



Harnessing the Power of PPPs in Asia:
New financing solutions to support elderly care development

October 2018



There is a strong demand for elderly care services, but risks for private financiers and operators looking to enter this market

- Ageing
- NCD's
- Lack of care facilities
- Changes to family structures

Demand-side drivers

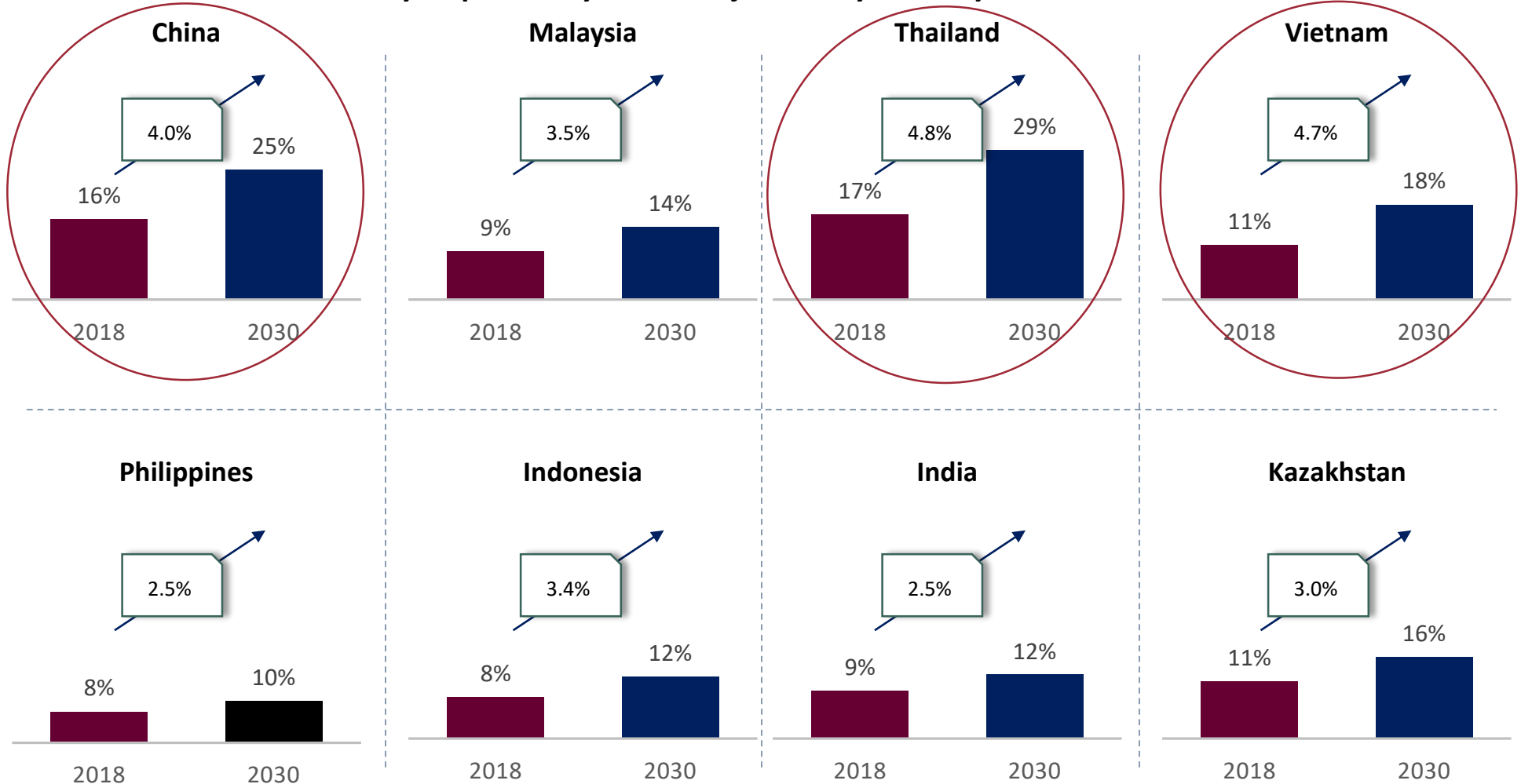
Supply-side risks

- Shrinking GDP
- Affordability
- Workforce availability
- Economic stability
- Clinical risks/regulatory



Government's across Asia are facing unprecedented challenges in meeting the needs of a rapidly ageing population

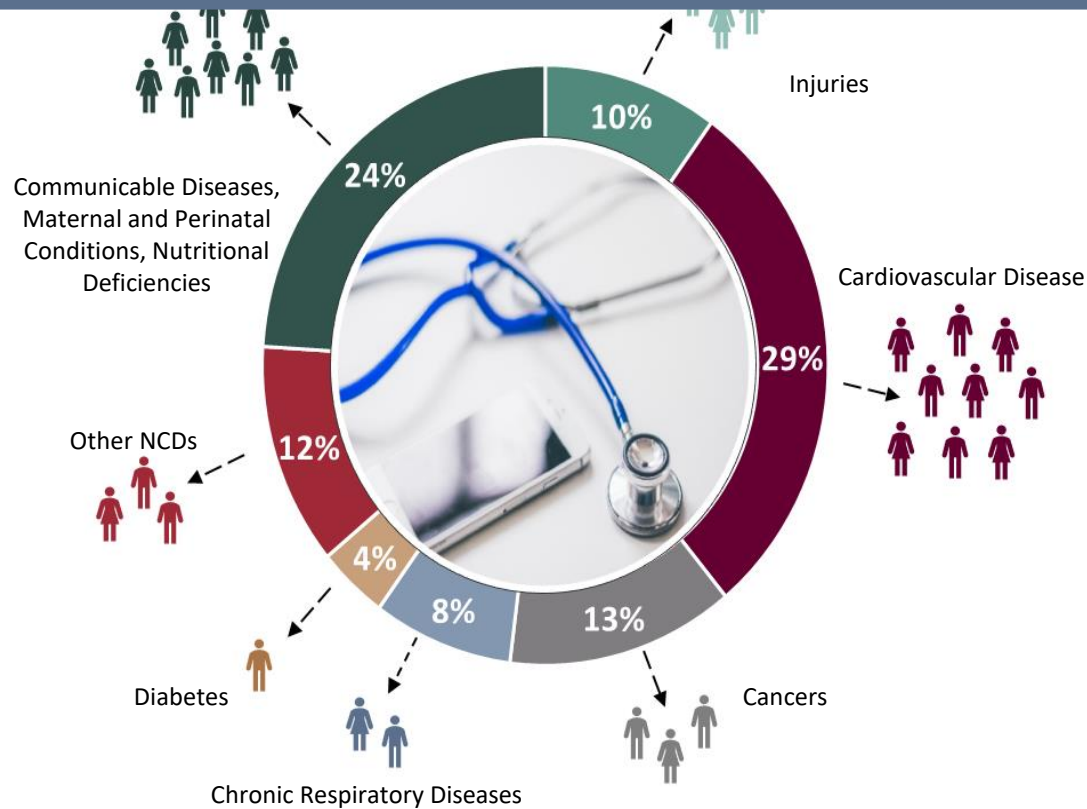
Elderly Dependency Ratio Projection By Country, 2018 vs 2030





The rise in NCDs across the region is increasing demand for healthcare services, overwhelming health systems, and driving rapid medical inflation.

Estimated Percentage of Deaths By Cause, South-East Asia Region, 2014



- Concurrently, the region is experiencing substantial societal change. Lifestyle choices are fuelling an increase in chronic disease, including a near doubling of diabetes prevalence in the past 20 years.
- Healthcare spending on NCDs, including complications arising from these, now comprises the highest area of health expenditure in most Asian countries.
- Over an 18 year period, to 2030, it is estimated that India and China will lose over \$30 trillion USD in output losses as a result of NCDs – a figure which would severely thwart economic growth, and overwhelm health and social systems.
- As a result of this, the Asia-Pacific region has seen rapid inflation in medical costs, with year on year increases of upwards of 10% across many markets.

