Healthcare for the Pre-Middle Class in Emerging Economies
Introduction

We have all heard the adage that ‘health is wealth’. It is true that good health often results in longer lifespan and higher productivity. The reality is that it is often the rich who can afford to buy health. Even though there is a growing need for affordable healthcare across all nations and social classes, there is still a general lack of healthcare goods in the lower social class as compared to their counterparts in higher echelons. The traditional business models often tend to determine price of healthcare for the upper classes, and those in lower socio-economic classes are usually expected to be the responsibility or burden of the government / public sector. With the rise of high technological innovations in healthcare and healthcare trends such as rising healthcare inflation, the market often produces goods that are beyond the affordability for most people.

This paper from Deloitte’s Future Healthcare Centre of Excellence highlights the emergence of the Pre-Middle Class (PreM) that comprises a large population in most emerging nations. To invest in this underserved economy and PreM group, there is a pressing need for the healthcare market to come up with new business models to facilitate this transformation. Business models such as reverse pricing, sachet marketing, volume-based models, frugal innovation, reverse innovation, and glocalisation can be introduced to cater to the PreM group. Looking into the regional developments, the ASEAN Economic Community (AEC) will form a single market and production base that may help to serve the PreM. Even though the healthcare market is unbalanced and non-uniform in providing healthcare goods as of now, Deloitte believes that empowering the PreM is a viable business for the future.
Healthcare for the Pre-Middle Class in emerging economies

Healthcare Trends in Emerging Markets

In recent years, countries around the world have recognised the need of a robust healthcare system for sustainable growth and development. The UN endorsement of Universal Health Coverage (UHC) in 2012 has ensured accessible healthcare for all. Many developing countries, especially for the less privileged citizens, often depend on public insurance as the chief financial backbone for medical care. As such, many social health insurance (SHI) schemes have been introduced in emerging nations to ensure that people across all economic groups have equitable access to healthcare.

However, inadequate government spending on public healthcare and insufficient numbers of medical professionals in the markets are cited as barriers in the implementation of UHC. Despite the emerging nations having lower spending than Organisation for Economic Cooperation and Development (OECD) economies, the average healthcare expenditure of ASEAN countries has been steadily increasing over the years. Even with the introduction of UHC and SHI, there are still pertinent healthcare trends that have yet to be recognised and addressed by the market.

2. Refer to Appendix 1
1. Rising Healthcare Cost
With the recent improvements in healthcare delivery, the industry has brought new frontiers to the treatment of illnesses and a new consumer-patient archetype. Despite the advancement of healthcare delivery models and technologies, the current archetype has only been benefiting the affluent in most nations. At the high-end of healthcare provision in countries like China, Malaysia and Thailand, world-class medical services tend to target and attract the upper income group and medical tourists only. In contrast, the majority of these nations’ populations are still struggling to afford even the most basic form of healthcare. According to Table 1, the widening gap is further highlighted by the recent rising rates of healthcare inflation that are generally triple the general inflation rate. As healthcare costs will be increasing at a disproportionate rate with the earnings, there is an increasing need for the healthcare industry to curb the rising healthcare costs.

Table 1: General and Medical Inflation Rates for Selected Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Annual General Inflation Rate (%)</td>
<td>Annual Medical Trend Rates</td>
</tr>
<tr>
<td></td>
<td>Gross (%)</td>
<td>Net (%)</td>
</tr>
<tr>
<td>China</td>
<td>3.00</td>
<td>7.00</td>
</tr>
<tr>
<td>India</td>
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<td>Singapore</td>
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<tr>
<td>Thailand</td>
<td>3.43</td>
<td>9.10</td>
</tr>
<tr>
<td>Vietnam</td>
<td>8.80</td>
<td>20.00</td>
</tr>
</tbody>
</table>

Extracted from the Global Medical Trend Rate Survey Report 2015, showing the difference in general and medical inflation rates for selected countries.

* Medical Trend Rate: Percentage of change in the cost of healthcare prior to any cost containment measure undertaken by insurance plan sponsors. Also referred as “medical inflation rate”.

