

**CHRONIC STRESS:  
ARE WE REACHING HEALTH SYSTEM BURN OUT?**

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Cigna’s research\* has found that 84% of people around the world say they are stressed, with 13 % finding it unmanageable, and 64% saying that they work in an ‘always on’ environment. In Asia, the findings are even more alarming, with 91% reporting they are stressed and as many as eight out of 10 people saying they operate in an ‘always on’ culture.

While many people recognise the immediate symptoms of stress, what is less understood is how it can manifest itself physically including chest pains, circulatory problems, gastrointestinal problems, musculoskeletal pain, and women’s health issues. In many instances, people are trying to find cures for the symptoms of chronic stress, without recognising the root cause.

This report highlights the huge financial burden that stress-related illness is putting on health systems around the world. According to our research, stress-related illness accounts for up to 19% of annual global healthcare expenditure.

Although stress will always exist, we believe that through better awareness, response and diagnosis we can help people to live happier, more productive lives, reduce physical illnesses and avoid these significant misdirected costs on our health systems worldwide.

I hope you find this report useful and inspiring. We care deeply about the work we do to increase awareness about stress because it helps provide insights and guides us in our mission - to improve the health, well-being and peace of mind of those we serve.

If you, or your organization would like more information on the survey or our employer, individual and supplemental health benefit solutions and services that take into account whole person health, please contact us at [imbusinesscommunications@cigna.com](mailto:imbusinesscommunications@cigna.com)



Chronic stress is a widespread issue affecting people’s physical and mental health globally. It also impacts business productivity and, therefore, the economy. This study used novel methods to establish the scale and impact that stress-related illness has on health system usage globally. Our research concluded that between 4% and 19% of health expenditure is attributable to stress-related illness (see Fig 1).

We assessed the impact of stress on health systems in Australia, Hong Kong, Singapore, South Korea, Taiwan, Thailand, United Arab Emirates, United Kingdom, and the United States to obtain a global picture. There was considerable variability across different markets, but this proportion of expenditure translates to one of the largest single areas of spend facing health systems today. The impact of stress is placing an added burden on health systems at a time when they are already overstretched, and costs are expected to continue to rise.

Not only is chronic stress strongly associated with mental health issues like anxiety, panic attacks and depression, but it can manifest in physical symptoms. The five most common physical manifestations of chronic stress in the body include chest pain, circulatory problems, gastrointestinal problems, musculoskeletal pain (MSK), and women’s health issues.

**FIG 1 - ANNUAL COSTS OF STRESS-RELATED ILLNESS IN USD AND AS A PERCENTAGE OF TOTAL HEALTH EXPENDITURE**



## WE EXAMINED THREE PATIENT COHORTS

This research was informed by an extensive body of research (500 peer-reviewed journal articles) about the impact of stress on health systems and people's health. This was used to analyse patient data in markets with extensive patient data, which provided benchmarks for other markets. We examined three patient cohorts – 1) patients seeking care for stress-related mental illness; 2) patients suffering from stress which manifests as 'medically unexplained conditions'; and 3) a proportion of patients suffering from stress which manifests as physical symptoms that are commonly associated with stress, such as irritable bowel syndrome (IBS) or lower-back pain, but also had underlying mental ill-health associated with stress. Each cohort accounted for a considerable percentage of health expenditure.

Hospital-led health systems were observed to spend considerably more on stress-related illness than systems in which strong primary care is in place. This emphasises the need to consider how preventative, community-based services could be better used to manage-down the clinical and financial risks posed by stress-related illness.

As much as 25% of hospital admissions, 19% of emergency department attendances, 35% of primary care visits, and 12% of outpatient attendances are likely to be the result of stress-related illness (see Fig 2).

Across markets, we estimate that between 4-19% of total health expenditure is attributable to stress-related illness.

### FIG 2 - AN OVERVIEW OF KEY FINDINGS



Percentage of hospital admission with underlying stress driver

**25%**



Percentage of emergency department attendances with underlying stress driver

**19%**



Percentage of primary care attendances with underlying stress driver

**35%**



Percentage of outpatient attendances with underlying stress driver

**12%**



There are several reasons why people will seek help for physical illness rather than for stress. In many countries mental health is still taboo, and seeking help for physical symptoms has more cultural acceptability. Breaking taboos are likely to mean that people seek help earlier, potentially reducing the impact and related cost of stress. Other factors can influence how and when a person seeks help for a stress-related illness, including the health literacy levels of the individual, other cultural norms, service availability and insurance coverage.

The findings of this study clearly indicate a need for urgent action to address the causes of stress, support people to manage stress better and to ensure systems are in place to identify and treat stress-related illness and its causes.

There is opportunity and need to equip societies with a better understanding of how stress can manifest and be reduced. There are strategies that employers can adopt to create healthier workplaces. There are also policies that governments and healthcare systems can introduce to help ensure better protection of our physical and mental wellbeing.

### **A summary of the recommendations can be found overleaf:**

There is a need for urgent action to address the causes of stress, support people to manage stress better and to ensure systems are in place to identify and treat stress-related illness and its causes.

## Helping to prevent stress-related illness

- **Healthcare leaders** should develop social marketing campaigns to help populations recognise the signs and symptoms of stress-related illness.
- **Payors** – both public and private – should develop predictive analytic tools to help identify patients that show a pattern of health-seeking behaviour that may indicate underlying stress.
- **Employers** should examine their work practices, environment and culture and take steps to reduce sources of employee stress in the workplace.
- **Employers** should provide mental health first-aid courses for employees, so that they can better identify staff who may need help.

## Ensuring effective treatment and recovery for those who do suffer from stress-related illness

- **Healthcare leaders** should encourage more training of physicians in detecting, diagnosing and managing stress-related illness – particularly for those working in primary care and emergency care.
- **Government** or **healthcare leaders** should provide better access for patients to psychiatrists and associated therapists to meet the rising demand for care.
- **Payors** should consider enhancing cover for stress-related illnesses, which is likely to be highly cost-effective as well as improve clinical outcomes.
- Large or medium-sized **acute hospitals** should ensure a psychiatrist is on-duty at all times. This would support the upskilling of emergency staff and provide critical access to help for patients who need it.
- **Healthcare leaders** should review protocols and clinical pathways to ensure that patients with stress-related illnesses are referred to a psychiatrist or therapist that can properly evaluate and help the patient.

## Monitoring and evaluating the health system

- **Healthcare leaders** should ensure there are robust mechanisms to record a patient's diagnosis across care settings based on international norms. This would allow greater transparency on the use of health systems by those suffering from stress-related illness.
- **Healthcare leaders** should encourage more research into the causes, symptomology and methods of prevention for stress-related illness by providing grants to relevant bodies and/or incentives to employers.



## UNITED KINGDOM - THE COST OF STRESS: 14.8B USD

The UK's National Healthcare System (NHS) dominates the care delivery landscape. The comprehensive system covers both acute and primary care, and is free at the point of care to citizens. The private healthcare market accounts for only 5% of health expenditure, usually used for quick access and more comfortable facilities. The UK system – with few barriers to use – is overstretched in many parts.

The impact of stress-related illness on the UK's system is conservatively estimated at **USD 14.8 billion**, slightly over **6% of health expenditure**. In comparison to other markets the UK is managing the cost of stress to its health system more effectively.

The largest proportion of stress-related healthcare expenditure was in inpatient settings, accounting for 23% of all inpatient spend, costing the NHS USD 8.1 billion and the private sector USD 1.8 billion. This accounted for over 5.5 million inpatient admissions, a high burden for already overstretched inpatient system. Stress also accounted for a third of primary care expenditure, 33% with USD 2.4 billion and USD 308 million cost to government and private sector respectively.