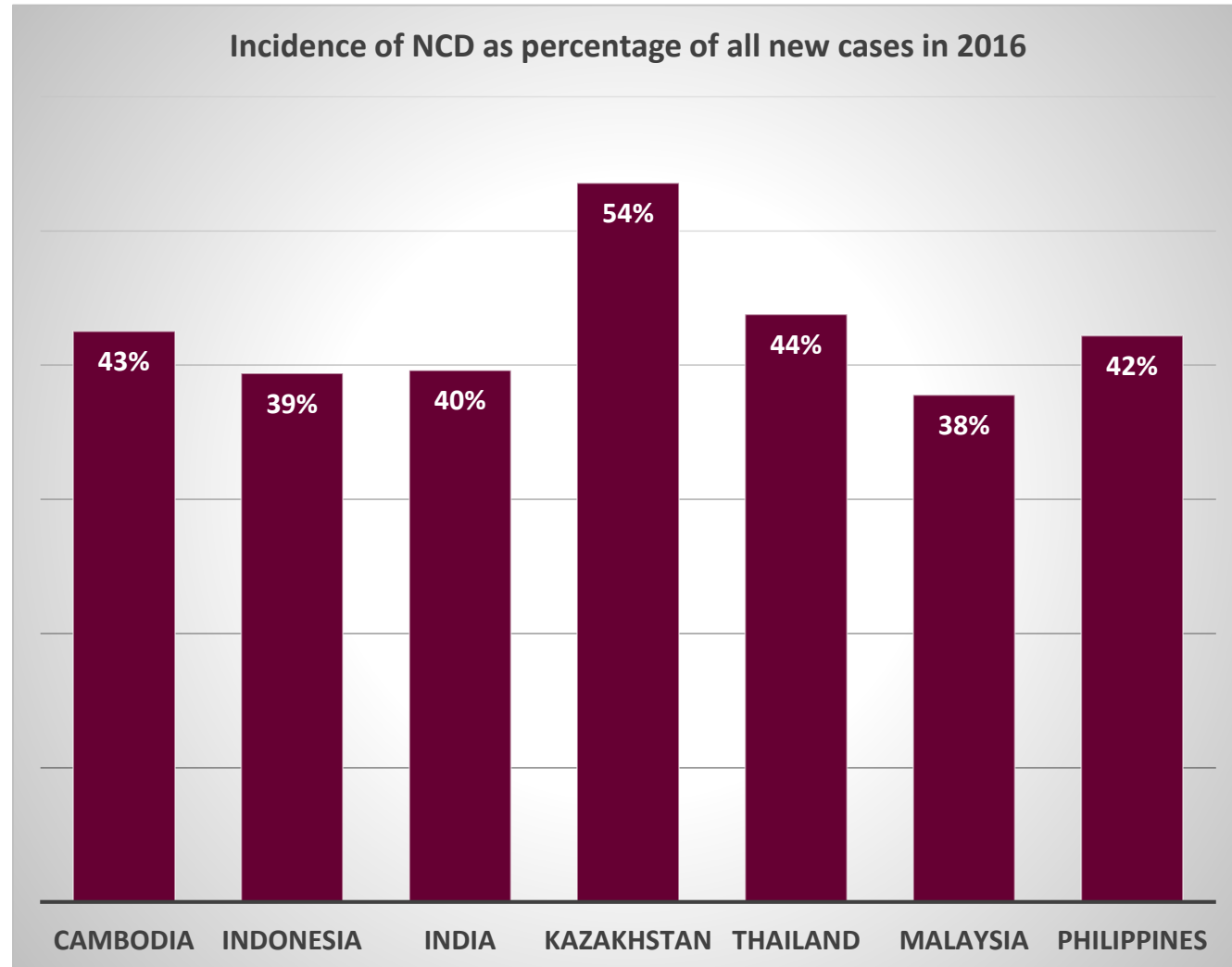
Source: Global Status Report on Noncommunicable Diseases, WHO (2014)



Health workforce shortages and a manpower imbalance between public and private settings place further strain on APAC health systems.

- The growth of NCD's disproportionately affect the elderly; with many living with co-morbidities
- NCD's are one of the largest drivers of hospitalisation amongst the elderly, with a sizeable number being admitted for avoidable complications or exacerbations
- Many Asian health systems are better equipped and prepared to deal with communicable diseases; the new burden of disease presents management as well as clinical challenges

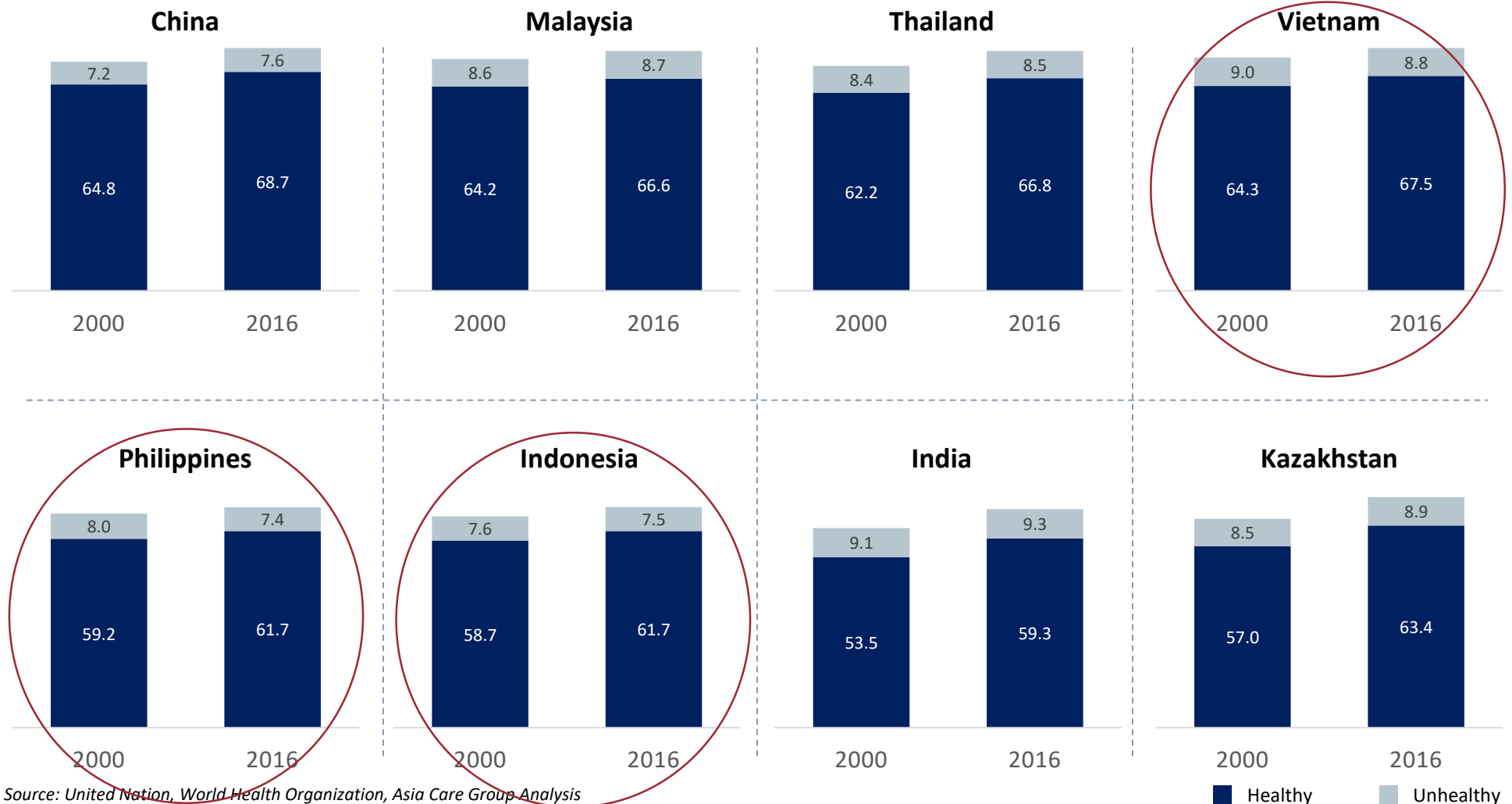
Source: Global Burden of Disease Study 2016 (GBD 2016) Results, ACG Analysis





People are living longer but not more healthily

Live Expectancy and Healthy Life Expectancy by Country, 2018 vs 2016



Source: United Nations, World Health Organization, Asia Care Group Analysis



There is a shortage of hospital beds in many Asian economies, exacerbating the demand for elderly care facilities

Hospital Beds per 1,000 Population



	Beds needed by 2030 to maintain current ratios	Beds needed by 2030 to reach OECD average
China	368,797	1,656,253
Malaysia	14,525	117,361
Thailand	5,077	185,641
Vietnam	35,622	321,880
Philippines	31,646	494,687
Indonesia	42,041	1,163,332
India	186,024	6,227,879
Kazakhstan	25,266	25,622



Most countries have not delineated care delivery between acute, nursing and residential care homes, making it hard to see shortfalls

Nursing Care Beds per 1,000 65+ Population

Beds per 1,000 65+ 0 100



	Beds needed by 2030 to maintain current ratios
China	7,216,204
Kazakhstan	443,707



- Most countries in Asia so not collect data on the number of residential or nursing care beds, and almost all do not collect hospice or elderly care home beds This makes assessing the availability of services extremely difficult.
- The situation is perhaps driven by a lack of regulations for these types of institutions; there is often no need to register institutions or meet standards, which in turn creates data paucity



Health workforce shortages and a manpower imbalance between public and private settings place further strain on APAC health systems.