2. Lack of Accessibility to Medical Care in Rural Areas
One of the major issues with healthcare in rural settings is the lack of accessibility to medical care. In emerging economies, the healthcare industry has witnessed a concentration of resources in urban areas. For instance, in Thailand, 83.5% of the doctors are based in urban areas. As the clustering of these medical resources in centralised urban areas increases, the locals in rural areas are frequently deprived of medical services and facilities. The lack of primary care in rural areas means that the rural dwellers often have to embark on long journeys to seek for medical advice. This creates a significant opportunity cost for the rural dwellers who do not have much disposable income. According to data provided by the Vietnamese Newspaper Thanh Nien, public hospital waiting time is at an average of four to seven hours in Vietnam. The opportunity cost of the two-way travel and waiting time will result in a loss of at least a day’s wages for the patients and companions. Added on to the existing financial burden of costly medical treatment, the less-privileged citizen would feel the immediate strain in their income and livelihood. Subsequently, this may cause rural people to delay or forgo the treatment until it is too late, leading to unnecessary morbidity and mortality, and ultimately greater costs to society.

3. Lack of Medical Professionals

Another common aspect across the emerging economies is the insufficient supply of medical professionals to serve the population. The numbers of physicians per 1,000 people in developing economies are often well below the OECD’s average of 2.8 physicians per 1000 people (Figure 1). Apart from the increasing stress in lowering the medical costs, the number of medical consultants have to be increased to mediate the current manpower crunch in these emerging markets.

Figure 1: Physicians per 1,000 people in selected countries

4. The trend towards technology-enabled care (TEC)

With an increasing need for a more efficient healthcare system to ensure sustainable economic growth, Technology-Enabled Care (TEC) solutions are required to plug the gap in the healthcare systems of emerging economies. Key components in TEC, such as telehealth and mHealth, enable an efficient delivery system especially in geographically dispersed regions that lack medical professionals. Indonesia has been at the forefront of finding TEC solutions to address such needs. There are already four different mobile apps (Dokita, Dokter Gratis, MeetDoctor, and TipsDokter) to provide online consultations alone.

There have also been increasing promises and advancements in mHealth solutions. This is cemented by the various up and coming innovative projects that help Information and Communications Technologies (ICT) to catch up with smartphone adoption even in the most rural places. These include Project Loon6 led by Google and internet.org7 by Facebook that strive to make internet free and accessible for people in rural areas.

Case study: mClinica

mClinica uses mobile technology to overcome the infrastructure and technical barriers in fragmented healthcare systems; to connect pharmacies, physicians, and patients in Asia’s emerging markets. Patients enrolled on the platform gain discounts on medications, better understanding of their health conditions, reminders to refill prescriptions, and hence increasing medical adherence and health outcomes. By tapping on these data, companies gain market insights and are able to adjust programs to boost sales sufficiently to offset drug discounts. Such platforms are key enablers of the provision of safe, quality healthcare in emerging economies.

Headquartered in Singapore, mClinica now has a presence in developing economies including Philippines, Thailand, Malaysia, Indonesia and Vietnam, building digital networks of healthcare providers and receivers in these emerging markets.

5. World Bank.
6. For more information, visit: https://www.google.com/loon/
7. For more information, visit: https://info.internet.org/en/
8. Deloitte Interview with mClinica
The Pre-Middle (PreM) class

With the disruptions of technology and the improvement of living standards in most nations, the healthcare industry is focusing too much on the consuming power of the affluent. On the other hand, there are other countries which are arguably focusing too much on the poor and ignoring the rest. The middle ground between the poor and the affluent is home to the PreM segment, which might present itself as the white space in this business opportunity continuum. By prioritising this group of consumers, healthcare businesses will be able to increase their source of revenue by providing affordable healthcare services for this largely untapped market.

Based on Deloitte's definition of the PreM, this group of people are the economically-enabled who have just gotten out of poverty, but are still susceptible to adverse situations as they do not have enough savings to cushion the effects (Figure 2). With less earning capabilities, the PreM is a group of value-conscious consumers where affordability plays a major role in making their decisions in spending. Falling sick is considered one such adverse event. When medical care is considered expensive for the PreM, the need for medical attention is often delayed till the symptoms of the illness have snowballed. The cost of treatment of a more serious illness will eventually result in increased medical bills, even financial ruin, and decreased work productivity. Thus, there is a need to pay attention to the PreM group that requires assistance in prioritising health and containing the rising healthcare costs. One of the social priorities of most governments would be to support the PreM class in their healthcare needs.

