Expanding access to healthcare through Inclusion

Foreword

At AXA, our mission is to empower people to live a better life. Health is an essential part of that commitment. It is our firm conviction that we have a role to play not only for our clients, but also for society, to help achieve and sustain universal health coverage. In both mature and emerging markets strong efforts are needed from all concerned stakeholders to find concrete answers to such a complex challenge. Within AXA and with our partners, we are leading and supporting several initiatives to address 3 dimensions of accessibility: I. Financial accessibility, II. Physical accessibility and III. Cultural accessibility.

Making access to healthcare more affordable is the most basic requirement of the health insurance business. However, large segments of the population still remain underserved in emerging or in mature countries. This paper develops case studies in India and China, where we are developing public private partnerships. They involve financial and non-financial services such as consulting, administration, monitoring, transfer of knowledge and exchange of best practices and technical know-how. It also presents solutions designed to offer health coverage for gig workers.

Physical access to high quality healthcare is also a pressing issue for some segments of the population. This paper explores how, through digital services, standardized advice and consultations allows providers to detect issues earlier and keep patients out of the hospital unless it's necessary. It also illustrates how academic research offers innovative solutions. Thus, In this vein, Serap Aksu, an AXA Research Fund grantee, has invented a low-cost, portable devices making cervical cancer screening accessible for women in rural Turkey. This approach is promising for other diseases throughout the world.

Finally, accessibility also includes people's willingness to seek available health services. Indeed, social and cultural factors such as language, age, sex, ethnicity and religion might discourage them from seeking those services. Our partner, Sendero, offers a good example of how, efforts towards healthcare inclusion must be deeply embedded in the communities they serve in order to be effective.

Thanks to the collective expertise of our partners around the world, AXA Research Fund scholars, and the expertise of our own business leaders, I'm pleased to share this publication with you. It is our hope that it will inspire our readers.

Yours sincerely,
Didier Weckner
AXA France Deputy CEO in charge of Health and Employee Benefits

Introduction

Healthcare access for all people requires new ways of thinking about how to reach disadvantaged groups in society and making healthcare more affordable.

Though recognized as a universal right, it is not a reality. Given the complexity of our societies and the heterogeneous models of health care systems deeply embedded in the history of each country, there is no one simple solution for all cases. The current economic situation and the varied states of maturity of social protection systems add further complexity to making healthcare available to all at this time.

The WHO Universal Health Coverage figures are alarming:

- At least half of the world's population still do not have full coverage of essential health services.
- About 100 million people are still being pushed into extreme poverty (defined as living on 1.90 USD or less a day) because of the cost of health care
- Over 930 million people, approximately 12% of the world's population, spend at least 10% of their household budgets to pay for health care.

Universal Health Coverage means that all individuals and communities receive the health services they need without suffering financial hardship (WHO definition)

The fundamental issue of healthcare access is sadly far from being solved.

Through this publication, case studies with concrete actions of public, private, academic, and nonprofit actors committed to this universal cause are shared to inspire and educate. Action is possible at all levels of society.

In the following pages, we will explore how to make healthcare more inclusive through technology, public-private partnerships, and how to adapt to the emerging gig economy workforce. While no one means of expanding access has all the answers, it is clear that the combined forces of these approaches holds great promise.

AXA Emerging Customers :
AXA created a business dedicated to protecting the emerging middle class to empower them with access to insurance that prevents them from slipping back into poverty

Using digital health to reduce healthcare inequalities

Through the COVID-19 pandemic, health systems have been forced to evolve quickly in regard to social distancing measures and strained resources. The acceleration of digital services to meet these needs paved the way for greater inclusion of people with limited or no access to traditional healthcare.

An Ironic Impact of COVID-19:

Will the pandemic put digital health (finally) on the path to reducing health inequalities at scale in emerging markets?

By Michal Matul
Head of digital health, consumer insights and training, AXA Emerging Customers

and Niti Pall
Board Chair Harbr, Senior Digital Advisor AXA Emerging Customers, Medical Director KPMG Global Medical Practice

COVID-19 has worsened access to healthcare and widened health inequalities around the world. But at the same time the crisis has offered a solution to the problems it has caused, by opening the door to healthcare via telemedicine or other digital services. Since the outbreak started, digital health services – such as doctor consultations through online chat or over the phone – have experienced tremendous growth. The big question remains: Can the digital health services that have become the new normal in the past year help to close inequalities in access to healthcare over the longer term?

In 2020 AXA Emerging Customers bundled digital health services with 15 of our inclusive insurance schemes across nine countries, reaching 1.8 million people. The early success of these projects suggest that digital health initiatives can continue their momentum after COVID-19 ends. But to make sure they work for lower-income people, they need to be deployed on a mass scale, with the right engagement tools to facilitate adoption and ensure consistent utilization in the long term. Unless these efforts are prioritized, consumer behaviors won't change, and healthcare access and quality will remain fragmented and inconsistent in these markets, with no clear way for patients to obtain the right care at the right moment.

How Digital Healthcare Can Address Growing Health Inequalities

COVID-19 has increased existing health inequalities within countries and regions, with higher infection and death rates among people from poorer backgrounds who live and work in crowded conditions. Not much data is available for emerging markets, but the data from Europe clearly illustrates this health equality divide. Between the start of March and the middle of April 2020, age-adjusted death rates in the poorest areas of the U.K. were more than double those in the wealthiest areas.

The gap in access to healthcare is more acute in emerging markets, where the majority of the population has unequal access to health services. The WHO estimates that about 150 million people around the world suffer financial catastrophe from out-of-pocket health expenses each year, while 100 million people are pushed below the poverty line. Low- to middle-income consumers often forego treatment, as they can't afford it, can't navigate the health system, are not diagnosed for chronic conditions and rely on informal medical advice. That means they often end up in hospitals when their condition becomes too serious to manage, leading to costly and often tragic results.

The story of Lydiah, captured in the recent book by Julie Zollmann, "Living on Little," memorably illustrates this problem. At age 27, Lydiah, a young woman in Kenya, was experiencing a lingering illness. She went to the hospital at least four times during that year, and each time she was told she had malaria. On each visit, she would be given a new medicine. After showing no improvement, she started going to private clinics – but that didn't help either. As a last resort, she turned to traditional medicine, but her condition continued to worsen. Then, just before Lydiah died, she was diagnosed with very late-stage tuberculosis. By that point, her family had spent a fortune on various treatments – yet tuberculosis care is free in Kenya. As Zollmann rightly explains, "Low-income people are subject to a substantial quality tax, with treatment costs escalating as individuals seek care from multiple providers to resolve even common illnesses."

Imagine if Lydiah had access to standardized health advice via telemedicine. That was the case for Elham, a microfinance borrower living in Minya, who runs a small shop and takes care of her family of four. She is one of the half a million-plus borrowers AXA Egypt insures through partnerships with microfinance institutions, as part of our AXA Emerging Customers program. Elham got access to telemedicine provided by Altibbi, a healthcare company with whom we partnered during the first lockdown to increase access to digital healthcare. Her son had a severe fever just after the Eid holiday last May – she thought he'd gotten COVID-19, but was too scared to take him to a healthcare facility because of the virus. So she used Altibbi's digital health services, which referred her to a safe place to do lab tests. It turned out that her son did not have COVID-19, and after multiple tele-consultations, her doctors found the right treatment. "If I didn't have access to Altibbi, I wouldn't be able to access healthcare at this time," she said. And in fact, obtaining healthcare had not been much easier for her family even during "normal" times. Elham often went to clinics where she needed to wait a couple of hours for service, losing her income for half a day. Since these clinics were costly, she would rarely see a doctor for herself or schedule any follow-up sessions for her children. Digital healthcare can provide a valuable alternative for families like hers.