- The global health workforce shortage sits at 7.2 million currently, with this number projected to rise to 12.9 million by 2035. If this scenario is not addressed by health systems, it will have serious implications for the health of billions globally.
- The largest workforce shortages are expected to occur across Asia, and will be driven by an ageing workforce, less individuals entering the sector, staff turnover to higher paying fields, and workforce loss due to internal and international migration of healthcare workers.
- In country settings where there is system fragmentation between public and private, staff migration to higher paying positions in the private health system further threatens the sustainability of public healthcare infrastructure.
- PPPs have emerged as a viable solution to redress both the imbalance between public and private in terms of manpower, and the critical need for workforce solutions in severely overburdened population settings.

Country	Physicians per 1,000	Nurses per 1,000
China*	2.5	3.14
Hong Kong	1.9	7.7
Singapore	2.3	7.2
Malaysia	1.6	3.2
Australia	3.5	11.7
Vietnam	0.82	1.43
Philippines	0.03	0.24
Indonesia	0.2	1.3
India	0.76	2.09
Kazakhstan	3.27	8.5
OECD Average	3.4	9.0

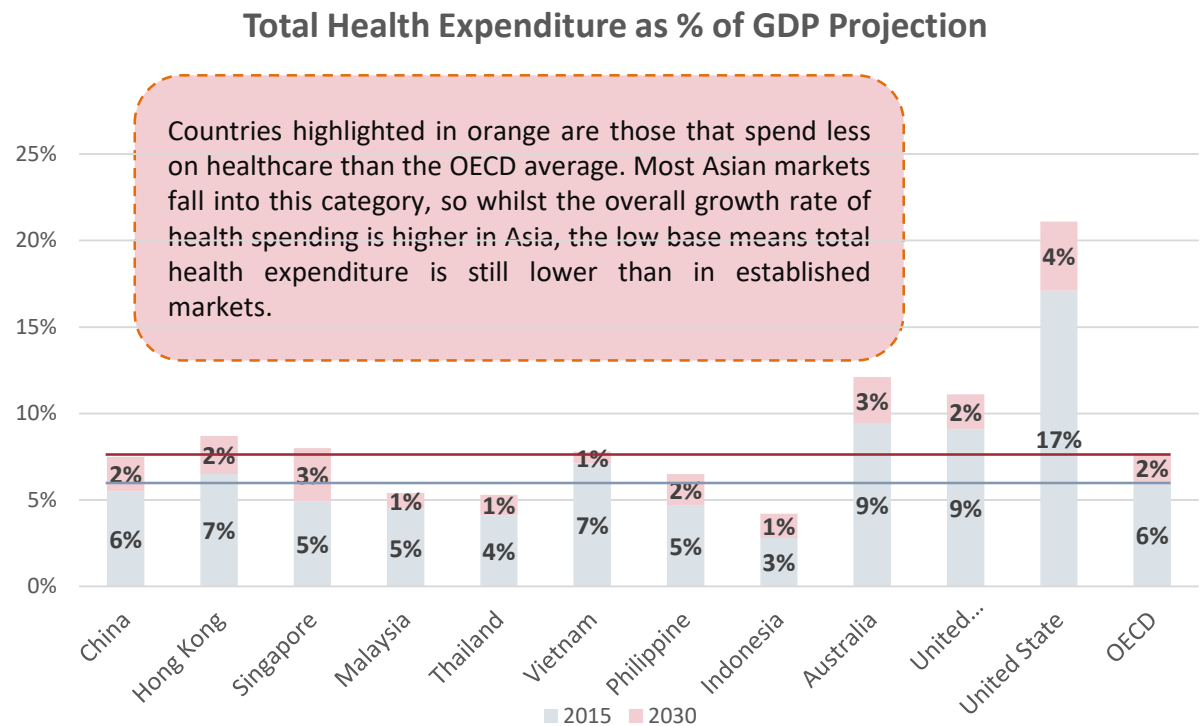
Source: OECD Data; World bank Data, Speech from Department of Health Secretary (Philippines), * expected in 2020; Others in the newest year; Asia Care Group analysis



THE is growing faster than GDP in most Asian markets but falls short of OECD averages – necessitating new financing solutions to meet demands over time.

- Total Health Expenditure (THE) is growing faster than GDP in most Asian markets, but the low base means that even by 2030, total health expenditure will still be lower in most Asian markets than in more mature health economies.
- As Governments struggle to increase THE in order to meet population needs, health is just one of many social demands competing for resource allocation in the face of budgetary constraints. There is significant need and manifest demand for new financing solutions across Asian markets.

Growth in Total Health Expenditure as a Percentage of GDP, 2015 to 2030 (Projected)



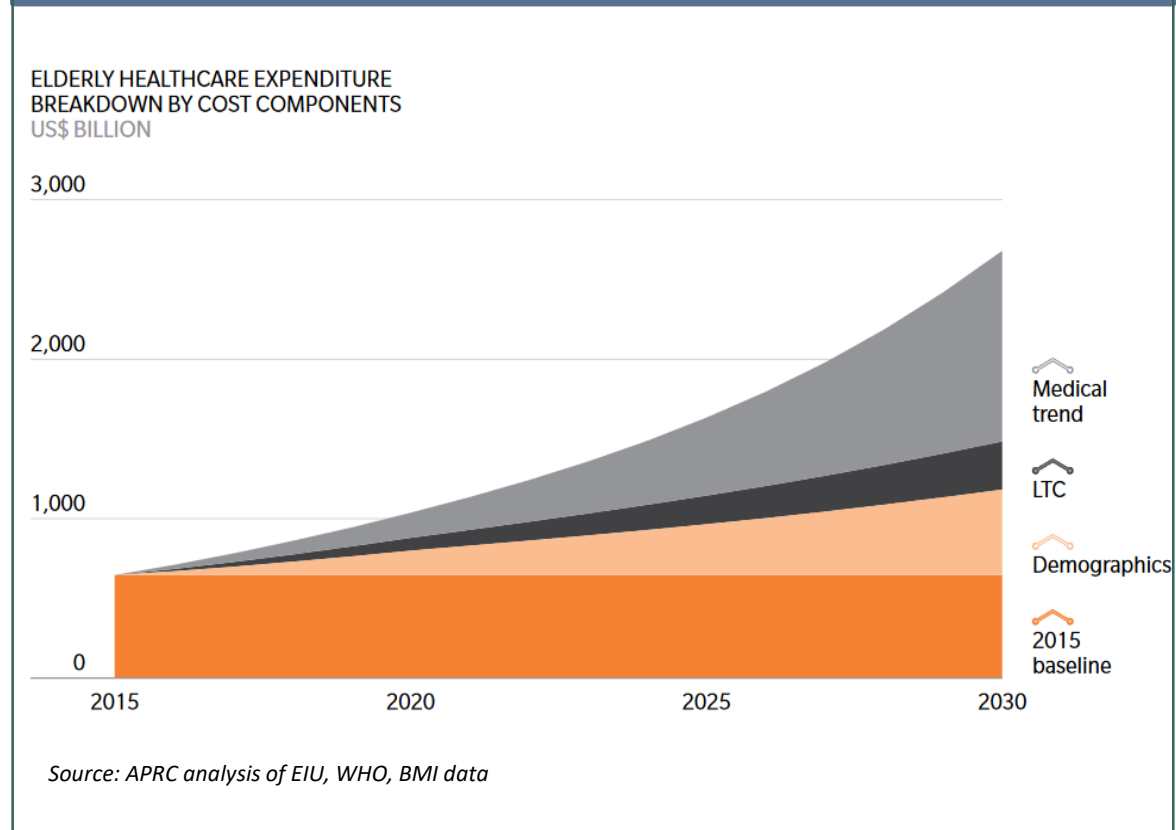
Source: World Health Organization; The Government of the Hong Kong Special Administrative Region; International Trade Administration; Malaysia Ministry of Health; Thailand Ministry of Public Health; Oliveira Martins & de la Maisonneuve; Standard Chartered; Australian Government; The King's Fund; Centers for Medicare & Medicaid Services; Asia Care Group analysis



The APAC region is at the forefront of global population ageing, which will have far-reaching social, economic, and political implications.

