EMBRACING TRANSPARENCY

HARNESSING THE POWER OF DATA IN HONG KONG'S PRIVATE HEALTHCARE SYSTEM

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Contents

Abbreviations and Acronyms

ACA	Affordable Care Act (US)
ALOS	Average length of stay (hospitals)
COPD	Chronic Obstructive Pulmonary Disease
CMS	Centers for Medicare and Medicaid Services (United States)
DRG	Diagnosis-Related Group
EHR	Electronic Health Record(s)
eHRSS	Electronic Health Record Sharing System (Hong Kong)
ICD-9	International Classification of Diseases, Ninth Revision
MDC	Major Diagnostic Category
NQS	National Strategy for Quality Improvement in Healthcare (US)
PHF	Private Healthcare Facility
PHI	Private Health Insurance
NHS	National Health Service (United Kingdom)
VHIS	Voluntary Health Insurance Scheme

1. Executive Summary

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Overview

Transparency and measurement are fast-emerging as tools to enable health system sustainability in the wake of economic, epidemiologic, and lifestyle patterns burdening modern-day health systems. Hong Kong's dual-track health system is experiencing these trends whilst concurrently facing market inefficiencies and an underutilized private health sector.

The research conducted in this report explores issues around price opacity, the current use of the private sector, and recent government initiatives on health insurance and services. Research and lessons from other markets point to ways these initiatives could be expanded and strengthened, including the need for design of an overarching national quality framework.

The efficient growth of the private system will ultimately impact the sustainability of Hong Kong's healthcare ecosystem. Transparency is a vehicle to improve quality and manage cost, whilst shining a light on the importance of the overall patient journey. Transparency measures serve as the architecture to facilitate a volume shift between public and private sectors and help alleviate ever-surging service demands. An embrace of transparency offers the potential to develop a stronger, more sustainable healthcare ecosystem in Hong Kong.

Methodology

This paper examines transparency across the domains of finance, quality, and patient experience. All original analyses were conducted using cited reports and up-to-date data sources, along with insurance statistics from the Hong Kong Federation of Insurers (HKFI). International best practices were researched to arrive at a set of approaches that have already been successfully adopted in other markets. The result is a comprehensive analysis, with recommendations for individual stakeholders in the present, and a series of action areas to address moving forward.

Key Findings

1. Hong Kong's private healthcare market is experiencing rapid medical inflation, resulting in higher out of pocket expenses and significant increases in health insurance premiums.

Actual out-of-pocket health expenditure has more than quadrupled to HKD 43 billion over the last 25 years while the real wage indices that actually indicate changes in purchasing power saw only incremental change, meaning that individuals were able to buy less products and services in the healthcare space with their money.

Going forward, out-of-pocket expenditure is projected to more than double to HKD 94 billion by 2024/25 if no improvements in the current system are put in place, placing significant extra financial burden on consumers whose purchasing power is already under pressure.

2. There is high price variation for inpatient and outpatient procedures.

Across providers, the same procedure, to the same quality standard, varies significantly in price by room class, outpacing trends in international markets.

The analysis revealed that certain high volume procedures, particularly elective procedures such as knee replacements and colonoscopies were priced higher than in most developed countries, whilst others procedures were more in line with international norms for private care.

3. Hong Kong does not have a consistent approach to monitoring quality, pricing and performance of health service providers.

The current regulatory framework for private providers is significantly different to the framework for public providers, resulting in inconsistent ways of defining and measuring quality and performance. The analysis shows that private providers often rely on process measures as a proxy for quality, such as whether or not an infection control policy is in place, rather than outcome measures, such as the actual infection control rate. In contrast, public providers are more orientated towards outcome measures, which have greater validity.

4. Consumers are confronted with inconsistent information, unstandardized pricing terminology, unclear price breakdowns, and incomplete procedure lists.

93% of polled individuals in Hong Kong support calls for greater legislation of quality and price in private healthcare facilities. Along with increased demand for quality, new patient tools are emerging to rate patient experience.

Recommended Action Areas for Key Stakeholders

Better use of data has the potential to reduce costs, increase transparency, increase capacity for volume, and elevate quality, thereby fostering market growth. The adoption of international best practices could result in significant cost savings over time. Examples of best practices from the UK, Australia, Singapore and the U.S. highlight the many-fold benefits of transparency and can be readily adapted to the Hong Kong market.

A salient example is the current practice of colonoscopies. Currently, 49% of private health insurance procedure claims arise from colonoscopy and gastroscopy cases. 64% of colonoscopy procedures are performed at ward level in Hong Kong, whilst most cases are performed as outpatient procedures in comparable international markets. The report shows that a shift to outpatient settings, in line with international best practice, could result in a potential cost saving of HKD 200 million annually.

In the path towards sustainability, four key stakeholders have emerged. They each have a role to play in driving the transparency evolution forward. Action can begin in the present, irrespective of system-wide reforms or macro-level strategic planning.

Figure 1: Recommended Action Areas by Key Stakeholder

Government

- ✓ Create a methodology to capture outcome measures
- ✓ Standardize publicly available data
- ✓ Engage private providers in electronic health record sharing
- ✓ Develop a national quality framework
- ✓ Task regulation of public and private healthcare facilities to the same regulatory bodies

Insurer

- ✓ Link data to funding in order to transition to performance-based purchasing
- ✓ Lead the design of managed care in the Hong Kong market
- ✓ Emphasize the benefits of transparency, including efficiency, data-sharing, and benchmarking in communications with other stakeholders
- ✓ Formulate common terminology in product redesign across the market
- ✓ Disclose clearer pricing data to consumers
- ✓ Begin collection of patient satisfaction data

Provider

- ✓ Provide key quality, financial and patient experience data
- ✓ Engage patients in decisions about their care
- ✓ Invest in electronic health record
- ✓ Collect data linked to process and outcome measures
- ✓ Establish mechanisms to adopt better safety practices
- ✓ Share management tools used to measure quality and safety with regulators and payors

Consumer

- ✓ Seek information to drive decision-making
- ✓ Positively engage the health system
- ✓ Report feedback of patient experience to enrich the value chain

2. Transparency: the greatest source of untapped value in healthcare?

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Transparency and measurement are necessary to drive improvement in our health care system

Globally, countries are moving towards greater transparency in health care, as evidence highlights gains in patient health, quality, efficiency, and significant cost-savings.

Health systems today need to respond better and faster to the challenges of a changing world. Overburdened and underfunded, these systems operate against the rising tide of mounting cost,[1] demographic shifts in fertility and life expectancy,[2] and a prevalence of chronic disease that is rapidly accelerating worldwide[3] (see Figure 2).

Echoing trends already present in other sectors, health systems now confront growing waves of consumerism and a movement towards more open and accountable institutions. Across other industries, transparency as a tool for change has consistently yielded positive results and improved operating methods – for both consumers themselves, and the sector as a whole.

Whilst the need for health services is ever-rising, the adoption of transparency across the health sector in Hong Kong has been slower than in other industries. To ignore transparency as a tool, however, would be a missed opportunity.

Building upon the growing merits of transparency indicators, health systems need to begin to create strategies to extract the untapped value of transparency. Meaningful performance measures within the domains of finance, quality and patient experience have been shown to improve performance, reduce variations, and improve efficiencies.

Figure 2: Growing stressors are disrupting health systems

Cost	Aging Populations	Chronic Disease
		
Health care costs are rising globally and are estimated to reach 14% of GDP by 2060[1]	17% of the world's population will be 60 or older by 2030[2]	NCDs contribute to 70% of global deaths annually[3]

Source: OECD, UN, WHO

2.1 Finance: effect of transparency on market pricing

Price transparency offers an effective method to inform consumers about health care costs, and could support a more efficient health care delivery system. Often patients have an asymmetrical knowledge of the service or product, leading to the way in which they approach healthcare purchasing decisions being directed by their healthcare provider.

This is further complicated if basic data on pricing, quality and patient experience is not readily available. This has led many to believe that transparency is not only a "nice to have" but a fundamental prerequisite to ensuring patients and their insurers can make effective choices. Yet there are often significant gaps in available data, leading to decision making based on inference rather than fact.

In many healthcare systems, improved financial transparency on the price of healthcare services has only come about as the results of decision making based on inference have started to take effect. Perhaps a striking example of this is the rapid medical inflation seen in the United States – a country which spends almost 1/5 of its GDP on healthcare. Many purchasers – both insurers and individuals – recognised that opaqueness of pricing was failing to allow them to make effective choices on the care they received, and encouraging clinicians to treat the patient to the very limits of their policy or purse. With the passage of the Affordable Care Act (ACA), the US began to confront the issue of price opacity and sustainability at the national level.

Figure 3: Asymmetrical knowledge of healthcare can prevent healthcare from being an effective "market" system

A lack of transparency creates asymmetry	Transparency normalises market activity
	
Paternalistic model Clinician directs consumption of healthcare Patient has limited ability to be a proactive decision maker in their care	**Clinician as partner** Patient and clinician direct consumption of healthcare Patient is empowered to make decisions in relation to their care

2.2 Quality: does transparency improve it?

There is an old management saying: “what gets measured gets managed”. This sentiment holds true across healthcare services globally. Quality measures allow a comparison of institutions between and across regions. These indicators allow the documentation of clinical behaviour during the provision of care, which can be used to improve and understand management processes and clinical pathways.

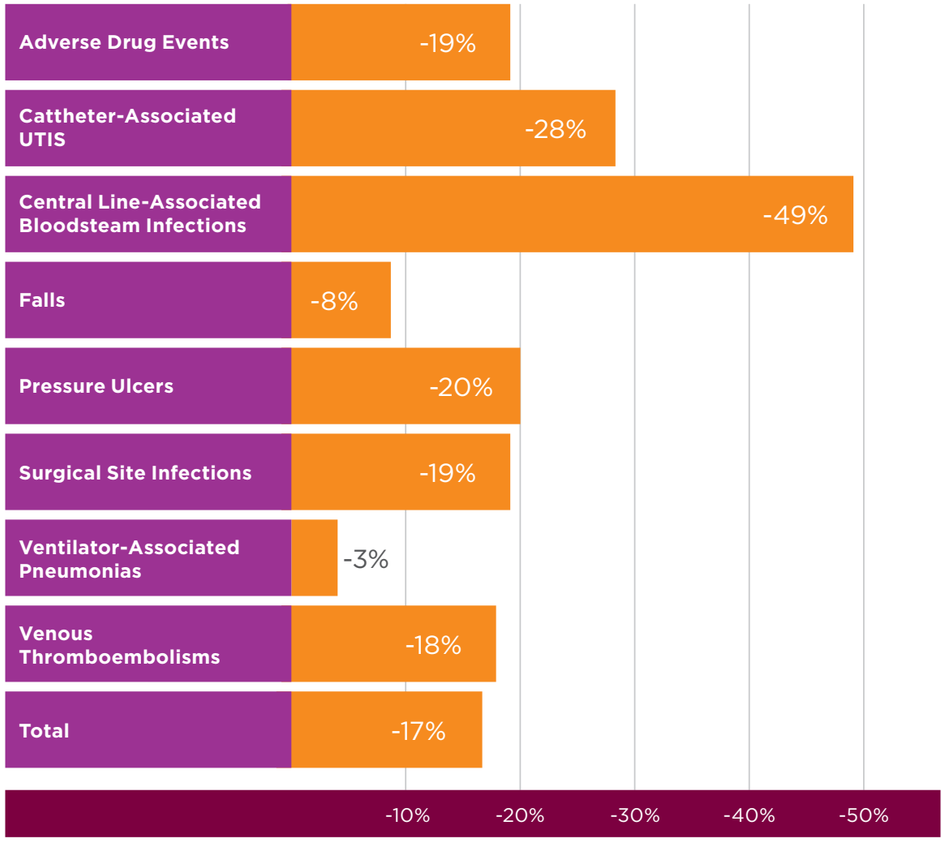
Marked gains in the quality of clinical services have been observed in countries and systems which embrace robust transparency of meaningful quality indicators. The US is a market that began to adopt greater transparency measures after the passage of the Affordable Care Act (ACA). In addition to the more familiar health insurance coverage reforms, the ACA contains provisions to address the extreme variability in quality of care patients receive from region to region. The National Strategy for Quality Improvement in Health Care (NQS) was designed to align healthcare improvement efforts across federal, state, and local agencies and the private sector. NQS aims to ensure providers and government are working towards the same goal.

According to the U.S. Department of Health and Human Services, work undertaken in the area of patient safety has had a significant impact on hospital-based care after the initiative was launched: between 2010 and 2013, incidents of harm experienced by hospital patients nationwide decreased 17 percent, and potentially as many as 50,000 deaths were avoided, and 1.3 million fewer patients experienced harm from hospital-acquired medical conditions (see Figure 4). These improvements are estimated to have saved USD 12 billion in healthcare costs.[4]

Whilst there is no definitive way of measuring quality, there is increasingly agreement on the major indicators that are used, such as readmission rates and surgical infection rates. The data for these indicators is almost always generated as a by-product of clinical processes rather than as a separate exercise, which helps reduce the administrative burden and increase the likelihood that the data will be accurate. As such, almost all providers find themselves in a position to monitor these indicators.

Using this pragmatic approach has further benefits: true value is achieved by benchmarking quality indicators with national and international peers. Globally, the most common quality indicators are those that are easily monitored as a by-product of clinical practice, making this not just pragmatic but allowing a global knowledge base to be created and leveraged when assessing the question ”what really improves quality in healthcare?”.

Figure 4: Change in Rates for Hospital-Acquired Conditions, 2010-2013



Source: Agency for Healthcare Quality and Research

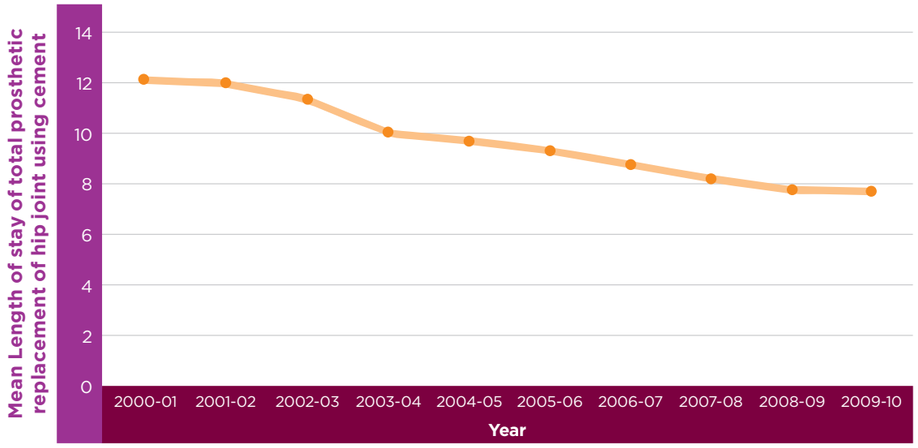
An NHS example highlighting the impact of benchmarking

From 2000 onwards, the UK Government pursued a new policy of "choice and competition" in the NHS in an attempt to drive up standards of care. One key aspect of this was the production of quality data to help patients and their families determine which hospital provider they preferred to use. This was a marked departure from the old system, which had guaranteed hospital funding and provided limited transparency on quality, as well as little patient choice. The scale of such an "experiment" was unprecedented and untested, but was part of a broader system of public sector reforms which pursued pro-market principles.