As well as better models of care, public awareness of stress and its relationship with physical and mental illness will be vital in reducing the costs to the NHS and wider health system. Employers also have an important role to play.

### INPATIENT ADMISSIONS DRIVEN BY STRESS-RELATED ILLNESS

<b>5,541,424</b> <b>PER YEAR</b>	<b>9.9B</b> <b>USD</b>
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### ACCIDENT & EMERGENCY (A&E) ATTENDANCES DRIVEN BY STRESS-RELATED ILLNESS

<b>3,093,148</b> <b>PER YEAR</b>	<b>657M</b> <b>USD</b>
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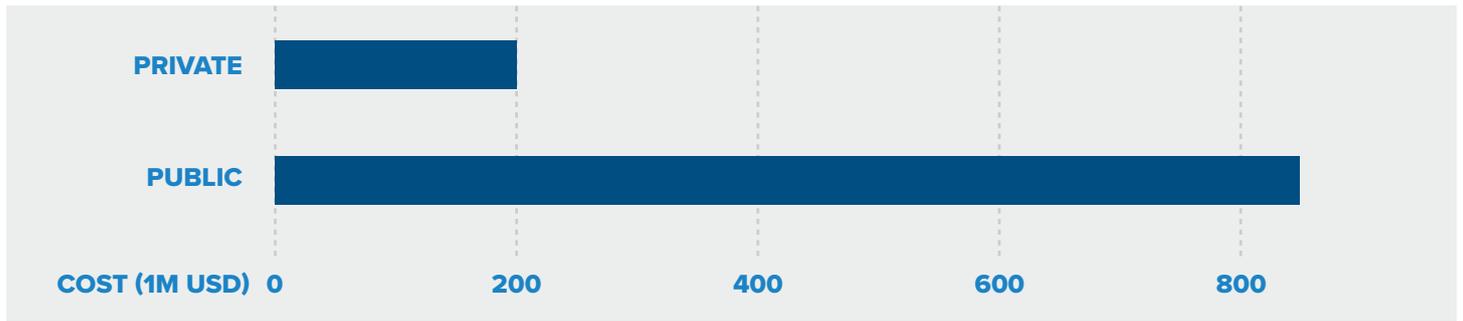
### APPOINTMENTS DRIVEN BY STRESS-RELATED ILLNESS

<b>68,897,490</b> <b>PER YEAR</b>	<b>2.7B</b> <b>USD</b>
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### OUTPATIENT ATTENDANCES DRIVEN BY STRESS-RELATED ILLNESS

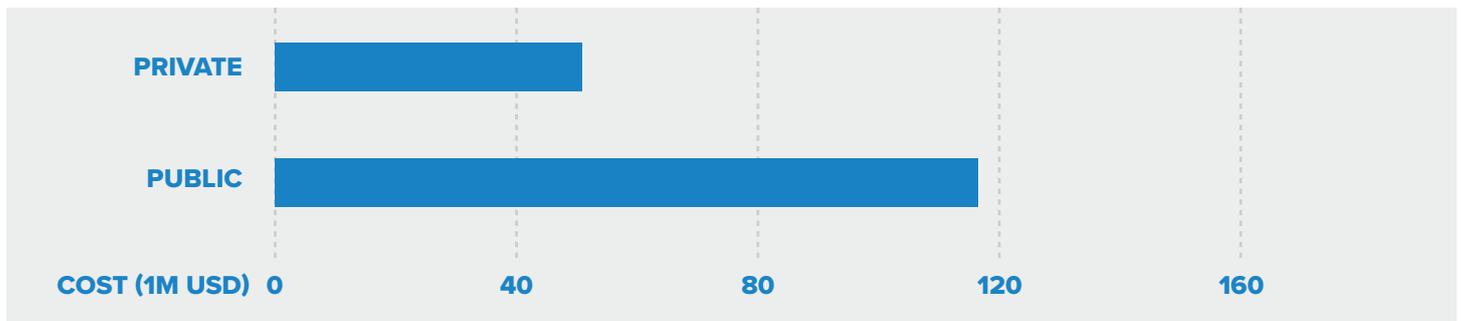
<b>9,243,754</b> <b>PER YEAR</b>	<b>1.5B</b> <b>USD</b>
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## COST OF HOSPITAL ADMISSIONS, ANNUALISED (COHORT 3)