- The speed of ageing in many Asian markets, combined with high medical inflation and inefficient care models means it will be incredibly hard for Governments to fund the total burden created by the silver tsunami by themselves
- Elderly individuals are, in turn, often reluctant to use their own savings or assets (where these exist) due to a long tradition of passing these down to children or other family members
- This creates a looming economic challenge, and poses numerable risks for investors. There is overwhelming need for elderly care, but there may be severe limitations in the capacity to fund this (and repay debt) without new solutions to bring liquidity into the market.

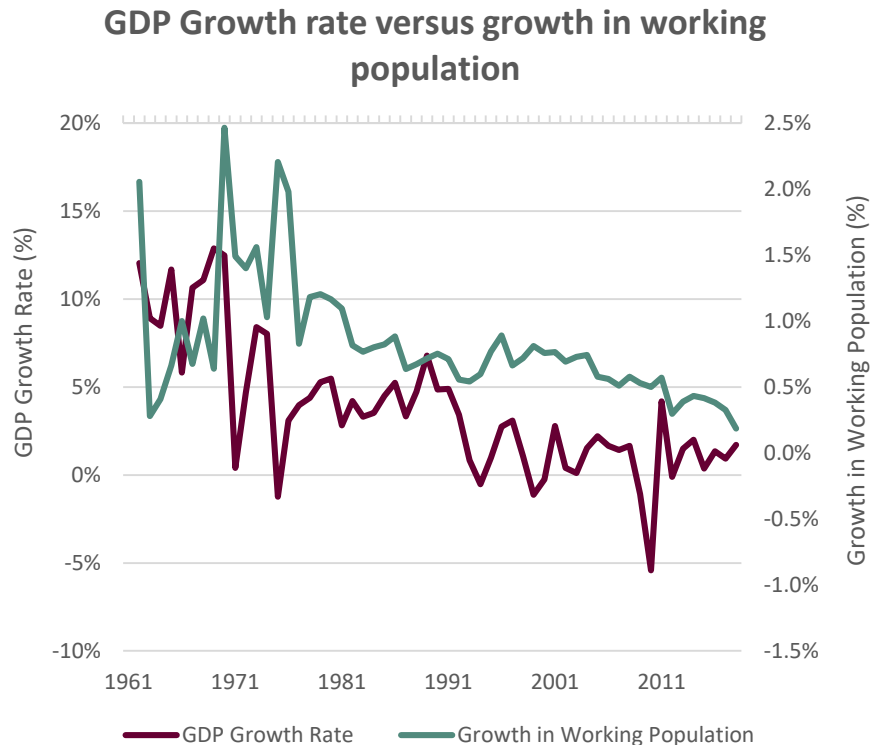
BY 2030, the cost of elderly care will approach 3mil USD; driven by high medical inflation, including over-institutionalisation





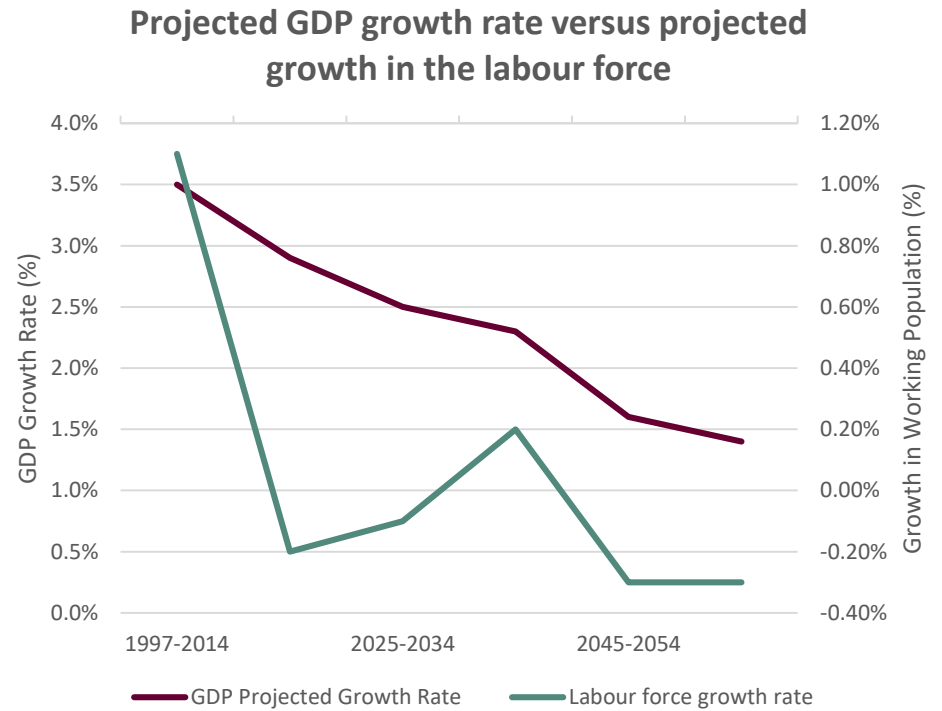
We know GDP growth slows as populations age.....

With an increasing elderly dependency ratio, Japan has experienced falling GDP growth in the last decades



Source: World Bank, ACG Analysis

The HKSAR Government project there will be a decline of GDP growth due to an ageing population



Source: HKSAR Government, ACG Analysis



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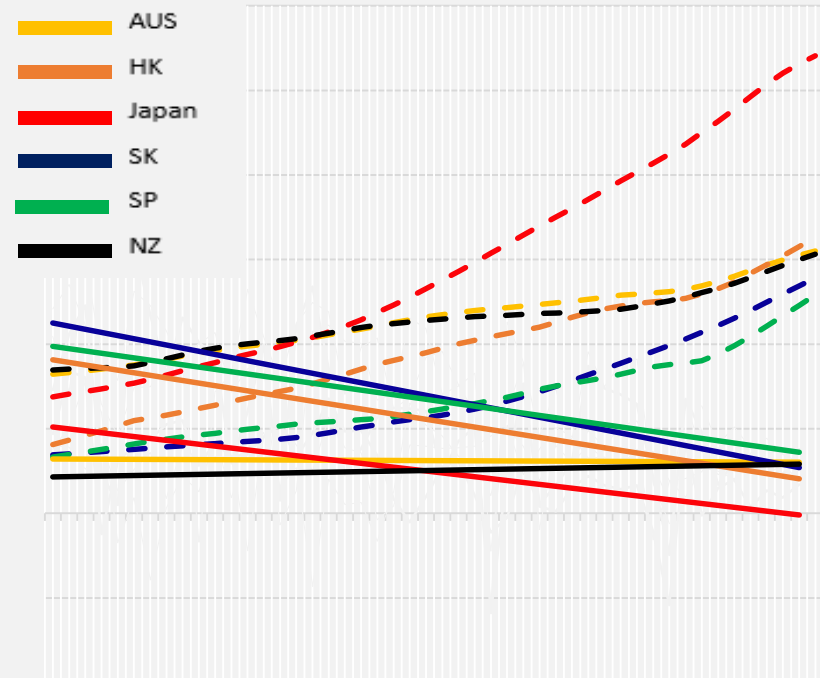
GDP Growth rate versus growth in working population



Source: World Bank, ACG Analysis

The HKSAR Government project there will be a decline of GDP growth due to an ageing population