The Government also invested heavily in the NHS; encouraging new services to evolve, new ways of monitoring and communicating quality data or be developed, and, controversially, allowing private providers to "compete" directly with the NHS, provided they agreed to deliver care to the same set-price per procedure.

The results of this policy shift were very significant. Over a period of less than ten years waiting times for key elective surgeries reduced, mortality rates in key clinical areas, such as cardiac care, improved and length of stay were reduced (see Figure 5)[5]. A number of systematic reviews have concluded that transparency of data, alongside patient choice and investment in enabling technology, such as IT, played a role in these improvements.[6]

Figure 5: Length of stay for elective surgery in the UK dropped significantly when patients were able to choose the hospital for their elective surgery based on the mandatory published quality data



Source: National Health System

2.3 Patient experience: does the patient's voice matter?

Transparency efforts regarding patient experience are continually evolving. Whilst many health reform initiatives promote patient-centred and coordinated care, past measurement efforts were mostly provider-centric and heavily weighted toward institutional care. Many health systems are increasingly turning away from a paternalistic model of care, instead supporting measures that reflect the interests, needs, functional status, and financial preferences of consumers.

The move towards transparency of consumer experience revolutionised many industries. In the travel industry, Lonely Planet guides were quickly superseded by TripAdvisor with the platform's emphasis on user-driven content. What was surprising was the consistency of feedback, which is now regarded as an authoritative guide on where to go, stay and do.

Patient-reported measures have several advantages and offer a more holistic view of the patient across the care continuum. These measures can be used to determine treatment compliance, patient preference, and various aspects of the patient's life that impact care (physical, psychological, social, economic).

Hospitals and health systems are expanding initiatives around patient experience, as the positive benefits have been many-fold. Clinically, a better patient experience is correlated to both lower readmission and lower mortality rates (see Figure 6 and Figure 7).[7]

When asked the right questions, patients' views on their care are surprisingly aligned to the actual quality of service received, as exemplified by findings from the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) questionnaire recently featured in many Harvard research studies (see appendix).

Figure 6: Better patient experience correlates to lower readmission rate

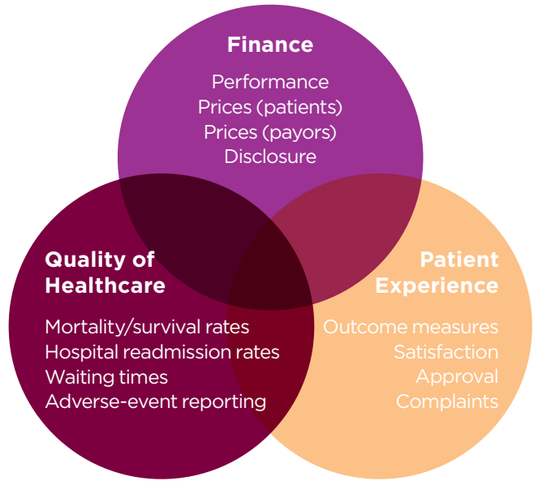
Source: JAMA Internal Medicine

Figure 7: A better patient experience correlates to lower mortality rate

Source: JAMA Internal Medicine

2.4 A holistic approach to transparency

Figure 8: The Overlapping Nature of Transparency Dimensions



In examining transparency, it is critical to remember that the domains are dynamic, often overlap (see Figure 8), and interact nonlinearly on different scales (the patient, healthcare facility, government).[8] A transparency reform across the domain of finance, for example, may impact affordability of care but also patient satisfaction, which falls under the domain of "patient experience." Likewise, innovations in waiting times, a quality measure, may impact the category of approvals or complaints, which are both measures of patient experience.

Transparency domains and their measures often have intrinsic properties. The nonlinear interactions between the domains can create an output that is greater than the sum of its parts.

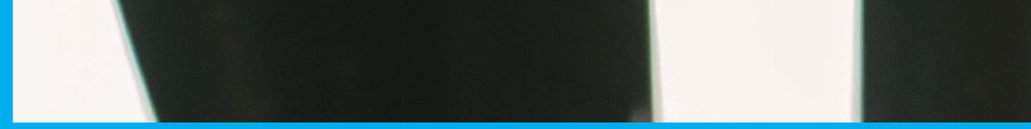
Collectively, innovations across the dimensions of quality, finance, and patient experience offer a roadmap for systems confronting soaring costs, paradigm shifts, and the growing burden of chronic disease. Transparency as a way forward has yielded documented gains in efficiency, affordability, benchmarking, and data sharing – improvements that appeal to stakeholders across the vast spectrum of the healthcare ecosystem.

Moves towards transparency can be marred with difficulty. Governments have often learnt the hard way that improving one dimension of transparency without also improving transparency in other domains can lead to unintended consequences, including increase in prices. This is often because the absence of information causes consumers to make assumptions, for instance, higher priced care must be better care.

Using one domain as a proxy for another will not necessarily translate to the assumed output measure. For example, if a consumer uses price as a proxy for quality, the logical assumption would be that higher price translates to better quality. This is due to the fact that price can exert a nonconscious influence on expectations of quality, even though a quick review of evidence in healthcare would dispute this very correlation. Similar trends can be observed between transparency dimensions when proxies are used (see Figure 9).

Therefore, the overlapping nature and non-linear relationships between transparency domains should inform public policy reforms. Innovations across any transparency domain must be considered as part of a broader agenda in order for systematic and beneficial changes to occur.

Figure 9: The Relationship Between Transparency Dimensions



3. The Hong Kong context: would transparency increase quality, affordability, and sustainability of care?

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The challenges facing Hong Kong's healthcare system

Hong Kong's healthcare system faces rapid medical inflation and increasing insurance premiums, in spite of continued growth and profitability over the past decade. Data increasingly reveals market inefficiencies and problems of affordability rooted in transparency gaps around price, quality, and patient experience.

Hong Kong has one of the fastest growing elderly populations in the world as the result of both longer life expectancy and declining fertility rates, creating a "silver tsunami". Concurrently, concerns over medical inflation, the instability of the housing market, the unaffordability of daily living and uncertainties on the political outlook are all resulting in less consumer confidence, and a tightening of spending.

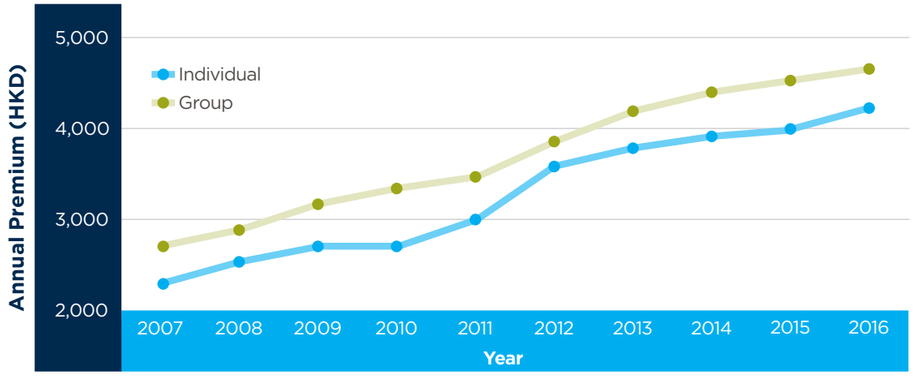
In the near-term, these factors are driving a rapid increase in the utilisation of public healthcare services, and pose mid-term fiscal risks to the Government of Hong Kong. This makes a rare moment, when purchasers – both Government and insurers - are grappling with the same challenge: how to ensure value can be achieved from healthcare and, crucially, how those that can afford to contribute to the cost of their care are encouraged to do so.

The prevailing legislation regulating the private hospital system dates to the 1960s, and contains no requirements in relation to transparency of quality, pricing or patient experience. So whilst Hong Kong's private market is often referred to as a "free market", the system conversely lacks many of the characteristics of an effective market economy. This has resulted in anomalous practices that are radically out of synch with other developed private healthcare markets.

Insurers have typically managed risk by tightly defining target markets and limiting coverage to high-net worth individuals and corporate groups. This is reflected in the profile of policyholders; in Hong Kong for example, the majority of holders earn 60k (HKD) per month and are of working age, and only 28% having a pre-existing medical condition.[9]

However, a changing economic environment is putting pressure on large corporates, who are in turn growing increasingly intolerant of continued increases in premium pricing. Individuals, even those defined as middle-class, are struggling with the growing unaffordability of premiums (see Figure 10).[10] Individuals in the Hong Kong market currently confront rising health expenditure, variation in product pricing, and reduced purchasing power in the healthcare marketplace.

Figure 10: Health insurance premiums keep rising



Source: HKFI 2016

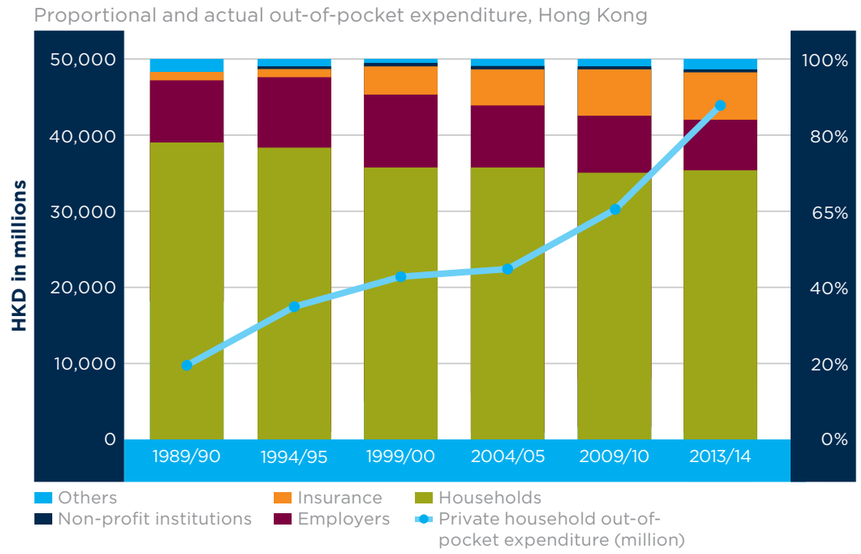
Whilst premium increase and cost increase are widely discussed macro-level problems, less discussed is the impact of such increases at the level of the individual consumer. At first glance, little has changed over time: the proportion of out-of-pocket health expenditure has remained relatively static over the last 25 years. However, examination of financing by source reveals that actual out-of-pocket expenditure has in fact more than quadrupled over the same period, increasing from HKD 9,212 million to HKD 43,452 million (see Figure 11).[11]

Further analysis revealed that over the same period out-of-pocket expenditure was quadrupling, the real wage indices that actually indicate changes in purchasing power saw only incremental change[12] (see Figure 12), meaning that individuals were able to buy less products and services in the healthcare space with their money.

Going forward, out-of-pocket expenditure is projected to more than double to HKD 94,279 million by 2024/25 (see Figure 13 and appendix) if no improvements in the current system are put in place, placing significant extra financial burden on consumers whose purchasing power is already under pressure.

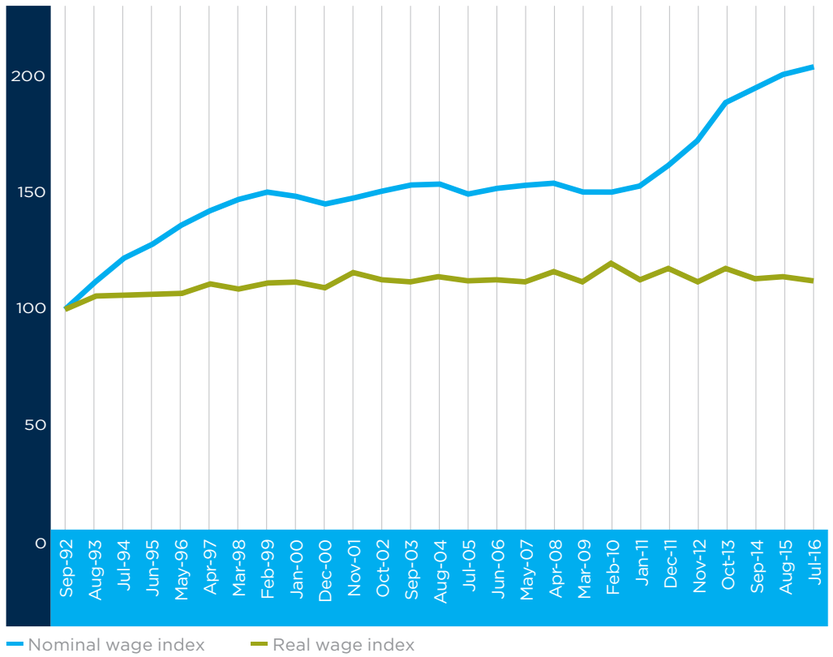
The implication of this is two-fold: firstly more people will be relying on the Hospital Authority for preventative and curative medicine, and secondly those who do shop in the private marketplace will be buying products with lower levels of insurance coverage. Essentially, individuals can have insurance and still be "underinsured", a scenario that does not address the fundamental purpose of using private healthcare facilities, which is to divert patient flow and service demand away from the already overburdened public system.

