It includes three antenatal check-ups, safe delivery care in a health facility or at home with a skilled birth attendant. Additional vouchers for emergency care for obstetric complications, including caesarean sections, one postnatal care check-up within six weeks of delivery, cash incentives to cover routine and emergency transport, some food and medicine costs for the family, and a small gift box.

Maternity Allowance Program for the Poor (MAPP) and Allowances for Urban Lactating Mothers (AULM)

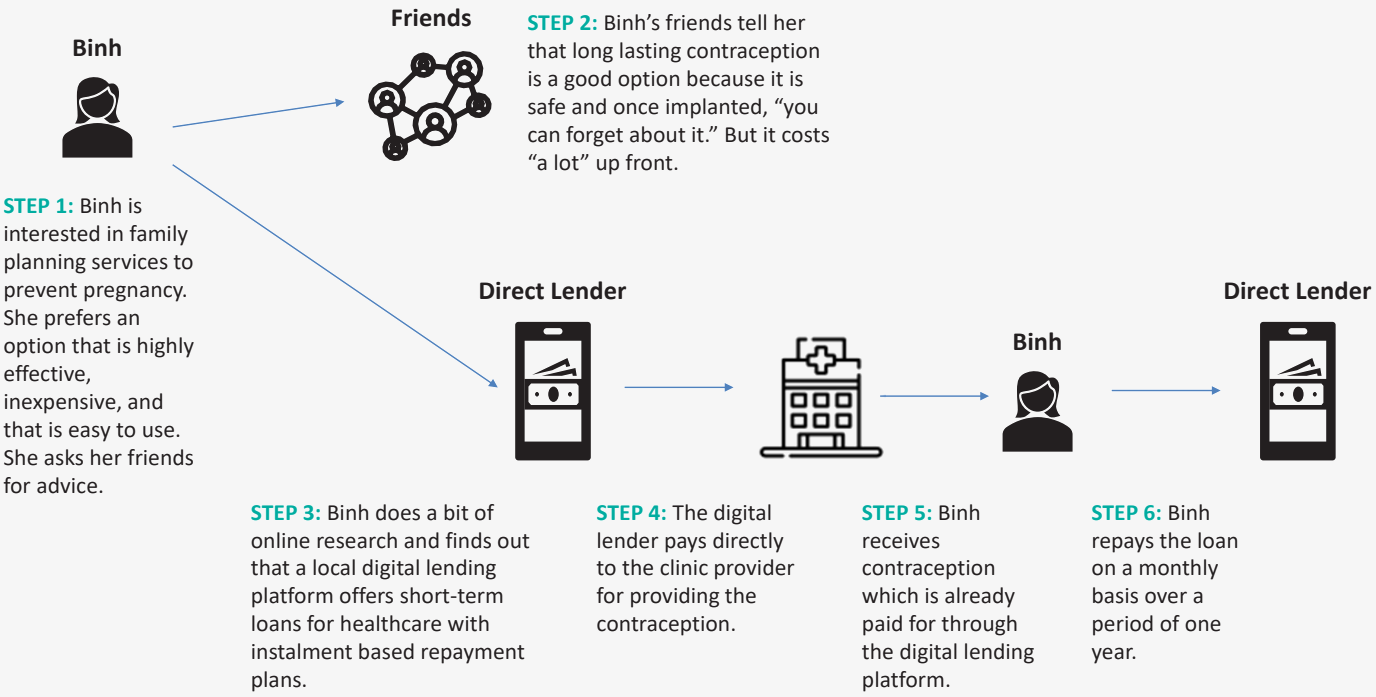
Both of these schemes focus of maternal and child health. MAPP focuses on rural areas and AULM focuses on urban areas. To be eligible for the MAPP scheme a woman must be at least 20 years old, be pregnant with her first or second child during the annual enrolment of the program, have a household income of less than US$ 18 per month and not be a beneficiary of similar programs. To be eligible for the AULM scheme, it is the criteria for MAPP with the addition that the woman must work, and the household income threshold is no more than US$ 60.The enrolment for both schemes is for a duration of 3 years and the beneficiary is entitled to receive US$9.5 every month. Under both programs, NGOs arrange training for beneficiaries on pregnancy, childbirth, neonatal care and other social and developmental aspects.

While an integrated solution envisioned for Rashida in Figure 22 does not yet exist, the *Fintech for Health* approach outlined here could be enabled by strategic alignment of partners to help Rashida care for herself and her child.

Solving for Binh: Paying for the better option for health and reproductive needs

In Vietnam, discussions between fintech and healthcare providers, enabled through the *Fintech for Health* initiative, examines the use of digital lending and other fintech solutions to help women access the immediate financing required to pay the up-front costs of contraception by way of an instalment-based repayment plan tailored to their financial situation. An illustrative solution among these partners is depicted in Figure 23.

