Universal Health Care in the Asia Region: Overcoming the Barriers using HTA and Real World Data

“to be counted is to become visible”

Ban Ki Moon, 2010
Introduction

Countries in the Asian region are diverse, including some of the world’s least and most developed nations, with populations ranging in size from thousands to hundreds of millions. Not only are their political, administrative and economic systems diverse, so too are their healthcare systems, ranging from public-dominated to private-dominated systems that address the needs of 4.2 billion people, accounting for more than 60 per cent of the world’s population. Asian economies spend just over US$600 per person per year on health, equating to an average 4.5 per cent of GDP, compared to US$3,200 or 9.5 per cent of GDP in OECD countries. In addition, the share of public spending in total health spending is lower in Asia at 57 per cent, compared to OECD countries at 72 per cent. However, between 2000 and 2010, the average growth rate in per capita in health spending in real terms was 5.6 per cent per year in Asia, higher than the 3.6 per cent reported across OECD countries. The growth rate for China, Myanmar and Vietnam was almost twice the average rate for the entire region.

Whilst the region has experienced years of relative prosperity resulting in reduced death from communicable, perinatal, nutritional and maternal conditions, and improved life expectancy, health inequalities exist both between and within countries in the region. Morbidity and mortality from many communicable diseases has been reduced; however, some infectious diseases, including severe acute respiratory syndrome, avian influenza A, drug-resistant tuberculosis and malaria, remain a problem for some countries in the region. In recent years, the greatest economic pressure exerted on healthcare systems worldwide and in the Asian region, has been caused by the shift from acute disease to the looming epidemic of chronic non-communicable disease such as cardiovascular disease, diabetes and cancer, with tobacco smoking being a major cause of disease, including asthma, chronic obstructive pulmonary disease and cancer. These pressures are amplified by the growing demands of an increasingly educated and affluent population for high-quality healthcare. Although many traditional health practices exist, there is a demand for new medical technologies and pharmaceutical products. Health systems in the region need to find the right balance in the provision of services to increase access and reduce health inequalities. Many see prioritisation of the move towards universal health care (UHC) as an integral part of getting this balance right, by managing the expectations of the population with the provision of essential health care. UHC is viewed as a fair means of pooling financial risk; however, the challenge for countries progressing towards UHC is to maintain basic packages of care with the provision of priority services whilst providing financial protection to people who otherwise may be impoverished by out-of-pocket spending on medical care. Whilst countries in the region are diverse socially, politically and economically, many face the same challenges of financing and delivering healthcare, emphasising the potential for regional collaboration in health and to learn from the experiences of others.

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a GDP = gross domestic product; OECD = Organisation for Economic Co-operation and Development

b Risk pooling is also known as health insurance, where a group of persons contribute to a common pool, usually held by a third party. These funds are used to pay for all or part of the cost of providing a defined set of health services for members of the pool.
What is Universal Health Care?

UHC has many definitions depending on the context in which it is being used. However, the World Health Organization (WHO) definition of UHC means that all people and communities can use the promotive, preventive, curative, rehabilitative and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship.

This definition of UHC embodies three related objectives:

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

In short, UHC is a system in which everyone in a society can get the healthcare they need irrespective of their economic circumstances. UHC seeks to address inequalities in health outcomes and access to care, and to provide financial protection to the more than 100 million people who are impoverished by out-of-pocket healthcare spending.

There is an entrenched belief that poor countries must first grow rich before being able to meet the costs of UHC, with the growth in health care funding driven by rising national income, making an expanding range of medical interventions available to an ageing population. However, at a basic level, healthcare is a labour-intensive activity, and in a poor country, wages are low. So, although a poorer country may have less money to spend on healthcare, it also needs to spend less to provide the same labour-intensive services. The income threshold at which countries can achieve UHC is getting lower. To support this view, consider the case of UHC in Thailand, one of only 58 countries classified in 2009 as achieving UHC. According to the World Bank, when Thailand introduced UHC, its gross national income (GNI) per capita was ranked 104th in the world at US$2,490, compared to South Korea, ranked 50th in the world with a GNI of US$14,000. UHC had no negative effect on GDP per capita in Thailand. Thailand's overall public health spending was approximately 4.5 per cent of gross domestic product in 2012, with UHC representing 35 per cent of that total (i.e., 1.6% of gross domestic product).

There is evidence that access to UHC can advance people's lives and, importantly, enhance economic and social opportunities, and may, as demonstrated in countries, such as Japan, South Korea, Taiwan and Singapore, facilitate sustained economic growth. The health benefit of UHC can be viewed as an efficiency gain as good health improves educational outcomes and workforce productivity, and over the long-run, promotes economic development and productivity. With the right political and intellectual leadership in place to develop policies to provide basic healthcare for all, universal healthcare is an achievable goal even in the poorer countries.

How can UHC be achieved?

“No country starts from zero coverage, and there is no single path towards universal coverage that every country should follow.” WHO Making fair choices report

Countries wanting to improve access to healthcare need to decide who should be eligible and on what basis—whether it should include all residents and citizens, or just working populations. Decisions need to be made as to which services should be guaranteed—whether inpatient or outpatient care, high-cost or low-cost treatments, etc. However, the most important question of all is how access to healthcare should be financed—whether through public levies, private contributions or payments at the time of service. In 2014, the WHO's Making fair choices report acknowledged that the WHO
definition of UHC left room for interpretation, especially when considering the resource constraints of the country it is being applied to. UHC does not require that all possible effective services are provided to everyone; however, it does require that a wide range of key services, that align with other social goals, are made available to all at reasonable cost. Countries that have UHC have done so with extensive government involvement in the financing, regulation and sometimes direct provision of health care services.

Making fair choices identified three dimensions as critical for countries wanting to move towards and achieve UHC: priority services need to be expanded, more people need to be included by coverage decisions and out-of-pocket payments need to be reduced. Whilst these dimensions appear to be intuitive, to ensure fairness and equity, countries must make difficult but judicious choices and trade-offs within, and between, each dimension:

- Which services should be expanded first?
  - Need to develop priority-setting criteria to rank services by high, medium and low-priority. It is critical, especially when thinking about high-cost pharmaceuticals, that benefit packages be expanded to appropriate and effective services, with consideration given to clinical guidelines rather than thinking only in terms of cost.
- Who should be included first?
  - Low-income? High burden of disease? Rural vs. regional populations? Targeted services?
- How to shift from out-of-pocket payments towards other payment mechanisms;
  - Access to healthcare should be based on need and not ability to pay. As such, out-of-pocket payments represent a barrier to healthcare access and should be phased out to be replaced by mandatory pre-payments with pooling of funds. Which should be the first services targeted? Should mandatory prepayments increase with the ability to pay?

The region has the world’s highest dependence on out-of-pocket expenditure to finance health care systems, and the highest number of households driven into poverty by the need to pay for health care at the time of service. Direct health care costs will deter health-seeking behaviour, as will indirect costs such as transportation and lost income while waiting for care. As such, UHC is viewed as a means of protection against the economic consequences of ill health. The literature widely agrees that reducing reliance on out-of-pocket payments, especially in the first instance for high-priority services, and moving to a system of mandatory pre-payment, is a means of addressing the equity, efficiency and sustainability of health expenditures, and in so doing, achieve UHC. Pooled health spending spreads the financial burden and risk across households with different health profiles, with individuals being required to contribute based on their ability to pay, whether they need care or not. Spreading the risk and healthcare costs, with cross-subsidies from rich to poor populations, prevents individuals experiencing catastrophic expenditure from unexpected health events or chronic diseases. Financial risk pooling may be achieved via a number of mechanisms including tax (general or dedicated) revenue channelled through governments to provide subsidised care, contributions to public insurance (usually for formal sector employees), mandatory private insurance or private co-payments.