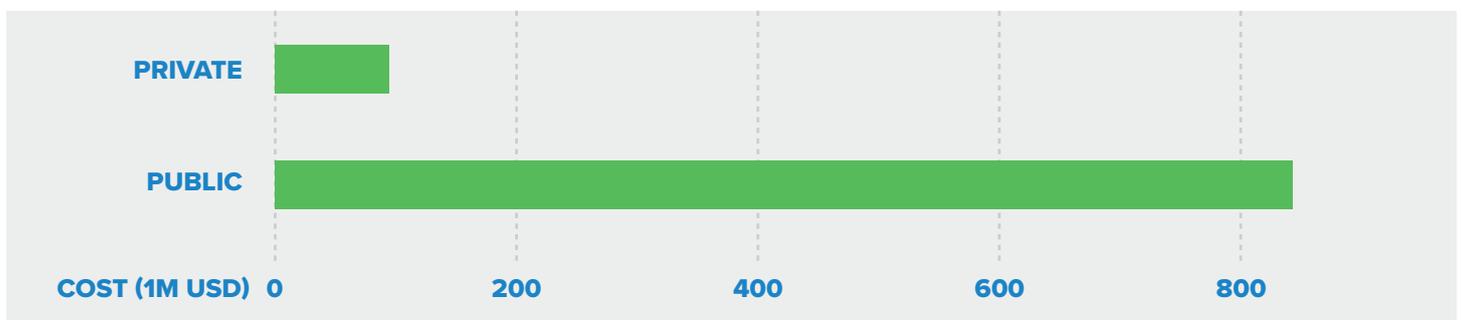
 COST OF ALL SELECTED PHYSICAL SYMPTOMS DRIVEN BY STRESS-RELATED MENTAL ILLNESS

## COST OF EMERGENCY DEPARTMENT ATTENDANCES, ANNUALISED (COHORT 3)



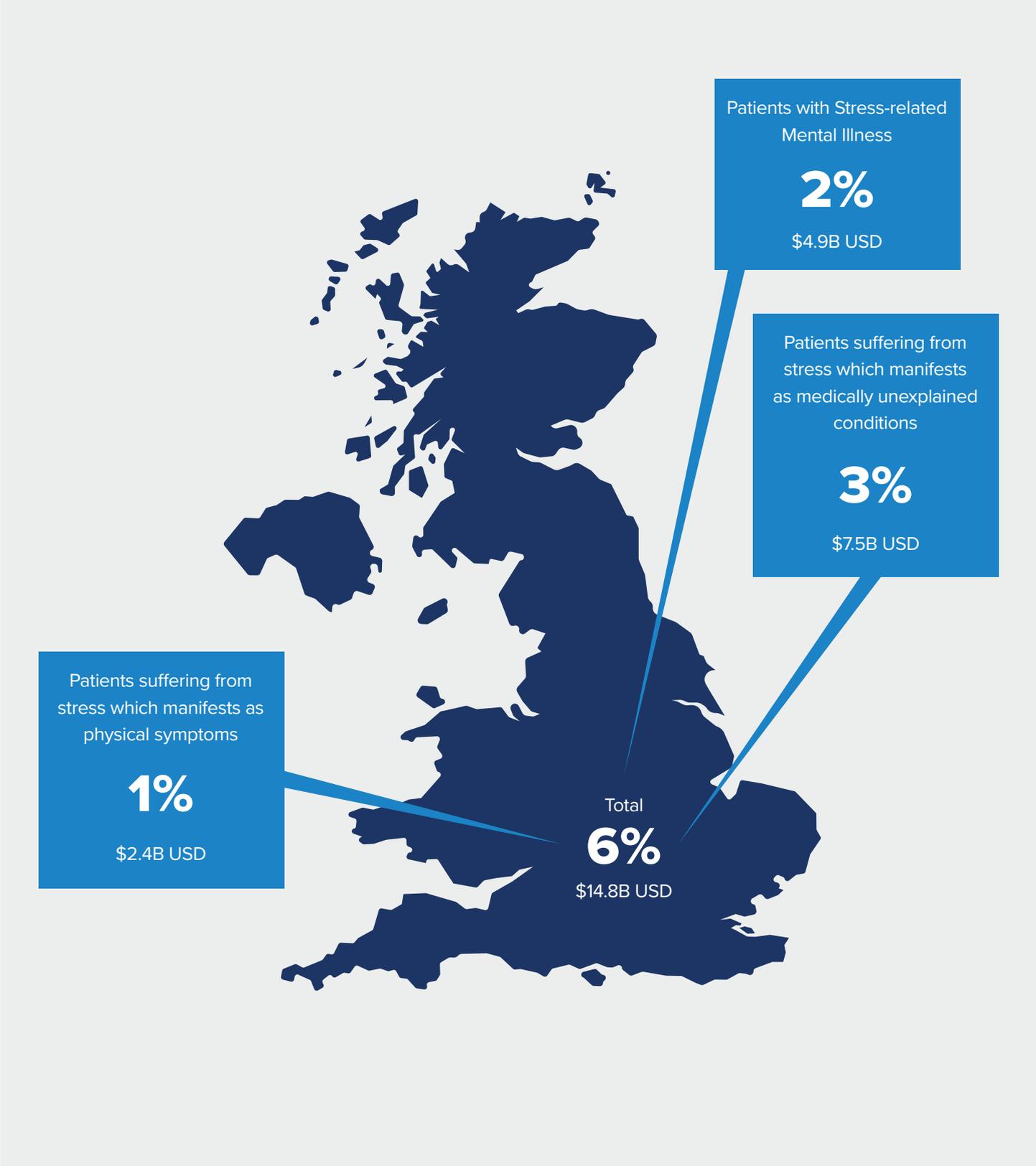
 COST OF ALL SELECTED PHYSICAL SYMPTOMS DRIVEN BY STRESS-RELATED MENTAL ILLNESS

## COST OF GP ATTENDANCES, ANNUALISED (COHORT 3)



 COST OF ALL SELECTED PHYSICAL SYMPTOMS DRIVEN BY STRESS-RELATED MENTAL ILLNESS

**FIG 3 - COSTS ASSOCIATED WITH STRESS-RELATED ILLNESS (ANNUALLY) IN USD AND AS A PERCENTAGE OF UNITED KINGDOM'S TOTAL HEALTH EXPENDITURE**





## UNITED STATES - THE COST OF STRESS: 133.2B USD

The US has a complex mix of financing; contributed by employers, individuals and (a relatively small amount) by the state contributes to a range of health insurance plans. Around 89% of Americans have some form of health insurance, although the coverage is highly variable. The vast majority of care is delivered in the private sector, often on a fee-for-service basis. This has led to extremely high levels of overall spend, with around 17% of GDP being spent on healthcare. For Inpatient care, private services account for around 88% of the market, for emergency department usage the picture is similar with private services accounting for 83% of all utilisation. It is therefore unsurprising that around 16% of the total cost of inpatient services, and over 7.5 million admissions, are for stress-related illness.

The overall cost of stress-related illnesses to the US system is dramatic, accounting for around **4% of health** sitting at an estimated **USD 133 billion** in spend annually. However, **the true number is likely to be much higher** because mental health related diagnosis is unlikely to be covered by payors making it unlikely to be noted by physicians resulted in significant underreporting.

We estimate that close to 167 million GP attendances in the US are driven by stress-related illness, at a cost of \$29.7 billion USD. Much of this cost is driven by patients seeking care for selected physical symptoms driven by stress-related mental illness. The high unit costs of care in the US make stress a much larger economic problem than in other markets.