% of Population over 65 vs GDP % change

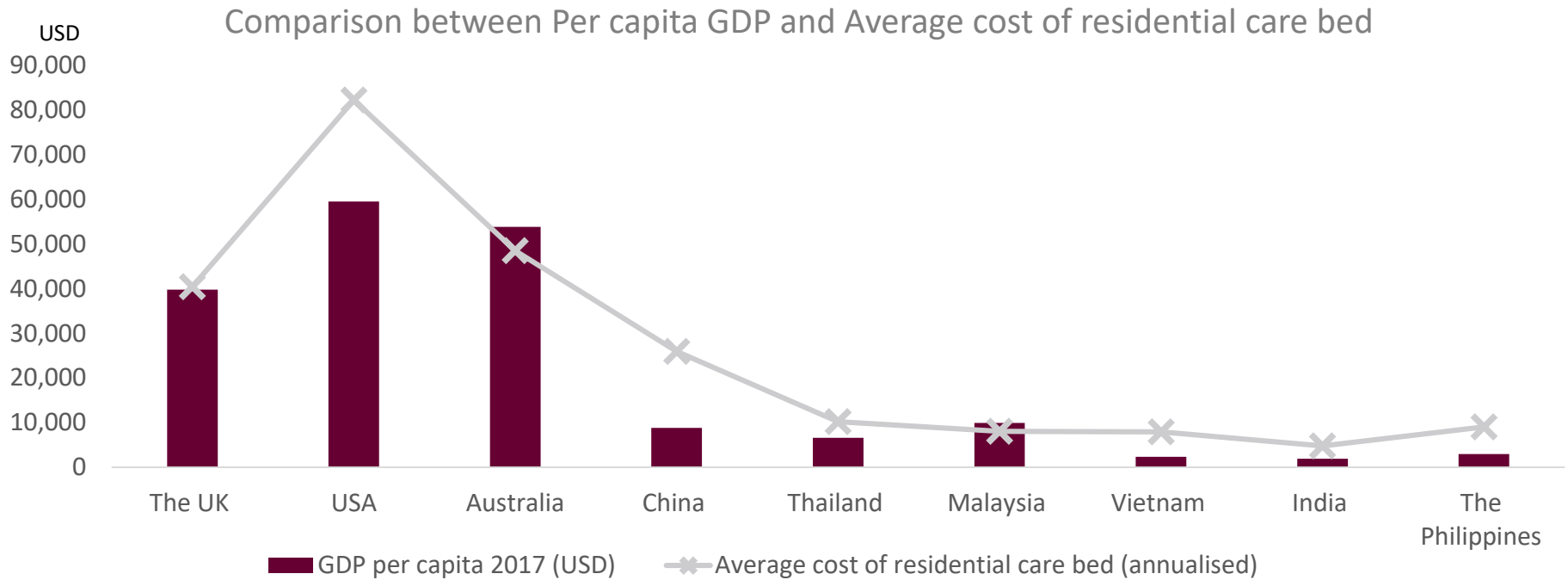


Source: World Bank, ACG Analysis



Institutional elderly care models that currently exist are costly, and often unaffordable to the majority of the population

In many Asian countries, including China, Vietnam, The Philippines and India, the annualized costs of residential care exceed GDP per capita – indicating unaffordability



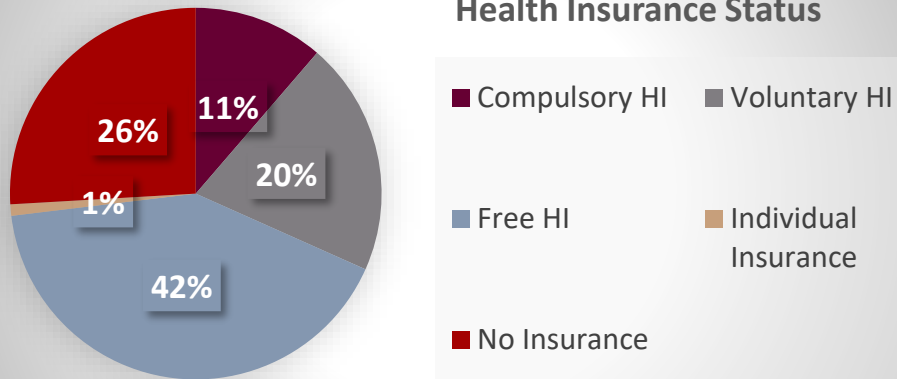
Source: World Bank, OECD, DBS Report, Eldercare Nursing Home data, HHC Nursing Home data, Care UK and Paying for CARE Survey, Ashiana Housing, Tuyet Thai Nursing Home Data, US Government, Australian Government, ACG Analysis



Unaffordability of elderly care: A case study from Vietnam

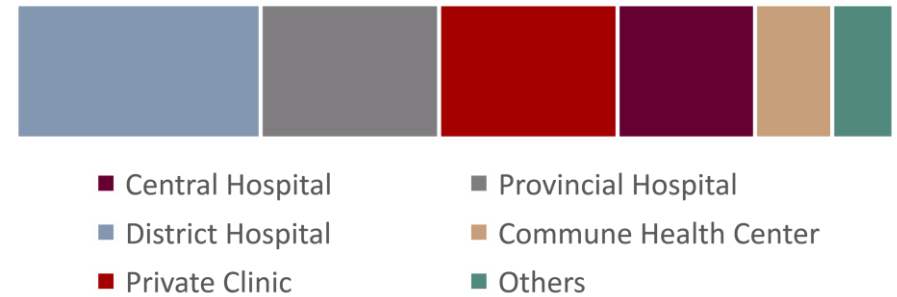
Vietnamese's elderly population are often underinsured for health services

Health Insurance Status



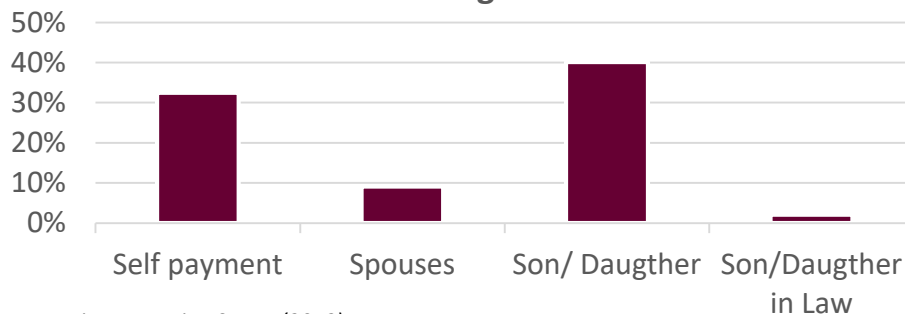
Vietnamese elders still seek healthcare from hospital-based institutions

Health Institution



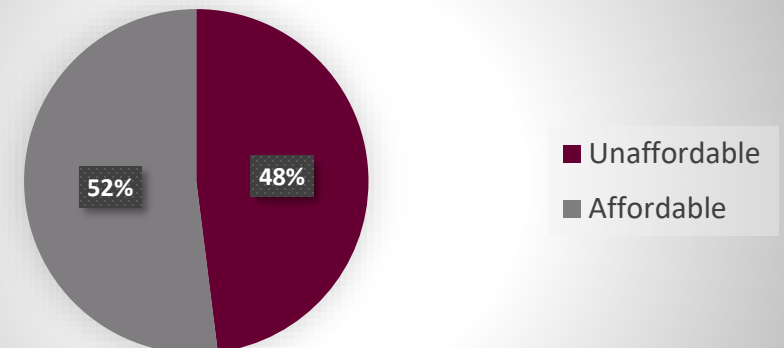
Funding for care places a heavy burden on families, or on individuals themselves

Source of funding for treatment



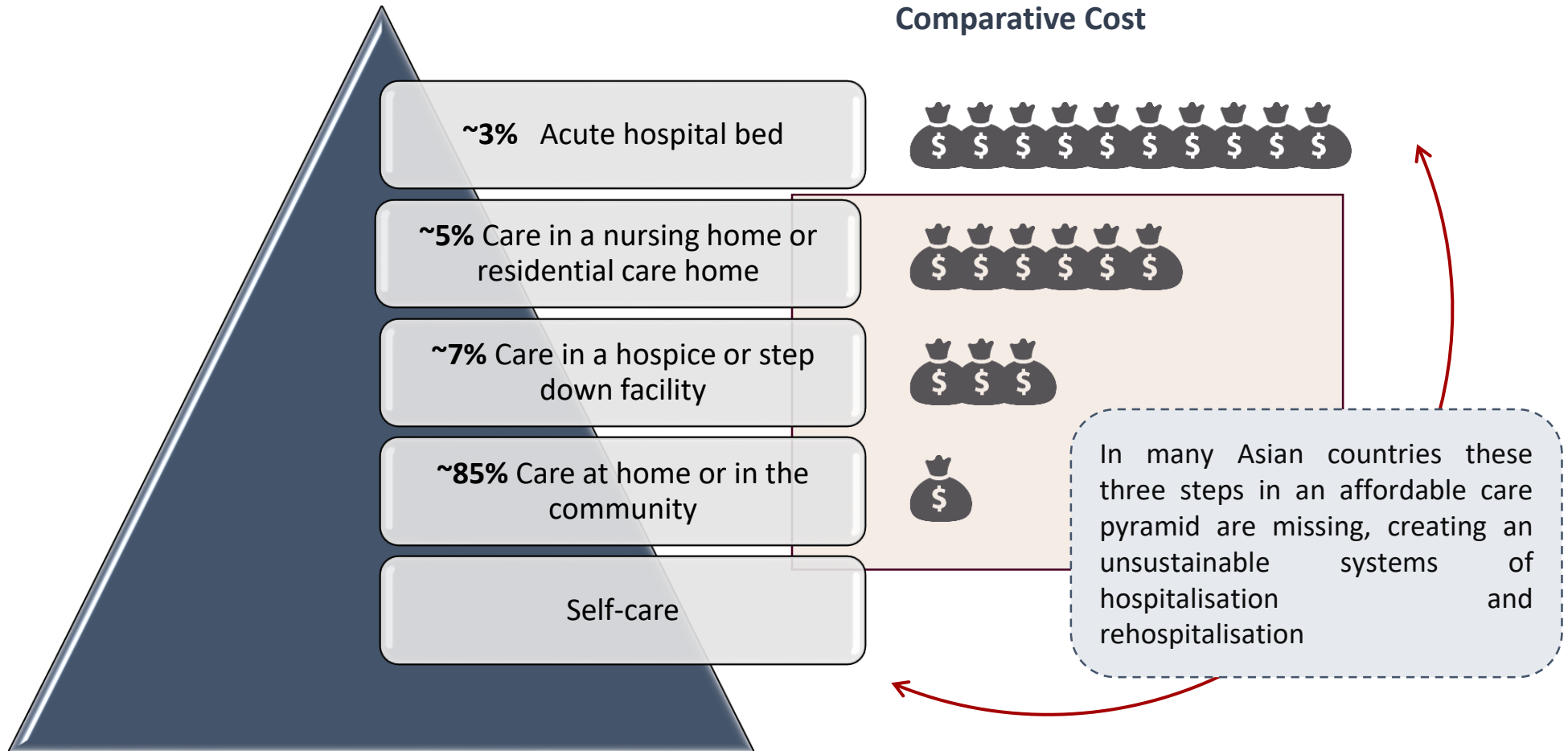
Source: Vietnam Aging Survey(2012)