The path to UHC requires policy choices and trade-offs to be made, and one of the most important of these decisions is the way in which these pooled funds are used and allocated. Essentially pooled funds can be used to provide varying degrees of coverage in three dimensions: extending coverage to those individuals previously not covered, to services not previously covered or to reduce the direct or out-of-pocket payments needed for services. Figure 1 gives a three-dimensional view of how these dimensions interact and affect each other.

When proceeding along each of the three dimensions it is easy to see that when choices need to be made in one dimension (financial, organisational or political), that these choices will impact on the other dimensions.
Commentators largely agree that the critical ingredients for the success of UHC include political will and commitment, running workable elementary healthcare and preventive services, covering as much of the population as possible, and investing in good healthcare administration.9

There is no one path to UHC; it is critical to consider the local context when attempting to get the right balance between covering more people and providing more services. Countries may want to adopt a combination of strategies, taking into account the unique characteristics of their own health care systems and common factors are shared with other countries’ coverage expansion experiences.20

What does UHC look like in the Asian Region?

With UHC high on the global health agenda, governments of many low- and middle-income countries have pledged to increase health investment in the scale-up of essential health services to meet the needs of the population. As countries in the Asia region commit to implementing UHC, some common challenges are emerging: how to ensure coverage of the informal workers sector; how to design a benefit package that is responsive and appropriate to current health challenges whilst remaining fiscally sustainable; and how to translate coverage into improved health outcomes by ensuring the availability and quality of services.8

Many countries in the region, such as Vietnam, Thailand, the Philippines and Indonesia had established health insurance schemes that covered the formal working sector. However, the inability to raise taxes from the large informal workforce to fund healthcare remains a challenge. Most countries in the region, including the relatively high-income countries like Japan and Korea, use varying degrees of general tax revenue to subsidise healthcare coverage for the poor, the informal workforce and the urban non-working sectors.8

As discussed previously, when moving towards UHC, decision-making regarding what healthcare should be invested in and for which populations requires some form of robust priority-setting criteria. The challenge in the Asian region is to define a common benefit package that is appropriate to the burden of disease and represents good value for money while being socially acceptable. In the absence of a clear, rational process for defining and updating the benefit package, discrete and unpredictable “rationing decisions” may occur between client and provider at the point of service.8

In countries with well-established UHC such as Australia and the United Kingdom, health technology assessment (HTA) is a recognised priority-setting tool used to support public reimbursement and coverage decision-making. However, in settings with limited HTA capacity, the use of evidence to establish benefit packages is lacking.2 For example, in China, the local authorities decide on the scope of the benefit package based on local needs and available resources resulting in a poorly defined
range of services. Without comprehensive and reliable evidence to guide coverage decisions, the benefits package may become ill-defined and too broad, as demonstrated in Indonesia, where the broad benefit package has few exclusions and, as such, is constrained by the ability to deliver on all fronts.

The long-term negative consequences of disregarding evidence-based health care priority-setting in the development of benefits packages may result in inefficient and inequitable health care systems, which are opposite to the goals of UHC.

Case studies of countries in different stages of UHC development

More lower and middle-income countries are seeking to move towards UHC; however, their approaches to implementation are varied and do not always conform to historical national health insurance models. Here we give a brief overview of the progress of three countries towards UHC: Thailand, China and Vietnam. A pictorial summary of UHC coverage of some essential health services in other countries in the region can be found in Appendix 1.

Thailand – established UHC

Among the countries considered in this paper, the setting and updating of the benefit package in Thailand is arguably best practice. Prior to 2001, Thailand had several healthcare schemes: the Social Security Scheme (SSS), which covered workers in the formal private sector; the Civil Servant Medical Benefit Scheme (CSMBS), which provided health care to government employees and their direct relatives; the Medical Welfare Scheme (MWS), which covered the elderly, children and the poor; and the Voluntary Health Card Scheme (VHCS), which targeted farmers and workers in the informal sector. At this time, the majority of the population had to rely largely on out-of-pocket payments for medical care. Thailand underwent significant healthcare system reform in 2001, with a powerful political commitment to providing inexpensive, reliable healthcare for all. The MWS and the VHCS were merged to form the Universal Coverage Scheme (UCS) as a means of providing coverage to previously uninsured people.

The central plank of the so-called 30 bahtc program was the provision of a relatively comprehensive defined benefit package to registered members for a co-payment of 30 baht per chargeable episode, with the elderly, children and poorer sections of the community exempt from any charge. Prescribed drugs are limited to those on a national list, with some high-cost or chronic disease treatments subject to cost ceilings, and there was initially no entitlement to antiretroviral therapy or haemodialysis; however, these were brought into the scheme at a later date. Treatment of patients outside their area of registration is limited to accident and emergency care. The scheme is predominantly financed by public revenues paid to local contracting units on the basis of population, with less than two percent of total receipts come from co-payments. The reforms raised public health spending from about 66.25 billion baht in 2000 to 2001 to 72.78 billion baht in 2001 to 2002, putting the first-year cost of reform at US$175 million, including inflation.

The Thai healthcare reforms came from a lengthy policy formation process after observing international experiences, as well as studying patterns of economic incentives and costs associated with different funding models. Policymakers also needed to consider legislative changes affecting the civil service and the relationship between central and local governments. In 2011, it was estimated that total health insurance coverage in Thailand was 98 per cent and that the average out-of-pocket expenditure ratio was reduced to 14 per cent from 33 per cent in 2001. UHC in Thailand has seen a significant fall in mortality, particularly infant and child mortality, with infant mortality as low as 11 per 1,000, and a rise in life expectancy, which is now more than 74 years at birth. In addition, disparities in markers such as infant mortality have been removed, with the same low infant mortality

\[ \text{30 baht in today's money is equivalent to US$0.90} \]
rate observed in both the poorer and richer regions of Thailand. As with many countries around the world, the sustainability of Thailand’s UHC is threatened by the increase in the adoption of medical technology and the expectant cost of caring for a rapidly ageing population, resulting in the concomitant reduction in the tax base. In addition, Thailand’s large informal workforce may constrain the government’s ability to fund healthcare from taxation revenue. Figure 2 gives a snapshot of the coverage of essential services in Thailand.