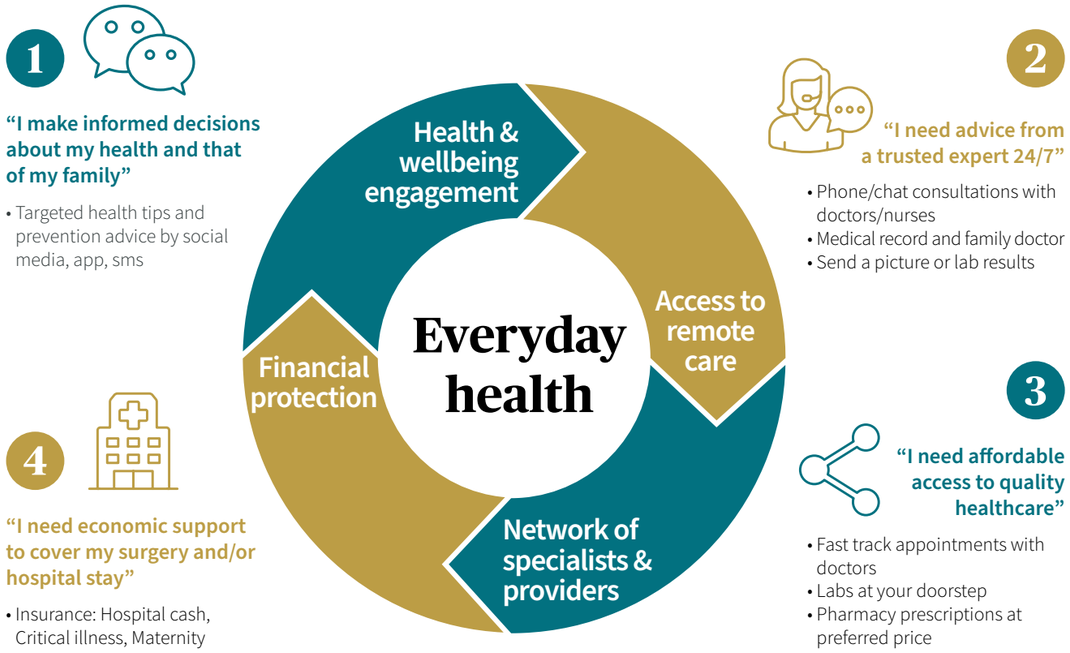
Creating a Successful Digital Health Model

Discussion of the promise of digital health is nothing new in global health or development circles. It has long been recognized that there are major benefits to offering high-quality standardized advice through digital services. This approach allows providers to detect issues earlier, keep patients out of the hospital unless necessary, and engage them on daily health maintenance issues, to raise their awareness and improve their lifestyle.

The concept has been proven to work in low-income context by Telenor Health in Bangladesh: It created Tonic, one of the first successful digital health deployments in emerging markets, which was recently acquired by Grameen Bank. Using both freemium and paid-for models, it offers several packages that include a limited call-a-doctor service, health tips, a discounts network and the option to book appointments with relevant specialists. The company has served more than 8 million people over the last two years.

The way we think about digital health at AXA is inspired by the Tonic example. Digital health is not just about offering

a medical hotline: It is about creating a comprehensive health ecosystem to improve access to quality, standardized care. As shown in the diagram below, the first component of a successful digital health model is to become a trusted advisor on health, and to offer nudges that can change patient lifestyles for the better. The second is to provide access to medical advice over the phone, and to create a medical record that can be used to better advise patients in the future. Continuity is key, as well as maintaining high quality through detailed, standardized clinical pathways and appropriate clinical governance. The third component is to provide access to offline services at a discounted price, especially to labs and specialists. And the fourth is about offering financial protection in case of catastrophic health expenses. The first three components make the value proposition tangible to patients in the short term, while insurance cements the proposition and makes it relevant in the long term.



AXA Emerging Customers' digital health response to COVID-19 and beyond

COVID-19 has accelerated AXA Emerging Customers' digital health agenda. From just two live projects that bundle digital health and inclusive insurance at the beginning of the year, we ended 2020 with 15 schemes serving low- to middle-income consumers. Among these projects, the typical solution includes targeted health content campaigns and covers access to tele-consultations with certified doctors. We often bundle this with simple and affordable life, accident and health insurance products. With assumptions on higher take up and cost saving on claims due to better health-seeking behaviour; we often were able to add it without increasing the price of insurance to customers.

While these solutions might look similar, our actual Emerging Customers portfolio is diverse in terms of target groups, business models and distribution partners, which creates a unique opportunity to test and learn. We are serving migrant workers in Malaysia and the United Arab Emirates, e-hailing service drivers in Mexico, bank account holders in Indonesia, mobile wallet users in the Philippines, and factory workers in India.

We started many of those projects in response to COVID-19, providing digital health insurance for free to the customers of our existing distribution partners – including the MFIs in Egypt mentioned above, a mobile wallet company in Mexico, and a telco in Thailand. Many of these services evolved into paid-for offerings with bundled insurance, as was the case for digital health provider Alodokter in Indonesia and a large retailer we partnered with in Brazil.

There is one key difference between these projects and more traditional digital health coverage that is just added to health insurance policies for affluent customers: All of these inclusive insurance schemes are delivered through business-to-business-to-customer distribution partnerships. Last-mile distribution by trusted agents of our partners is a key element of scaling up both inclusive insurance and digital health massively.

Digital health can only work if it focuses on customer engagement

The key lesson we've learned from our digital health schemes is that continuous engagement is key, to make sure people discover the service and keep using it in a consistent way. If people use the service once or turn to it only for emergencies, digital health will not fulfill its potential to reduce health inequalities. Instead, these services need to become a trusted navigator that helps people to change their lifestyles and seek care at the right moment and in the right places. Our main competition is a corner shop that sells common medicines, which customers turn to in the absence of more formal care. The behavior change challenge is huge.