Figure 22. Illustrative digital lending solution to pay for contraception

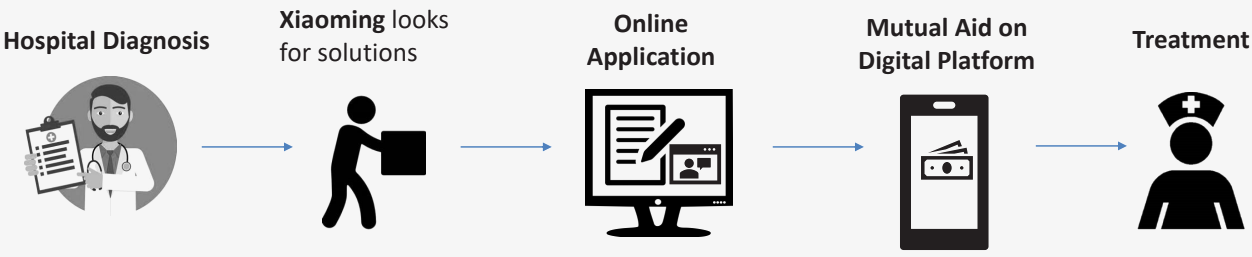


Solving for Xiaoming, a young man unexpectedly diagnosed with lung cancer

In China, access to cancer treatment reached a tipping point in 2018 with the release of "Dying to Survive"—a comedy film about a leukemia patient who smuggled cheap and counterfeit cancer medication into China. This unlikely box office hit set off a national debate and prompted a deeper look into the dire choices people face in China when faced with catastrophic illness like cancer and its resulting financial calamity. Alongside public sentiment, a rising tide of digital players providing insurtech solutions has led in recent years to a proliferation of innovative financing options to provide financial protection. From providing mutual aid to personalized insurance products catered to specific conditions, illnesses, and individual financial situations, these solutions are expanding the options and the ability of ordinary Chinese to pay for care that has been typically out of reach. In Figure 21, we look at the case of Xiaoming, who at 25, unexpectedly faces tough decisions about his cancer diagnosis.

In 2020, there were 815,563 new cases of lung cancer in China and 62 million people at risk for getting lung cancer.[25] For Xiaoming, and millions like him who are vulnerable to the unexpected diagnoses of cancer and its corresponding high treatment costs, new fintech solutions are emerging. To solve for Xiaoming, mutual aid companies like Shuidihuzhu, and insurtech companies like Meditrust who have insurance products catered to specific conditions, are providing important options. Figure 21 lays out an illustrative path for Xiaoming to receive the care he needs.

Figure 23. Illustrative patient journey for Xiaoming



STEP 1: Xiaoming is diagnosed with non-small cell lung cancer (NSCLC) in the hospital and needs triweekly immunotherapy needed over a year. He can not afford the immunotherapy with his current savings.

STEP 2: Xiaoming finds out he joins Qingsong Mutual Aid Plan for Serious Diseases for Young and Middle-aged for over one year, which allows him to apply for the Aid.

STEP 3: Xiaoming applies for the Aid with certified hospital diagnosis on Qingsong Mutual Aid digital platform. An officer contacts him and verifies his documents.

STEP 4: Xiaoming's application is approved and posted on the platform for 7 days for any objections. After that, Xiaoming receives RMB 200,000 on his account in the payment day of the month.

STEP 5: Xiaoming uses the money to pay for immunotherapy in Beijing, while he still works.

Conclusions

The problems faced by Rashida in Bangladesh, Xiaoming in China, Binh in Vietnam, and Ibrahim in Malaysia, are multi-layered, self-reinforcing, and complex. Indeed, a person's life and health journey are unique and integrated, and never isolated from daily life. What we aim to illustrate is how a *Fintech for Health* approach could help address multiple healthcare access and healthcare financing challenges. It is tempting to find silver bullets and one-dimensional solutions, but until we recognize and build for the complexity of real-life situations, we will fall short of providing true solutions to the problems they face.

As novel solutions emerge at the intersection of finance and healthcare, one pattern we have seen is that partnerships between healthcare, finance, and other ecosystems are vital. Very few actors can bring the full range of services required to meaningfully help patients along their healthcare journey. However, with deliberate alignment of vision, incentives, and business models between stakeholders, we have seen that much can be achieved.

These illustrations of solutions provided to our personas allow us to highlight several principles which are important enablers for success of the fintech for the health approach.

These principles include:

1. The need to solve for an individual along his or her healthcare journey, instead of just focusing on a specific point on the pathway.
2. Maintaining a patient-centric approach by recognizing that people's behaviors, values, and habits, are just as important to understand as their healthcare and financing needs.
3. Conveniently providing a package that addresses the three main needs for a person's care: the healthcare intervention, a way to pay for this care, and the information needed for the person to fully understand their situation and make informed decisions (e.g., education, literature).

Once this is recognized, then the *Fintech for Health* approach naturally lends itself to solutions that:

1. Allow flexibility to mix and match and combine fintech, digital, and healthcare services to provide a bundled value proposition.
2. Customize to the unique needs of the individual and the environment he or she lives in.
3. Build for the masses while solving for the poor.