Figure 2: Snapshot of the coverage of essential services in Thailand
Chinese health insurance system

China has experienced enormous economic growth and prosperity over the past few decades; however, its health care system has not kept pace with the economic development. Government health expenditure dropped from 37 per cent of total health expenditures in 1980 to 18 per cent in 2004.\(^{20}\) As such, China has introduced a number of policies and interventions aimed at achieving universal access to essential healthcare for all by 2020. Over the past decade, the government introduced numerous measures to improve the healthcare system including new insurance schemes that aim to provide cover for previously uninsured sections of the population, as well as reforms targeting the primary sector, public hospitals and pharmaceuticals.\(^{22}\)

Three separate health insurance systems currently operate in China. Urban residents are covered by two different schemes: the employment-based Urban Employee Basic Medical Insurance (UEBMI) scheme and the Urban Resident Basic Medical Insurance (URBMI), which was launched in 2007 to target the unemployed, children, students and disabled in urban areas. In 2010, coverage of these schemes reached 92 and 93 per cent of their target populations, respectively. Residents in rural areas are covered by the New Rural Medical Cooperative Scheme (NRMCS), which focuses on inpatient services, with all members paying a flat rate premium.\(^{20, 23}\) To get an idea of the scale of coverage, the rural scheme covers approximately 62 per cent of China’s population, equating to 832 million people. The percentage of population coverage is similar (16 to 19 per cent) for the other two schemes, still representing over 220 million people each.\(^{20}\) Central and local governments subsidise premiums to varying degrees in different regions and provinces, with subsidies of approximately 85 per cent for rural populations and 60 per cent, with adjustments for income, on behalf of urban non-working populations.\(^{8}\) By 2011, more than 95 per cent of the population had some kind of healthcare insurance compared to less than 50 per cent in 2005; however, insurance schemes vary considerably in the height and depth of depending on location.\(^{20, 22}\)

In 2009, the Chinese central government expanded healthcare coverage, establishing a national essential drug list, improving primary care, promoting equal access to public health services and piloting public hospital reform programs.\(^{20}\) However, as previously discussed, local authorities decide on the scope of benefit packages based on local needs and available resources, with little evidence-based decision-making. The benefit package is lacking the preventive and promotive services needed to improve overall population health and financial well-being. In particular, the limited coverage of outpatient services, critical to preventing and/or managing non-communicable diseases, may have led to increased financial risk.\(^{8}\)

A major issue in China is the lack of a referral system, which leads to overcrowding of higher-level hospital facilities, where patients seek treatment on a user-pays basis, regardless of their medical needs. This is exacerbated by fees for service and hospitals that operate under profit incentives that actively attract patients to provide costly services. Health system reforms introduced in 2005 aimed to relieve the pressure on the system by providing incentives for rural people to opt for primary, rather than unnecessary tertiary, care. However, utilisation rates of higher-level healthcare facilities have not reduced since the introduction of these reforms. In 2011, approximately 47 per cent of healthcare users visited higher-level facilities compared to 31 per cent in 2004. This largely remains a cultural issue as “patients lack confidence in the quality of care provided by primary care providers and still bypass them to seek care at higher-level hospitals”.\(^{22}\)

China funds healthcare from general taxation revenue, and, as with many countries in the region, the large informal workforce may constrain its ability to fund healthcare from taxation. The annual premium per person per year for the NRCMS and URBMI is only US$24 and US$21, respectively, whereas the premium for the UEBMI is US$240. As a direct result of the low premiums of the first two schemes, benefit levels are low, ranging between 44 to 68 per cent, resulting in large out-of-pocket expenses. Reimbursement rates are much higher in the urban workers scheme (68 per cent for inpatient care), reflecting the higher premiums paid. Although national out-of-pocket expenses have
significantly reduced over time, from 60 per cent in 2001 to 35 per cent in 2011, they remain higher than levels recommended by the WHO. China has the goal of reducing out-of-pocket payments to 30 per cent by 2018. A snapshot of the coverage of essential services in China is given in Figure 3.

**Vietnam – developing UHC**

Prior to the introduction of Vietnam’s national health insurance scheme, a large proportion of the population were adversely affected by poverty brought about by the burden of medical expenses. In 2004, 10 per cent of households spent in excess of 16 per cent of their income on healthcare, with high out-of-pocket expenses contributing to an increase in ill-health, often accompanied by a decrease in employment and income. In 2006, the Vietnam Household Living Standard Survey found that up to 46 per cent of the population did not have any form of health insurance. Since that time, Vietnam has been moving towards a comprehensive system of health insurance to protect the entire population against catastrophic health spending.

Vietnam’s national health insurance system is divided into compulsory health insurance (CHI) and voluntary health insurance (VHI), both of which are overseen by the central government’s Vietnam Social Security (VSS) agency. The VSS is responsible for collecting premiums, pooling funds, issuing health insurance cards and reimbursing service providers. In 1992, the CHI system was introduced to cover employees in the state, enterprise workers and civil servants; however, cover was expanded in 2005 to include pensioners and workers in private enterprises with more than 10 workers. Contributions to CHI consist of three per cent of an employees’ salary, two per cent of which is paid by the employer and the remaining one per cent by the employee. Vietnam relies on tax revenue to subsidise target populations such as the poor, pregnant women and children. Under CHI, defined benefit package patients are still required to pay a co-payment of between 5 to 20 per cent for services, with increased rates for high technology health services. Free health insurance is provided for the poor and other targeted groups, such as ethnic minorities and children under six years old. School or student health insurance is applied for students in schools, colleges and universities. Voluntary health insurance was originally intended to cover specific occupational and age groups such as school children, farmers and professional groups; however, since 2007, it has been available to all. Although the VHI has the same benefit package as the CHI, patients must also pay a co-payment for high technology health services of approximately 40 per cent.

In Vietnam, the benefit package is comprehensive, covering ambulatory and many outpatient and inpatient services including advanced diagnostics and treatments such as organ transplants. Although preventive services such as screening are not included in the benefits package per se, many are provided by the National Targeted Programs (immunization, and screening for tuberculosis and malaria). Services are predominantly delivered by public, rather than private, providers. Despite great advances, in 2010, out-of-pocket expenditure was still 58 per cent of total health expenditure; although, this had declined by six per cent since the health system reform was initiated in 2002. The Ministry of Health leads the development and updating of the benefits package, in conjunction with health providers and the VSS agency. Clear criteria for what should be included or excluded in the package have not been determined and the technical capacity to undertake HTA to assist in this prioritisation has yet to be established.

The National Assembly has requested a revised Basic Health Service Package financed by health insurance to be issued by 2018, moving Vietnam towards a single-coverage program, with one national benefit package for the entire population, rather than separate programmes targeted at different subpopulations. In addition, Vietnam is piloting capitation payments for some benefits to shift services to lower-level facilities, reduce hospital overcrowding and avoid overuse of services. Figure 4 gives a snapshot of the coverage of essential services in Vietnam.

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6 Only when out-of-pocket payments fall below 15–20 per cent of total health expenditures does the incidence of financial catastrophe and impoverishment fall to acceptable levels.
Figure 3: Snapshot of the coverage of essential services in China\textsuperscript{25}
Figure 4: Snapshot of the coverage of essential services in Vietnam25
Survey of HTAi Asia Policy Forum members: The issues and challenges in implementing UHC

Challenges in defining the right mix of benefit packages are already happening with the shift in the region in burden of disease from predominantly infectious diseases to non-communicable diseases such as cardiovascular disease and diabetes. Further pressures are added with the ageing population and the demand for medical technology, all of which increase demands on the system and exert upward fiscal pressure. While the UHC challenges are common, experience in overcoming these challenges is varied. Whilst many of the successes appear to be highly context-specific, policymakers across the region should assess these different approaches and share their findings.

This forum hopes to explore issues around roadblocks, barriers and challenges some countries face on the road to establishing UHC. What are the tools needed to achieve UHC? A short survey of countries participating in the HTAi Asia Policy Forum was undertaken to elucidate some of the issues that need to be taken into consideration when moving towards UHC. These factors may include affordability, implementation issues, access, patient characteristics, equity, value for money, prioritising innovation and the role of disruptive technologies. Issues will differ from country to country and by stage of UHC development (total, partial, none), and should therefore be considered in the local context. A copy of the questions asked in the survey can be found in Appendix 2.