Figure 2: Income Classes in a Typical Population Pyramid

The Pre-middle class (PreM)
We looked at selected countries in Asia and divided them into four groups: the developed economies, current markets of interest (Big HooHa), emerging economies and the Cambodia-Laos-Myanmar (CLM) cluster. The CLM cluster presents limited visibility to the outside world due to their constant struggles for political stability, recently opened borders, and the cluster’s lack of academic think-tanks, and thus this cluster will be excluded from this paper.

According to Deloitte’s estimate, the population of PreM class for Group 2 and 3 is 2.1 bil and 474 mil in 2015. In particular, the PreM class consists of more than 80% of the population in the Group 3 emerging nations (Figure 3).
With the relevant policies used to assist citizens in moving out of the poverty line, the PreM is also expected to continue their increase in numbers. Based on current trends, the estimated size of the PreM group will increase to 1.6 billion people by the year of 2030 in Asia alone. Given the sheer size of the PreM group, there are vast opportunities for the corporate world to tap into. Also, to these nations’ decision makers, it is of utmost importance to empower this PreM group as they are the key to steering the nation towards sustainable economic growth.

11 Ibid.
Business Models Catered to the Pre-Middle Class

With the identification of the PreM as the target audience for healthcare businesses, six business models have been proposed in recent years for companies to leverage and expand on their existing business models.
1) Reverse Pricing

Corporations are required to re-think the current pricing models to drive economies of scale and to ensure the affordability of healthcare services to consumers. Traditional pricing models\(^\text{12}\) determine the price of a product or service by taking the sum of operating costs and profits. These models are inherently ineffective as the PreM in emerging economics generally do not have the purchasing power to enjoy personalised healthcare services. In contrast, the reverse pricing model of healthcare focuses on consumers of the lower echelons by placing a high emphasis on the reservation price that individuals are willing to pay. Rather than deriving a final price by maximising cost structures, pricing strategies have to be designed at the outset. By starting with a price that is within the reach of the target population, corporations can increase the access of healthcare services to the general population.

2) Sachet Marketing

In most rural countries, citizens live on a day-by-day sustenance where earnings barely meet the demands of personal needs and daily requirements. Consider a fisherman who makes a living out of the sale of his day’s catch: the income resulting from his catch is only sufficient to feed his family for a few days before finances run low and he has to return to the sea to fish again. Since the family is unable to have much savings from living such a frugal lifestyle, an unexpected illness could render a huge sum of medical costs that would be difficult for the family to shoulder. The purchase of medications such as a month’s course of cancer treatment drugs would incur prohibitive costs that could possibly deprive the family of basic necessities such as money for the next meal. In such cases, unforeseen circumstances to the health status of the sole breadwinner can result in a huge financial strain to the family.

With sachet marketing introduced as a Low Unit Pricing business model, the repackaging of the costs of healthcare services makes it more suitable for families in the PreM to understand their healthcare expenses and plan accordingly to the daily wage system. For instance, the breaking down of one month’s medication into more affordable weekly doses enables the PreM to better project the liquidity of their cash flows. It also makes prescribed medication more affordable while not compromising the finances used for other essential needs. For the business model to work seamlessly, an efficient delivery system is required through the construction of a pharmacy that is within reach to the general population. The replenishing of medications is also required to ensure that resources are made available on demand by consumers.

Case study: Healthy Heart for All\(^\text{13}\)

Being one of the most expensive surgical procedures, cardiac surgery poses great financial strain to the patients with low incomes. Medtronic in India thus initiated an innovative programme called “Healthy Heart for All (HHFA)”, which provides easy financing options to the patients in need. Patients can take loans for buying expensive cardiac devices and pay in installments starting from as low as Rupees 1,000 (USD 14) per month. People with monthly income as low as Rupees 3,500 have benefitted from the scheme in the past. According to Medtronic in 2015, HHFA has successfully helped 15,000 people have pacemakers implanted over the first four year of its venture.

3) Volume-Based Models

The volume-based model lowers the cost structure of a product or service by centering its target on capturing a large volume of consumers. By increasing volume, fixed costs are spread over a larger number of people, allowing lower costs yet sustainable profit margins for businesses.