Fintech for Health will not entirely overcome the challenges of rising healthcare costs and is not a replacement for universal health coverage.

However, we recognize that people's health cannot wait, and neither can their access to financing. By 2030, the deadline for achievement of the Sustainable Development Goals (specifically SDG 3.8), millions in Asia will be diagnosed with cancer, diabetes, and other chronic diseases which will still pose a significant financial burden on low- and moderate-income people.

Multilateral and development organizations such as the World Bank and the International Finance Corporation Alliance for Financial Inclusion have long studied and promoted financing innovations to spur societal development. The use of *Fintech for Health* solutions should be considered in the international toolbox of strategies to strengthen and reinforce universal health coverage globally.

However, the inspiration and innovations for new strategies lie not with governments, but with entrepreneurs and communities. *Fintech for Health* is not a top-down (governmental) approach to health financing. It is an aid to fill the gaps in and between national programs, traditional private insurances, and banking and the health sectors. It represents the identification of societal needs and market opportunities, and the way to provide solutions for everyday problems for ordinary people. When these ideas and opportunities are taken to scale, we have the opportunity to not just create solutions, but to have impact.

The impact we hope that *Fintech for Health* will achieve is to remove the burden of having to make the terrible choice between catastrophic health and catastrophic costs.

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References

1 (WHO). (2019). Global Monitoring Report on Financial Protection in Health 2019. https://www.who.int/healthinfo/universal_health_coverage/report/fp_gmr_2019.pdf?ua=1

2 (SDSN). (2012). https://indicators.report/targets/3-8/

3 (Access Health International). (2019). Introduction to the Fintech for Health Innovation Platform. https://accessh.org/event_summary/introduction-to-the-fintech-for-health-innovation-platform-transcript-and-slides/

4 (OECD). (2018) "Financing of healthcare from households' out-of-pocket payments, voluntary payment schemes and external resources," in Health at a Glance: Asia/Pacific 2018: Measuring Progress Towards Universal Health Coverage, OECD Publishing, Paris, https://doi.org/10.1787/health_glance_ap-2018-39-en

5 (WHO). https://www.who.int/healthinfo/paper33.pdf

6 (Health Poverty Action). https://www.healthpovertyaction.org/news-events/key-facts-poverty-and-poor-health/

7 (World Bank). (2017). https://data.worldbank.org/indicator/SH.XPD.OOPC.CH.ZS

8 (World Bank). (2018). https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS

9 (WHO). (2019). https://www.who.int/health_financing/topics/financial-protection/out-of-pocket-payments/en/

10 (Code Blue). (2019). https://codeblue.galencentre.org/2019/09/19/why-an-advanced-breast-cancer-patient-chose-private-over-public-hospitals/

11 (Macrotrends). https://www.macrotrends.net/countries/WLD/world/life-expectancy

12 https://e.vnexpress.net/news/news/abortion-rate-in-vietnam-highest-in-asia-3476746.html

13 (World Bank). (2017). The Global Findex Database. https://globalfindex.worldbank.org/sites/globalfindex/files/2018-04/2017%20Findex%20full%20report_0.pdf

14 (WHO). (2019). https://www.who.int/health_financing/universal_coverage_definition/en/

15 (Swiss Re). (2017). https://www.swissre.com/institute/research/topics-and-risk-dialogues/economy-and-insurance-outlook/Closing-Asia-s-USD-1.8-trillion-health-protection-gap.html

16 (The Asian Banker). (2020). http://www.theasianbanker.com/press-releases/chinas-online-mutual-aid-market-expected-to-triple-to-450-million-users-by-2025

17 (Federal Reserve Bank Of San Francisco). (2019). https://www.frbsf.org/banking/asia-program/pacific-exchange-blog/implications-of-asias-gender-gap-in-financial-inclusion/

18 (World Bank). (2017). The Transformational Use of Information and Communication Technologies in Africa http://documents1.worldbank.org/curated/en/727501467992764792/pdf/NonAsciiFileName0.pdf

19 (World Bank). Brief on Digital Identity. http://pubdocs.worldbank.org/en/413731434485267151/BriefonDigitalIdentity.pdf

20 (Mefin Network). (2017). https://www.mefin.org/files/businessmodels/FactSheet%20on%20Microinsurance%20Fund%20Business%20Model%2021Feb.2017_VN_Final.pdf

21 (Policy Bazaar). https://www.policybazaar.com/health-insurance/family-health-insurance-plan/

22 (The Asian Banker) (2020). http://www.theasianbanker.com/press-releases/chinas-online-mutual-aid-market-expected-to-triple-to-450-million-users-by-2025

23 (Safaricom). https://www.safaricom.co.ke/about/innovation/social-innovation/m-tiba

24 (MSIG Malaysia). https://www.msig.com.my/personal-insurance/products/gluco-safeguard/

25 (The Global Cancer Observatory). (2020). https://gco.iarc.fr/today/data/factsheets/populations/160-china-fact-sheets.pdf