Responses were completed by ten agencies from nine countries (Singapore, China, Taiwan, Republic of Korea, Malaysia, Vietnam, Indonesia, Thailand and the Philippines). Of these, seven countries described their healthcare system as “full UHC”, whilst Vietnam and Indonesia reported having partial UHC. However, it should be noted that the level of out-of-pocket expenses patients are expected to make when purchasing healthcare services in each of the individual countries was not ascertained in the survey. For example, China has three main basic medical insurance schemes, one each for urban employees, urban residents and rural people; whereas Malaysia uses an extensive network of public health facilities to provide a wide range of cheap health care services to those in need, with a basic fee of RM 1 (US$0.23).

Of the seven countries with “full UHC”, five provide all healthcare: Singapore, Philippines, Taiwan, Korea and Malaysia. All countries provide primary, secondary and tertiary healthcare; preventative care including screening programs and immunisation; mental and oral healthcare; ophthalmology; and rehabilitation services. Four of the full UHC countries provide all medicines, whilst two of the remaining countries, Malaysia and China, provide essential medicines as defined by WHO package or by a panel of experts. Only Singapore provides medicines defined only by a panel of experts. In addition, Malaysia reported that certain traditional and complementary medicines (T&CM) are provided in selected Ministry of Health Hospitals, including acupuncture, Chinese herbs, Malay massage, Malay post-natal care, Shirodhara and Basty. Although Vietnam and Indonesia reported having partial UHC, these countries provided all the same elements as the “full UHC” countries, with Vietnam providing essential medicines as defined by a panel of experts. Vietnam reported that most preventive care is funded from the government budget, and that the benefit package under Social Health Insurance covers almost all available curative care at all levels of healthcare delivery from primary to central level.

When asked how healthcare benefits, funding, and prioritisation decisions are made in their country, most of the “full UHC” countries used some form of evidence-based decision-making. All healthcare technologies were subject to HTA in Singapore, Malaysia, Thailand and the Philippines, whereas Taiwan used HTA only for medicines. Singapore, Taiwan, Malaysia and Thailand used HTA generated in their own countries. Decisions to include or exclude drugs into the Malaysian formulary may be informed
by HTAs and cost-effectiveness analysis conducted by the Malaysian HTA Section (MaHTAS), which applies an implicit cost per QALY threshold (≤ 1GDP/QALY). However, this threshold is used only as a guide, with other factors were taken into consideration before a final decision is made. Four of the six countries (China, Malaysia, Thailand and the Philippines) stated that the burden of disease (greatest need, greatest care) was used to prioritise healthcare benefits. Singapore reported that prioritisation was also based on clinical, unmet need in addition to clinical effectiveness, cost effectiveness and affordability. China reported inconsistent use of HTA in decision-making, with HTA used only for some technologies, not all. Of interest is that Korea reported that the political agenda and expert opinion played a major role in decision-making. Korea reported that preventative care programs, tertiary healthcare including procedures, diagnostics, imaging and pharmaceuticals, and any health technology associated with controversy were subject to HTA.

Of the two partial UHC countries, Vietnam reported that all of the evidence-based strategies are used at the starting point of an application in decision-making for the Basic Health Service Package for primary care level and revision of the list of medicines reimbursed by Social Health Insurance. All proposals to add a new medicine to the current list of medicines reimbursed are required to undergo a HTA. Indonesia reported using only internally generated HTA to make decisions about all types of healthcare added to their benefits package.

Most of the “full UHC” countries used a range of funding mechanisms to finance healthcare, with only Korea using a single-payer system and the government responsible for collecting health care fees and health care payouts. China employs a system of co-payments operating within a threshold of care. That is, the government and the patient pays for a portion of care until the threshold is reached; care beyond that threshold is then self-funded by the patient (out-of-pocket). In the Philippines, there is a mandate requiring all people to have some form of health coverage in addition to employer insurance. A system of co-payments exists when paying for healthcare, with both the government and the patient paying a portion of costs. Singapore, Taiwan and Malaysia use a combination of financing mechanisms including employer insurance, public-private partnerships, health coverage mandates, co-payments and a levy system, where all citizens contribute a proportion of income to subsidise coverage for people with low or no income. Direct household out-of-pocket health payments in Malaysia are almost exclusively made for the purchase of private care. Of the two partial UHC countries, Indonesia funds healthcare through employer insurance and Vietnam by a combination of mechanisms consisting of general tax through the government budget, Social Health Insurance and household out-of-pocket payments. Singapore uses healthcare subsidies, some of which may be accessed through non-government healthcare providers, both voluntary private and mandatory government healthcare insurance, in addition to mandatory healthcare savings accounts and compulsory medical insurance.

When asked to identify the major impediments to implementing UHC, the majority of countries, regardless of the stage of UHC, not surprisingly nominated affordability as the greatest hurdle to be overcome. Of interest, the next two highest ranking factors were the lack of political will to implement UHC and the cultural issue of deference to expert opinion instead of relying on evidence-based assessments. Both China and Vietnam reported that HTA was not used to inform decision making, whilst the Philippines, China and Taiwan noted the lack of a HTA workforce (Figure 5).
When discussing decision-making, one of the issues identified is one of access to real-world data. All countries, except for the Philippines who used international data, reported that they had access to, and used, data obtained from their own country. China and Vietnam reported using additional data obtained from the Asian region and international data, respectively.

Thailand was the only country to solely rely on its database of health insurance reimbursements, which has individual medical record and payment level data. Taiwan also used its National Health Insurance claims dataset but supplemented this data with government surveys or census data, as did most the remaining “full UHC” countries apart from Singapore. China, Korea, Singapore and Malaysia all used both primary care data gathered from general practitioners and hospital separation data, whereas the Philippines only make use of the latter. Of great interest is the number of registries in use throughout the region. China and Singapore access data from registries of chronic diseases (stroke, heart infarction, kidney disease and cancers). In addition, China has access to a registry of adverse events and registration data for clinical management and research. Malaysia has by far the most extensive network of registries including the National Cancer Registry, National Cardiovascular Disease Database, National Diabetes Registry, National Kawasaki Registry, National Stroke Registry, National Transplant Registry, National Eye Database (National Cataract Registry), National Thalassemia Registry, Non Communicable Disease Registry and National Obstetrics Registry. In addition, Malaysia conducts national surveys including the National Health and Morbidity Survey (every 2 years), National Eye Survey and the National Medicine Utilisation Survey (Figure 6).
Vietnam and Indonesia both reported using tertiary care data gathered from hospital separation data as their main source of data, with Vietnam reporting the use of patient surveys to collect data on patient preferences for a specific health condition and in addition to cost data.

When thinking about the key challenges or barriers to using real world data, most countries reported the same issues regardless of the stage of UHC development; however, both China and Taiwan reported that the use of real-world data was not a priority. Singapore, the Philippines, Malaysia, Thailand, China and Vietnam all reported a lack of capacity to enable information and data sharing. Vietnam, Malaysia, Indonesia and Thailand all nominated poor quality or lack of accurate cost information for different types of services as a major issue. Of great interest is that both Korea and Taiwan reported that strict privacy and confidentiality protection makes accessing claims data and linking that data with other registry/trial/survey data for research purpose extremely difficult (Figure 7).
How can HTA be used to inform/support healthcare packages?