Regardless, the likelihood of success of the volume-based model largely depends on achieving a high level of market penetration. Given the large market demand for many care commodities, companies can scale their businesses by producing larger quantities to cater to a wide range of customers. For the PreM in emerging economies, the large population and rising demand for healthcare services creates significant opportunities for businesses to scale and thereby increase their market share. However, when compared with high-tiered customers who value exclusivity and premium quality, success for this model may be more difficult to achieve.

Case study: Yeshasvini Health Insurance

The success of the volume-based model can be observed from the example of Yeshasvini Health Insurance that was offered in conjunction with the Narayana Hrudayalaya (NH) group of health services in India. Being the cheapest of its time at only 5 Rupees (11 US cents at 2011 exchange rate) per month, the sustainable low profit margin cost structure was made possible by the millions of farmers that bought into the insurance scheme. With a large number of healthy paying members, the company is able to offset the cost of ill members that needed medical services with the amount of premiums collected under the insurance scheme.

\(^{12}\) C.K. Prahalad & Stuart L. Hart, Fortune at the bottom of the pyramid. 2002

\(^{13}\) For more information, visit: http://www.healthyheartforall.org/
4) Frugal innovation
It often takes large amounts of financial resources to stimulate innovative ideas for healthcare solutions. Frugal innovation, on the other hand, works in the reverse manner by focusing on the ability to do more with less finances. Having limited access to funding channels encourages corporations to focus on being “resilient and creative”. Innovative solutions are often born when companies maximise the capacity of their available resources. With frugal innovation, novel solutions can be used as alternatives to reduce the often exorbitant cost of current healthcare offerings.

In many emerging economies in Asia, frugal innovation is crucial to the development of new medical technologies. In the past, the medical technology (medtech) market in Asia has been underdeveloped and largely reliant on the imports of medical devices. On the other hand, forecasters expect the total medtech market in the Asia-Pacific to overtake the European Union as the world’s second-largest medtech market by 2020. With the increased demand for new healthcare technologies, innovative solutions should be created locally to better cater to the needs of the country. Medical technologies directed at low-resource settings, particularly emerging economies, require several characteristics that differ from those directed at developed countries.

**Case Study: Paper-Based Diagnostics**

Paper-based diagnostics is considered a form of frugal innovation as it involves a series of technologies currently rolled out as point-of-care diagnostics in resource limited settings. Using different channels and dynamics of fluids, a host of assays such as a test for liver functions have been made affordable with material costs of only a few cents.

One interesting form of frugal innovation is the application of smartphones in the delivery of healthcare services. By tapping onto the convenience and accessibility offered by smartphones, research has heightened its capabilities beyond now-ubiquitous step-counters to the equivalent of medical diagnostic devices. Recent inventions have included the coupling of the smartphone to dongles with medical diagnostic functions such as new sensor technology and miniature blood-testing hardware, enabling consumers to track their health status. In rural villages, the inexpensive nature of laboratory-grade diagnostics tools in smartphone applications increases the accessibility of healthcare services and enhances the health outcomes of its citizens. The area of technology is still evolving and further integration of convergence is expected with the shifts in wearable devices and the, IoT (Internet of Things).

**Case Study: Immunoassay runs on smartphone accessory**

In a recent study pioneered by the American Association for the Advancement of Science, laboratory-based diagnostics was tested with smartphone functions. The result was the birth of a smartphone dongle capable of diagnosing sexually transmitted diseases such as AIDS and Syphilis. Smartphone microscopes, created with the addition of a ball lens, are an upcoming reality and have been proven in a recent research study by University of Texas Health Science Center at Houston (UTHealth) to be capable of detecting skin cancer with 90% accuracy.

15. MedTech in Asia: Committing at scale to raise standards of care for patients. Mckinsey&Company. 2015
17. http://stm.sciencemag.org/content/7/273/273re1.article-info
5) Reverse Innovation

Not to be confused with frugal innovation, reverse innovation means starting the innovation in less developed markets and bringing the innovative ideas back to the developed world, “reversing” the traditional way of innovation whereby less developed markets are always the last ones to receive the effect of innovation.

With the increasing number of innovative alternatives and solutions introduced by developing countries, reverse innovation creates tremendous benefits to healthcare solutions internationally. Emerging economies offer a promising testbed for healthcare innovations as regulations are less stringent and markets are less saturated than in developed countries. When General Electric (GE) China built a portable ultrasound machine at 80% of ultrasound prices, it was presented with the rugged conditions and needs of the rural areas. With a firm dedication to innovative efforts, the machine soon developed greater portability and convenience such that it is now widely accepted in many developed economies.