Figure 11: Out-of-pocket expenditure quadruples in the private market



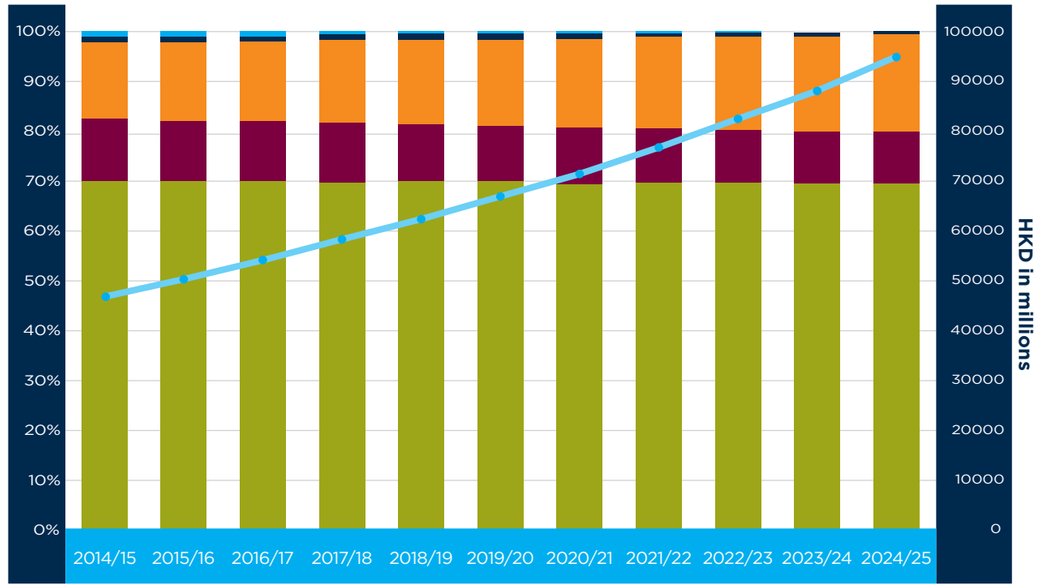
Source: Domestic Health Accounts (2013/14); Asia Care Group analysis

Figure 12: Real and Nominal Wage Index Over Time



Source: Census and Statistics Department; Asia Care Group analysis

Figure 13: Projections, 2014/2015 - 2024/2025. Proportional and actual out-of-pocket expenditure, Hong Kong.



In the next section, the analysis explores how Hong Kong fairs in relation to the three vital pillars of transparency: financial, quality and patient experience data. In assessing Hong Kong's private system, stakeholders should seek to answer key questions: Is pricing sustainable? Is there sufficient understanding of the quality of services and is the patient voice being heard? Together, the answers to these questions shine light on the sustainability of the current system.

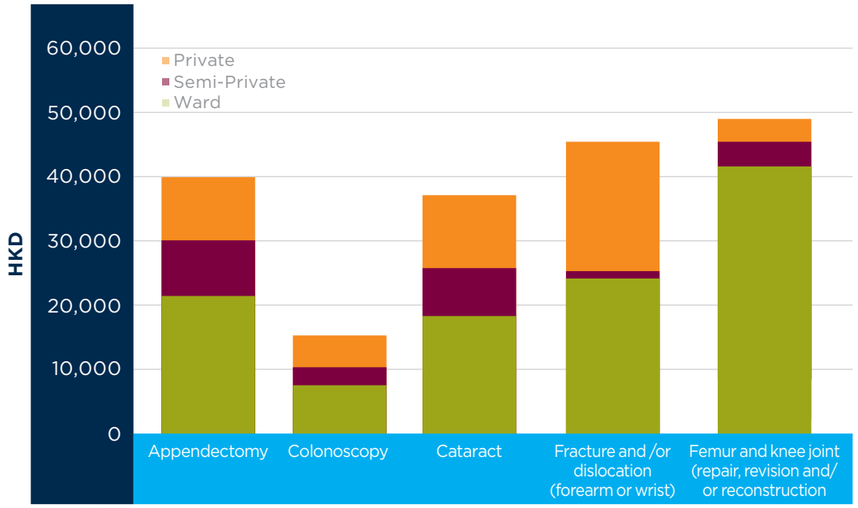
3. 1 Financial transparency: is the price of care sustainable?

The lack of financial transparency is inhibiting the functioning of an effective market: an inability to measure the true costs of various hospital procedures stops purchasers from fully comparing prices of providers and therefore interferes with normal competitive practices. It impacts the ability of insurers to develop innovative plan design (e.g. covered benefits, disease management programmes, reimbursement ratios) and general procedures (e.g. provider network, speed and accuracy of claims processing).

Hong Kong sees high variation in price across providers for procedures delivered to the same standards (see Figure 14). Procedures delivered by the same provider can carry vastly different prices, depending on the service level or "room class." Whilst there are differences in price for room accommodation in many international markets, the trends seen in Hong Kong outpace international trends (see Figure 15), and create customer confusion. When patients ask for a detailed list of fees, they may not anticipate that room amenities like cotton or soap will drive up the overall cost of their bill, or that the classification of 'private', 'semi-private', and 'ward' level actually vary from one hospital to the next.

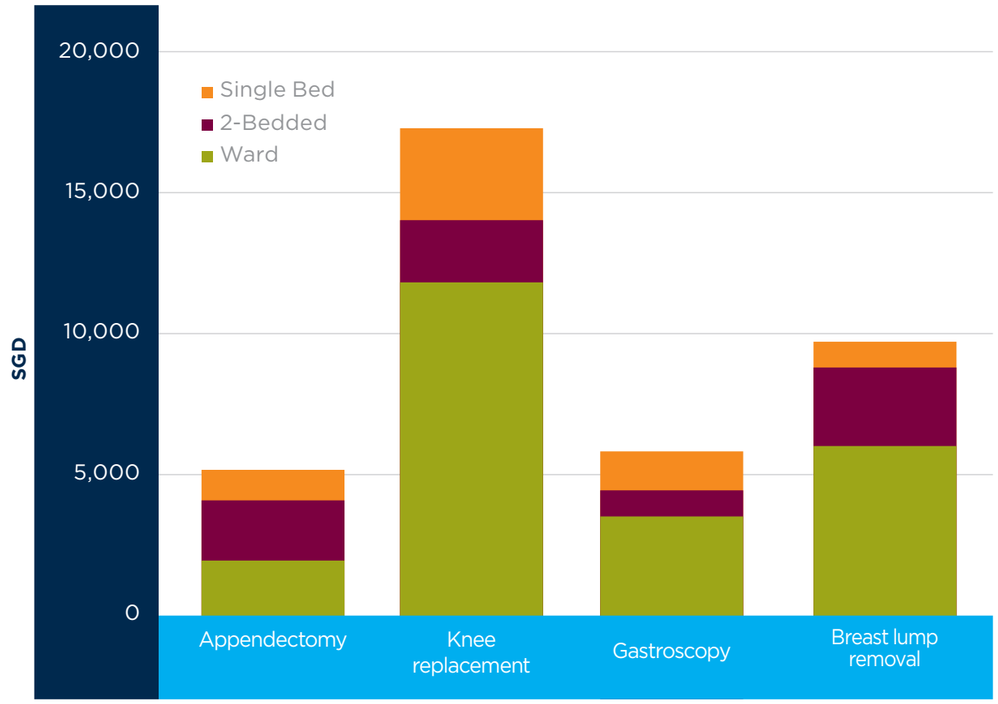
The publicly available data on room rates and surgical fees for commonly performed procedures is still provided in unstandardized ways, with classification language and data presentation failing to provide "like for like" comparisons between providers. Greater transparency around pricing would alleviate much of the confusion experienced by consumers, as well as reduce variation between providers.

Figure 14: Median Price for Common Surgeries, Hong Kong Private Hospitals



Source: Hong Kong Federation of Insurers; Asia Care Group analysis

Figure 15: Average Price for Common Procedures in Private Hospitals in Singapore



Source: Ministry of Health, Singapore; Asia Care Group analysis

In Singapore, the price difference is around 25% between ward and 2-bedded rooms, and 10-30% between semi-private and private rooms.[13] The same procedure in Hong Kong, to the same quality-standard, costs 2-31% more between ward and semi-private rooms, and 5-43% more between semi-private and private rooms.[14]

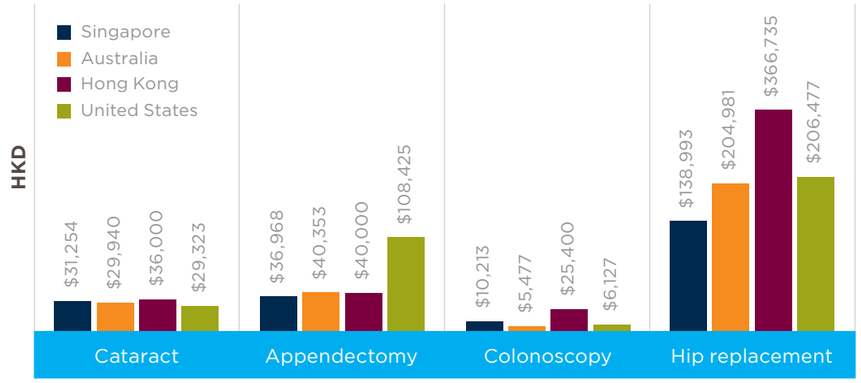
Aside from the trend to weight pricing by room class, the price of high volume elective procedures are often much higher than comparable markets (see Figure 16). Cost of total hip and total knee replacement surgeries top the list in price among all developed nations, with little to no published quality data to support the higher costs (see Figure 17).

The Hong Kong Federation of Insurers reported 49% of all insurance claims came from gastroscopy and colonoscopy surgeries. This is significantly higher than international standards, and warrants further investigation by all involved in the private market.

Many of the procedures are not being performed according to widely-adopted trends in international best practice, with a skew towards inpatient settings that drive up costs. The same HKFI report revealed that 75% of all colonoscopies were occurring in inpatient settings, whilst in most developed countries, colonoscopies are performed largely in outpatient settings. This begs the question, is this practice sustainable or in the best interest of the patient?

In the absence of medical necessity, high volume surgical cases like colonoscopy could be shifted to outpatient settings and result in significant cost savings. Assuming the market were to adopt international best practice in the case of colonoscopy procedures, data from HKFI was extracted for the proportion of surgeries by procedure setting, average price by setting, and average reimbursement ratio by setting. For simplification, a 100% rate in shift to outpatient settings was assumed. The resulting margin for cost savings comes to approximately HKD 200 million annually.

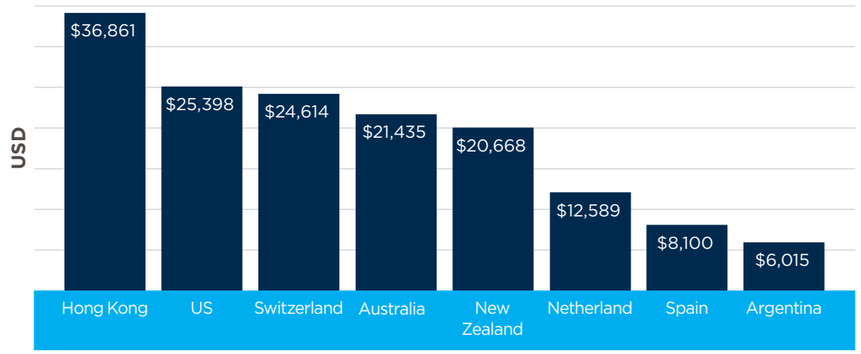
Figure 16: Average Private Sector Pricing for Common Procedures across Countries*



*Median prices calculated for private room rate. Source: International Federation of Health Insurance Plans (2015);[15] Hong Kong Federation of Insurers; Ministry of Health, Singapore; Asia Care Group analysis.

Conversation rates current as of 07.06.2017 http://www.xe.com/currencyconverter/

Figure 17: Cost of Total Knee Replacement



Source: AXA International,[16] International Federation of Health Plans, Hospital Authority,[17] Ministry of health Singapore, Australian Institute of Health and Welfare,[18] BQS Institut für Qualität und Patientensicherheit,[19] Archives of Orthopeadic and Traumatic Surgery[20]

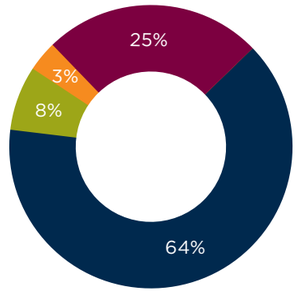
If Hong Kong's private sector adopted best-practice in relation to colonoscopies it could save approximately HKD 200 million annually

49% of procedure claims are from colonoscopy and gastroscopy

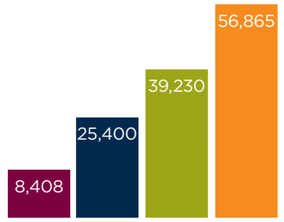
Current Scenario

Clinic Ward Semi-private Private

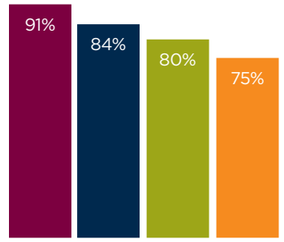
Distribution by accommodation level



Colonoscopy price (HKD)



Reimbursement rate



Most claims are coming from ward level --- whilst in most developed countries colonoscopies are mostly performed in out-patient settings.

Best practice

Distribution by accommodation level

Clinic 100%

Colonoscopy price

$8408

Reimbursement rate

91%

Estimated cost savings if best practice applied: HKD 200 million

Source: Hong Kong Federation of Insurers, Asia Care Group analysis

Insurers have underutilised their potential leverage on providers. By guaranteeing volume to providers, insurers can better negotiate price and delivery setting for the items reimbursed under their product plans than individuals can. This approach could help address many of the practices around pricing that occur in the market.

In order to help create for greater transparency, insurers should more lead by example and move towards standard product language to reduce confusion and variation in coverage pricing. Analysis revealed that the same level of healthcare cover for comparable insurance products was priced very differently between insurers (see Figures 18, 19, 20).

Insurers have it within their power to change the direction of these trends and begin a much-needed system rebalancing between inpatient and outpatient care. The increases and variations in cost are simply not sustainable over time. Additionally, the trends in use of inpatient care for elective procedures that could be done in outpatient settings are slowing the potential for insurance marketplace growth. Insurers can redesign their products with an emphasis on managed care and integrated primary care settings, contributing to a healthier population.