Health technology is a key driver of both public and private health expenditure as new medicines, devices, procedures and tests continue to be developed. HTA is a multidisciplinary field of policy analysis encompassing the medical, economic, social and ethical implications of the development, diffusion and use of health technologies including devices, diagnostics, pharmaceuticals (including vaccines) and public health programs. HTA synthesises the scientific and clinical evidence in order to answer the key questions:

• Is the health technology safe?
• What effect does the technology have on patient outcomes?
• Is the technology cost effective?

HTA aims to answer these questions as a means of informing policy, funding or clinical decision-making. In so doing, HTA enables patient access to value for money health technologies that will have a positive impact on health outcomes, whilst minimising diffusion of unsafe or ineffective technologies into the health system.

In 2015, Chootipongchaivat et al conducted a comprehensive case study of the impact HTA had on the development of UHC in six countries in the region: China, Indonesia, the Republic of Korea, Malaysia, Thailand and Vietnam. A short summary of the major points identified by this paper follows.

This study found that, although governments in the region have recognised the need for HTA to support UHC, several challenges and barriers to embedding HTA in practice exists in some countries, especially the linkage between evidence with policy and practice. After conducting an in-depth analysis in these countries, the barriers to the development of HTA systems or processes were similar to those identified by the agency survey above and included:

• silo-based decision-making processes, where the decision-making process is not transparent and made without the participation of relevant stakeholders;
• policy makers not having adequate decision-making capacity; and
• deference or respect for expert opinions or authorities at the expense of evidence-based research.

In addition, the limited capacity to conduct HTA in some countries was attributed to a number of factors including a shortage of skilled HTA researchers, limited information technology infrastructure and low political support. Political will, leadership and legislation was identified as necessary to advance the use of HTA. By linking HTA to the decision-making process for public health resource allocation legitimises the HTA process, further fuelling the demand and need for capacity-building to deliver high quality HTA. In countries with a good experience of HTA informing healthcare decision-making, Chootipongchaivat et al identified that effective collaboration between HTA agencies or programmes and local stakeholders can strengthen the link between research and policy. By developing the relationships between HTA agencies, policy-makers and other stakeholders leads to better acceptance and understanding of the results of HTA, legitimising its use in policy. This is nicely illustrated by Thailand, where the setting and updating of the benefit package is arguably best practice, conducting a formal program of priority-setting HTA. This has resulted in improved decision-making and has fostered an environment in which the Health Intervention and Technology Assessment Program (HITAP) plays a central role in deciding which drugs and vaccines will be included in the benefit package. In addition, HITAP has provided an evidence-base that has enabled and empowered the government to negotiate reduced drug and vaccine prices. Of importance, Thailand offers one of the most comprehensive packages for the poor, including high cost medical treatment like kidney and liver transplants.
The role of real-world data

Data is needed for policy-makers, clinicians and patients to make informed healthcare decisions. Real-world data (RWD) can be used to identify patterns of morbidity and mortality, describe the burden of disease, compare effectiveness of therapies and procedures, determine the cost of care and evaluate the delivery of care on patient outcomes. Access to the right type of data and data linkage remains a worldwide issue, and data needs change over time. In addition, big data needs a well-functioning information technology infrastructure, which, as discussed above, is limited in many countries of the region. Using the results of the survey of agencies, the HTAi Asia Policy Forum hopes to further discuss over the course of the meeting the role of, and challenges using, real-world data in decision-making for benefit packages for UHC.

- What are the types of data needed to make informed decisions (clinical, cost, patient-generated, patient preference)?
- Does this vary from region-to-region or country-to-country?
- How important is it to obtain local data compared to regional data or international data?
- What do policy-makers do when this data is missing?
- Is there a demand for early access to technologies without data? In this case is coverage with evidence an option for new/innovative technologies?

The role of manufacturers/industry

A brief survey of industry members attending the HTAi Asia Policy Forum was conducted to elucidate issues of concern from an industry perspective. A copy of this survey can be found in Appendix 3. Eight companies completed the survey.

All industry representatives agreed that RWD is best used to develop or support value propositions. RWD was also viewed as useful for informing HTA for reimbursement decisions (87.5 per cent), gauging the market need for a technology (75 per cent), demonstrating where a new technology will sit in terms of established models of care (75 per cent), understanding the use of a comparator technology (75 per cent) and to develop different pricing models (62.5 per cent). In addition, one company reported using post-market RWD to meet the needs of regulators and reimbursement agencies, and another reported using RWD for pharmacovigilance. There was also general agreement between respondents as to the barriers and challenges that companies experienced in accessing RWD in the region (Figure 8). Importantly, all companies agreed that using RWD is a priority.
A range of responses were given when asked how their respective companies overcame these challenges and barriers, most of which used a collaborative approach including investing in infrastructure, advocating the use of databases, conducting early assessments and pilot projects, supporting third parties such as universities and think tanks, and capacity building. One company developed and collected their own data.

The type of data that was identified as being the most useful to companies in the pre-market phase of launching a new product varied depending on whether the country was considered to have full, partial or no UHC (Table 1). All respondents agreed that country specific, burden of disease and utilisation of the current treatment data was important in countries with well-developed UHC, but not as important in countries with partial or no UHC.

Table 1: Type of data most useful in the pre-market phase of launching a new product, number of respondents

<table>
<thead>
<tr>
<th>Type of data</th>
<th>Well-developed UHC</th>
<th>Partial UHC</th>
<th>No UHC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country-specific data</td>
<td>8</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Regional data</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Extrapolated data sourced from outside of the region</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Burden of disease/epidemiology data</td>
<td>8</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Cost of current treatment in the local population</td>
<td>6</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Utilisation of current treatment in the local population</td>
<td>8</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Hospital discharge-level claims data</td>
<td>6</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Encounter-level claims data</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Pharmaceutical use data</td>
<td>6</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Registry data</td>
<td>7</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Surveys</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>
Similar results were obtained when companies were asked to identify the types of data that would assist them in the active phase of marketing, once a product had received regulatory approval to market (Table 2). Most companies agreed that patient satisfaction and quality of life data was the most important in countries with well-developed UHC. There was a high level of agreement between respondents that hospital discharge, pharmaceutical usage, post-market registry, clinician satisfaction and adverse event data were also important.

Table 2: Type of data most useful once a product had received regulatory approval, number of respondents

<table>
<thead>
<tr>
<th>Type of data</th>
<th>Well-developed UHC</th>
<th>Partial UHC</th>
<th>No UHC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital discharge-level claims data</td>
<td>6</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Encounter-level claims data</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Pharmaceutical use data</td>
<td>6</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Post-market registry data</td>
<td>6</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Surveys</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Regional utilisation data (who is using it and where)</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Patient satisfaction</td>
<td>7</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Clinician satisfaction</td>
<td>5</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Quality of life</td>
<td>7</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Adverse events</td>
<td>6</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

A range of responses were given when asked to identify the type of data most useful to support managed entry agreements or risk-sharing arrangements, with the most common being clinical/patient outcomes data (4 respondents). Other data types included outcomes data for current standard of care; epidemiology/burden of disease data to accurately predict the patient population; hospital discharge; pharmaceutical usage; post-market evaluation, country-specific patient profiles; and registry data in addition to health system efficiency data sets.