Case Study: Jaipur Foot Prosthetics in India

Jaipur Foot Prosthetics has a strong history of delivering confidence and vitality to its customers through treatment procedures aimed at restoring their mobility. For the corporation to deliver complimentary prostheses targeted at the most vulnerable populations, cost is a barrier that has to be kept sustainable. With reverse innovation, the ultramodern Jaipur foot costs only $45, compared to a similar limb which costs $12,000 when produced in the US19. The foot, in some ways, is even superior to artificial limbs of the West, offering a range of movements that used to be impossible. The capabilities of the jaipur foot have since gained global recognition, with adoption across many geographical boundaries. It now ranks as the most used prosthetic foot in the world20.

6) Glocalisation and Local Partnership through joint venture

Global MNCs are now facing increasingly intense competition from the local companies in the developing countries. More often than not, local brands may be even better known than those international brands. Being a merger of both globalisation and localisation, glocalisation may be more effective in developing countries that are less open to globalised products and services. One way to do so is through local partnerships that add a localised touch to the globalised products. Local partnerships involve the utilisation of local resources to enhance the penetration of goods and services. In small tight-knit communities such as rural villages, word-of-mouth is often used as an efficient mode of education and publicity. Since locals have the advantage of a deeper understanding of cultural needs and regulations as opposed to global regulators, they play important roles in the design and R&D efforts of healthcare advancements in local environments. Local partnerships would allow companies to leverage into local government incentives and empower locals through job-creation and useful skillsets.

An example of this is Project Shakti, introduced by Unilever in India. Through partnering with entrepreneurial women in the local villages to promote and sell its Fast Moving Consumer Goods (FMCG) products, the project enabled the company to increase the extent of reach and efficiency of its FMCG delivery while, at the same time, improving the standard of living in the rural area.

In largely successful micro-financing schemes, partnerships within local groups have been used to increase accountability and affordability. Through group-based models of operation, the recipients of financial loans or phone line packages are grouped together to act as source of encouragement and accountability for each other, since the burden would lie on the rest if one loaner defects.

Case Study: Whirlpool21

The changing nature of glocalisation can be seen from Whirlpool's line of domestic washing machines. When first introduced in India, agitators are included to prevent the tangling of long saris. In China, more attention was invested into the appearance of the machine since they are seen as a status symbol. In Brazil, a cheaper model with a smaller load was introduced to Brazilians who do their laundry more frequently.

Conclusions

Past advances in healthcare have more often revolved around the high-end market, leaving lower-end consumers with hand-me-downs. With the various opportunities and business solutions that are highlighted in this paper, it is prime time for businesses to include their focus to an equally promising group in Asia - the PreM.

In order for healthcare businesses to remain competitive and respond to the changing market landscape, the six business models listed in this paper serve as a good guide for repositioning. To cater to the needs of the PreM, these business models should not be considered as standalone options but rather as an attractive package together aimed at delivering targeted solutions to achieve favorable health outcomes. For instance, reverse pricing and sachet marketing can be viewed as complementary, generating sustainable revenues and market share by turning piecemeal services into affordable healthcare solutions. These two business models are changing the prioritisation of ‘producers’ to ‘consumers’; whereby it is focusing on adding value to the customers. On the other hand, volume-based models alone may not guarantee the success for larger markets as there may be an over-reliance on the pooling of risks and resources among various stakeholders. Frugal innovation and reverse innovation may be useful at creating low-cost and effective alternatives in many emerging economies but their success is largely dependent on the constant nurturing of local talent. Thus, glocalisation and local partnerships come into play, which present significant opportunities for businesses to redesign and promote healthcare products through convergence and integration, suitable for countries across various ethnicities and cultures.