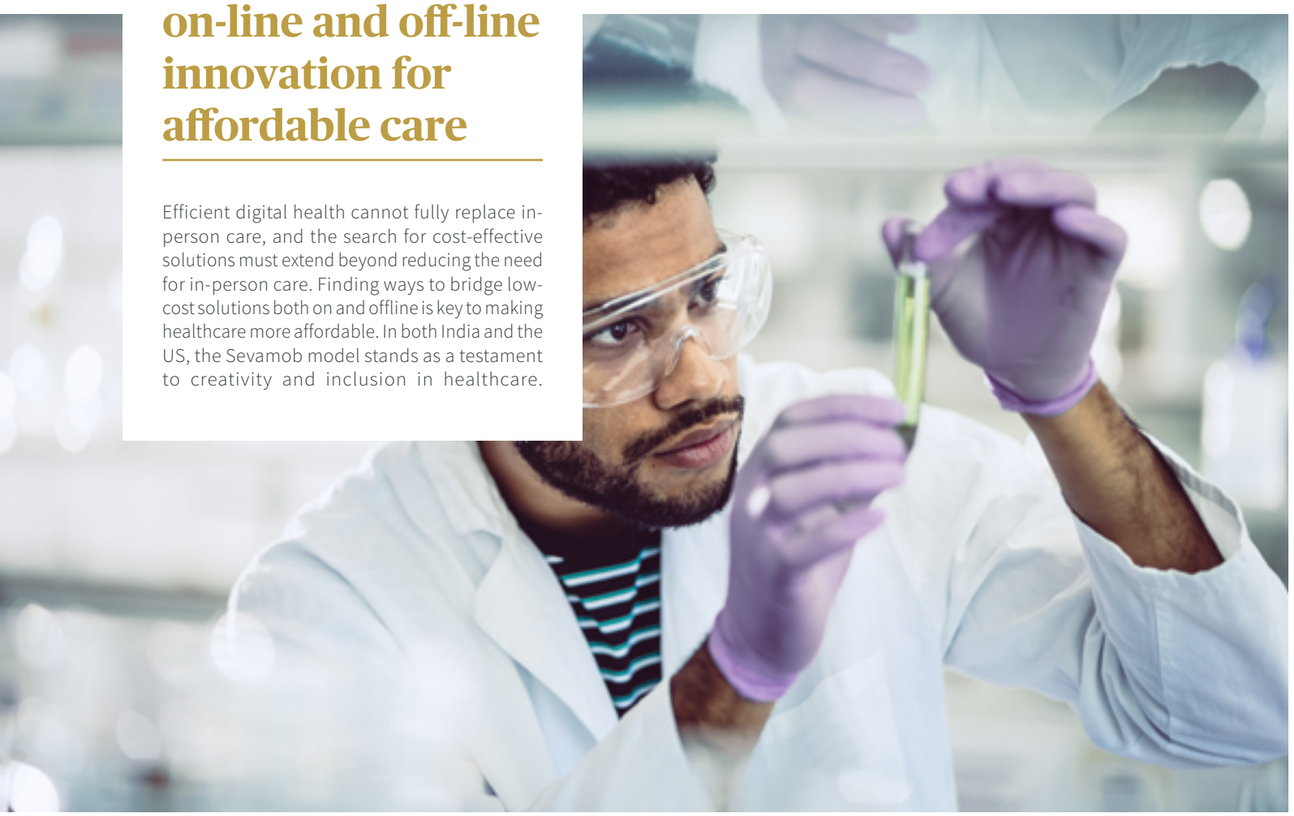
To that end, utilization is a key metric: For digital health to become the top-of-mind health navigator for the masses, it needs to be used by each family at least once per year (i.e., a 20-25% unique utilization rate for all members over a year). This can be achieved with 2-5% unique utilization every month. Before COVID-19, the average utilization rates across the industry for traditional digital health schemes were much less than 1% per year. In contrast, some of our most successful pilots have achieved 10-15% utilization per month. There are several factors that can make this sort of uptake possible:

- Ongoing engagement is key to driving utilization: For instance, Altibbi, our telemedicine partner in Egypt, sent SMS text reminders that increased service usage by five times compared to a control group with no reminders. They also did reminder calls for those not using the service, leading 84% of recipients of these calls to use it.
- Not all telemedicine providers have the capability to drive utilization for mass consumers; mass schemes require multi-channel marketing, creative user engagement and performance-based agreements.
- A customer journey that requires downloading an app results in very high drop-off (75-95%) during the enrollment process; instead, social media messenger bots are key.

The COVID-19-driven digital health revolution is just beginning. The jury is still out, but ironically the pandemic may actually accelerate the closing of the healthcare access gap in emerging markets. Adoption remains a challenge, and emerging customers are different from affluent ones – hence, different engagement approaches are required to get them to discover digital health services and sustain their usage. Other building blocks, such as technology and mass-scale distribution, are already in place. Today's technology allows stakeholders to create a health ecosystem that is efficient even in low-cost environments. Our distribution partnerships promise to bring this healthcare option to millions of customers in emerging markets, offering trusted, standardized clinical advice that wasn't previously available at scale.

Combining on-line and off-line innovation for affordable care

Efficient digital health cannot fully replace in-person care, and the search for cost-effective solutions must extend beyond reducing the need for in-person care. Finding ways to bridge low-cost solutions both on and offline is key to making healthcare more affordable. In both India and the US, the Sevamob model stands as a testament to creativity and inclusion in healthcare.



Online-offline hybrids or low-cost click and brick models:

The case of Sevamob

By Niti Pall and Shelley Saxena
Sevamob Founder and CEO

Doing regular medical tests and tracking results over time is a cornerstone of modern medicine. Yet for low-income people across the globe, it was always hard to access or perceived as too expensive. Named in Gartner's 2019 list of cool healthcare vendors, Sevamob, a US-based start-up with field operations in India, makes a difference by giving access to low-cost solutions that combine AI technology, offline pop-up clinics and online access for remote monitoring and follow-up health advice.

The Sevamob solution

Sevamob provides an artificial intelligence enabled healthcare platform to organizations in India and the US. It has 2 components:

- Artificial intelligence-based triage and point-of-care screening for blood, vision, diet, urine and sputum
- Health outcome delivery via telehealth and asset -light popup clinics

By integrating these 2 components, we enable delivery of primary healthcare at up to 50% lower cost. Care includes general health, vision, dental, nutrition, cardio-metabolic, infectious disease and ENT. We monetize it via health outcome delivery and software licensing. Our customers include employers, NGOs, hospitals/clinics, pharma, health insurance and local governments.

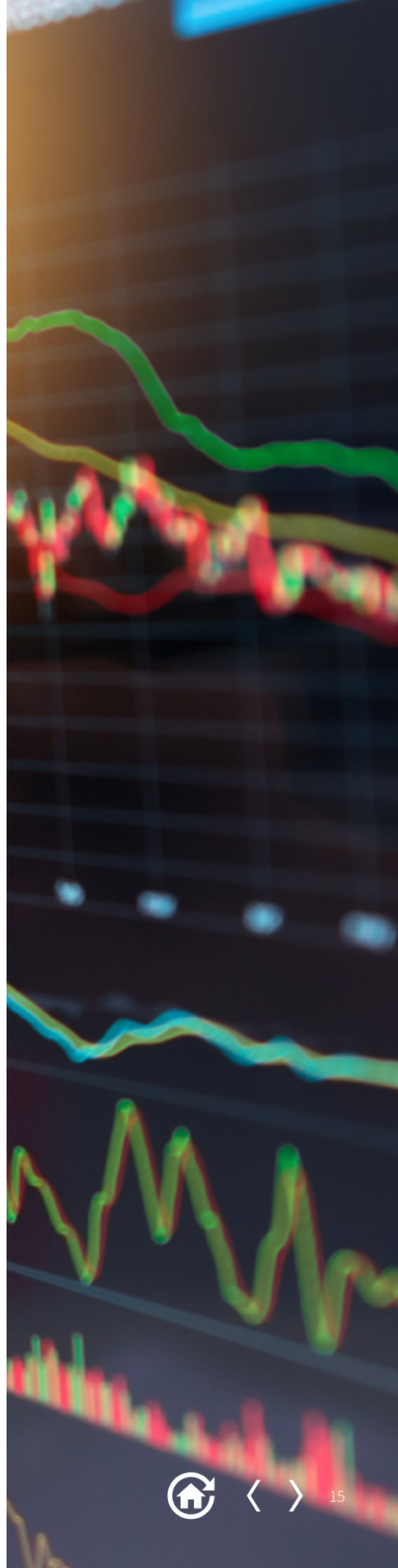
Sevamob 360 platform

The patients can use Sevamob's Seva360 platform to directly access tele-health and electronic health record capabilities via web and mobile. The patients can:

- Manage their health and get access to relevant information and services
- Maintain and track electronic medical record
- Find doctors. Schedule appointments (video, clinic or home) and request second opinions
- Participate in support groups. Post testimonials on medical professionals whose services they use

Sevamob hardware

Along with software innovation, Sevamob has also developed a prototype of a hardware device that automates the creation of stained slides from blood and sputum samples. Automation speeds up the process of preparing stained slides for diagnosis and also minimizes human error and variability in creation of the slides. These advantages in turn increase accuracy when the slides are analysed by Sevamob AI or manually by a pathologist.