Figure 18: Price Variation for High-End Products

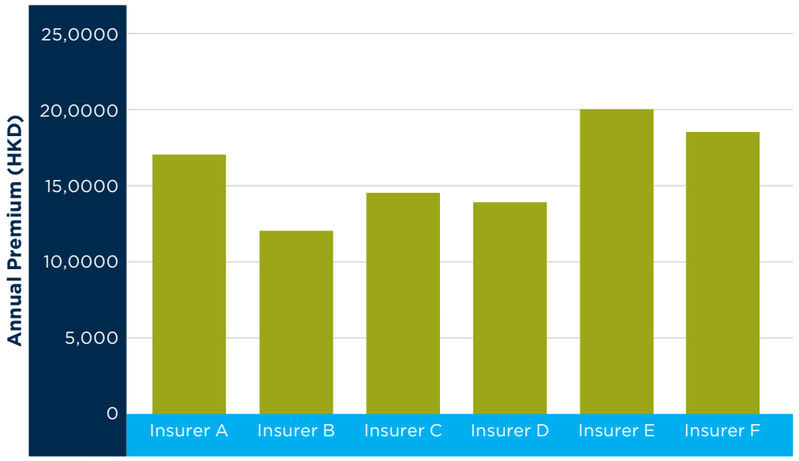


Figure 19: Price Variation for Reimbursement Products

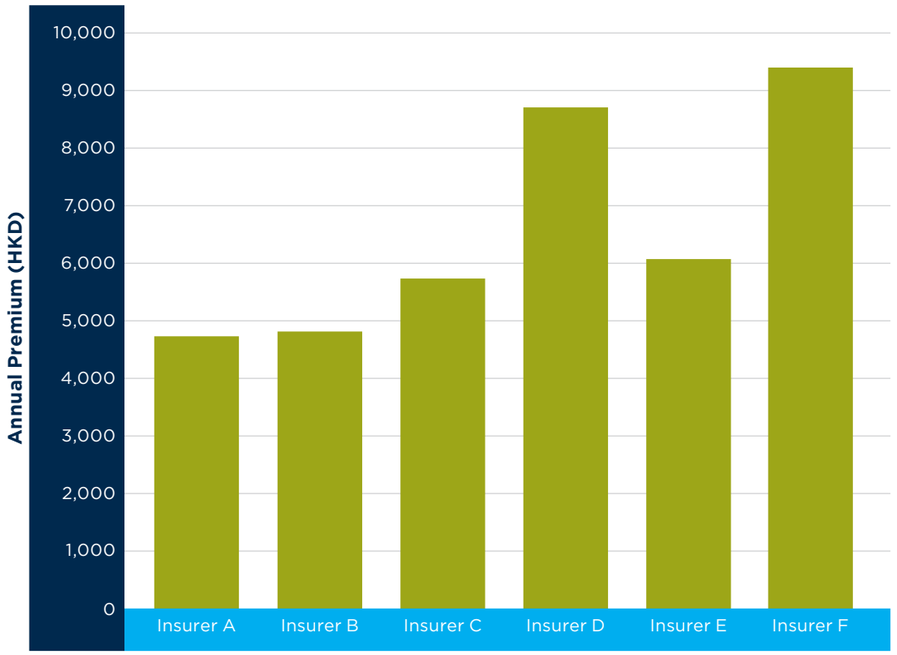
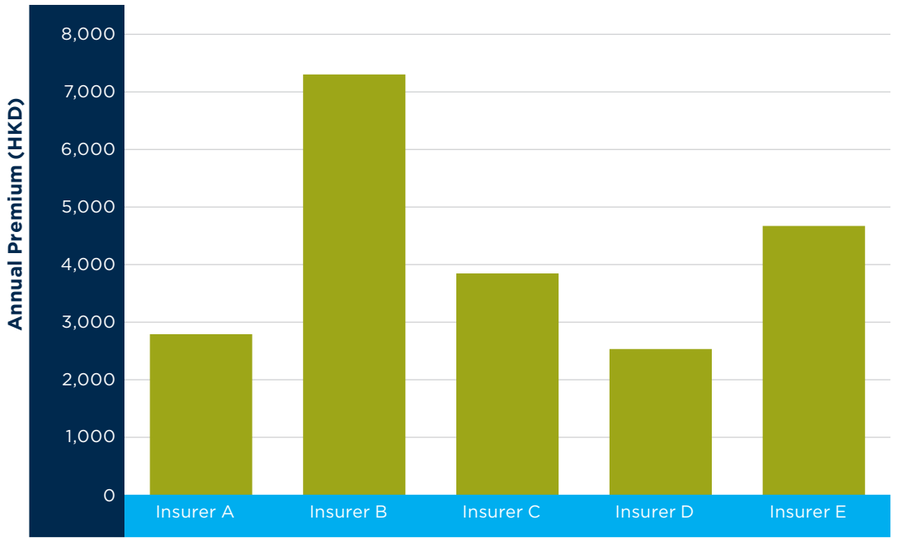


Figure 20: Price Variation for SME Plans



Source: Asia Care Group analysis

Solution Tool: DRGs are a step towards better, fairer payment systems

Diagnosis Related Groups (DRGs) have emerged as a multipurpose tool in healthcare planning, with documented benefits including efficiency gains, cost maintenance, and decreases in the volume of inflation. Whilst DRGs do not meet all policy objectives nor solve all problems in healthcare, their implementation has been a critical step in increasing the further transparency of hospital output.

Information about what drives spending is often incomplete. DRG systems emerged in an effort to increase transparency of services and to incentivize greater efficiency in the use of resources invested in acute care settings. These systems, whilst not a cure-all, enhance the quality of inpatient care by discouraging unnecessary and potentially harmful procedures. Additionally, they encourage concentration of complex procedures in settings where the high frequency and volume of these procedures promotes efficiency.

DRGs allowed, for the first time, a meaningful way to compare "like for like" cases and procedures within and between delivery settings. This innovation of controlling cost whilst promoting quality is at the very centre of the transparency debate.

Substantial efficiency gains could be made by reforming hospital payment mechanisms, especially since expenditure on hospital services comprises one of the largest shares of total health-care spending in all countries, regardless of their income level.

Payment systems based on DRGs have gained momentum since the 1990s, gradually becoming the principal means of reimbursing hospitals for acute inpatient care in most high-income countries. Although DRG-based payment systems are now mainly understood as a reimbursement mechanism (see Figure 21), their original purpose was to enable performance comparisons across hospitals.

Figure 21: DRG Properties Explained

Current model

Financial underpinning	Clinician behaviour	Organizational behaviour	Features of this model
Fee-for-service	"I will maximise every individual patient's health status, without restriction on resource"	Links survival to increasing volume	• Over-supply • Limited or no access barriers • Limited appeal to cost-effectiveness of interventions (practice of defensive medicine) • No incentive to manage or improve the efficiency of care
Block contracting	"I will maximise the health status of the patient population as far as possible, within resource limits"	Links survival to reducing volume	• Under-supply • Waiting times • Rationing • Exclusions of costly or novel treatments (inhibits innovation)
Performance based contracting	"I will improve the quality of care I deliver to patient and meet or exceed targets, with some consideration of resource limits"	Links survival to specified performance measures, within financial envelope	• Improves the quality/ efficiency of care delivered • Encourages the effective use of resources • Can create unhealthy or narrow focus on metrics • Can limit/reduce clinical innovation
Value based contracting	"I will improve the outcome of the care I deliver to meet agreed metrics, with some consideration of resource limits"	Links survival to the outcome of care delivered, within financial envelope.	• Encourages clinicians to focus on the outcome of the care provided, not the process • Notoriously hard to define outcome measures, making the likelihood of poor specificity and conflict between provider/ purchaser high

Aspirational model

Case study: The implementation of a DRG reimbursement scheme in Australia

Challenge

Following the transition of the public system to casemix and DRG-based schemes in the 1990s, the private insurance sector in Australia was tasked with navigating the transition from passive bill pay to active purchase of health services to accommodate the 40% of hospital admissions that occur in private hospitals nationwide.

Approach

Linking data to funding

Private Health Insurance (PHI) in Australia provides health insurance against the costs of access to private hospital care and ancillary services to complement the publicly-funded universal health care system for access to hospital and medical care. Amid a system-wide overhaul in the public sector and increasing regulations, PHI transitioned from day payments to episodic payments and a full DRG-based payment scheme.

Targeted Messaging

To overhaul the innumerate medical and surgical codes of the existing ICD-9 system, Australia first began an extensive mapping exercise. The next step included targeted messaging to the players in the private system: private hospitals, participating clinicians, and all other payors/health funds. The DRG-based model was not marketed as "cost-containment", but rather, was presented as "efficiency", "bench-marking", and "data-sharing".

Australia enhanced the US's DRG system, which was subsequently adapted by Singapore, France, and Germany

The Results

Within two years, other health funds in the PHI market were on board.

- A transition from day payments to episodic payments under a traditional bundled DRG case payment model.
- A reduction from around 1,500 medical and surgical codes to a manageable 23 MDCs and 665 DRG codes + cost-weighting.
- Hospitals provide Hospital Casemix Protocol (HCP) to health funds on a monthly basis.
- Provisions were put in place to avoid loopholes and upcoding.
- Average length of stay (ALOS) decreased from 14 days to 10 days "almost overnight."

Quality and financial benefits beyond the initial results

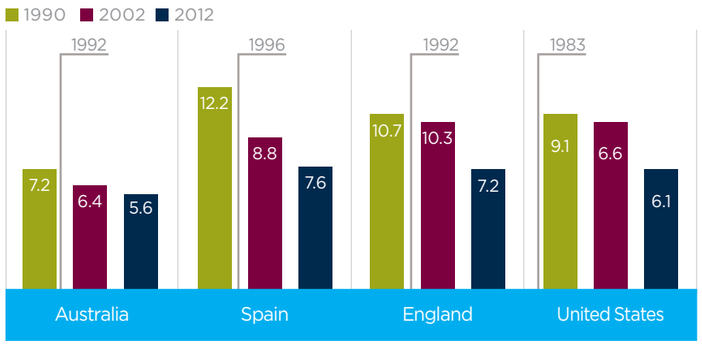
- Data was tied to funding, ensuring its accuracy.
- PHI and the private hospitals enjoy a mutually dependent, profit-from-volume relationship.
- ALOS declined in acute care settings, whilst affordability, improved health outcomes, and efficiency all increased.
- Patients continued to enjoy choice of providers and access to private health facilities and a range of ancillary health care services.

DRGs: Moving towards transparency, efficiency, quality

Today DRGs are used primarily by purchasers to reimburse providers for acute inpatient care, but in principle they can also be used to reimburse them for non-acute inpatient care. The most frequent reasons for introducing DRG-based payments are to increase efficiency and contain costs. Research on the impact of different DRG-based payment schemes in North American and Europe suggests DRGs generally help to increase hospital efficiency by reducing the average length of stay (see Figure 22); simultaneously, they also increase case volumes, which has incentivized hospital systems and insurers to gradually adopt DRG models over time. The US first implemented a nationwide DRG system in 1983 with the Medicare 'prospective payment system, followed by Australia and England in 1992 and Spain (Catalonia) in 1996.

Meanwhile, low-and middle-income countries are increasingly adopting or piloting DRG-based payment systems, mostly for the reimbursement of acute inpatient care (see Figure 23).

Figure 22: DRG Implementation Year and Inpatient Care Average Length of Stay (days), All Hospitals



Source: OECD Stat Calculator[21], Eurostat Statistics Database[22], WHO European Health for All Database[23], Asia Care Group analysis.

Figure 23: Transparency in Pricing: An Emerging Trend Globally

Source: WHO[24]

3.2 Transparency and quality: A tale of two cities

When it comes to transparency of quality outcomes, Hong Kong is a tale of two hospital systems. The public system is required to provide considerable quality data to its regulator – the Food and Health Bureau, and the private system is required to provide comparatively little quality data to its regulator – the Department of Health. The lack of a single regulator, and the coexistence of two different sets of reporting requirements, creates stark differences in the practices and approaches to quality in hospitals in Hong Kong.

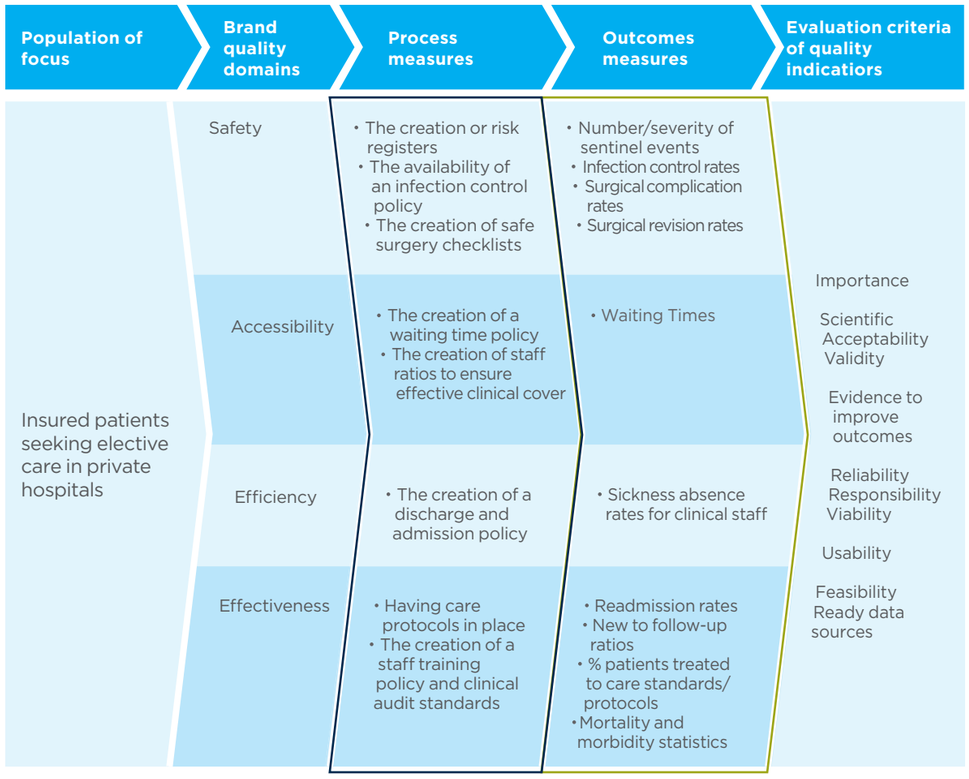
The approach taken by the Department of Health in relation to private hospitals is procedure driven (see Figure 24); the emphasis is on ensuring that private hospitals have policies and activities in place to support high-quality care, such as the existence of an infection control policy. In contrast, the approach taken by the Food and Health Bureau in relation to public hospitals is outcome driven; the emphasis is on ensuring the actual result of the care being delivered is quantitatively measured and improved.

The result of these differing approaches are vastly different levels of transparency on the actual quality of care, with the public system being more in line with international norms. The private system focuses on assuring policies are in place rather than looking at what effect the policies are having on quality outcomes. This is not likely to be the best situation, impeding real comparisons of quality and limiting private providers from understanding how their services are performing in relation to peers.

Whilst Hong Kong operates as a dual-track system, the quality standards for healthcare, in theory, should be universal. The development and implementation of quality standards and constant quality improvement efforts are central to system sustainability.