Apart from empowering the PreM in developing countries and profiteering businesses with the redesigning of business models, the wider healthcare landscape characterised by the implementation of the ASEAN Economic Community (AEC) presents additional opportunities for companies to smoothen the flow of resources, manpower and services. Capitalising on the PreM market is the first step to improve the health outcomes in emerging economies. With the cooperation of multiple stakeholders and the constant revision of the frameworks set out under regional agreements, businesses can look forward to greater partnerships to meet the changing needs in the healthcare industry. While there has been an increasing focus for healthcare and life-science businesses to capitalise on these emerging markets, MNCs have often overlooked the large potential of PreM classes and missed out many business opportunities. We hope that life science and healthcare companies will start to tap on this PreM class and be at the forefront of transforming the healthcare industry in the region.
Appendix

Appendix 1 - Universal Health Coverage in Emerging Countries and other Prospects

Countries around the world have recognised the need of a robust healthcare system for sustained growth and development. A measure to ensure accessible healthcare is through universal health coverage (UHC). The UHC is endorsed by the UN in a resolution passed in 2012\(^22\). Many developing countries, especially among the less privileged depend on public health insurance as the chief financial backbone of medical care. At such, many social health insurance (SHI) schemes have been introduced to ensure that people across all economic groups have equitable access to healthcare. These SHIs make up the basis of universal healthcare coverage systems and are largely funded by the state. We summarise the extent of UHC in some of the countries below:

Malaysia
Malaysia's UHC adopts a dual healthcare system that covers all the citizens in Malaysia. The UHC is made up of a state-run universal healthcare system, funded by taxation and minimal charges, and a private healthcare system which relies on out-of-pocket payments (OOP). To prevent an overload on the public system, citizens who are able to afford OOP payments are encouraged towards private healthcare.

However this trend runs the risk of a public health system that provides lower quality of care for the poor, and a higher quality private health system catered mainly to the rich.

Thailand
A Universal Coverage Scheme (UCS), otherwise known as the 30-baht scheme was implemented in 2002 and as of 2012, almost 100% of the country's population are covered by the system. The scheme has also obtained a 90% satisfaction rate among UCS members in 2010.

On a positive note, the Thai government has been allocating an increasing percentage of the budget share to sustain the UHC. However many critics believe such trends will be difficult to sustain in the long-run due to inflation of healthcare costs.

Indonesia
Jaminan Kesehatan Nasional (JKN), Indonesia's National Health Insurance is presently the world's largest national health insurance scheme. The JKN is run by Badan Penyelenggara Jaminan Sosial Kesehatan (BPJS), which plans to achieve UHC by 2019.

The JKN has been successful in its implementation with more than 65% of the population enrolled into the scheme within the short span of its introduction since 2014. However the resulting volume of medical costs from the JKN has resulted in a funding shortfall of 13.5 trillion rupiah in 2015\(^23\). Since then, the government is in the midst of discussions to raise premiums for the insurance.

Despite having more medical stability than before, problems sited include the gap in finances, the lack of medical professionals, and the inaccessibility of medical services in rural places.

In a move to attract foreign investment and talent into its country, Indonesia has also lifted the requirement for foreigners to learn Indonesian, the process of obtaining a Temporary Stay Permit (KITAS) will also be eased\(^24\).

Philippines
Approximately 90% of Philippine citizens are currently provided with health coverage under PhilHealth, as quoted from the country's National Health Insurance Program. However, like other emerging countries, funding of the program was a serious issue which led to news of the collapse of Philippine Health Insurance Corp\(^25\), the organisation behind PhilHealth. In easing such financial constraints, the Sin Tax Reform Bill was passed in Dec 2012 to increase taxes on alcohol and tobacco products\(^26\). A portion of the resulting funds would then be directed to the country's UHC.

Vietnam
The Master Plan on UHC was introduced in 2012, and the Universal Health Insurance (UHI) is one of its schemes. An estimated 70% of the population has been enrolled into UHI. By 2020, the scheme has further plans to increase the number of members to 90% by 2020\(^27\).

In the World Bank's assessment of UHC in Vietnam, “Moving toward Universal Coverage of Social Health Insurance in Vietnam", stated challenges to the system included increasing the breadth of coverage and reducing OOP payments, a practice which is highly prevalent in Vietnam within the public sector\(^28\).

\(^{22}\) http://www.who.int/universal_health_coverage/un_resolution/en/
\(^{25}\) http://interaksyon.com/article/125042/philhealth-dying-might-only-have-10-months-to-live-board-member
\(^{26}\) http://www.who.int/features/2015/ncd-philippines/en/
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- Research and innovation in risks pertaining to human-centred cognitive technologies;
- Collaboration with renowned academia, research centres, and medical institutions;
- Delivering insights, thought-leadership and solutions to enrich the industry knowledge base and to assess future trends

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