Point of care and triage

Sevamob AI enables a nurse or a technician to perform triage and point-of-care screening for blood, vision, skin, urine, diet and sputum, with minimal training.

Blood
Analyze blood samples at point-of-care with a simple microscope and a smartphone. Analysis includes:
- RBC and WBC count
- Screening of medical conditions like Anemia

Sputum
Analyze sputum samples with a simple microscope and a smartphone . Analysis includes:
- Screening for Tuberculosis

Vision
Screen for vision conditions with a fundus camera and a smartphone. Conditions include:
- Diabetic retinopathy
- Cataract

Urine
Analyze urine samples with a simple microscope and a smartphone. Analysis includes screening for:
- Screening for RBC
- Pus cells
- Calcium oxalate crystals

Diet
Predict multi-vitamin and mineral deficiencies and recommend a complete diet, exercise and stress reduction plan

It is usually done within a pop-up clinic model targeting large factories employing lots of blue-collar workers. The pop-up clinics are centred each time around a different set of illnesses and treatments such as: Nutrition, Cardio-metabolic, Infectious diseases, Cancer, Vision, Dental, etc

Evaluating Sevamob's effectiveness

Sevamob conducted a field study with Medtronic in 3 states of India – Jharkhand, Delhi – NCR, Rajasthan. The goal of the study was to measure the accuracy of its Diet AI as evaluated by a panel of dietitians and measure its effectiveness in reducing malnutrition when paired with behaviour change counselling and supplements. Some of the results from this study were:
- 96% accuracy of Diet AI as evaluated by a panel of dietitians
- 13% improvement in BMI of adult patients (18 years and above)
- 67% cost savings by using Diet AI + nurse instead of a dietitian

The accuracy of its AI modules has been published in these journal papers:
- **Blood:** To evaluate AI for Hypochromic Anaemia based on RBC morphology in Leishman stained blood smears: A pilot study- International Journal of Scientific and Research Publications,Dr. Rashmi Kushwaha, Dr. Ankit Agarwal, Shelley Saxena, April 2020. http://www.ijsrp.org/research-paper-0420.php?rp=P1009947
- **Sputum:** Artificial Intelligence based AFB microscopy for Pulmonary Tuberculosis in North India: A pilot study- International Journal of Scientific and Research Publications Vineeta Khare, M.D;Ankit Agrawal, BDS; Prashant Gupta, M.D.; Shelley Saxena, B.E.,MBA, December 2019 http://www.ijsrp.org/research-paper-1219.php?rp=P969466
- **Vision:** Artificial Intelligence based analysis of fundus images of retina to screen for diabetic retinopathy and cataract: A pilot study in North India- International Journal of Scientific and Research Publications Dr. Ankit Agarwal, Shelley Saxena, May 2020 http://www.ijsrp.org/research-paper-0520/ijsrp-p10151.pdf
- **Urine:** Artificial Intelligence based analysis to evaluate for RBC cells, Pus cells and Calcium Oxalate crystals in Urine sediment slide microscopy: A pilot study in North India International Journal of Scientific and Research Publications, Ankit Agrawal, BDS; Shelley Saxena, B.E., MBA-, September 2020 http://www.ijsrp.org/research-paper-0920.php?rp=P10510517
- **Diet:** An Interventional Field Study, Ankit Agrawal-Artificial Intelligence-Based Diet - July-September 2020 http://www.informaticsjournals.com/index.php/ijnd/article/view/25120

The way forward

Sevamob's roadmap includes more innovation: Expansion of our AI portfolio with support for more medical conditions and modules and appropriate regulatory approvals

Making medical technology affordable to make healthcare accessible:

View from AXA Research Fund grantee Serap Aksu, Koç University

Serap Aksu is an AXA Research Fund grantee whose work on low-cost, portable devices using biosensors has made cervical cancer screening accessible for women in rural Turkey. This approach is promising for other diseases throughout the world. She was kind enough to answer some questions about expanding healthcare access.

How can biosensors such as those used in your cervical cancer detection device be used to make healthcare more accessible?
SA: The standard detection techniques for biological samples has been mostly relying on other bio-agents that would selectively stick on the biomolecule to be detected (virus, DNA, antibody…). Those agents are typically equipped with fluorescent tags that would allow us to see a color when the target biomolecule is present in the sample. The process for sticking the fluorescent tag to the target biomolecule requires a specialist who could run the delicate procedures. In addition, those procedures may require bulky laboratory equipment for accurate detection. The need of investment for the trainings and for the capable clinics are the main reason for limited healthcare access, especially for underprivileged communities.

The biosensors we use for human papilloma virus detection do not need a fluorescent tag for detection. The sensors are basically metallic nano-sized structures that do not have any shelf life. Under light exposure, the sensors are colored due to the resonance of the metallic structures. We simply modify the sensor surface specifically for the target biomolecule. If the target molecule is present in the sample, then we observe a color change that is associated with the resonance change of the structures. Thus, without need of an extra fluorescent tag, by simple shining a light, we could observe whether the target biomolecule is in the sample or not.

Today there are simple handheld tools that could send the light and detect any color change on our biosensors. Unlike conventional approaches, putting the sample on sensor surface or reading out the results do not require a specialist or any bulky machinery or clinics. Anyone can basically run the tests. In addition, the cost of a sensor is too low when compared to the material cost of the standard methods. In short, the ease of use and less production cost will enable more accessible healthcare.

What are the long-term implications for healthcare systems of these devices? Will healthcare become more inclusive?
SA: The photonic biosensors we generate are a major step towards point of care (POC) testing, in other words, bedside testing. The objective of point of care diagnostics biosensors is to generate portable devices that can be readily employed by the end-users with high accuracy. As those systems become more powerful and reliable, the need for machinery investments for hospitals is expected to diminish.

The photonic biosensors could also improve early diagnosis of diseases. The vast usage of POC devices will enable more frequent testing as the cost and accessibility favours the patient. Therapies aside, early diagnosis itself could be enough to save a patient. In addition, photonic biosensors can be arranged in a way to enable simultaneous detection of different markers from the same sample which is a must for rapid, truly informative diagnostics. In diagnostics, these biosensors would facilitate the burden on the healthcare system.