Following international examples, Hong Kong should move towards streamlined regulation of healthcare facilities, tasking oversight of all healthcare providers to the same regulatory bodies -- as seen in Singapore, Australia, the UK, and the US. This leads to a second critical point in the discussion of quality measurement: Hong Kong currently lacks a national quality framework. In the absence of an overarching framework, Hong Kong collects fewer financial, quality, and patient experience indicators than comparable developed markets (see Selected Indicators for Evaluating System Performance on page 36). The development of a quality framework would provide a mechanism for data collection and measurement with an aim to improve safety, strengthen clinical outcomes, develop clinical guidelines, reduce variations and inefficiencies, and improve public trust in healthcare providers.

Figure 24: Quality indicators in Hong Kong's private system tend to be process based



Selected Indicators for Evaluating System Performance

Indicator	US	UK	Australia	Singapore	Hong Kong
Financial Indicators					
Efficiency and Sustainability					
• Cost per DRG	✓		✓	✓	
• Average length of stay for selected DRGs	✓	✓	✓	✓	
• Number of MRI scans/CT scans/colonoscopies per 1,000 population					
• Use of generics versus branded where generics are available	✓				
• New to follow-up ratios					
Costing and Pricing					
• Access to historical billing data	✓		✓	✓	✓
• Access to projected costs for surgical procedures	✓	✓	✓		
• Access to projected costs for inpatient stay	✓	✓	✓		
• Access to projected costs for primary care and diagnostics					
Quality Indicators					
Safety					
• Adverse events treated in hospital	✓		✓		
• Unplanned readmission following selected surgical care	✓	✓	✓		
• Healthcare associated infections	✓	✓	✓		
• Falls resulting in patient harm in hospital	✓	✓	✓		
Reliability of care					
• Waiting times for elective surgery (waiting time in days)	✓	✓	✓		
• Surgical revision rates					
• Morbidity and mortality rates	✓	✓		✓	✓
• Standardised admissions rates per 1,000 population	✓		✓	✓	✓
Patient Experience Indicators					
Self-reported experience					
• Patients rating of their own care	✓	✓			
• Carer, friends or family rating of care					
Proxy measures					
• Patients rating of their own care	✓				

Sources: The Commonwealth Fund (US)[25], Hospital Compare (US)[26], NHS Outcomes Framework (UK)[27], NHPF Framework (Australia)[28], NHA Framework (Australia)[29], Quality and Safety Framework (Singapore)[30], Hospital Authority (Hong Kong)[31], Department of Health (Hong Kong)[32], Asia Care Group analysis

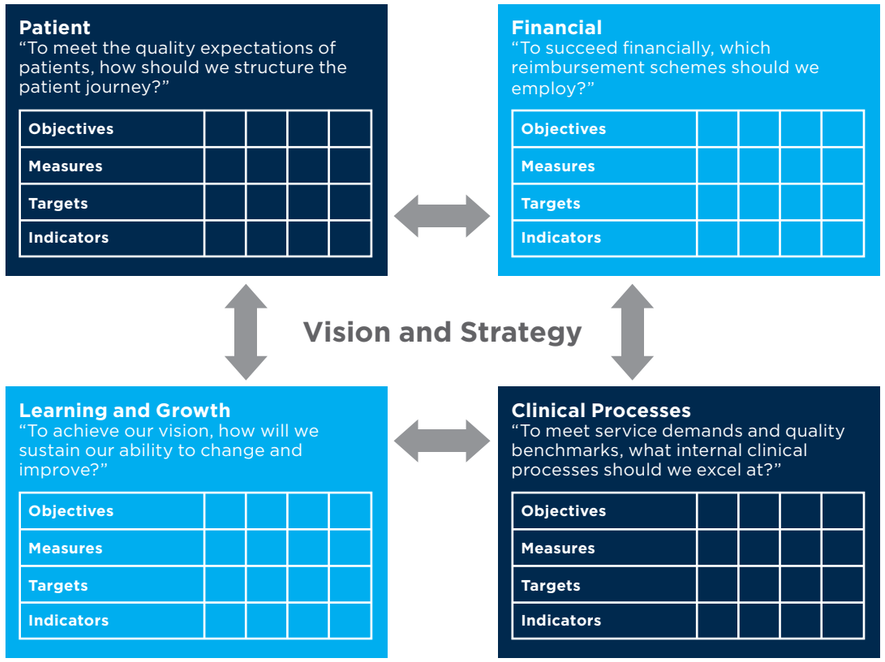
Developing a balanced scorecard approach

A balanced scorecard is a simple but effective tool to support organisations to focus on a meaningful number of critical performance indicators. There are typically four domains to a balanced scorecard; each highlighting performance in a different domain, such as clinical processes and financial performance (see Figure 25). The overarching aim is to gain a rounded perspective of the overall performance of an organisation, and reduce or eliminate the tendency to focus too narrowly on one aspect.

The use of a balanced scorecard approach may lead to significant improvements if introduced in Hong Kong. Current reforms focus heavily on financial transparency, but it will be imperative to ensure that this domain is balanced by transparency in other domains, notably quality and patient experience.

The use of balanced scorecards are well established in other markets. For example, the UK's NHS has adopted a balanced scorecard within all of its 300+ hospitals, allowing meaningful comparisons on performance to be made. In the case of the NHS, the indicators, and performance thresholds, are set nationally, with each hospital publicly reporting on these areas. Hospitals have, over time, evolved their internal processes in order to allow easy (and in many cases automated) reporting of the required data, which has in turn reduced the administrative burden associated with each hospital devising its own system and reporting on different indicators.

Figure 25: Sample Balanced Scorecard



The current NHS balanced scorecard is composed of three types of performance indicators: patient focus, clinical focus, and capability and capacity focus. The balanced scorecard is a powerful management tool for healthcare organisations operating in an environment facing unprecedented levels of change. In the face of changing demographics, growing consumer expectations, heightened competition, and increasing regulations, the balanced scorecard helps healthcare organizations confront fundamental change whilst creating value.

Since its inception, the balanced scorecard has been adapted and expanded. The earliest models combined financial and non-financial indicators with the four established perspectives: financial, customer (patient), internal (clinical) processes, and learning and growth, whilst allowing indicator measurement across a range of domains (see Figure 26). These early measurement instruments didn not include cause and effect logic.

Second generation balanced scorecards emphasised cause and effect relationships between strategic objectives, allowing it to grow as a potent management tool because it allowed for the linkage of strategic management with performance management.

The balanced scorecard in its most recent form has uses “activity” and “outcome” perspectives. It essentially expands the second generation model by adding action plans and links to initiatives.

The balanced scorecard in any of its forms can be adapted within healthcare organisations and offers five key benefits:

- It gives structure to the organisation’s strategy
- It makes it easy to communicate strategy
- It aligns an organisation’s departments and divisions
- It helps employees see how individual goals link to organisational strategy
- It keeps strategy at the forefront of the reporting process.

There is good reason to believe that similar gains could be made if a balanced scorecard system was introduced in Hong Kong. The evolution of regulatory frameworks would be greatly simplified, and providers and insurers would have a common set of data to assess and each hospital devising its own system and reporting on different indicators.

Figure 26: NHS Balanced Scorecard Indicators

Best outcomes						
Measure	**Outturn 14/15**	**Monthly target 15/16**	**Annual target 15/16**	**Aug 15 Actual**	**6-month trend**	**YTD 15/16**
In-hospital SHMI	58	<72	<72	67		66
RAMI	60	<70	<70	61		66
In-hospital deaths	1111	86	<1033	81		456
Proportion of mortality reviews	38%	>90%	>90%	61%		50%
Number of cardiac arrests not in critical care areas	72	-	-	3		23
MRSA (hospital only)	1	0	0	0		0
C.Diff (hospital only)	18	1.4	17	0		5
Falls (per 1000 beddays)	3.29	3.00	3.00	2.47		2.76
Pressure Ulcers (per 1000 beddays)	2.03	1.19	1.19	2.20		2.10
Readmissions within 30 days - emergency only	12.6%	12.2%	12.2%	13.3%		12.5%
Stroke patients (% admitted to stroke unit within 4 hours)	52.8%	90.0%	90%	65.1%		58.1%
Medication errors - rate per 1000 bed days	2.04	2.01	2.01	2.41		2.96

Source: Ashford and St Peter's NHS Foundation Trust, Balanced Scorecard Board Report, 2015[33]

3.3 The voice of Hong Kong's patients

The changing pattern of disease within Hong Kong, from episodic care to long-term chronic care, is creating a new, very knowledgeable and experienced voice – the voice of the patient. This group of "expert" patients are often more vocal in sharing their views and experiences of the healthcare system; the repercussions of which include a broader and wider call for the reporting of patient's experience.

Government consultations have consistently found that patients want greater information on all aspects of their healthcare in order to make effective choices, with 93% supporting calls for greater Government-backed legislation to ensure transparency in healthcare pricing (see Figure 27).

With the mounting wait times for public hospital services, consumers increasingly look to private hospital care but find their decision-making hampered by a lack of transparency across the market.

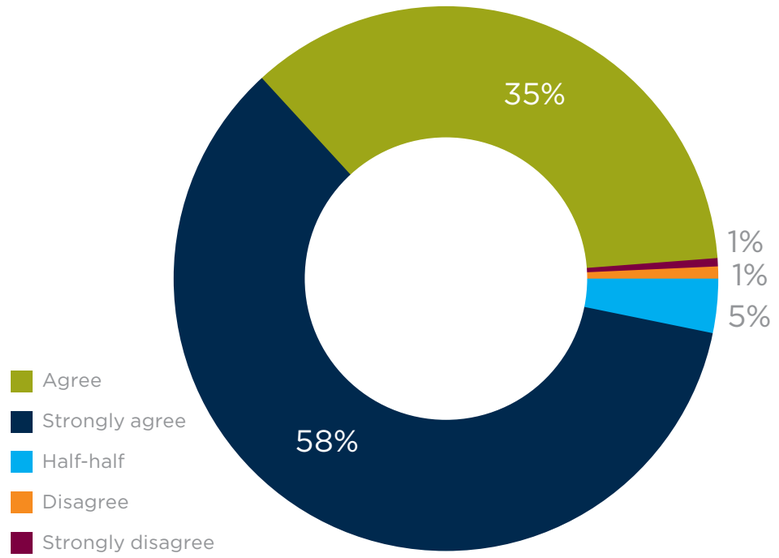
The growing relevance of patient experience is captured in a number emerging tools globally. These range in format from patient surveys to online rating platforms and databases, to mobile apps that collect health data and allow virtual consultations and referrals to ease wait times.

Patients and the public are not simply passively waiting for change. Instead, they are driving it. First-hand patient feedback offers insight into the demand, and need, for greater involvement of patients in shaping the healthcare services of tomorrow.

In 2016, a voluntary pilot scheme was launched in an effort to increase transparency of medical charges. Under the scheme, Hong Kong's private hospitals agreed to start providing bill estimates for 24 commonly-performed surgical procedures. To determine how the launch of this scheme actually impacts consumers in the marketplace, analysis of the publicly available data from the participating 12 hospitals was conducted. Much of the analysis revealed significant inconsistencies in the range of data hospitals chose to publish.

Analysis of the voluntary pilot scheme produces little evidence that the pricing data in its current form will be impactful or particularly informative for those seeking to make like for like comparisons before settling on a choice of provider. For the rollout of the actual regulatory bill, Government may need to look to establish standardized data requirements to minimize confusion over reporting measures.

Figure 27: Public Approval for Increased Regulation of PHFs

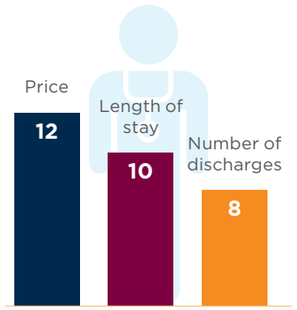


Source: Public Opinion Survey on Regulation of Private Healthcare Facilities, Food and Health Bureau (2016)[34].

The patient experience of navigating pricing data across private hospitals

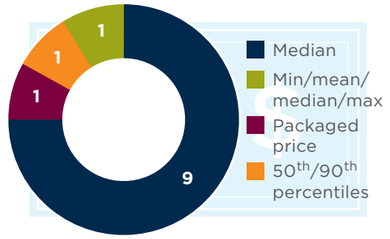
Analysis reveals consumers confront inconsistent information, unstandardized pricing terminology, unclear price breakdowns, and incomplete procedure lists

Number of hospitals reporting on key statistical figures



Hospitals selectively report on key parameters of surgical procedures including price (all), LOS (10/12), and volume (8/12).

Hospitals convey price with different terminology



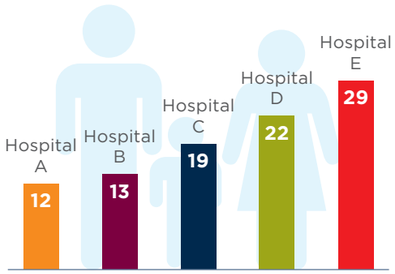
It is difficult to compare prices due to unstandardized pricing terminology and reporting.

Several categories of treatment charges

	Hospital A	Hospital B	Hospital C
Doctor's fee	N/A	✓	✓
Operating theatre	N/A	N/A	✓
Surgeon fee	N/A	N/A	✓
Anaesthetist fee	N/A	N/A	✓
Hospital fee	N/A	✓	✓
Total charge	✓	✓	✓

An unclear price breakdown for surgical procedures across hospitals makes it impossible to draw "like for like" comparisons.

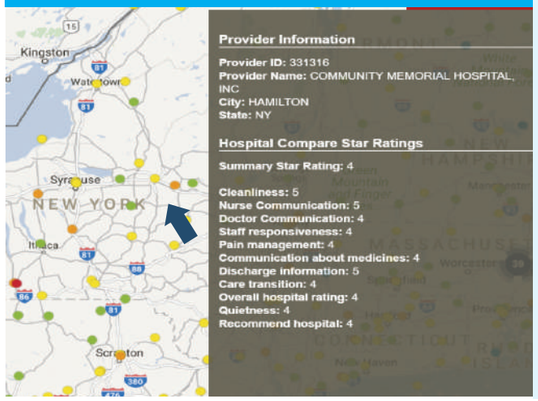
Number of published procedures across hospitals ranges from 12 to 29



There is a large variation in reported procedures across hospitals, ranging from 12 to 29.