Most companies were involved in a range of capacity-building and development activities in conjunction with HTA agencies in order to support the development of robust evidence generation infrastructure in the region (Figure 9). The majority of companies were involved in the training and development of skills in HTA and health economics methodology, in addition to patient assistance programmes.
Five of the companies attending the forum reported on the areas they are currently focussing products and technologies on, addressing a range of diseases, some of which are on the WHO list of 12 priority disease areas including: chronic obstructive pulmonary disease (1 company); depression (2 companies); tobacco use (2 companies); obesity (1 company); rare diseases (2 companies); pneumonia (2 companies) and lower back pain (2 companies). Five of the six companies are also focussing on cancer, four on diabetes and three on cardiovascular disease. Other interests include osteoporosis, autoimmune disorders, hepatitis C and infectious diseases and vaccine-preventable diseases.

A wide-range of responses were given when the attendees were asked to identify any burning issues, from an industry perspective, they would like to discuss with healthcare agencies from the region. These may inform discussions at a breakout session during the forum. Issues included:

- how to properly value new innovations in a way that will support UHC objectives and local health policy—HTA may be viewed by some countries as a cost-containment tool, and some countries may adopt a very narrow and rigid form of HTA that isn't fit for purpose for their markets;
- the need to cultivate a human resource of data scientists and health-economists;
- the need to increase healthcare funding, before prioritising HTA;
- making databases accessible to industry;
- policy diffusion on price and access control;
- implementing managed entry with confidential pricing to enable flexible pricing for innovative medicines; and
- enabling patient access to innovative medicine and vaccines.
A case study of diabetes in the region

As previously described, health systems of the Asian region are facing a looming epidemic of chronic, non-communicable disease. Cardiovascular disease, cancer, chronic lung diseases and diabetes are all major public health issues associated with increasing levels of morbidity and mortality. In general, most benefit packages in the region do not yet focus sufficiently on non-communicable diseases and related preventive outpatient care. Members of the Asia Policy Forum nominated diabetes of particular concern, especially considering the increased number of people living with diabetes are at greater risk of developing other serious complications including cardiovascular disease, renal failure, foot damage and sight loss.

The Asian region is now considered to be at the epicentre of a global Type 2 diabetes crisis, with the disease developing up to 10 years earlier following only a small weight gain when compared to people of European origin. Although Type 2 diabetes tends to be associated with modifiable risk factors overweight and obesity, diet and physical inactivity, the unique epidemiological pattern observed in the region may point to a yet unknown cause that may amplify an existing genetic risk. The shift from rural to urban lifestyles in many Asian countries is concomitant shift in lifestyle. The previous generation grew up in rural poverty, with too little to eat and jobs involving hard manual labour. The next generation have undergone epidemiological transitions, with rapid changes in lifestyle, living in urban high-rise apartments, with sedentary jobs, low-cost cars and poor diet. It has been hypothesised that bodies programmed during gestation and early childhood to survive on low energy intake are then metabolically challenged when exposed to an even modest increase in calorie intake.

In 2007, it was estimated that nearly 113 million people in the Region, or approximately five per cent of the adult population, have diabetes, with an additional 157 million adults (seven per cent) having impaired glucose tolerance, which left unmanaged may develop into diabetes. Although Type 2 diabetes tends to occur in adults in Western countries, it increasingly affects people of all ages in the Asian region. Type 2 diabetes accounts for approximately 85 to 95 per cent of all diabetes cases in the Region. Caring for diabetes is expensive; in 2011, approximately US$77 billion was spent on diabetes care in Asia/Pacific countries, with Japan spending the most at US$35 billion. Figure 8 is a pictorial representation of the number of people affected by diabetes in the region.

Anecdotal evidence suggests that there is a lack of guidelines and protocols for the prevention and treatment of diabetes in the region, and if guidelines exist, there is a degree of non-compliance with more intensive support required for implementation. There is a real need to engage clinicians in the issue and to provide both preventative and management education to patients. A system that works across the disease spectrum, including health promotion, disease prevention, treatment and rehabilitation, needs to be created. This forum hopes to explore issues around, and exchange information on, the funding of healthcare for a common and complex disease such as diabetes in countries with different levels of UHC (established, partial, none). How do the different countries in the region fund and provide access to:

- prevention and awareness programs;
- screening/diagnosis;
- patient education and management information;
- education of healthcare providers on prevention and intervention strategies;
- insulin;
- blood sugar test strips;
- HbA1c testing; and
What valuable lessons can be learned from the experiences of other policy-makers and industry, especially around how to maximise the use of HTA and RWD in the region to answer these questions? What role does private healthcare have? Patients want and need timely access to healthcare to improve their quality of life while at the same time, reducing out-of-pocket expenses. Policy-makers need to weigh-up the risks and benefits of treatments, finding the right balance between the unmet (and growing) need of patients with access to innovative, and possibly more expensive, technologies.

Figure 10: Estimate of people living with diabetes (20-79 years), in 1,000s (2015)
Thailand

The *International Diabetes Federation (the Atlas)* estimated that the prevalence of diabetes in Thailand was 8.2 per cent in 2015, with 4 million people aged 20 to 79 years living with diabetes (lower limit of 2.96 million, upper limit of 4.63 million). Of concern are the number of people living with impaired glucose tolerance (IGT, 4.78 million), and the estimated number of undiagnosed diabetics (2.07 million). In 2015, approximately 75,994 people died from diabetes in Thailand. By 2040, prevalence is expected to increase to 8.8 per cent, equating to 5.3 million people living with diabetes. Figure 11 shows a pictorial snapshot of diabetes in Thailand.

![Figure 11: Snapshot of diabetes in Thailand](image-url)
In China, the Atlas estimated that the prevalence of diabetes was 12.1 per cent in 2015, with 109.6 million adults living with diabetes (lower limit of 99.6 million, upper limit of 133 million)—more than in the entire OECD together. In addition, it has been estimated that there were 57 million undiagnosed diabetics, with a further 26.7 million with IGT. In 2015, approximately 1.3 million adults died from diabetes-related causes in China. In 2011, China spent US$ 17 billion on diabetes care. The prevalence of diabetes in China is expected to increase from 12.1 per cent in 2015 to 12.7 per cent in 2040, equating to 150 million people living with diabetes. Figure 12 gives a pictorial snapshot of diabetes in China.

Figure 12: Snapshot of diabetes in China in 2015
Vietnam

The Atlas estimated that the 2015 prevalence of diabetes in Vietnam was 9.4 per cent, which equates to an estimated 3.5 million adults living with diabetes (lower limit of 2.58 million, upper limit of 5.5 million). By 2040, the prevalence is expected to increase to 9.8 per cent, equating to 6.1 million people living with diabetes. The number of undiagnosed diabetics was estimated to be 1.8 million in 2015, which is projected to increase to 3.19 million by 2040. A further 28.9 million currently have IGT. During the same year, approximately 53,500 adults died from diabetes-related causes in Vietnam. Figure 13 gives a pictorial snapshot of diabetes in Indonesia in 2015.