Almost half of Vietnamese elders think elderly care is unaffordable



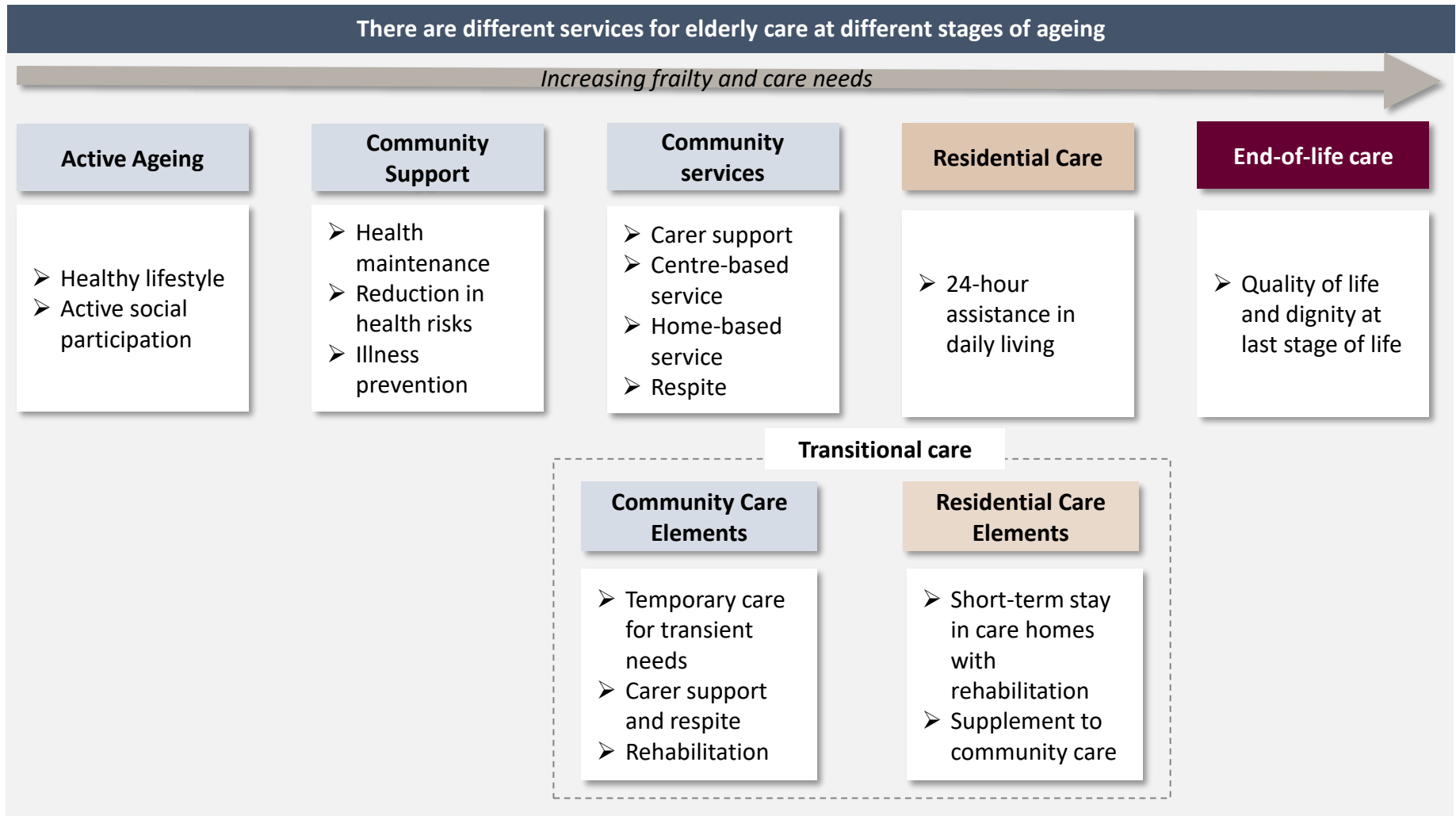


There is a need to rethink elderly care to create sustainable systems





Sustainability has to introduce risk-stratification





Drivers of PPP investment: Well-structured PPPs can address sustainability-related system needs

In elderly care, governments have gravitated toward PPP models to address a range of system challenges, including:

- The need for new or upgraded infrastructure
- Capital budget and/or cash flow constraints
- The need for improved management skills to improve quality and cost efficiency of healthcare delivery
- The need for stronger, more efficient procurement and supply chain delivery
- The need for additional services and skills (e.g. specialty services) or expanded service capacity

	Private Delivery	Public Delivery
Private Financing	<ul style="list-style-type: none"> • Private elderly care homes • Private “care at home” • Domestic helpers 	<ul style="list-style-type: none"> • Traditional infrastructure PPP’s • Disease control initiatives backed by public finance
Public Financing	<ul style="list-style-type: none"> • Used where there is a significant lack of capacity (e.g. service outsourcing) • Used where there is a need for innovation and better use of system-wide resources 	<ul style="list-style-type: none"> • Government elderly care homes • Public health programmes • Social welfare programmes



Three facility-based models have emerged as the most common PPP business models in healthcare.

- As PPP models began to gain traction across industries, specific models started to emerge in healthcare.
- Governments historically engaged PPPs in healthcare to deliver one or more of the following functions: **finance, design, build, maintain, operate, deliver.**
- Over time, the majority of facility-based healthcare PPPs began to bundle these functions into three prominent models:
 - Infrastructure-based model
 - Discrete clinical services model
 - Integrated PPP model

1. Infrastructure-Based Model

To build or refurbish public healthcare infrastructure



2. Discrete Clinical Services Model

To add or expand service delivery capacity



3. Integrated PPP model

To provide a comprehensive package of infrastructure and service delivery





Traditional models still exist: A Case Study of the first PPP for aged-care in Shenzhen, China

Background:

The Chinese Government were looking for a sound mechanism for the provision of integrated, community- and home-based elderly-care service that could be replicated nationwide, as highlighted in the 13th Five-Year Plan (2016-2020).

In Shenzhen, the average life expectancy has reached 80 years. Its ageing population climbed to 1.2 million in 2015, accounting for 6.6% of the total population. That proportion will surge to 10% by 2020.

What was done:

In 2017, the Shenzhen Government teamed up with the country's largest homebuilder China Vanke Co., LTD to jointly develop its first-ever public-private partnership senior living community project, as part of the city's reforms aimed at addressing a shortage of health care facilities.

Starting January 1, 2017, Vanke had started the redevelopment of a Government-run block of apartments for senior residents in Futian District, the city's financial and political core, into a fresh senior living community providing 420 beds and a variety of services from day care to medical-nursing combined care.