Emerging Tools to Capture Patient Experience

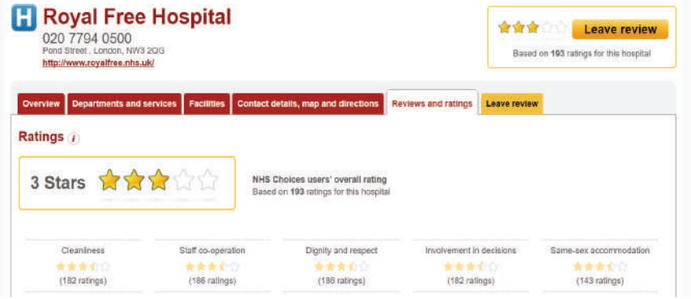
US: National patient experience survey framework



- Consumer Assessment of Healthcare Provider and Systems surveys (CAHPs), funded and overseen by Agency for Healthcare Research and Quality (AHRQ)
- CAHPs ask consumers and patients to evaluate their experiences of health care services, which are accessible to all citizens cross the US.
- Hospital Compare, a website with healthcare quality information of over 4000 Medicare-certified hospitals across US was created by Centres for Medicare & Medicaid Services (CMS), which allows consumers to easily assess quality of hospitals from different aspects. One of data sources of Hospital Compare comes from hospital CAHPs.
- The map displays star ratings from Hospital Compare database.

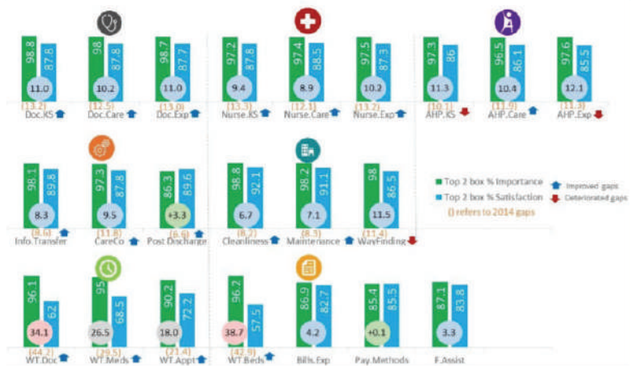
UK: National patient experience survey framework

- Since 2011, the NHS National Quality Board (NQB) agreed to guide the measurement of patient experience across the NHS.
- Patients are able to quickly and easily access the star ratings of all NHS primary and secondary care medical centres and hospitals.



Source: AHRQ,[35] Hospital Compare,[36] Leapfrog,[37] Babylon Health,[38] Hospital Advisor[39].

Singapore: National patient experience survey framework



- The patient satisfaction survey is conducted annually and overseen by Ministry of Health to assess the level of patients' satisfaction with public health providers and selected private providers.
- The survey aims to assess patients' perceptions in relation to seven touchpoints: health professionals, care coordination, facilities, waiting times and billings issues.
- The survey results are published on MOH website for consumers to review.

Source: Singapore Ministry of Health,[40] CMS,[41] The Huffington Post[42] Advisor.[41]

3.4 Can opposing views on transparency be addressed?

In spite of growing public sentiment favouring increased transparency measures, some stakeholders across the board are not in favour of heightened regulations. The medical community in particular has been vocal about their concerns, should transparency measures be adopted. Analysis of public opinion response data issued by the Food and Health Bureau reveals that concerns fall into four main categories: fear of flat-rate pricing, fear that transparency will drive up costs, concerns over litigation, and general unease discussing costs with patients (see Figure 28).

These concerns are not unique to Hong Kong, but findings from international markets may address many of these issues.

Across markets, physicians are receiving hospital trainings on prospective payments systems. Many companies even specialise in training physicians to adapt to hospital reimbursement, with a focus on the presentation of how physician documentation and inpatient coding affect the individual physician and their patients; particular emphasis is placed on how coding is affecting economic credentialing and outcome analyses of individual physicians, as well as reimbursement.[43]

To the concern over litigation, there is currently a great deal of confusion and misinformation surrounding medical indemnity in Hong Kong. Physicians fear transparency measures, because private medical practitioners are potentially liable for extremely high lawsuits in the event of a claim. Interestingly, greater data transparency surrounding malpractice trends could actually be harnessed to create a wider range of malpractice coverage and pool risk – two measures that would make the proposition of underwriting medical risk much more attractive to insurers, and ultimately benefit physicians.

Addressing cost in the healthcare ecosystem is an aspect of being a physician – however, cost should be addressed in a broader dialogue about the benefits of data collection. Linkage of documentation to value based purchasing, readmission rates, and other outcomes will improve the overall health system, and should be presented positively to physicians confronting the economics of pricing procedures.

The discussion of cost should begin early and include a broad approach to cost stewardship in medical education. A significant factor in delivering high quality care is considering the costs for everyone affected by healthcare decisions, especially patients themselves.

Figure 28: Concerns from Medical Community

1. Fear of flat-rate pricing

Price transparency is essential to the public, however, urgent or un-predicted medical conditions and complications may arise, leading to a disparity with the original estimated fees.

2. Legal woes

Clinicians urge the government to exercise extreme caution in linking violation of price transparency to sanction in order to avoid the public to abuse using this reason to sue the medical practitioners.

4. Fear that transparency will drive up costs

By demanding higher prices, low-cost providers could drive up premiums, making insurance coverage and out-of-pocket expenses less affordable.

3. General unease discussing costs with patients

Medical education fails to cover topics relating to the business-side of health care, and many physicians are out of their comfort zone discussing price points with patients.

Source: Public Opinion Survey on Regulation of Private Healthcare Facilities, Food and Health Bureau (2016); Asia Care Group analysis.

3.5 Creating a consumer-friendly patient pathway

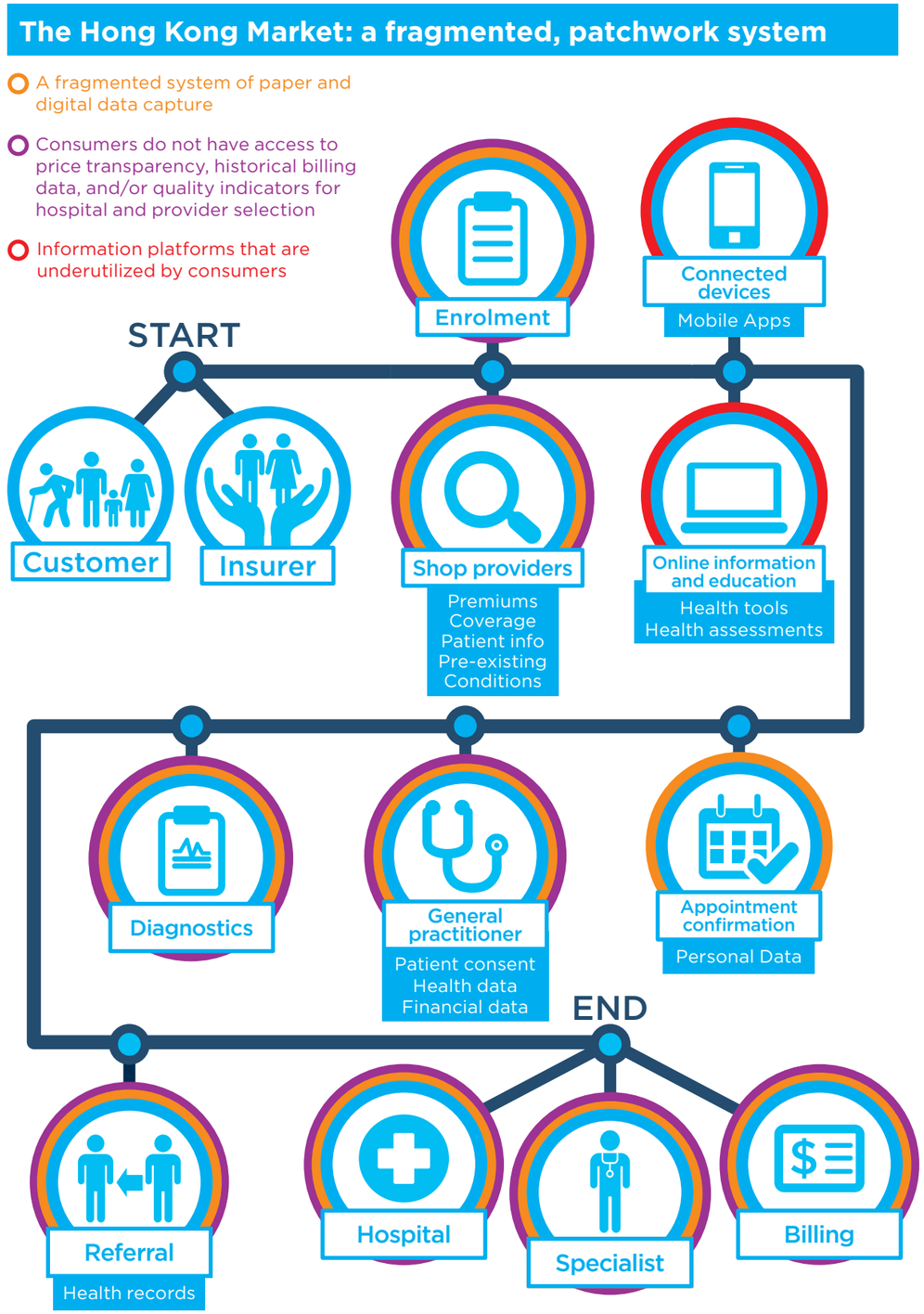
In an ideal setting, the patient pathway for the insured individual reflects transparency around the areas of pricing, quality, and patient experience. Patients are provided essential information, allowing them to answer key questions before embarking on healthcare decision-making. These questions cover the full spectrum of the care continuum, from enrolment to billing. Patients assume an active role in selection of their insurance provider, comparing prices and coverage areas. They are provided relevant information regarding point of access for services and have consumer-friendly technologies at their disposal.

Mobile applications and web platforms, online education tools and billing, are offered alongside traditional communication channels. These patients have all the tools necessary to seek high quality services at affordable costs, and make informed decisions.

The role of patients as actively engaged consumers is an emerging trend in markets where transparency measures have been implemented. By comparison, the Hong Kong private market still lags behind, both in adoption of technologies like EHR and in user friendliness. Consumers in Hong Kong are confronted with a patchwork, fragmented system wrought with price opacity, paper health records in many clinic settings, and little access to quality indicators between providers (see Figure 29).

One step forward to address the fragmentation of the current system hinges upon a critical investment in infrastructure. The territory-wide Electronic Health Record Sharing System (eHRSS) is an ideal platform to improve the patient pathway in Hong Kong, though success hinges upon participation of private providers. Whilst hospitals have expressed support, the financial costs and voluntary nature of participation has proven a hard sell for smaller clinics and practitioners. The benefits of a streamlined EHR system would be many-fold: less duplication of services, increased efficiency rates, greater continuity of care, ease of patient flow between the public and private systems, and an ideal platform for data-sharing, benchmarking, and collecting much-needed quality indicators. Therefore, moving forward Government could strive to engage private providers across the healthcare landscape.

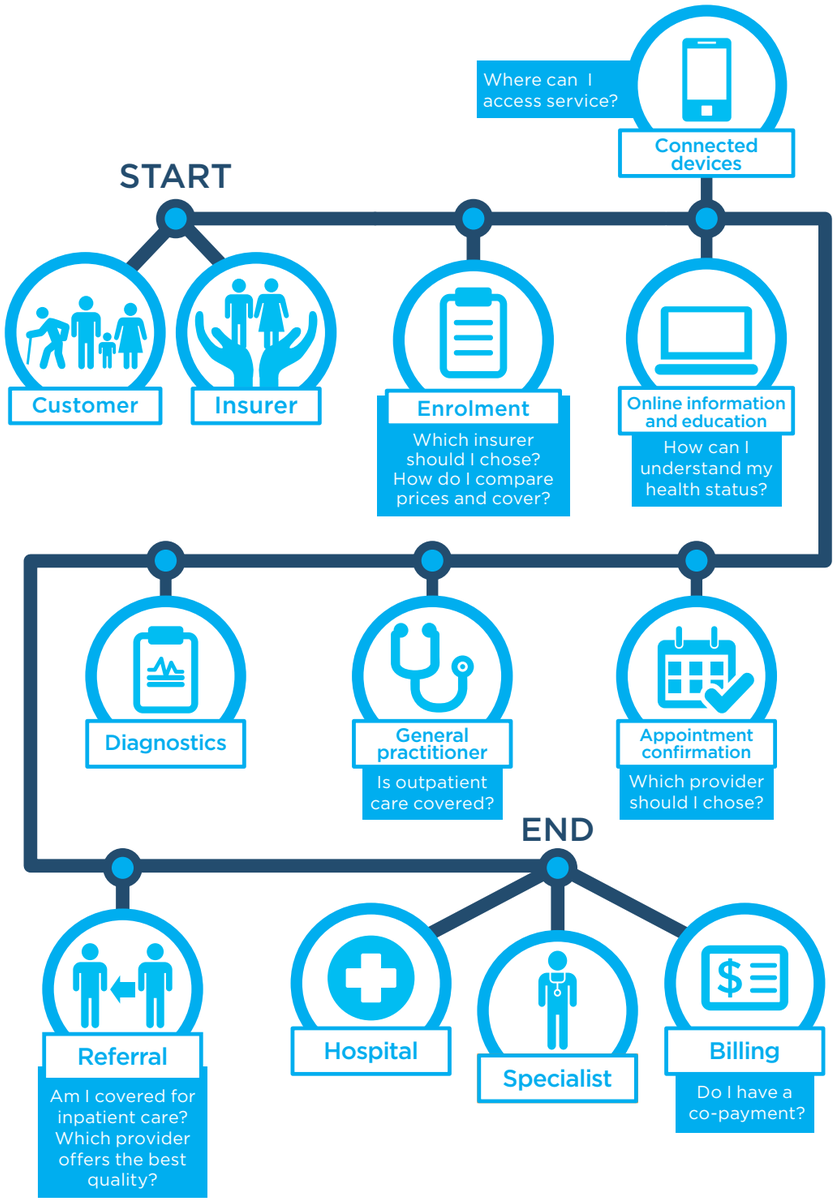
Figure 29: The Hong Kong Market: A Fragmented, Patchwork System



Private insured patient pathway
An ideal model

Patients need transparency to answer key questions in healthcare decision-making

Patient Journey Flow of data



4. Taking transparency forward in Hong Kong: Recommendations and conclusion

4. Taking transparency forward in Hong Kong: Recommendations and conclusion

It is relevant to consider the relationship between data and healthcare growth. Better use of data allows the identification of high costs, opaque information, over-supply, and variation in care.

Use of operational data can lead to better internal staffing systems, optimized equipment utilization, and increased patient volume capacity. Claims data can be used to develop performance-based payment systems and organise DRG case mix classifications and cost weights.

Meanwhile, population-level data reveals lifestyle and disease trends that can be used in the development of a comprehensive model of managed care that integrates prevention strategy in primary are settings. Integrated care models ultimately reduce unnecessary and cost-heavy A&E attendances. At individual patient-level, data is used to improve coordination of care, reduce duplication of services, enhance patient satisfaction, and ensure higher quality of care and better health outcomes.