### INPATIENT ADMISSIONS DRIVEN BY STRESS-RELATED ILLNESS

**7,519,595**  
**PER YEAR**

**63.4B**  
**USD**

### A&E ATTENDANCES DRIVEN BY STRESS-RELATED ILLNESS

**26,526,591**  
**PER YEAR**

**12B**  
**USD**

### GP APPOINTMENTS DRIVEN BY STRESS-RELATED ILLNESS

**166,888,838**  
**PER YEAR**

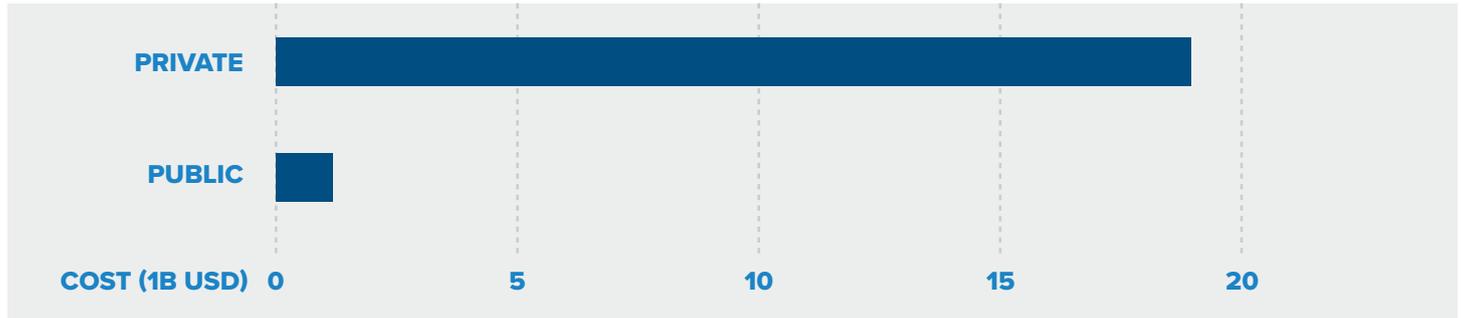
**29.7B**  
**USD**

### OUTPATIENT ATTENDANCES DRIVEN BY STRESS-RELATED ILLNESS

**113,260,852**  
**PER YEAR**

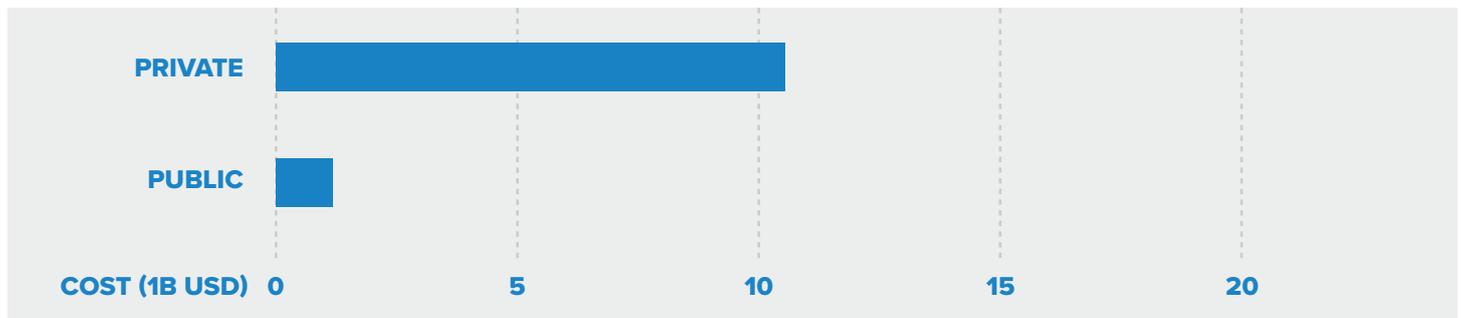
**28.1B**  
**USD**

## COST OF HOSPITAL ADMISSIONS, ANNUALISED (COHORT 3)



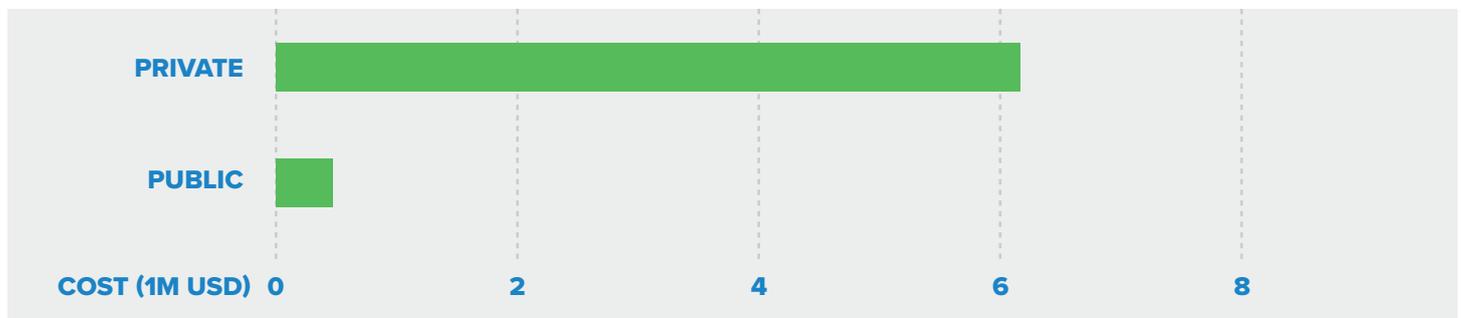
**COST OF ALL SELECTED PHYSICAL SYMPTOMS DRIVEN BY STRESS-RELATED MENTAL ILLNESS**

## COST OF HOSPITAL ADMISSIONS FOR ALL CHEST PAIN, ANNUALISED (COHORT 3)



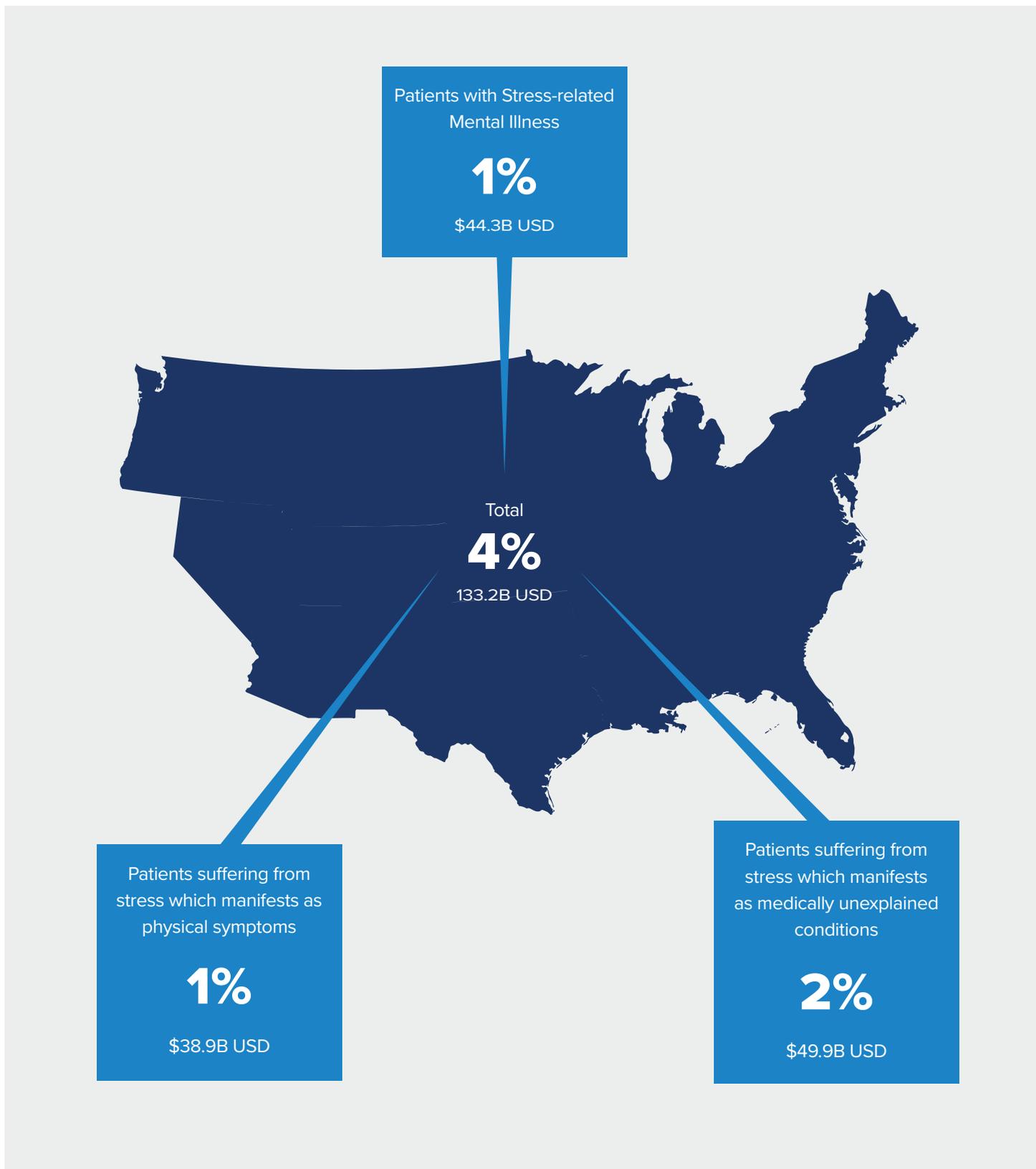
**COST OF ALL CHEST PAIN DRIVEN BY STRESS-RELATED MENTAL ILLNESS**

## COST OF HOSPITAL ADMISSIONS FOR CIRCULATORY ISSUES ANNUALISED (COHORT 3)



**COST OF ALL CIRCULATORY ISSUES DRIVEN BY STRESS-RELATED MENTAL ILLNESS**

**FIG 4 - COSTS ASSOCIATED WITH STRESS-RELATED ILLNESS (ANNUALLY) IN USD AND AS A PERCENTAGE OF UNITED STATES' TOTAL HEALTH EXPENDITURE**





## AUSTRALIA - THE COST OF STRESS: 22.9B USD

Australia has a comprehensive health system, providing universal healthcare to its citizens through its Medicare programme. Government is both the major payor and provider, helping keep overall system costs to a reasonable level. Private insurance complements the system, and is often taken out as a “top-up” product to cover items that fall outside the scope of Medicare. Increasingly, private providers are emerging in major cities, altering the balance of care delivery. Currently, around 60% of inpatient and outpatient care are delivered in the public system, with the remainder being delivered by the growing private provider market. For both emergency and general practice care, the system skews heavily towards the public system with between 92% and 97% of activity being undertaken in public facilities.