The photonic biosensors could be used for detection of any kind of biological sample. For my project as an AXA Research Fund Fellow, I specifically choose to study human papilloma virus (HPV) that is the cause of the cervical cancer. The bad type of HPV DNA can cause various cancers on both men and women, however, the death toll on women is statistically very high. There is a clear need for easy to use and low-cost HPV detection devices to make healthcare inclusive for both genders.

Where do you see healthcare moving in the future?
SA: The pandemic life has taught us that healthcare is not for granted, and we may not always reach the system. Developing test kits personalized for the individual patients is a must. Any shut down on healthcare leads to miss the chance of early diagnosis. Moreover, lack of regular testing causes therapies to be not effective. Thus, if we do not invest on POC devices, those problems will grow like snowball. I think the importance of diagnostics tools are now better understood and health care providers will be more open minded for using next generation of technologies.

What is the potential for healthcare inclusion of biosensors? How do you see biosensors potential to change healthcare access across high, middle, and low-income countries? For women, minorities, rural people, and other disadvantaged groups?
SA: Healthcare providers, or medical workers are generally conservative about their procedures. They tend to keep using the gold standards and they could be resistive to use new technologies. But photonic biosensors are now utilized for many effective therapies and treatments including genomic disorders, cell-based immunotherapies and many more. Thus, I believe we will hear a lot about photonic biosensors/systems in near future.

Photonic biosensors offer an efficient and cost-effective solution for diagnosis and treatment. They could help bringing down treatment costs and speed up the administration of powerful therapies to patients worldwide. The main problem with healthcare has been its cost and lack of specialist. The portable photonic devices help overcoming those barriers, and offering a solution for disadvantaged groups.
As I also mentioned previously, the photonic biosensors could be used for detection of any kind of biological sample. For my project as an AXA Research Fund Fellow, I specifically choose to study human papilloma virus (HPV) that is the cause of the cervical cancer. The bad type of HPV DNA can cause various cancers on both men and women, however, the death toll on women is statistically very high. There is a clear need for easy to use and low-cost HPV detection devices to make healthcare inclusive for both genders.

Overall, what I believe is that healthcare access (or vaccinee access) throughout the world is a poverty problem, and we are trying to help by offering a solution to a big problem. But the poverty, in general, is a result of politics, not the lack of resources.

New models for inclusive health systems

Public policy is at the heart of the conversation on expanding healthcare access. The distribution of healthcare resources and how healthcare systems are designed are the choices of governments. Influenced by history, culture, geography, and demographics, government healthcare systems offer many opportunities for greater inclusion. Governments, businesses, and nonprofits can all contribute to expanding healthcare access.

In this section, we will share case studies from India, China, and the United States which showcase solutions that respond to universal goals of expanding access that fit into the particular context of the society where they operate.

Understanding public private partnerships

and why they are important

By Elena Konzourova-Graeff
Head of Public-Private Partnerships,
AXA Life & Health International Solutions

Our world is rapidly changing and so are the dynamics of the health system. The high population growth rate coupled with the outbreak of different diseases, epidemics and pandemics - among other factors - have widened the gap between demand for and supply of health services worldwide. Despite governments' alertness to existing health issues and their commitment to solve them, most of these governments are constrained by economic, social and political pressures that hinder their capacity to act solely and slow down their healthcare development plans. Therefore, the necessity to engage in partnerships has become inevitable and the trend of Public Private Partnerships (PPP) has prevailed.

Public Private Partnership is a complementary relationship between the government and the private sector with clearly defined roles and aligned interest. Public Private Partnerships can be various and may involve financial and non-financial partnerships such as consulting, administration, monitoring, transfer of knowledge and exchange of best practices and technical know-how. As far as the health sector is concerned, PPPs aim to ensure universal health coverage through forming strategic coalitions between the government and the private sector. Healthcare is a universal basic right, but few countries have developed comprehensive solutions to care for all their citizens. A variety of models have emerged with varying levels of government involvement. In developing countries, challenges include the burden of rising but also fast aging population, the prevalence of communicable and non-communicable diseases, social health inequities perpetuating injustices and social stratification, and the development of infrastructure and delivery solutions with limited budgets.

Health system mechanisms may differ substantially from one country to another. However, common features make the historic financing models hardly applicable to developing countries having in mind that 90% of the workforce is unformal, budgets are limited, infrastructure and qualified staff are scarce resources. Therefore, hybrid models combining insurance and state funded models, balance the role of the public and private sectors to promote efficiency, ensure sustainability, and improve quality of care. Implementation of hybrid universal health schemes help to launch a transparent financial administration in public hospitals by providing reports and financing based on actual services delivered. Private hospitals can be incentivized to provide mass health coverages to previously excluded below poverty line population, making up for deficiencies in public infrastructure. It also makes the healthcare budgets more predictable for the Governments, brings efficiency by containing the costs, and increases the standard of care available by promoting competition between providers. While Governments have crucial responsibility in health policy development, budget financing setting-up and monitoring of the health system, private sector through public private partnerships can play a vital role to bring efficiency and make the health system functional allowing extended access and improved quality.

India:

The need for an inclusive solution amidst demographic challenge

Indian Branch,
AXA France Vie

India is a South Asian country with a population of more than 1.3 billion along with a population density of 382 persons per square km, one of the world's most populous countries. Since the latter part of the twentieth century, the country's population is at rising at an alarming rate given decreases in death rates amidst still positive birth rates. To give a sense of the scale of this issue, the growth rate as of 2019 was around 1% that means around 25 million births happen every year. India is faced with a slowly decreasing birth rate and rapidly decreasing death rate, leading to a high average family size of 4.4 people per household. This puts pressure on families for daily survival and makes medical expenses a major burden; a large medical expense can easily push a family below the poverty line.

Though India has one of the fastest-growing economies in the world, two thirds of the Indian population resides in poverty which means, more than 66.6% of the nation's population earns less than USD 2 per day. More than 30% of the population earns even less than USD 1.25 per day. There is unemployment, lack of proper infrastructure and cognizance which slows down their growth. The most common health conditions observed are malnutrition, child labor, and child death (infant mortality). Approximately 1.4 million children die within 5 years of age due to malnutrition, pneumonia, malaria, and diarrhoeal diseases. Crticial illness such as heart attack Coronary Artery Bypass Surgery (CABG), and major organ transplantation requires intensive care along with hospital stay. To provide aid to these impecunious citizens, and reduce their out-of-pocket expenses, the government has launched several schemes. For instance, **Ayushman Bharat (biggest known Indian cashless health insurance scheme which aims to provide free heathcare treatment at government and private healthcare facilities for both secondary and tertiary health conditions (critical illnesses)**. The journey of health insurance for the underprivileged started when the government of India launched Universal Health Insurance Scheme (UHIS) in August 2003 to provide reimbursement of medical expenses, cover accidental deaths, and disabilities.