Figure 13: Snapshot of diabetes in Vietnam in 2015
Appendix 1

Coverage of essential health services\textsuperscript{25}

Key:

Reproductive, maternal, newborn and child health
- Family planning – demand met with modern method
  - CP = contraceptive prevalence
  - DS = demand satisfied
- ANC 4+ visits = antenatal care with 4 or more visits
- DTP3 = child immunisation, with 3 doses of diphtheria-tetanus-pertussis containing vaccines
- Care-seeking for child pneumonia

Infectious diseases
- HIV treatment
- TB detection and treatment
  - CDR = case detection rate
  - TSR = treatment success rate
- Use insecticide treated nets for malaria prevention
- Access to improved sanitation

Non-communicable diseases
- Prevalence of non-raised blood pressure in adults (18+), age-standardised
  - Nat = national level
  - Subnat = subnational level
- Mean fasting glucose mmol/L
- Prevalence of not smoking, adults 15+ years

Capacity, access and security
- Hospital beds per 10,000 population
- Health worker density: Surgeons and psychiatrists per 100,000 population and physicians per 1,000 population
- International Health Regulations core capacity index
Background Paper

Bangladesh UHC service coverage profile

Reproductive, maternal, newborn and child health

Infectious diseases

Noncommunicable diseases

Capacity, access and security

Data sources
Cambodia UHC service coverage profile

Reproductive, maternal, newborn and child health

Family planning

ANC 4+ visits

DTP3

Care seeking for pneumonia

Infectious diseases

HIV treatment

TB detection and treatment

Insecticide-treated nets

Access to improved sanitation

Noncommunicable diseases

Non-elevated blood pressure

Mean fasting plasma glucose

Non-use of tobacco

Capacity, access and security

Hospital beds

Health worker density

IHR core capacity Index

Data sources
Malaysia UHC service coverage profile

Reproductive, maternal, newborn and child health

- Family planning
- ANC 4+ visits
- DTP3
- Care seeking for pneumonia

Infectious diseases

- HIV treatment
- TB detection and treatment
- Insecticide-treated nets
- Access to improved sanitation

Noncommunicable diseases

- Non-elevated blood pressure
- Mean fasting plasma glucose
- Non-use of tobacco

Capacity, access and security

- Hospital beds
- Health worker density
- IHR core capacity index

> Data sources
Myanmar UHC service coverage profile

Reproductive, maternal, newborn and child health

Infectious diseases

Noncommunicable diseases

Capacity, access and security

> Data sources
Nepal UHC service coverage profile

Reproductive, maternal, newborn and child health

Infectious diseases

Noncommunicable diseases

Capacity, access and security

Data sources
### Philippines UHC service coverage profile

#### Reproductive, maternal, newborn and child health

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<td>Family planning</td>
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<td>ANC 4+ visits</td>
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<td>DTP3</td>
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#### Infectious diseases

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<td>TB detection and treatment</td>
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<td>Insecticide-treated nets</td>
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<td>Access to improved sanitation</td>
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#### Noncommunicable diseases

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<tbody>
<tr>
<td>Non-elevated blood pressure</td>
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<tr>
<td>Mean fasting plasma glucose</td>
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<tr>
<td>Non-use of tobacco</td>
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#### Capacity, access and security

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<tbody>
<tr>
<td>Hospital beds</td>
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<tr>
<td>Health worker density</td>
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<td>IHR core capacity index</td>
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</table>

> Data sources
Singapore UHC service coverage profile

Reproductive, maternal, newborn and child health

- Family planning
- ANC 4+ visits
- DTF3
- Care seeking for pneumonia

Infectious diseases

- HIV treatment
- TB detection and treatment
- Insecticide-treated nets
- Access to improved sanitation

Noncommunicable diseases

- Non-elevated blood pressure
- Mean fasting plasma glucose
- Non-use of tobacco

Capacity, access and security

- Hospital beds
- Health worker density
- IHR core capacity index

Select country: Singapore

> Data sources
Appendix 2

Survey: Universal Health Care in the Asian region

Q1 What country and agency do you represent?

Q2 In regard to your country. Has your country implemented UHC in accordance with the WHO definition? Please describe in text box below
   ○ Yes
   ○ Partial
   ○ Proportionate universalism: highly targeted services focusing on those more at risk
   ○ No
   ○ If no, is the development of a UHC a realistic goal that your country is aiming for?
   ○ If no, is the development of a UHC likely within the next 5 years?
   ○ If no, is the development of a UHC likely within the next 10 years?
   ○ UHC is not an option at the present time

Q3 What elements of publicly funded healthcare does your country currently provide? Please choose all that apply
   □ All healthcare
   □ Preventative care including screening programs
   □ All medicines
   □ Only essential medicines as defined by a panel of experts
   □ Essential medicines as defined by WHO package
   □ Primary healthcare (general practitioners)
   □ Secondary healthcare (specialist care)
   □ Tertiary healthcare (hospital) (procedures, diagnostics, imaging, pharmaceuticals)
   □ Oral health
   □ Ophthalmology
   □ Mental health
   □ Rehabilitation services
   □ All of the above
   □ None
Q4 How are healthcare benefits, funding, and prioritisation decisions made in your country? (We are not focused on clinical decisions for individual patients but rather policy decisions.) Choose all that apply and describe these processes in the text box below

- Using evidence based decision-making
- Using health technology assessments (HTA) conducted in my country
- Using HTA conducted in other countries
- Based on the burden of disease (greatest need, greatest care)
- Cost-effectiveness (only cost-effective interventions will be funded)
- If cost-effectiveness plays a role in funding decisions, does an ICER exist (i.e. a value that if the ICER exceeds the intervention will not be funded)
- None of the above
- Other – please specify below

Q5 HTA involves two key components: assessment of the evidence and decision making (weighing up the evidence). What elements of publicly funded healthcare in your country have been typically subject to a health technology assessment before a decision is made on whether to add them to the benefits package? Please choose all that apply

- All healthcare
- Preventative care including screening programs
- Pharmaceuticals
- Primary healthcare (general practitioners)
- Secondary healthcare (specialist care)
- Tertiary healthcare (hospital) (procedures, diagnostics, imaging, pharmaceuticals)
- Oral health
- Ophthalmology
- Mental health
- Rehabilitation services
- All of the above
- None

Q6 How is healthcare funded in your country? Choose all that apply and describe these processes in the text box below

- A single-payer system, or setting up universal health care so that a single organisation (most likely the government) would be responsible for collecting health care fees and health care payouts
- Public, Private Partnerships (PPPs) where public health care (the government) acts in partnership with private providers of health care in order to subsidise health care coverage
- Handing out vouchers or giving people refundable tax credits so that they are able to purchase the health care they want/need in the private sector
- Issuing a mandate that requires all people to have some form of health coverage
- A tax or levy system (e.g., Australia) as a proportion of income that all citizens contribute to, subsidising coverage for people with low or no income
- Employer insurance
- Co-payments – government pays a portion, patient pays a portion
- A threshold of care exists i.e. patients can access a certain value of healthcare annually; however care beyond that value would be self-funded by the patient (out-of-pocket)
- A combination of above options (please specify)
- Not applicable

Q7. What do you think are the major impediments to achieving UHC in your country? Choose all that apply, ranking the three issues of greatest concern in the text box

- Political will
- Lack of qualified health work force
- Affordability
- Silo-based decision-making processes
- HTA not used to inform decision-making
- Lack of HTA work force
- Deference to expert opinion (cultural)
- Other (please specify)

The use of “real world data” (RWD) in working towards achieving UHC.