The overall estimated cost of stress-related illness to the Australian health system is **USD 22.9 billion**. This translates to 23% of all inpatient spend, and over 3.2 million admissions. For GP appointments, we estimate that 37% of total GP appointment spend relates to stress-related illness with a breakdown of USD 7.4 billion and USD 120 million between the government and private sector respectively. The relative comprehensiveness of the Australian system means the use of GP services is higher than other markets, with around 59 million appointments related to stress-related illness. For outpatient attendances, 17% of total outpatient services spend pertained to stress-related illness with USD 827 million and USD 450 million of cost to government and private sector respectively.

### INPATIENT ADMISSIONS DRIVEN BY STRESS-RELATED ILLNESS

**3,201,349**  
PER YEAR

**13.3B**  
USD

### A&E ATTENDANCES DRIVEN BY STRESS-RELATED ILLNESS

**2,084,369**  
PER YEAR

**911M**  
USD

### GP APPOINTMENTS DRIVEN BY STRESS-RELATED ILLNESS

**59,097,502**  
PER YEAR

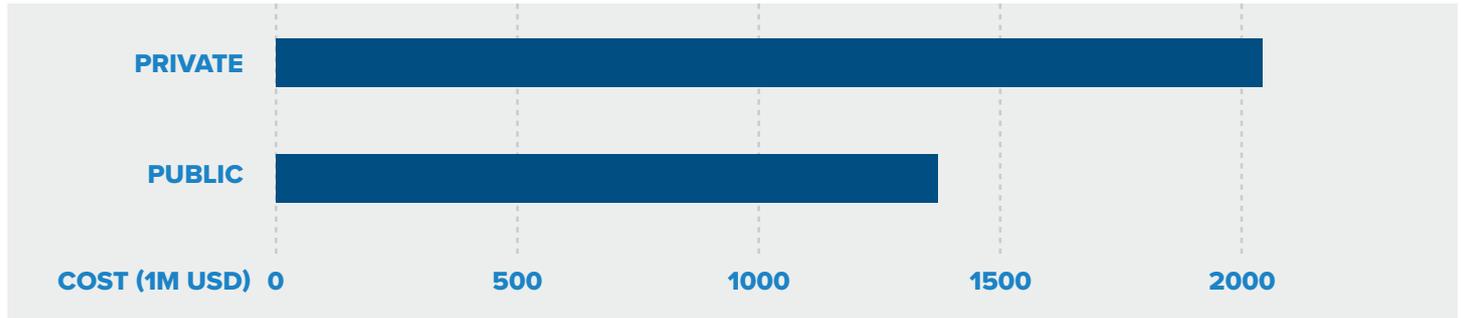
**7.5B**  
USD

### OUTPATIENT ATTENDANCES DRIVEN BY STRESS-RELATED ILLNESS

**6,598,005**  
PER YEAR

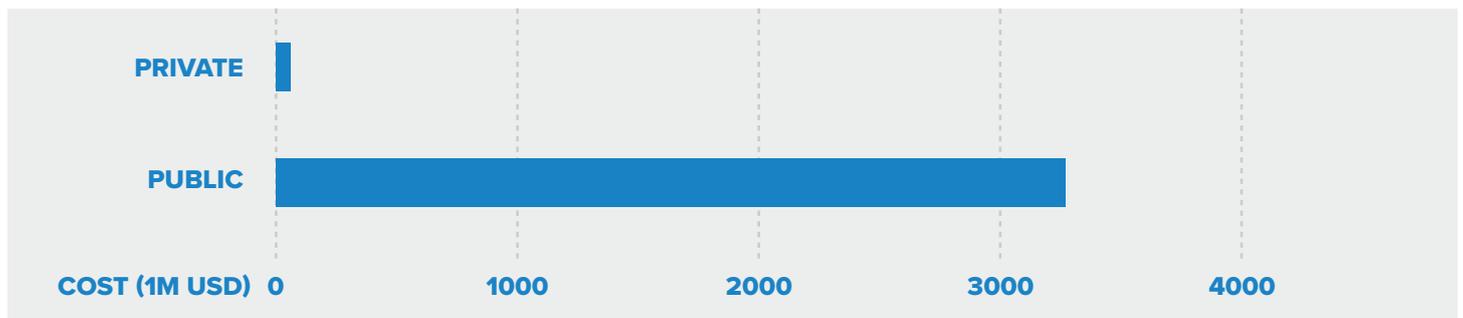
**1.3B**  
USD

## COST OF HOSPITAL ADMISSIONS, ANNUALISED (COHORT 3)



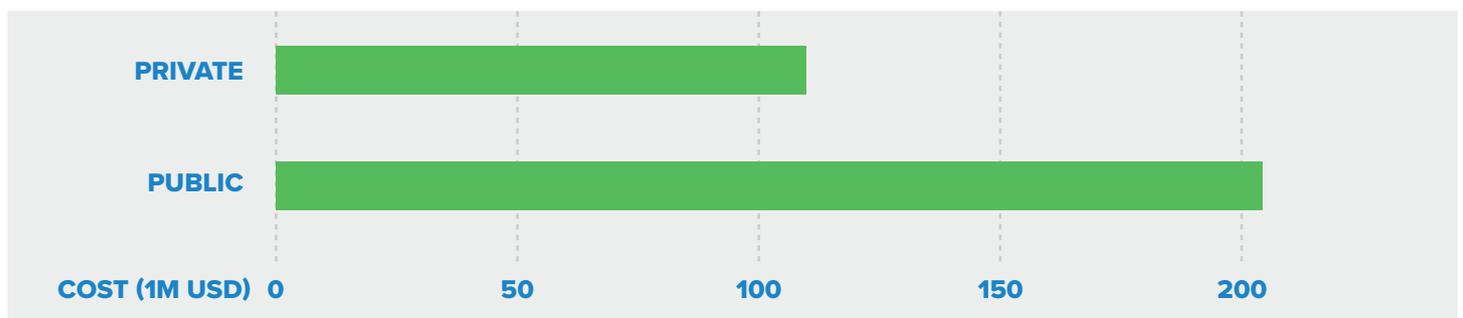
**COST OF ALL SELECTED PHYSICAL SYMPTOMS DRIVEN BY STRESS-RELATED MENTAL ILLNESS**