A solution for below poverty line families: The Jharkhand model and its variations

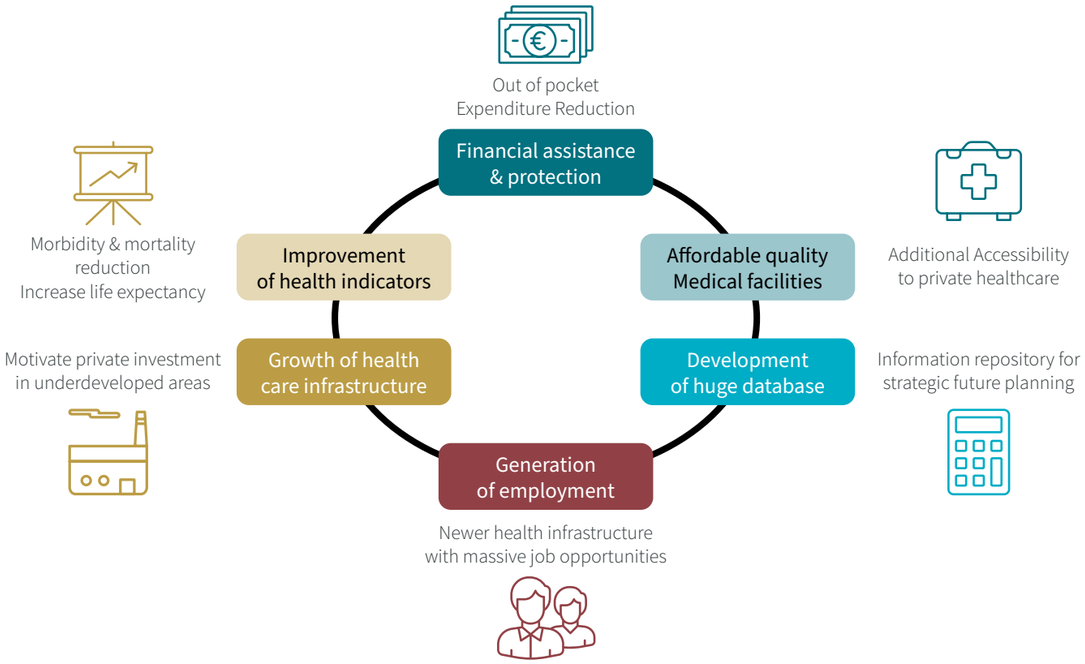
In 2005, International Labour Organization in Jharkhand highlighted the need for health scheme covering all families below the poverty line. The integrated health care system adopted distinctive innovative features allowing it to pave the way towards a broader program that could ultimately reduce out-of-pocket expenditure for all. This scheme was launched in 2008 and provided hospitalization cover up to INR 30,000 per year. This scheme had no exclusion clause and introduced a cashless facility for the poor. It was named amed Rashtriya Swasthya Bima Yojana (RSBY) for unorganized sectors. Acclaimed as one of the best insurance schemes, it introduced a biometric-enabled smart card containing photographs as well as fingerprint identification which was acclaimed for being one of the best world health insurance schemes.

Despite these improvements, these schemes faced several challenges; the structure was devised for providing financial protection from secondary illnesses, leaving beneficiaries exposed to the financial drains from treatments of critical illnesses. Gradually, some states initiated a specialized cover for critical illnesses. In Rajasthan, their first state health Insurance scheme was named Bhamashah Swasthya Bima Yojana- a comprehensive coverage – ensuring secondary as well as tertiary illnesses. The scheme introduced the insurance

company in the agreement which not only helped in reducing administrative costs, but also narrowed the loopholes in the scheme.

To be most successful, a scheme for the underprivileged should provide financial assistance and protection to individuals covered under it. The scheme should ensure a reduction in out-of-pocket expenditure of the beneficiary for either treatment or for traveling towards the healthcare facility.

AXA, in partnership with the Government bodies, aims to achieve the following impact of a successful health insurance scheme for the underpriveleged:



The country's administrator face challenges to provide the best structure to benefit society. To address these challenges, public insurance and AXA plan to work symbiotically on financial assistance and quality in particular.

The ten states Ayushman Bharat was launched were analysed to identify the progress and results since 2019.

From the data we were able to identify that Jharkhand was performing as one of the best with high utilization of services. In addition to this, we infer that the target population were able to receive services easily. Jharkhand being a greenfield state with no previous system in place has shown growth and reveals top notch performance with respect to the utilization of the services.

Ranking	State	Claim submitted count	Claim submitted amount	Mode of implementation	Incidence rate
1	Kerala	2,31,731	1,22,20,59,831	Insurance	12.47%
2	Chhattisgarh	4,56,067	3,36,67,42,880	Hybrid	12.23%
3	Gujarat	3,49,158	5,51,79,92,028	Hybrid	7.78%
4*	Jharkhand	1,58,784	1,58,99,64,054	Hybrid	4.18%
5	Tamil Nadu	1,71,365	3,43,08,24,701	Hybrid	2.21%
6	Haryana	18,197	27,04,97,061	Trust	1.17%
7	Maharashtra	95,875	2,29,77,38,197	Hybrid	1.15%
8	Uttar Pradesh	94,828	1,09,05,40,738	Trust	0.80%
9	Madhya Pradesh	62,656	76,06,76,152	Trust	0.75%
10	Bihar	31,349	31,09,92,694	Trust	0.29%

***Jharkhand among the top performing states** under Ayushman Bharat, **with high utilization of services**

Lessons from the Jharkhand model for other mass population schemes

Several key success factors underlie the Jharkhand model and show promise for replication:

Public Private Partnerships
Government-owned insurers offer the comfort of flexibility, financial capacity as well as deep rural penetration. Furthermore, government insurers are 100 % owned by the government of India and monitored by CVC and CAG, leading to fewer irregularities and timely settlement of genuine claims, leaving a lasting impression on beneficiaries.

Profit Refund Clause
The government introduced a profit refund clause in their tender document to make the scheme financially viable. Despite its expansive coverage, this allowed the scheme to be affordable at a relatively low premium quote, saving costs to government. According to the clause, 90% of the leftover surplus to be refunded to the government which is kept inside a corpus to compensate for future raise in claims.

Mandatory Awareness Generation
Awareness is key to scheme success. Most beneficiaries in certain states are still unaware of the very existence of their entitlements under a mass health insurance scheme. ABPMJ-MSBY takes an aggressive stance on communication to reverse this trend. To underscore the importance of the scheme to the consumers, the scheme dedicates a mandatory budget of 2% of the total premium towards awareness campaigns across all districts of Jharkhand.

Robust Grievance redressal
ABPMJ-MSBY has an inbuilt beneficiary-centric grievance re-dressal mechanism with a 24×7 multilingual and multipurpose call center to ensure that the beneficiary yields the highest level of importance in the hierarchy of grievance redressal. This gives confidence to beneficiaries and ensures that the system is working in their favor.

Achieving healthcare inclusion through partnership
Thanks to strong partnership between the public and private sectors, millions of below-poverty-line Indians can now access care. Even more significantly, the scheme put in place takes beneficiaries needs into account at every step of the process, from generating awareness to grievance redressal. For India's changing demographics, healthcare access at an affordable rate is key not just for the physical health of its citizens, but its continued economic development.

United States:

A federal system with large coverage gaps

In the United States, healthcare is provided by private insurers to a vast majority of the working age population, primarily through group coverage from their employers. The central government does not propose a universal health scheme to all its citizens, but it does provide programs for retired people (Medicare) and those under the poverty line (Medicaid). In the case of healthcare, the 2010 Affordable Care Act (ACA), also known as Obamacare, was a major piece of legislation that gave states the option to extend Medicaid to larger tranches of the population, which gave many more Americans access to insurance. It also set up healthcare marketplaces for individual and small group plans, set standards for what insurers needed to cover, and prevented insurers from refusing coverage to people with pre-existing conditions. In 2010, when the ACA was implemented, 17.8% of the population that was considered non-elderly and therefore ineligible for Medicare was uninsured. The figure steadily diminished to 10.4% in 2018, when the executive branch changed its approach to the ACA and the uninsured rate rose to 10.9%.