Real-World Data (RWD) refers to data captured in natural, uncontrolled settings (outside from traditional clinical trials) that are either retrospective or prospective and includes primary or secondary data collected through a protocol-specified procedure, patient observation or standard of care.

Q8. Do health policy/funding decision makers have access to real world data?

- No - health policy makers in my country have no access to RWD
- Yes – RWD is obtained from my country
- Yes – RWD is obtained from my region
- Yes but we rely on international real-world data and apply that data to the local context
Q9  If yes, where is this data obtained from? Select all that apply and give details

- Government surveys/ census
- Primary care data gathered from general practitioners
- Tertiary care data gathered from hospital separation data
- Registries. If so, what type of registries are in use (eg cardiac, all implantables) and what is their role (to report on adverse events)? Type in the box below
- Other - details in the box below

Q10  What are the key challenges or barriers to using real world data in your country? Choose all that apply, ranking the three issues of greatest concern in the text box

- Using RWD is not a priority
- Lack of appropriate health system usage data
- Lack of collaboration between public and private stakeholders
- Poor quality or lack of accurate cost information for different types of services
- Lack of infrastructure
- Lack of capacity to enable information and data sharing
- Lack of work force to interpret data
- Other (please specify)
HTAi Asia Policy Forum Industry Survey

HTAi’s Asia Policy Forum are meeting in Beijing in November to discuss how to overcome the barriers to achieving universal health coverage (UHC) in the Asian region. Of interest is the role that HTA and real-world data (RWD) can play in achieving this goal. The forum will use the WHO definition of (UHC): all people and communities can use the promotive, preventive, curative, rehabilitative and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship.

RWD refers to data captured in natural, uncontrolled settings (outside from traditional clinical trials) that are either retrospective or prospective and includes primary or secondary data collected through a protocol-specified procedure, patient observation, registries, claims data or electronic health records.

Agencies participating in the APF have been surveyed to ascertain their countries’ progress towards UHC, and what they think are the greatest barriers and challenges to achieving UHC.

Q1. In general, how does your company (please specify your company in text box) use real-world data? Please choose all that apply

- To gauge the market need for a technology
- To develop or support value propositions
- To demonstrate where a new technology will sit in terms of established models of care
- Development of different pricing models
- To conduct HTA for reimbursement decisions
- To better document or understand use of a comparator technology
- Company you represent and any other uses of data (please specify)

Q2. What are the barriers to your company accessing real-world data? Please choose all that apply

- Using RWD is not a priority
- RWD is not available in the country
- Lack of appropriate health system usage data
- Poor quality or lack of accurate cost information for different types of services
- Lack of collaboration between public and private stakeholders
- Lack of infrastructure in the health system to collect RWD
- Lack of capacity in the health system to enable information and data sharing
- Lack of workforce in the health system to interpret data
- Other (please specify)

Q3. How do you overcome these barriers?
Q4. As a company active in the Asian region, what type of real world data is the most useful to assist you in the pre-market phase of launching a new product? Can select more than one answer.

<table>
<thead>
<tr>
<th>In countries with well-developed UHC</th>
<th>In countries with partial UHC</th>
<th>In countries with no UHC</th>
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<tbody>
<tr>
<td>Country-specific data</td>
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<tr>
<td>Regional data</td>
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<tr>
<td>Extrapolated data sourced from outside of the region</td>
<td>Extrapolated data sourced from outside of the region</td>
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<tr>
<td>Burden of disease/epidemiology data</td>
<td>Burden of disease/epidemiology data</td>
<td>Burden of disease/epidemiology data</td>
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<td>Cost of current treatment in the local population</td>
<td>Cost of current treatment in the local population</td>
<td>Cost of current treatment in the local population</td>
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<tr>
<td>Utilisation of current treatment in the local population</td>
<td>Utilisation of current treatment in the local population</td>
<td>Utilisation of current treatment in the local population</td>
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<tr>
<td>Hospital discharge-level claims data</td>
<td>Hospital discharge-level claims data</td>
<td>Hospital discharge-level claims data</td>
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<tr>
<td>Encounter-level claims data</td>
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<tr>
<td>Pharmaceutical use data</td>
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<td>Registry data</td>
<td>Registry data</td>
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<tr>
<td>Surveys</td>
<td>Surveys</td>
<td>Surveys</td>
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</tbody>
</table>

*Other (please describe)*
Q5. Once your product has received regulatory approval to market, what type of data is the most useful to assist you in the active phase of marketing, when supporting value propositions? Please choose all that apply.

<table>
<thead>
<tr>
<th>In countries with well-developed UHC</th>
<th>In countries with partial UHC</th>
<th>In countries with no UHC</th>
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<tbody>
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<td>□ Hospital discharge-level claims data</td>
<td>□ Hospital discharge-level claims data</td>
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<td>□ Encounter-level claims data</td>
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<td>□ Pharmaceutical use data</td>
<td>□ Pharmaceutical use data</td>
<td>□ Pharmaceutical use data</td>
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<tr>
<td>□ Post-market registry data</td>
<td>□ Post-market registry data</td>
<td>□ Post-market registry data</td>
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<tr>
<td>□ Regional utilisation data (who is using it and where)</td>
<td>□ Regional utilisation data (who is using it and where)</td>
<td>□ Regional utilisation data (who is using it and where)</td>
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<td>□ Surveys</td>
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<td>□ Patient satisfaction</td>
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<tr>
<td>□ Clinician satisfaction</td>
<td>□ Clinician satisfaction</td>
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<tr>
<td>□ Quality of life</td>
<td>□ Quality of life</td>
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<tr>
<td>□ Adverse events</td>
<td>□ Adverse events</td>
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</tbody>
</table>

Q6. What type of data is most useful to support managed entry agreements or risk-sharing arrangements?

Q7. Is your company currently involved in any activities that contribute to the development of capacity of agencies or to support the development of robust evidence generation infrastructure in the region? Please choose all that apply.

□ Training and development of skills in HTA
□ Training and development of skills in data analysis
□ Training and development of skills in health economics methodology
□ Training and development of skills in setting up fit-for-purpose registries
□ Developing company registries that countries in the region can access
□ Educating policymakers about payment and delivery system trend and reforms in other countries
□ Patient assistance programmes
□ Communication around long-term, country-specific healthcare solutions and models of care, considering mutual needs and mutual resources
□ Other (please specify)
Q8. Would your company consider conducting activities that may contribute to the development of capacity of agencies or to support the development of robust evidence generation infrastructure in the region? Please choose all that apply.

- Training and development of skills in HTA
- Training and development of skills in data analysis
- Training and development of skills in setting up fit-for-purpose registries
- Developing company registries that countries in the region can access
- Patient assistance programmes
- Communication around long-term, country-specific healthcare solutions and models of care, considering mutual needs and mutual resources
- Other (please specify)

Q9. The WHO have a list of 12 priority disease areas. What disease area/s is/are the main focus/priority of your company in the region? (Can select more than one)

- Chronic obstructive pulmonary disease
- Alcohol use disorders and alcoholic liver disease
- Depression
- Postpartum haemorrhage
- Tobacco use
- Obesity
- Rare diseases
- Diarrhoea
- Hearing loss
- Pneumonia
- Neonatal conditions
- Low back pain

Q10. What are the burning issues, from an industry perspective, you would like to discuss with healthcare agencies from the region? Please describe
References