## COST OF GP ATTENDANCES, ANNUALISED (COHORT 3)



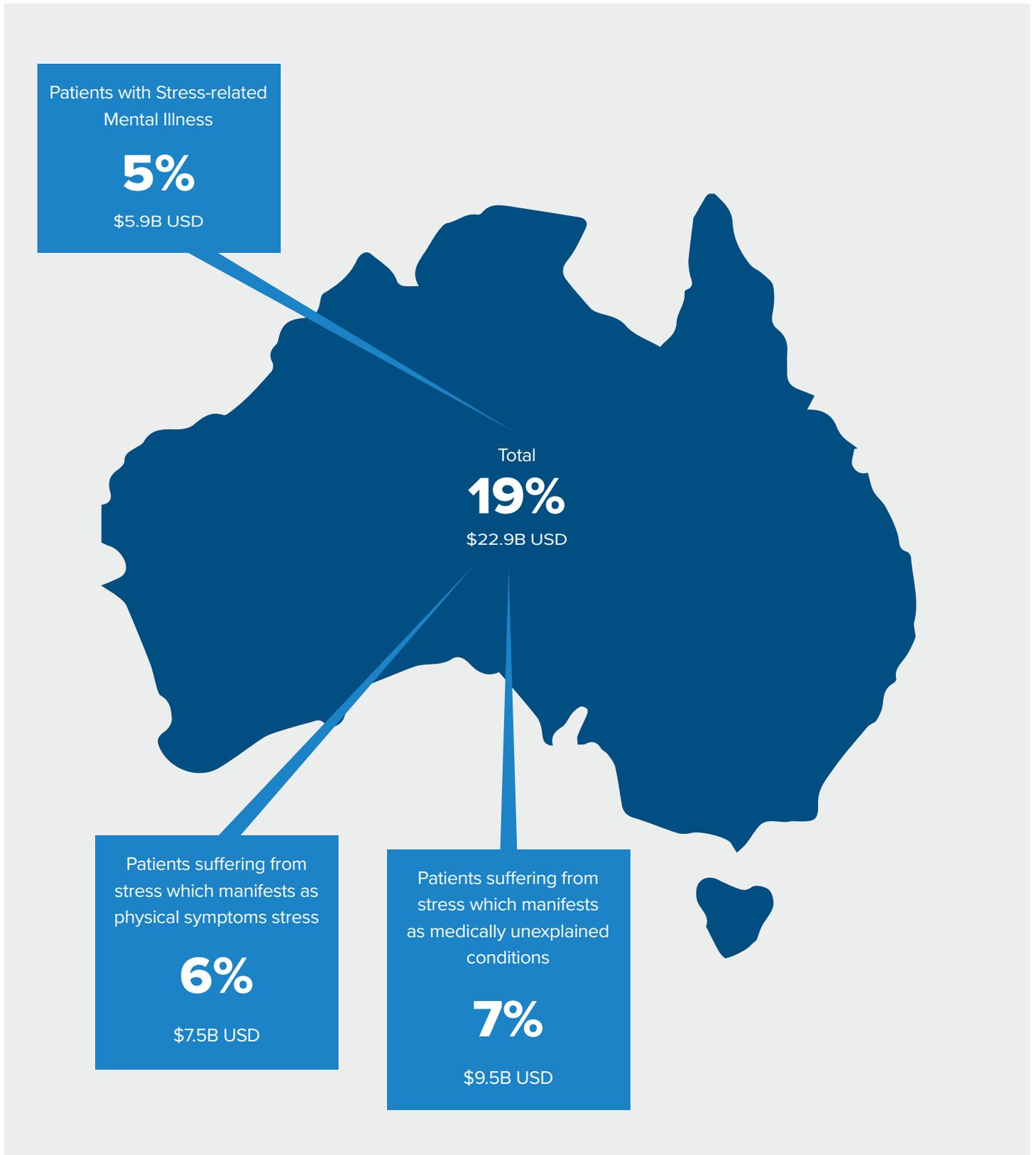
**COST OF ALL CHEST PAIN DRIVEN BY STRESS-RELATED MENTAL ILLNESS**

## COST OF OUTPATIENT ATTENDANCES, ANNUALISED (COHORT 3)



**COST OF ALL CIRCULATORY ISSUES DRIVEN BY STRESS-RELATED MENTAL ILLNESS**

**FIG 5 - COSTS ASSOCIATED WITH STRESS-RELATED ILLNESS (ANNUALLY) IN USD AND AS A PERCENTAGE OF AUSTRALIA'S TOTAL HEALTH EXPENDITURE**





## SINGAPORE - THE COST OF STRESS: 2.3B USD

Singapore’s comprehensive health system, underpinned by mandatory and top-up health insurance, ensures universal health care for its citizens. Public delivery forms the majority of activity, accounting for 80% of inpatient admissions and emergency department attendances. The opposite is true of GP and outpatient attendances, where 80% of activity being undertaken by the private sector, with some price control.

The impact of stress-related illness on Singapore’s health system conservatively equates to **USD 2.3 billion of spend, 18% of health expenditure**. This is most keenly felt in primary care, where just over 35% of all attendances relate to stress-related conditions. For emergency department attendances, just over 19% relate to stress-related illness and a cost of USD 16.7 million and USD 4.4 million of cost to government and private sector respectively. Stress-related illness is less obvious in outpatient settings, accounting for only 12% of total outpatient service spend. This may be due to an effective system of referral which ensures that access to outpatient care is controlled via triaging and redirecting patients back to primary care where necessary.

Singapore’s public hospitals, like those in Hong Kong, are facing severe capacity challenges. We estimate that over 160,000 admissions relate to stress-related conditions. Identifying patients suffering with stress-related illness earlier in their journey and upskilling hospital staff to detect and manage patients with stress conditions are likely to be highly effective in reducing the burden on hospital beds and financing.