To ensure uptake of plans offered in the healthcare marketplaces, the ACA provides subsidies for people in a lower-middle class income bracket who would not be covered by Medicaid expansion. However, a coverage gap remains for those who do not meet the minimum income threshold to receive subsidies for Obamacare but who earn too much to be eligible for Medicaid, even when expanded to include more people. People who fall within this coverage gap may find the price of coverage particularly burdensome and go uninsured or choose a very minimal plan.

Medicaid expansion was a decision taken by the federal government, which administers the program, but the states have the right to decide whether to opt in to the program. 12 states chose not to participate; leaving approximately 5 million people uninsured who would have been eligible for Medicare expansion in 2018, the last year for which figures are available[2]. In these states, eligibility programs remain quite limited: the median income limit for parents to access Medicaid is just 40% of federal poverty guideline and in nearly all these states, childless adults remain ineligible. Though emergency care and support for women in labor may be accessed through the Emergency Medical Treatment and Labor Act, hospitals that are part of the Medicare System are required to provide emergency care and attend to women in labor regardless of ability to pay[3]. Funding for this is not provided by the federal government however, creating a financial burden[4].

[2] KFF - Medicaid - The Coverage Gap: Uninsured Poor Adults in States that Do Not Expand Medicaid
KFF - Rachel Garfield, Kendal Orgera and Anthony DamicoPublished: Jan 21, 2021
[3] CMS.Gov Centers for Medicare and Medicaid services - Emergency Medical Treatment & Labor Act (EMTALA)
https://www.cms.gov/Regulations-and-Guidance/Legislation/EMTALA - page last modified: 03/04/2021
[4] American College of Emergency Physicians- EMTALA Fact Sheet
https://www.acep.org/life-as-a-physician/ethics--legal/emtala/emtala-fact-sheet/ - 2021

Sendero Health Plan:

An inclusive, community based nonprofit insurer

By Wes Durkalski
CEO, Sendero Health Plan

In Texas, the state government chose not to expand Medicaid, meaning that there is an even larger population of people who struggle to afford coverage. In 2019, an estimated 1,553,000 Texans went without coverage. When uninsured people who are ineligible for state and federal healthcare programs seek care, the services they receive are known as indigent care. In Texas, counties are required to pay for these treatments, which may include ER visits, outpatient procedures and hospital stays. Providers then bear the burden of seeking reimbursement from the county and get very low reimbursement rates, and the county has an unknown, unlimited financial exposure, as well as having to negotiate payment to the providers[5]. In addition, the uninsureds tend to receive low quality care due to the cost constraint.

How Sendero Health Plans created a win/win solution for counties, medical providers, and uninsured people

Sendero Health Plan is a not-for-profit, community-based, County-sponsored health plan in Austin, TX in Central Texas. Through its Indigent Care Program, this locally licensed health plan provides a top tier health insurance policy to people who have high relative risk scores and who are not eligible for premium subsidies under the ACA).

Sendero launched a pilot program for indigent care in 2019 with more than 200 members and has expanded it locally in 2020 to more than 500 members. Sendero is now looking to assist other counties and states to implement the Indigent Coverage Program in the coming years.

Through its Indigent Coverage Program, Sendero is able to accomplish two important objectives:

1. To provide broad, excellent care to low income, high risk, uninsured individuals, and
2. To eliminate the burden of the cost of such indigent care on county budgets, though the CMS Risk Adjustment program.

Sendero goes beyond indigent care in its efforts towards healthcare inclusion and is deeply embedded in the communities in which it serves. For example, it provides free baby showers, birthing classes, transportation to birthing classes, and many other benefits to expectant bilingual mothers enrolled in its special program developed for the bilingual community. Beyond healthcare, it sponsors children's sports teams, partners with food banks, and a local children's education television show. In the COVID-19 pandemic, Sendero Distributed 12,000 COVID-19 and Flu Care Packages not only to its members, but also within the communities where it operates.

[5] CMS.Gov Centers for Medicare and Medicaid services- Emergency Medical Treatment & Labor Act (EMTALA)
https://www.cms.gov/Regulations-and-Guidance/Legislation/EMTALA - page last modified 03/04/2021

China: a municipal level approach to protect lower-middle class people

The People's Republic of China, the world's most populous country, has many social safety net programs in place given its communist orientation. However, rising out of pocket costs have made access to healthcare a continued challenge. Innovation enables inclusion in this case study in Beijing, by leveraging a mix of telehealth and enhanced insurance covers.

Protecting the underserved

through municipal public-private partnership in China

By Xing Sun
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AXA Tianping launched online health insurance in partnership with Beijing Municipal Government October 2020. The product provides critical illness protection and health services to low income/mass population and served as the first strategic building block to protecting this underserved segment in China.1.5 million people were enrolled during the two-month enrollment window in October-November 2020.

Through decades of effort, public social insurance in China has achieved a coverage level of 95%, but some accessibility challenges remain to be addressed. Rising concerns of the out-of-pocket medical expense burden and health care gaps spur government to seek alternative solutions for better health protection through a multi-tiered health insurance system in partnership with commercial insurers. Typically, the social health insurance in China would cover 30-50% of the medical costs, while the rest need to be paid by patients.

The social health coverage and health care gaps vary among the 657 cities in 34 provinces. A tailor-made solution is needed for each city to address the funding gaps. With 22 million residents, Beijing, as the capital of China, has already enjoyed a quasi-complete public social insurance coverage. However, the coverage is still limited, normally excluding critical diseases, and with a low coverage ceiling of RMB 300K/ ~EUR 38k for employed people.

Responding to this need, AXA Tianping launched a Public-Private partnership health insurance supported by Beijing Municipal Civil Affairs Bureau and the French Embassy to China. The product combines critical illness protection with 18 health services encompassing online consultation, drug delivery, and care coordination. It serves as a supplementary cover to the universal national health cover and intends to make health protection truly accessible and affordable with a purely online customer journey, a fixed 79 RMB (10 Euros) premium per year for all ages, with no medical underwriting and no waiting period.

The initial results as of March 2021 are promising with sound claims experience and growing customer engagement through health services.

As the only foreign insurer for the similar public-private partnership scheme in China so far, this project demonstrates AXA's strong health ambition and its commitment on financial inclusion in China. It serves as the first strategic building block to protecting the underserved in China. In addition, the entire digital customer journey provides the invaluable access to customer data which will enable product innovation to further enhance AXA's ability to serve real customer needs.

This project is a testament to the power of digital tools to make affordable, accessible products. It also underscores AXA's commitment to building innovative products that bundle coverage and services to reduce out-of-pocket costs. Optimizing the patient journey with an understanding of financial pain points for insureds is a crucial lever for making large-scale health schemes effective.

"As one of the world's largest leading health insurance groups, AXA is honored to bring its expertise and global reach to collaborate with leading companies in the industry to provide Beijing residents with secure, reliable, and worry-free health security." said Zhu Yamin, CEO of AXA Tianping during the product launch event. " This includes boosting health management for Beijing residents, facilitating the construction of a multi-level medical security system, and jointly achieving the strategic vision of '**Healthy China 2030**'. In the future, AXA will continue to fulfill its role as a world-class brand and make every effort to bring the benefits of insurance to everyone."