Stakeholders across the board benefit from data analytics (see Figure 30). Meaningful data has the potential to impact outcomes across the care continuum by reducing costs, increasing transparency, increasing capacity for volume, and elevating quality. This creates an environment that favours efficient use of the health system, heightened trust between consumers and insurers, and growth across the healthcare marketplace.

Figure 30: The Multi-sectorial Use of Data

1. Purchasers

- To enable effective decisions on where, when and from whom to purchase care
- To assess the quality, accessibility and cost-effectiveness of care
- To assess opportunities for early intervention and prevention of ill-health.

2. Providers

- To understand clinical, operational and financial performance
- To manage and mitigate risks, and undertake clinical audit
- To assess how and where care should be changed to achieve better outcomes

3. Patients

- To understand different services and treatment options and their prices/quality
- To understand the safety and reliability of different providers of care
- To know what to expect from treatment; outcomes, risks, onward care management

4. Regulators

- To ensure the safety, reliability and effectiveness of care
- To ensure fair and healthy competition
- To ensure the proper functioning of the market
- To protect all parties from potential abuses, and support an effective balance of power

The relationship between data, affordability, and sustainability of the healthcare system

• High costs • Over-supply	• Opaque information • Induced-demand	• Variability	
Operational	**Claims**	**Population**	**Patient**
Limited collection and underuse of data on patient flow, staff flow, and asset tracking and management	Inconsistent pricing and fee-for-service reimbursement	An episodic, curative model of health services in the absence of population data	Fragmentation and poor coordination of patient data between providers, resulting in unnecessary duplication of services

Lack of data

VS

Data Transparency

• Reduced costs • Increased transparency	• Increased capacity for volume • Better quality		
Operational	**Claims**	**Population**	**Patient**
Better internal staffing systems, optimized equipment utilization, and increased patient volume capacity	DRG systems and performance-based reimbursement	A comprehensive model of care that integrates prevention into primary care	Coordination of care, reduced duplication of services, enhanced patient satisfaction, higher quality of care and better health outcomes

Can VHIS improve transparency through standardizing cover?

The Voluntary Health Insurance Scheme (VHIS) was designed to facilitate greater use of private health services to relieve pressure on an already over-burdened public health system. It aims to improve accessibility, continuity, quality and transparency through individual Hospital Insurance. Since the early planning phase, VHIS has elicited strong public opinions.

The creation of VHIS highlights an effort by Government to address rising concerns across the entire healthcare landscape, coupled with the system-wide reality of threats to sustainability. While the design satisfies an immediate need for volume shift, the scheme itself could serve as the framework for further innovations in capacity planning, and collaboration between sectors.

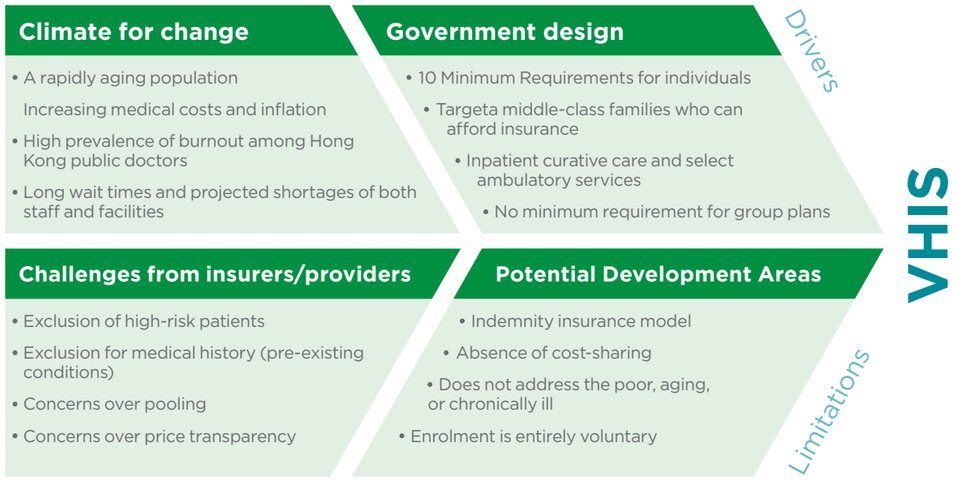
There are several areas that would be beneficial for Government to explore next stage (see Figure 31):

- A focus on episodic "sick care" offers little in the way of health promotion to advance individual-level and population-level health. The design of VHIS addresses inpatient curative care but could be expanded to address the pressing issues of chronic disease management, longterm care, or community-based services. Similar innovations in other markets have proven cost effective.

- The shift from indemnity models to managed care is increasingly being employed by governments looking to get ahead of the curve and invest wisely to ensure health system sustainability over time. While cost-containment is a major benefit, continuity of care is equally as important.

- Managed care is an optimal environment to promote integrated primary care, prevention, and continuity of care with a GP and within a provider network. This, along with a shift to outpatient settings, and cost-sharing mechanisms, have all proven to drive down health care spending in other markets facing the same economic pressures and epidemiologic shifts affecting Hong Kong.

Figure 31: Mapping the Potential of VHIS



Can regulation of PHFs improve transparency and accountability?

In 2014, the Food and Health Bureau launched a consultation to gain public feedback on revamping the existing regulatory framework for healthcare organizations operating in the private market. Several categories of Private Healthcare Facilities (PHFs) were identified for the new regulatory measures, including hospitals, day procedure centres, clinics under the management of incorporated bodies, and health services establishments. 19 regulatory measures under five broad categories of control were proposed: corporate governance, facilities standards, clinical quality, price transparency, and sanctions. 93% of the public who were polled were in favour of increased regulatory oversight of PHFs with response data indicated strong public support for enhancing price transparency of PHFs.

As previously discussed, Government together with the Private Hospitals Association rolled out a pilot programme for enhancing price transparency for private hospitals in October 2016. The findings were underwhelming, as unstandardized presentation of data across parameters hindered patient ability to accurately estimate procedure price or make "like for like" comparisons between providers.

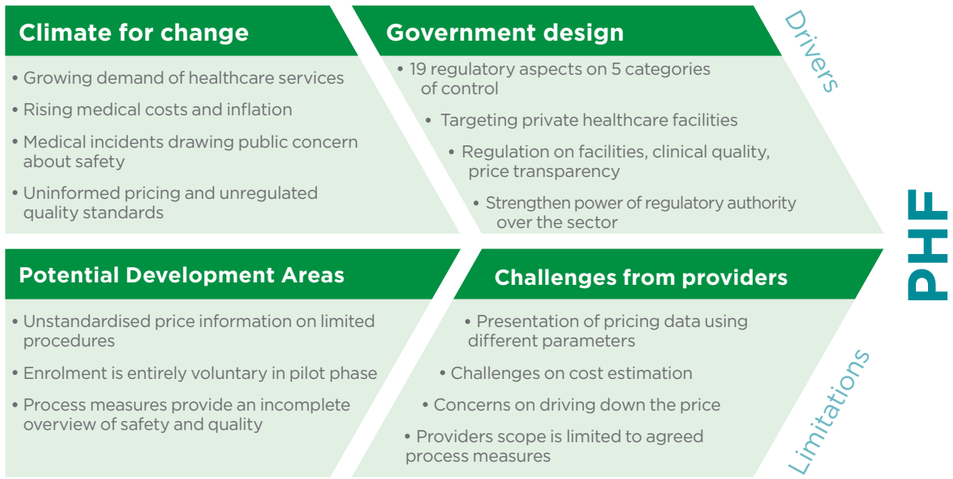
Encouragingly, following the Public Consultation, Government proposed in the PHF Bill that the licensee of a PHF must publicly report prices of chargeable items and services. For hospitals, this would also include setting up a budget estimate system and publishing historical billing data.

The Bill focuses on accountability by stipulating regulatory measures that tackle breaches of law, codes of conduct, and licensing requirements. Sanctions and penalties are included in the proposal, to deter noncompliance. Before the Bill reaches fruition and goes into effect, there are several key areas for potential development that Government should consider (see Figure 32):

- Requiring standardised reporting of data across providers will offer better grounds for public transparency, informed decision-making, and benchmarking.

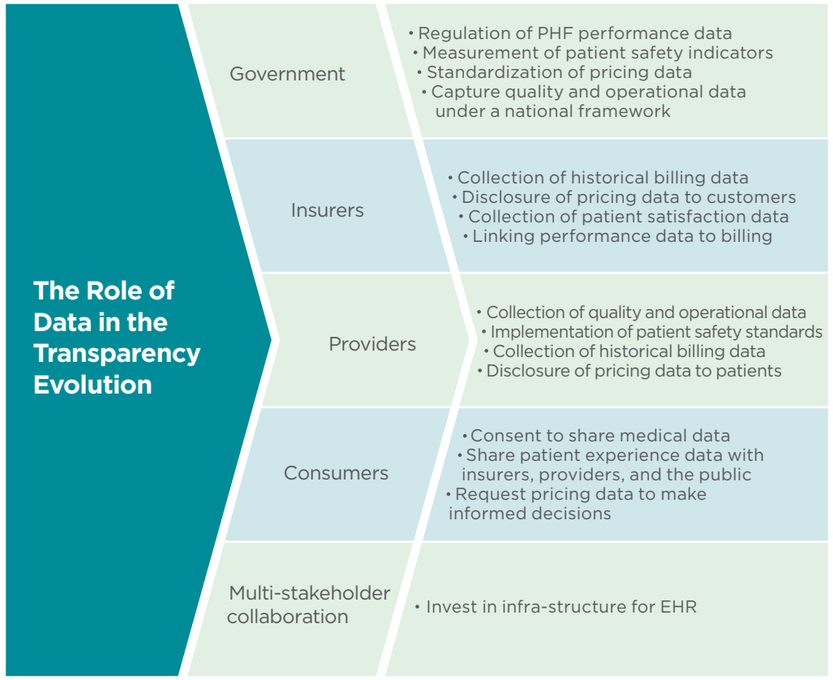
- The scope of the Bill should not be limited to process measures, but expanded to include outcome measures, which together provide a more holistic view of safety and quality.

Figure 32: Mapping the Potential of PHF Regulations



4.1 Driving the evolution forward

Figure 33: The Role of Data in the Transparency Evolution



For purchasers and providers alike, sustainability in the healthcare industry will hinge upon the ability to deliver higher quality at lower cost. Transparency has already proven myriad benefits in other markets, including efficiency gains, reduced variation, improved quality outcomes, and a better patient experience.

Within the domains of finance, quality and patient experience, current data in the Hong Kong private sector highlights significant laissez-faire regulations that will not withstand the mounting pressure of epidemiologic shifts, chronic disease, and soaring medical inflation. Private healthcare organizations will increasingly absorb volume and overflow from the public sector.

Stakeholders across the healthcare ecosystem each have a role to play in the capture of meaningful data (see Figure 33). Action can begin in the present, irrespective of system-wide reforms or macro-level strategic planning. In the path towards sustainability, four key actors have emerged.

I. Government Action Areas

1. Create a methodology to capture outcome measures

Government should strive to capture outcome measurements. The minimal framework that currently governs private healthcare providers has been under discussion. These regulatory provisions should not only focus on process-driven measures, but also include high-level clinical and financial outcomes that result in system improvement. These metrics include adverse events, readmissions rates, morbidity and mortality rates, and new to follow-up ratios. Collection of outcome measures provides a methodological framework to assess meaningful evaluation criteria of quality indicators within and between providers.

2. Standardize publicly available data

Government can empower patients in their decision-making process by standardizing publicly available data, for instance the pricing terminology and reporting of private hospitals.

3. Engage private providers in electronic health record sharing

Government can actively engage private providers to facilitate adoption of the territory-wide eHRSS. EHR adoption could serve as an enabling force to redress the current system imbalance, by facilitating patient flow between providers and sectors. It may prove a critical enabling force for consumer uptake of public-private partnership programmes.

4. Develop a national quality framework

There is an increasing urgency to develop a national quality framework. Hong Kong, like other developed nations, should move towards adoption of an overarching quality framework that focuses on process and outcome measures across several domains (quality and finance, and where possible, patient experience).

5. Task the regulation of public and private healthcare facilities to the same regulatory bodies

The formulation of a national framework raises questions about the current structure of agency oversight for the Hospital Authority and private healthcare facilities. In comparable international markets, public and private facilities are regulated by the same governing bodies, and Hong Kong should move towards a similar model.

II. Provider Action Areas

1. Provide key financial, quality and patient experience data

Both hospitals and clinicians play a key role in supporting patients to exercise and make effective decisions on their care. Providers across the board can begin communicating more standardised, clearer pricing data to patients to combat price opacity, alongside providing up-to-date information on the quality of care and patient experience they provide. The indicators used should be agreed at a national level, and providers should convey these in an objective and fair way.

2. Engage patients in decisions about their care by providing information and options in a language they can understand

Clinicians can be more mindful of the language used to interact with patients, and communicate in a language the patient can understand. Clinicians should also clearly explain the differences between preventative, diagnostic and treatment tests and procedures, and clearly explain the clinical evidence, risks and likely outcomes for each course of action.

3. Invest in electronic health records and work towards record sharing

Almost all attempts to improve quality and performance rely upon timely data. Given the rapid rise in comorbidities, and a tendency for patients to seek care from multiple providers, it would also be beneficial for providers at all levels, to work towards a territory wide e-health record.

4. Collect data linked to process and outcome measures

Collection of data linked to process and outcome measures translates to policies that are patient-centred, evidence-based, and organized for safety. Operational data, including patient flow and equipment utilisation, allows healthcare organizations to assess internal capacity and volume (thereby increasing profitability), maximize utilisation, increase efficiency, and better serve patients across the care continuum.

5. Establish mechanisms to adopt best safety practices

Providers can drive transparency by utilising and reporting against internationally established safety protocols. These include adoption of supportive tools, such as the WHO's safer surgery checklists, as well as routinely publishing the outcomes of clinical audits that have been objectively validated.

6. Share measures used to monitor quality and safety via organisational report cards, dashboards, or other management tools

Providers can begin to share management tools with regulators and payors that document which quality and safety indicators are monitored within their organisation.

III. Insurer Action Areas

1. Link data to funding in order to transition to performance based purchasing

Insurers have it within their power to drive transparency by shifting the focus from fee-for-service to value-based payment mechanisms. In other markets, including Australia, this was accomplished by linking historical billing data and performance data to funding. This requires a shift in mindset from episodic, volume-based, service provision, to quality-driven, patient-centred care with a focus on integration of primary care and prevention.