### INPATIENT ADMISSIONS DRIVEN BY STRESS-RELATED ILLNESS

**160,118  
PER YEAR**

**931M  
USD**

### A&E ATTENDANCES DRIVEN BY STRESS-RELATED ILLNESS

**239,123  
PER YEAR**

**21M  
USD**

### GP APPOINTMENTS DRIVEN BY STRESS-RELATED ILLNESS

**11,124,152  
PER YEAR**

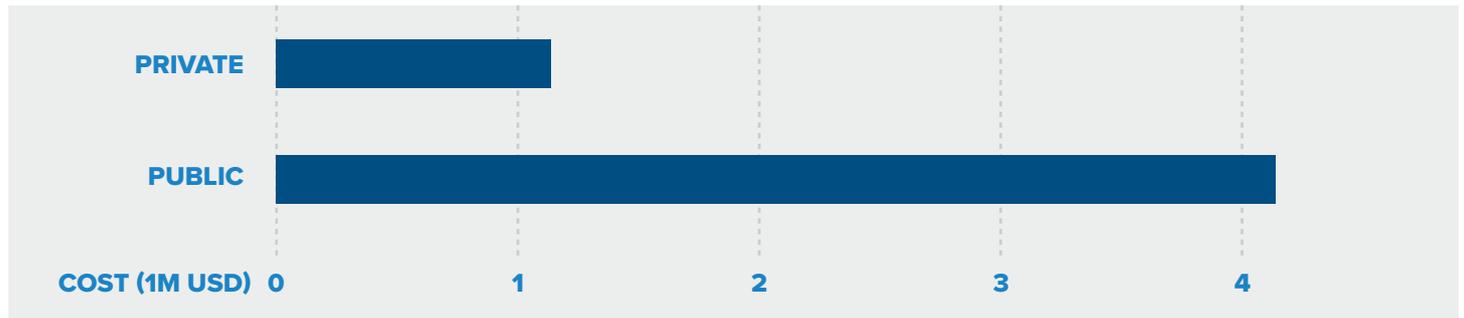
**1.1B  
USD**

### OUTPATIENT ATTENDANCES DRIVEN BY STRESS-RELATED ILLNESS

**3,034,159  
PER YEAR**

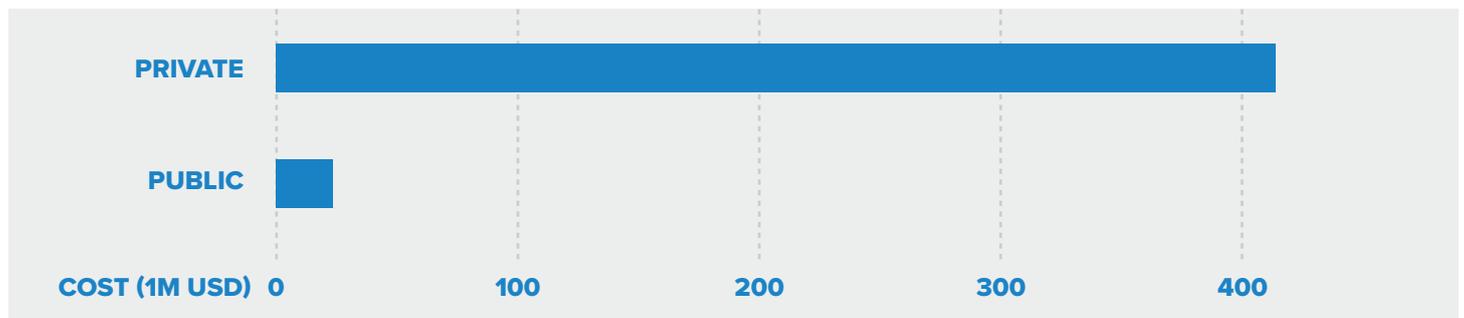
**294M  
USD**

## COST OF ED ATTENDANCES, ANNUALISED (COHORT 3)



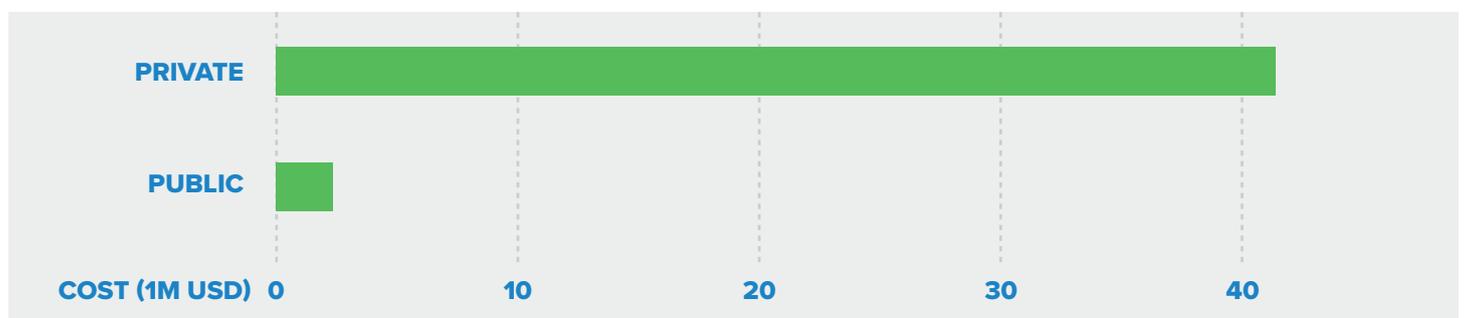
 COST OF ALL SELECTED PHYSICAL SYMPTOMS DRIVEN BY STRESS-RELATED MENTAL ILLNESS

## COST OF GP ATTENDANCES, ANNUALISED (COHORT 3)



 COST OF ALL CHEST PAIN DRIVEN BY STRESS-RELATED MENTAL ILLNESS

## COST OF OUTPATIENT ATTENDANCES, ANNUALISED (COHORT 3)



 COST OF ALL CIRCULATORY ISSUES DRIVEN BY STRESS-RELATED MENTAL ILLNESS

**FIG 6 - COSTS ASSOCIATED WITH STRESS-RELATED ILLNESS (ANNUALLY) IN USD AND AS A PERCENTAGE OF SINGAPORE'S TOTAL HEALTH EXPENDITURE**





## TAIWAN - THE COST OF STRESS: 4.6B USD

Taiwan's National Health Insurance System provides comprehensive cover to its citizens. Both public and private providers are reimbursed under the national scheme, with low co-pays being met by patients. This has led to reasonably high healthcare utilisation rates generally, and some concern over system sustainability in the long term. In addition, high utilisation rates are impacting waiting times, which are now rising steadily across the system. These access challenges have led some individuals to seek fully-private care; paid for either out-of-pocket or via private health insurance. However, the level of fully-privately financed care remains a reasonably small part of the overall ecosystem.

The cost of stress-related illness in Taiwan is estimated to be **USD 4.6 billion** annually. This manifests most markedly in primary care, where an estimated 180 million attendances and USD 2.4 billion of spend relates to stress-related illness. The high level of cost and activity seen in primary care is likely a feature of high usage generally: the average person in Taiwan visits a GP 14 times per year; one of the highest rates globally. Nonetheless, an estimated 38% of all primary care activity is likely to be the direct result of stress-related illness – more than one in three visits. In the inpatient settings, an estimated 13.4% of overall inpatient services spend relates to stress-related illness. This highlights that beyond the fiscal opportunity created by tackling stress, there is also an opportunity to reduce demand on beds – by almost one seventh. As the population ageing is a significant challenge for Taiwan, tackling the estimated 2 million inpatient admissions for stress-related illness will be an important part of ensuring operational capacity.