Including a new kind of work force: covering the gig economy

As society changes, so do inclusion challenges. Many systems around the world place a major part of the responsibility for healthcare access on employers, but in today's world with more and more work being done outside of a traditional employment relationship, new models are emerging. Co-founded by MetLife and AXA, MAXIS Global Benefits Network is a network of almost 140 insurance companies in over 120 markets who has their finger on the pulse of the future of group benefits and how they may impact this new kind of work force.

Protecting gig workers

Are employee benefits the answer?

By Helga Viegas
Director of Digital & Innovation at MAXIS GBN

It's almost impossible to not have heard the term gig economy in the last few years. The phrase has entered our vocabularies as workers have stepped away from traditional, full-time jobs working for one employer to take on a series of short-term contracts or freelance ("gig") work to build an income. While many might think of the gig economy as Uber drivers or freelancers that pick-up work via an online platform, it's often used to refer to all independent workers, no matter how they find contract work.

Although it may seem like a new concept, by this definition, the gig economy has actually been around for centuries, but the growth of online platforms has helped accelerate its expansion and prevalence.

And the numbers suggest it continues to grow. According to a Gallup survey, 36% of US workers are now part of the gig economy – around 57 million people[6]. The numbers are huge in Europe too, with about 40% of EU workers currently engaged in non-traditional or self-employed work[7].

Gig workers generate big business. A 2019 whitepaper by Mastercard found that the global gig economy currently generates US$204bn in gross volume and gig economy transactions are projected to grow by a 17% compound annual growth rate, reaching a total volume of around US$455bn by 2023[8]. And 79% of executives expect gig workers to replace full-time employees in many areas in the coming years[9].

[6] TJ McCue, Forbes
https://www.forbes.com/sites/tjmccue/2018/08/31/57-million-u-s-workers-are-part-of-the-gig-economy/#38f1620f7118 (Sourced December 2019)
[7] European Commission (2019). The impact of the digital transformation on the EU labour markets. European Commission, Brussels.
https://ec.europa.eu/digital-single-market/en/news/final-report-high-level-expert-group-impact-digital-transformation-eu-labour-markets (sourced March 2021)
[8] Anon, Mastercard,
https://newsroom.mastercard.com/wp-content/uploads/2019/05/Gig-Economy-White-Paper-May-2019.pdf (Sourced December 2019)

And, with the COVID-19 pandemic causing widespread job losses across the world, many employers and ex-employees could look to gig work to help recover and rebuild their businesses and their job prospects.

Protecting gig workers
With all the signs suggesting that the trend of gig working and freelancing is here to stay, multinational employers are faced with the challenge of attracting quality workers. One way they can do that is by offering competitive employee benefits (EB), in a world where gig and freelance workers haven't traditionally been considered 'employees' and typically aren't included in EB programmes.

For gig workers this can mean they are left without some vital protections.

A recent study found that only 30% of gig workers said they had insurance to cover their independent work, while 89% of uninsured respondents said they were unaware of insurance policies that would cover the risks incurred through their work[10].

As the gig economy continues to grow and play a larger role in everyday life, providing insurance and other health benefits for this group will be critical. But it's not always that simple – in many countries, the regulatory framework may need to change to allow this.

Some companies are already showing what can be done.

- Survey Monkey provides medical, dental and vision plans, covering 85% of employee premium and 50% of dependent premium, as well as transport subsidies and extended vacation, sick leave, parental leave and more, to their gig workers[11].
- Etsy provides its sellers with access to Stride Health in the US which offers affordable health insurance. While this isn't funded by Etsy, it is providing valuable financial education to sellers[12].

What needs to change to give more gig workers access to benefits?
This is one of the big questions facing employee benefits professionals all over the world, whether they work for a multinational, an insurer, a consultant or an employee benefits network. At MAXIS GBN, we aim to be at the forefront of designing new products and solutions for multinational employers and their gig workers and are exploring a variety of digital solutions that make this possible.

One possible solution to the challenge is offer a platform that allows multiple employers to offer benefits to the same worker, via credits or standard payments. The gig worker can then take the benefits with them if and when they move on. This "portable benefits" model has been talked about for some time. In 2016 The Aspen Institute outlined the need for a "shared safety net" to protect workers who choose the additional flexibility of gig work. It noted that this system should be:

- portable – not tied to any one employer
- pro-rated – employer contributions are defined by how much the employee works
- universal – available for all workers to access the critical benefits they need[13].

Of course, delivering these portable solutions isn't going to be the responsibility of any single employer as it's complicated. There are a number of regulatory and compliance challenges that will need to be tackled in order to provide universal, portable benefits portals and insurance providers, benefits consultants and brokers may need to work together to create a system that works. Given the expected growth of gig economy, there is likely to be a huge market for such a platform.

It's in the best interest of employers to ensure that everyone who works for them – whether they are employees or gig workers – is happy, healthy and productive. So, if regulations allow and providers can work together to make this possible, providing EB could be the answer to attracting gig workers and giving them the vital protection they need.

[9] Anon, Mercer Global Talent Trends 2019, Mercer (sourced March 2021)
[10] Cake & Arrow "Insurance in the age of the gig economy" (sourced September 2019)
[11] Anon, Survey Monkey
https://www.surveymonkey.com/mp/surveymonkey-contractor-vendor-benefits/ (sourced December 2019)
[12] Etsy Staff, Etsy
https://www.etsy.com/seller-handbook/article/helping-you-find-the-right-health/35196764666 (sourced December 2019)
[13] David Rolf, Shelby Clark and Corrie Watterson Bryant, Aspen Institute
https://assets.aspeninstitute.org/content/uploads/files/content/upload/Portable_Benefits_final2.pdf (sourced December 2019)

Conclusion

Expanding healthcare access to include all people does not have a one-size-fits-all solution.

Digital health, as deployed by AXA Emerging Customers, and hybrid models like that of Sevamob can represent a giant step forward, especially in emerging countries. By both reducing the cost of care, and making it simpler to access, inequalities in access can be addressed.

To get to the heart of inclusivity, rethinking the very devices that doctors depend on can help overcome hurdles due to cost, logistics, and expertise needed to interpret results. The work of Serap Aksu in harnessing engineering innovation for healthcare inclusivity can help shift the paradigm even further.

Governments and communities have a key role to play as well. Addressing the needs of below poverty line people, as seen in India, is crucial, and public private partnerships can be an effective and efficient way of reaching the needs of society's most vulnerable. To address growing out of pocket costs that made even people with healthcare coverage struggle to access care, Beijing municipality with AXA deployed a mixture of more comprehensive coverage and less expensive telehealth services to expand healthcare access. In the United States, a country with a large uninsured population and high cost of care, the Sendero Community Health Plan helped made public expenditures more predictable and gave greater access to care through its programs for those did not have other forms of healthcare.

Expanding access to healthcare also means thinking of the future, and the way society is changing. The gig economy is changing the relationship between companies and those who work with them, and including a new kind of work force is critical as technology and economics change the way we live and work.
In conclusion, healthcare inclusion is an ongoing challenging with not just one, but many ways of overcoming the barriers people face to access care. Taking universal healthcare from a right to a reality requires creativity, empathy, and expertise. It is our hope that through this publication, we have shared these ingredients through real success stories that inspire and inform.

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