Operation Model:

- Elderly home co-financed by the government and various social capital
- Owned by the government
- Operated and managed by the private provider

Infrastructure-Based Model



Key Achievements:

- ✓ Prompted social capital to flow into projects for the elderly
- ✓ Enhanced the quality of senior care and became a "benchmark" of urban community care for the aged population
- ✓ Introduced innovation care and management model for elderly care
- ✓ Shared risk between public and private stakeholders
- ✓ Provided a new, practical business model for China's senior care industry



Case Study: The Manises Model in Valencia, Spain as a precursor to an integrated “aged continuum model”

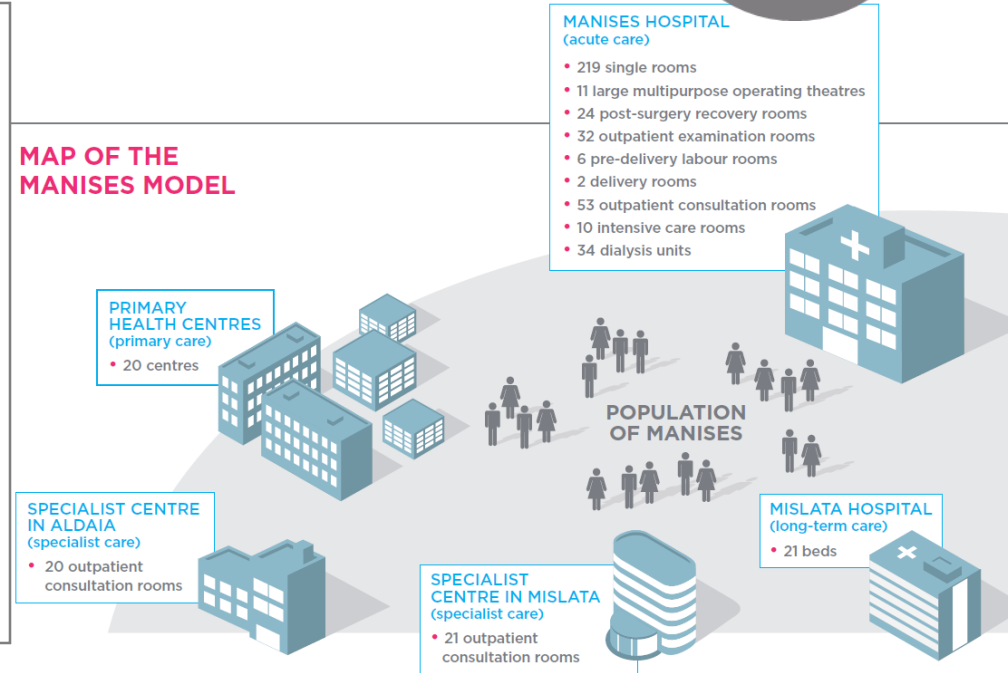
Integrated Model



What was done?

- The Government pays private operators an annual fee to manage and provide health services to the population of the designated catchment area.
- Private operators comply with the required terms, which include quality and performance indicators to ensure that healthcare is designed to meet the population’s needs and is high quality.
- A hospital was built on publicly owned land; initial investment in construction, equipment and human resources came from private capital, with the provision that the hospital becomes entirely the property of the public sector at the point of contract expiration.
- Healthcare services are managed by the private partner during the contract period, in exchange for a fee.

MAP OF THE MANISES MODEL



- ✓ Relates to health system needs
- ✓ Sensitive to context
- ✓ Recognises patient as a third party
- ✓ Focuses on problem-solving
- ✓ Shares risk

Source: IE Foundation, Bupa

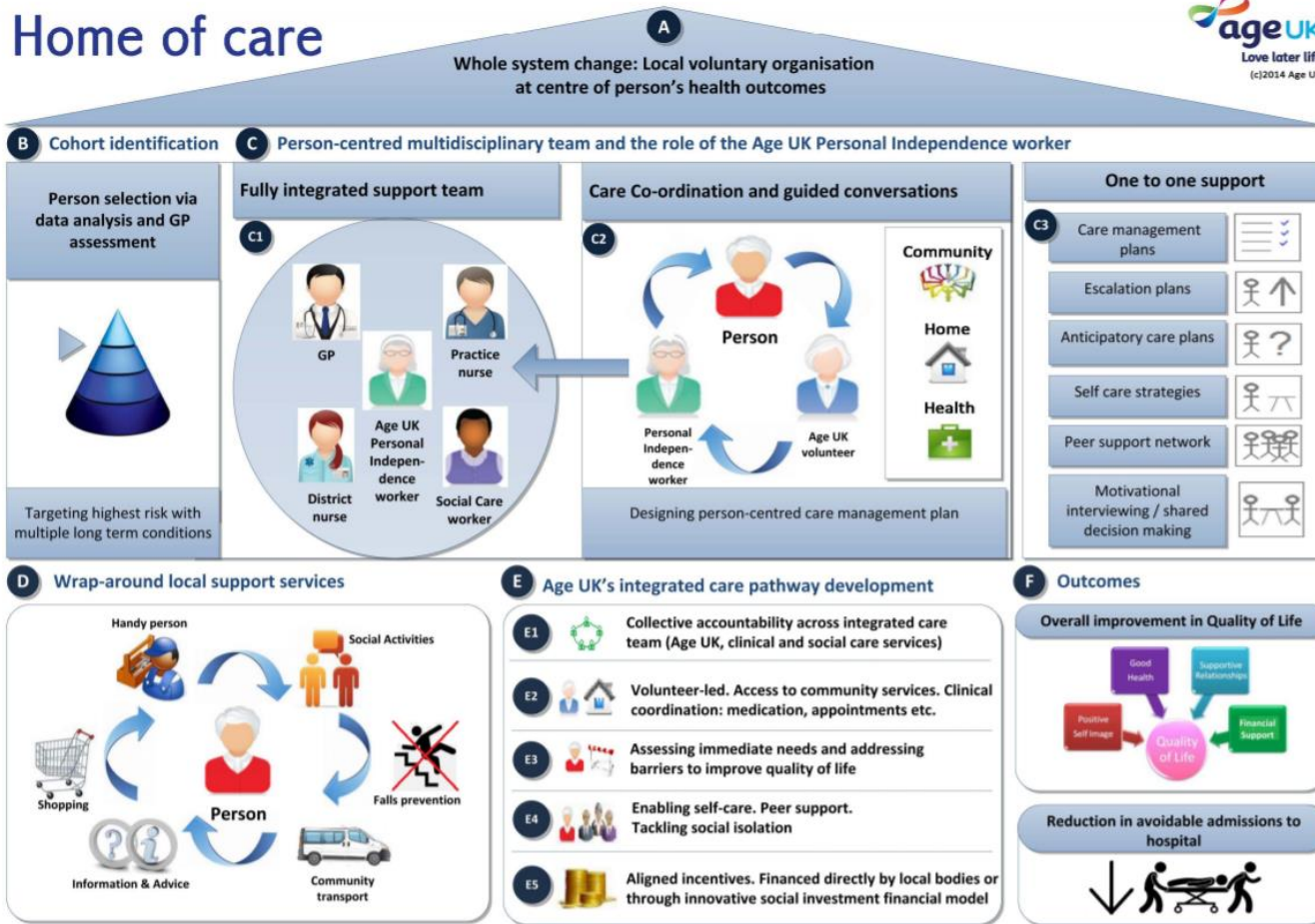
The Results:

- The design of funding enables the Valencia Government to anticipate annual healthcare costs.
- Healthcare is designed to meet population needs whilst meeting Government quality standards.
- The hospital and healthcare infrastructure remain a public asset.
- Risk-sharing increases efficiency, reduces government cost, and drives up quality of healthcare services.
- In 2013, out of 35 high quality general hospitals, Manises ranked: 2nd for the provision of outpatient surgery; 3rd for productivity, which is measured by how efficiently the hospital deploys its staff; 6th for risk-adjusted stays, which looks at the length of time it takes for a person to be discharged from hospital following their treatment.



Do we need to think of bigger, bankable structures around cities of care?

Home of care



What was done?

Uses risk stratification tool to help Governments and other public providers identify individuals that are likely to have a high chance of readmission to hospital if there was not better support for them in the community. They then built a support framework which helped providers understand how to support these individuals better and offset potential downstream costs. This was structured as a service PPP between Government and Age International.

The Results:

- Using the Edinburgh and Warwick mental wellbeing scale, a **23% average improvement** was observed amongst older people in the cohort and there were **30% fewer non-elective hospital admissions**
- Early financial calculations showed the **potential to save up to \$4 for every \$1 spent**. For the local healthcare system, e.g. for every \$100 a health system spent on the PPP, they achieved an estimated ROI of \$400 in economic benefits.



Increasing the availability of protection for the elderly has to be part of the solution: should PPP's include insurers?