2. Lead the design of managed care in the Hong Kong market

Insurers can shape managed care in the market through product design and construction of the provider network. Introduction of managed care models would likely decrease unnecessary A&E attendances and other consumer behaviours that drive up costs when adequate prevention is not in place.

3. Emphasize the benefits of transparency, including efficiency, data-sharing, and benchmarking in communications with other stakeholders

To engage the other players in the market, insurers should be strategic in their communications to ensure their campaign is not merely one of "cost-containment", but rather emphasizes the other documented benefits of transparency.

4. Formulate common terminology in product redesign across the market

Insurance products should be redesigned with common language to avoid consumer confusion; additionally, common language in insurance coverage areas may reduce the high price variation observed on the market for similar product categories.

5. Disclose clearer pricing data to consumers

To drive transparency forward, insurers can disclose clearer pricing data to consumers, who will have a greater understanding of costs incurred for their coverage areas and healthcare utilisation.

IV. Consumer Action Areas

1. Seek information to drive decision-making

The individual has entered an era of active engagement in healthcare decision-making. Consumers are now responsible for navigating the patient pathway with the information available to them. Questions including, “Where can I find the best value for my money?” and “How do I compare prices and coverage areas?” are more relevant than ever.

2. Positively engage in the health system

Whilst individuals should aspire to engage in the health system responsibly, the current system is skewed towards costly investigative procedures in inpatient settings with limited incentives for use of primary care, resulting in vast underutilisation of it. System rebalance between sectors will not happen without the intervention of other stakeholders. In the meantime, consumers are ever-mindful of the trade-off between cost and value for their purchases, and should continue to push for greater transparency.

3. Report feedback of patient experience to enrich the value chain

Consumers should continue to share their feedback with other stakeholders. The patient perspective is invaluable in designing products and services, and shaping the patient pathway. Measures of patient experience offer a unique window into an emerging quality domain – one that will be game-changing, as an ever-growing, patient-centred model of care transforms the healthcare industry.

4.2 Addressing the crisis of tomorrow: a movement towards health system sustainability today

Health systems are dynamic in nature, reflecting many moving parts and changing variables but it is clear that the health systems of tomorrow will be integrated, data-driven, and patient-centred.

Transparency underpinned by meaningful data offers a path to innovation. Whether we consider the Australian experience of DRG implementation, the Singaporean quality framework for both public and private facilities, the UK's NHS guidelines for quality measurement and a balanced scorecard approach, or the US Medicare system’s advances in patient experience and price transparency, examples from international best practices abound.

Transparency innovations across the domains of finance, quality, and patient experience would increase public trust in private providers and answer the expanding expectations of the modern healthcare consumer.

A more transparent marketplace would foster health insurance growth and drive down costs. Finally, transparency could serve as a mechanism to raise the level of overall quality outcomes to that of other developed economies.

A collaborative environment will be imperative moving forward, in both the formulation and implementation of quality standards. Regulation does not have to be adversarial in nature: once-fractious dynamics between public and private players in other markets have given way to fundamental working relationships, mutually-beneficial partnerships, and innovation.

Reform measures should create aspirational performance goals. Both system-wide and individual-level reforms can drive change. In the immediate future, Government, insurers, providers, and consumers can explore individual action areas whilst simultaneously working towards multi-sectoral collaboration. The transparency evolution is a continuous quality improvement process (see Figure 34), one in which countries look both internally to strengthen country-specific processes, and externally to compare quality performance across regions. This continuous quality improvement yields a stronger, more sustainable, healthcare ecosystem.

Figure 34: The transparency evolution is a continuous quality improvement process

End Notes

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5. Appendix

5. Appendix

Patients' survey questions adopted in Harvard study

Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey conducted by hospitals across the US

I. Your care from nurses

1. During this hospital stay, how often did nurses treat you with courtesy and respect?
2. During this hospital stay, how often did nurses listen carefully to you?
3. During this hospital stay, how often did nurses explain things in a way you could understand?
4. During this hospital stay, after you pressed the call button, how often did you get help as soon as you wanted it?

II. Your care from doctors

1. During this hospital stay, how often did doctors treat you with courtesy and respect?
2. During this hospital stay, how often did doctors listen carefully to you?
3. During this hospital stay, how often did doctors explain things in a way you could understand?

III. The hospital environment

1. During this hospital stay, how often were your room and bathroom kept clean?
2. During this hospital stay, how often was the area around your room quiet at night?

IV. Your experiences in this hospital

1. During this hospital stay, did you need help from nurses or other hospital staff in getting to the bathroom or in using a bedpan?
2. How often did you get help in getting to the bathroom or in using a bedpan as soon as you wanted?
3. During this hospital stay, did you need medicine for pain?
4. During this hospital stay, how often was your pain well controlled?

V. When you left the hospital

1. After you left the hospital, did you go directly to your own home, to someone else's home, or to another health facility?
2. During this hospital stay, did doctors, nurses or other hospital staff talk with you about whether you would have the help you needed when you left the hospital?
3. During this hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital

VI. Overall rating of hospital

1. Using any number from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital during your stay?
2. Would you recommend this hospital to your friends and family?

VII. Understanding your care when you left the hospital

1. During this hospital stay, staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be when I left.
2. When I left the hospital, I had a good understanding of the things I was responsible for in managing my health.
3. When I left the hospital, I clearly understood the purpose for taking each of my medications.

VIII. About you

1. During this hospital stay, were you admitted to this hospital through the Emergency Room?
2. In general, how would you rate your overall health?
3. In general, how would you rate your overall mental or emotional health?
4. What is the highest grade or level of school that you have completed?
5. What language do you mainly speak at home?

Project methodology

Proportional private health spending contributions by payor were calculated using data from the period following the Asian Financial Crisis, after a period of market stabilisation. Please see below for further explanation.

- The calculation for **total private health expenditure** is derived by the actual amount of household out-of-pocket expenditure and its proportion.

$$\textbf{Total health private expenditure} = \frac{\textit{Amount of private household out-of-pocket expenditure}}{\textit{Out-of-pocket proportion in private sector}}$$

- The calculation for the projected private health expenditure growth rate is derived from the data set for a period of 24 years (1989/90 - 2013/14

$$11901.8 \text{ X } (1 + \textit{Growth rate})^{24} = 63248.9$$

$$\text{Growth rate} = 7.2\%$$

- The proportion from **private household out-of-pocket** contributions decreases over time from 1989/90, then fluctuates at 70% (at an almost static rate) from 1997/98 - 2013/14; only data from 1997/98 onwards is used to calculate projections.
- The proportion from **employer** contributions shows a sharply increasing trend from 1989/90 onwards, then begins decreasing from the period 1999/00 to 2013/14; only data from 1999/00 onwards is used to calculate projections..

$$19.1 \text{ X } (1 + \textit{Growth rate})^{14} = 13.6$$

$$\text{Growth rate} = -2.4\%$$

- The proportion from **insurance** contributions increases over time from 1989/90, with incremental growth following market stabilization after the crisis; only data from 2002/03 - 2013/14 is used to calculate projections.

$$10.3 \text{ X } (1 + \textit{Growth rate})^{11} = 14.3$$

$$\text{Growth rate} = 3.03\%$$

- Proportion from **non-profit organization** contributions fluctuates around 1.1%
- **Others:** 100% subtracting the sum of proportions from household out-of-pocket, employer, and non-profit organization.

Complaints Received by the Medical Council

	2011	2012	2013	2014	2015
Number of complaints received	**461**	**480**	**452**	**624**	**493**
(A) Allegations by category					
1. Conviction in Court (a) Failure to keep proper record of dangerous drugs (b) Others	61 (-) (61)	63 (2) (61)	40 (5) (35)	58 (4) (54)	31 (3) (28)
2. Disregard of professional responsibility to patients	294	318	311	285	289*
3. Issuing misleading/false medical certificates	29	20	41	28	24
4. Practice promotion	19	8	12	6	10
5. Misleading, unapproved description & announcement	12	8	8	12	9
6. Improper/indecent behaviour to patients	2	10	7	6	5
7. Abuse of professional position to further improper association with patients	2	-	2	2	2
8. Fitness to practice	2	2	-	2	-
9. Abuse of professional confidence	1	1	-	-	-
10. Depreciation of other medical practitioners	1	1	3	1	1
11. Improper delegation of medical duties to unregistered persons	-	1	-	-	-
12. Sharing fee and improper financial transaction	-	5	-	-	-
13. Other minor issues unrelated to professional responsibility	38	43	28	224	122
(B) Progress of complaints as at 31 December 2015					
1. Dismissed by the Chairman and the Deputy Chairman of the Preliminary Investigation Committee (PIC) in consultation with Lay Member as being frivolous or groundless	211	295	313	392	149
2. Could not be pursued further because the complainants failed to provide further information or statutory declaration or the complaints were anonymous or withdrawn, etc.	10	17	9	12	7
3. Under consideration by the Chairman and the Deputy Chairman of the PIC in consultation with Lay Member	89	25	56	132	312
4. Held in abeyance	1	1	3	-	-
5. Being considered at the PIC meetings	15	28	13	59	21
6. Dismissed by the PIC	40	25	15	1	1
7. Referred to the Medical Council for no inquiry	46	47	21	14	1
8. Referred to the Medical Council for disciplinary inquiry	46	39	19	10	2
9. Referred to the Medical Council for restoration inquiry	2	1	2	2	-
10. Referred to the Health Committee for hearing	1	2	1	2	-

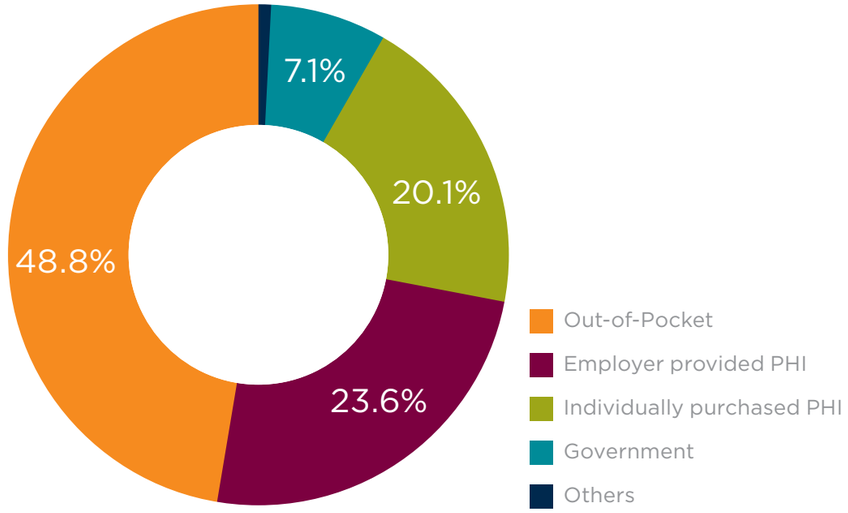
Remarks:

* The breakdown of cases on "Disregard of professional responsibility to patients" in 2015 is as follows:

(a) Conducting unnecessary or inappropriate treatment/surgery - 79 cases
(b) Failure/unsatisfactory result of treatment/surgery, failure to properly/timely diagnose illness and disagreement with doctor's medical opinion - 78 cases
(c) Inappropriate prescription of drugs - 51 cases
(d) Failure to give proper medical advice/explaination - 29 cases
(e) Doctor's unprofessional attitude/doctor-patient communication - 3 cases
(f) Fees and others - 49 Cases

A Breakdown of Financing Within The Private Sector

Healthcare Financing Source (Private, Inpatient)



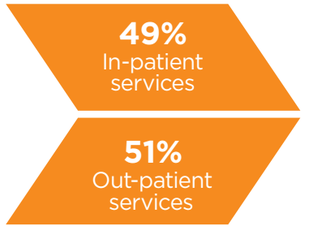
Source: Domestic Health Account 2013-2014, ACG analysis

Population Coverage for Private Health Insurance

Source: Thematic Household Survey 2015, ACG Analysis

What do consumer spending patterns tell us?

Summary of Total Billed Amount and Average Cost (2015)					
Description	Total billed amount Amount (HKD000's)	%	Number of cases Number	%	Average cost Per claim (HKD)
2015 (Group policies)					
In-Patient	3,542,860	49%	192,716	2%	18,384
Out-Patient	3,747,925	51%	9,268,445	98%	404
Total	7,290,784	100%	9,461,051	100%	771
2015 (Individual policis)					
In-Patient	5,245,233	98%	175,571	65%	29,875
Out-Patient	83,596	2%	94,861	35%	881
Total	5,328,829	100%	270,432	100%	19,705



Total cost group policies

Total cost individual policies

Trends:

- Group policies: 49% of the total cost was attributed to in-patient services and the remaining 51% to out-patient services in 2015; in-patient treatments accounted for only 2% of cases.
- Individual policies: 98% of the total medical cost was for in-patient services and the remaining 2% for out-patient services in 2015; in-patient treatments accounted for about 65% of the number of cases for individual policies.
- Consistent with market practice, individual members usually purchase only in-patient cover.

About Bupa

Bupa's purpose is helping people live longer, healthier, happier lives. Our status, as a company limited by guarantee with no shareholders, enables us to make our customers our focus, reinvesting our profits to provide more and better healthcare for current and future customers.

We employ over 86,000 people, principally in the UK, Australia, Spain, Poland, Hong Kong, Chile, Brazil, Saudi Arabia, India, New Zealand and the US.

Around 70% of our revenue is from health insurance, with the rest from health and care provision. We fund healthcare around the world and run clinics, dental centres, hospitals, care homes and retirement villages in a number of countries.

Bupa has been a health insurance specialist in Hong Kong since 1976. Bupa operates both health insurance and clinics in Hong Kong. Our specialist health insurance businesses are known as Bupa Hong Kong and Bupa Global. While our healthcare provision arm is operated by Quality HealthCare Medical Services, one of Hong Kong's largest private clinic networks.

Our expertise in healthcare has gained the trust of more than 400,000 individuals, and 3,200 companies in Hong Kong including major corporations in public utility and telecom industry. We have been providing quality health insurance for Hong Kong's civil servants for more than 20 years.

About Asia Care Group

Asia Care Group ('ACG') is a specialist healthcare advisory firm that focuses on strategy, change and economic consulting. ACG's mission is to support healthcare organisations with their most pressing challenges in order to create more efficient and effective healthcare systems for the populations of Asia's diverse regions. Founded in Hong Kong, ACG now works across all Asian markets, with some of the largest healthcare organisations in the world. ACG are recognised as thought-leaders, innovators and occasionally mavericks – always leading change in the healthcare communities they serve.

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