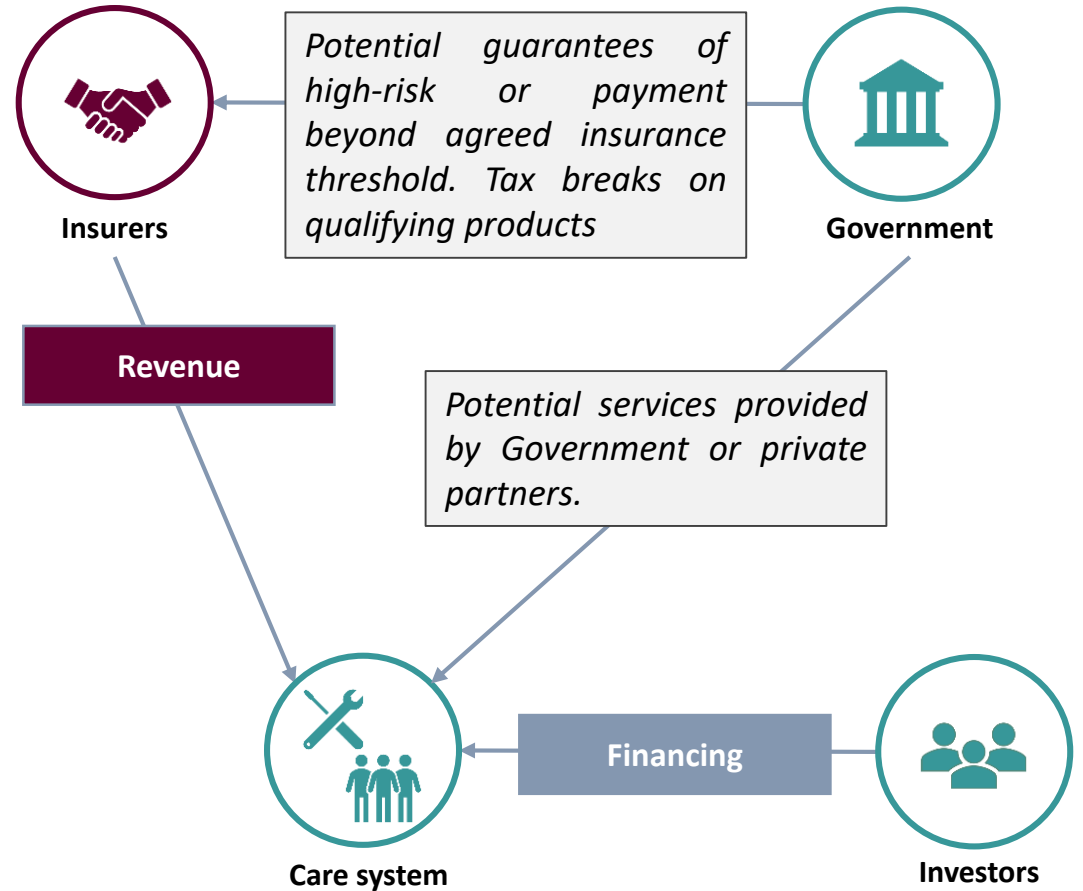
**Reimbursement/
Life products as the core**



**Critical Illness⁺
(providing support for out-
of-hospital care)**

Key Product Features:

- Covers the community-based aged care spectrum
- Policy offered to individuals and their families as a rider to Life and Reimbursement products
- Policy offered in a tiered manner (e.g. bronze, silver, gold coverage levels)
- Product implementation would require the participation of multiple stakeholders.





Our summary advice



There can be no doubt of the demand for elderly care services; affordability of PPP's and revenue risks will be major issues



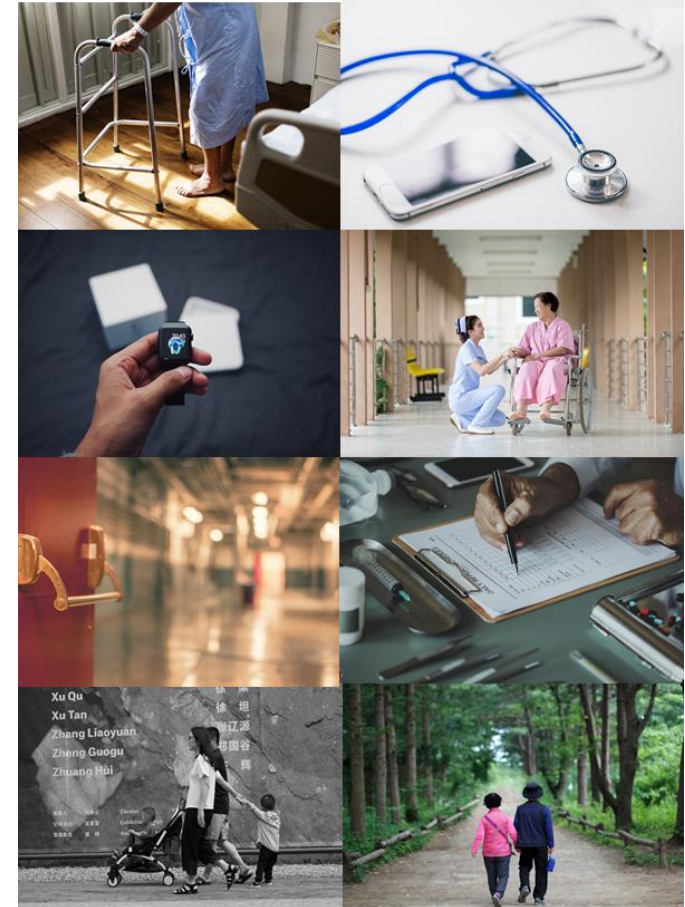
Thinking big (e.g. whole system) or discrete (e.g. home-care development) will be more sustainable and less risky than traditional infrastructure lending

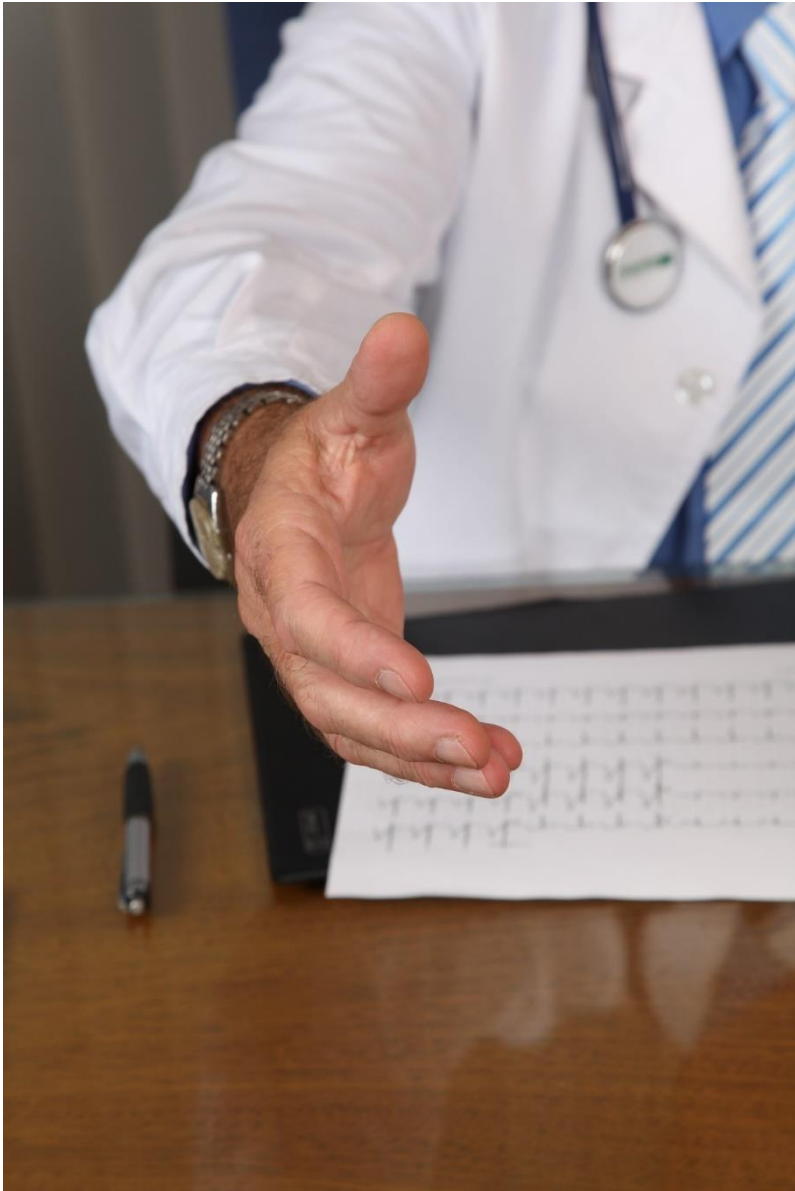


Insurers could play a major role in creating future revenue that would make PPP projects safer and more viable



In time, more radical solutions may be needed (e.g. employment in a residential care system to support one's own costs)





Thalia Georgiou

Managing Partner, Healthcare

Thalia.Georgiou@asiacaregroup.com

www.asiacaregroup.com