### INPATIENT ADMISSIONS DRIVEN BY STRESS-RELATED ILLNESS

**2,096,191**  
PER YEAR

**980M**  
USD

### A&E ATTENDANCES DRIVEN BY STRESS-RELATED ILLNESS

**388,404**  
PER YEAR

**27M**  
USD

### GP APPOINTMENTS DRIVEN BY STRESS-RELATED ILLNESS

**179,553,863**  
PER YEAR

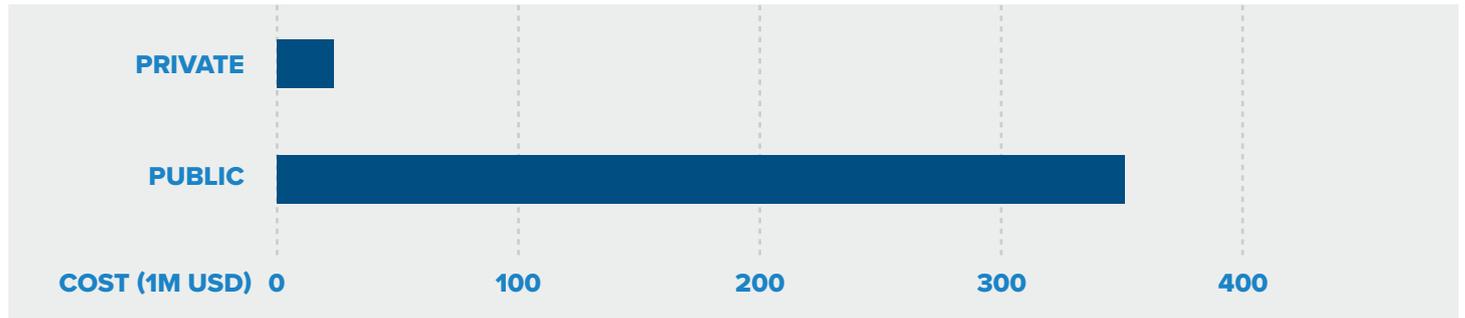
**2.4B**  
USD

### OUTPATIENT ATTENDANCES DRIVEN BY STRESS-RELATED ILLNESS

**11,645,624**  
PER YEAR

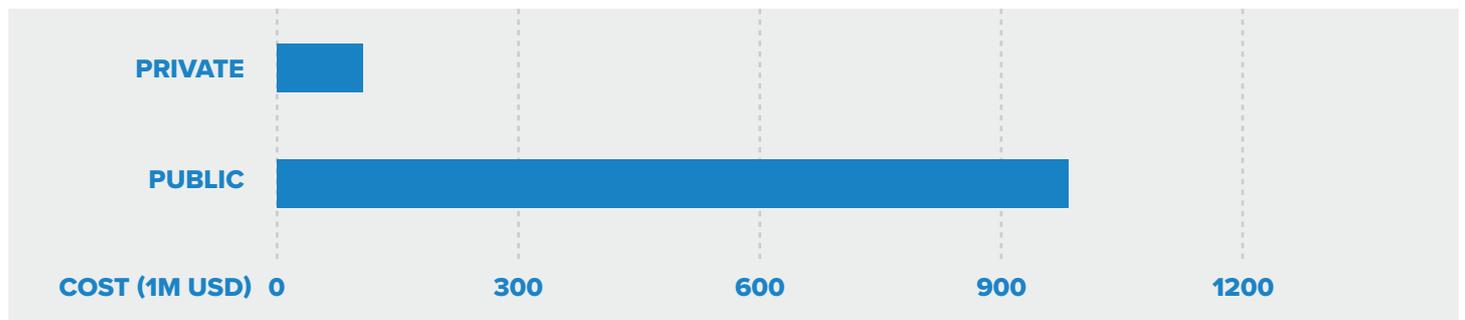
**12B**  
USD

## COST OF HOSPITAL ADMISSIONS, ANNUALISED (COHORT 3)



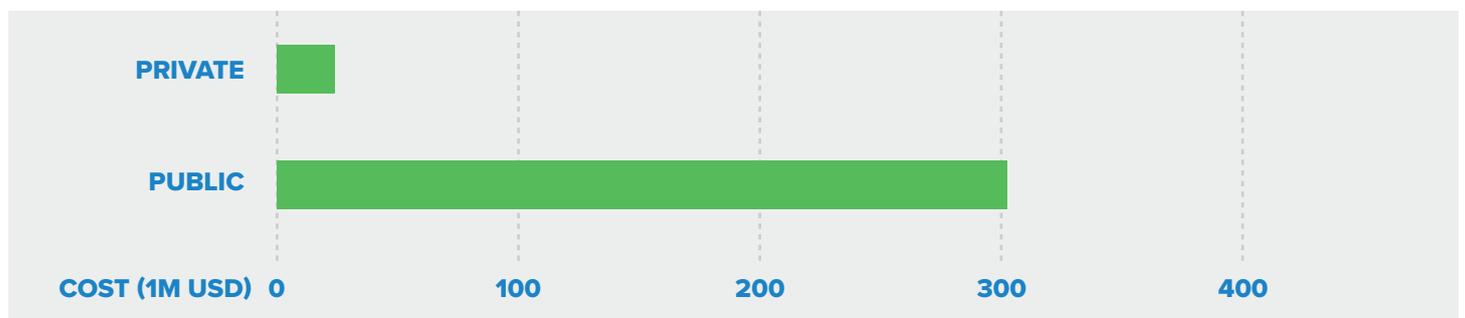
 COST OF ALL SELECTED PHYSICAL SYMPTOMS DRIVEN BY STRESS-RELATED MENTAL ILLNESS

## COST OF GP ATTENDANCES, ANNUALISED (COHORT 3)



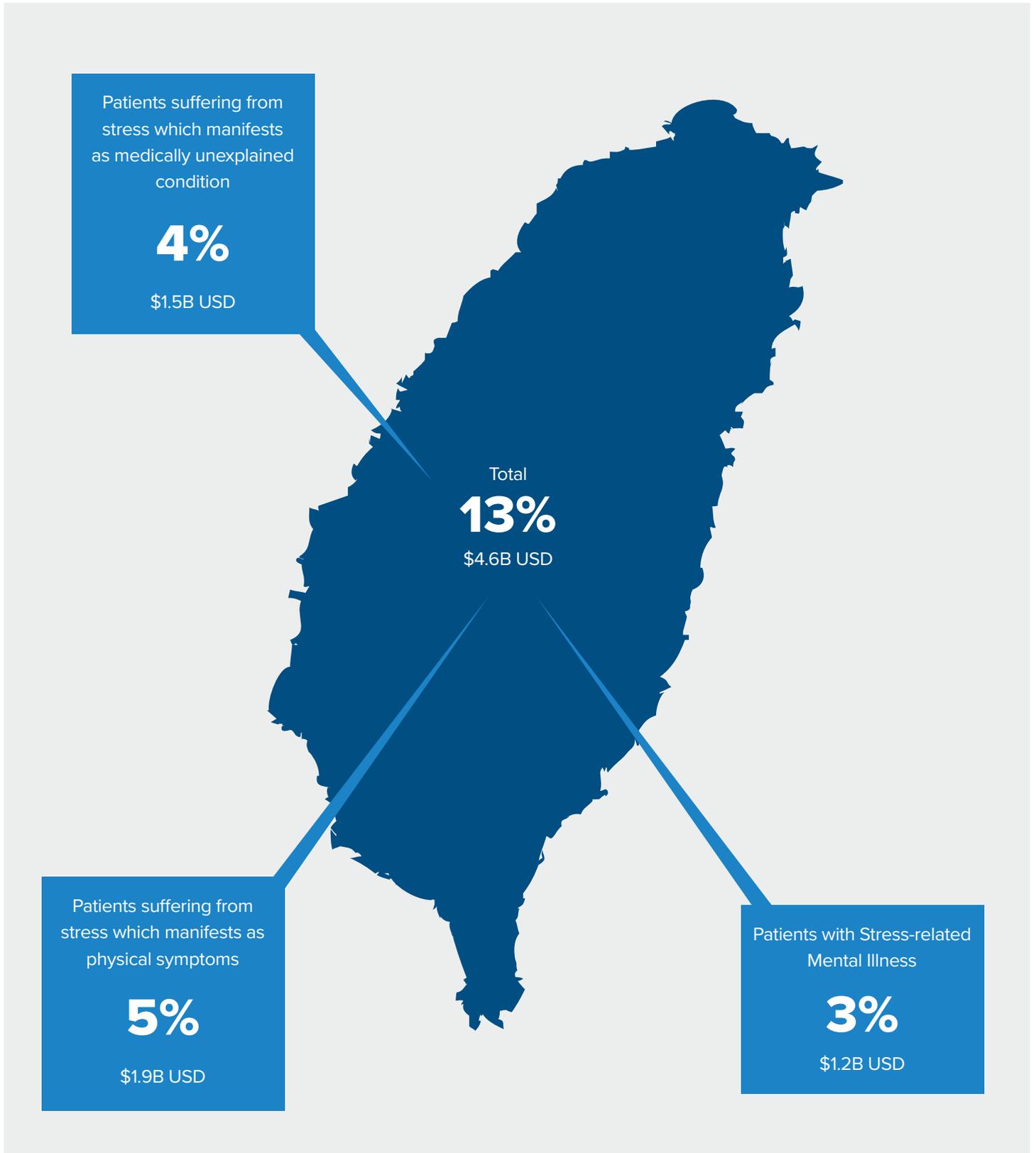
 COST OF ALL SELECTED PHYSICAL SYMPTOMS DRIVEN BY STRESS-RELATED MENTAL ILLNESS

## COST OF OUTPATIENT ATTENDANCES, ANNUALISED (COHORT 3)



 COST OF ALL SELECTED PHYSICAL SYMPTOMS DRIVEN BY STRESS-RELATED MENTAL ILLNESS

## FIG 7 - COSTS ASSOCIATED WITH STRESS-RELATED ILLNESS (ANNUALLY) IN USD AND AS A PERCENTAGE OF TAIWAN'S TOTAL HEALTH EXPENDITURE





## THAILAND - THE COST OF STRESS: 717M USD

Thailand introduced universal healthcare in the early part of the 21st century; operating a closed insurance-based system in which the Government predominately finances and delivers care. Thailand has been successful in containing costs, though access remains a considerable challenge. Outside of major urban centres, the provision of care can vary dramatically and co-pays – whilst very small – have an impact on healthcare usage. To provide choice and alleviate pressure on public services, Thailand has successfully stimulated the rapid growth of its private healthcare system. The capital's private hospitals now rank as some of the best in Asia – servicing both affluent locals and significant inbound medical tourists. Nonetheless, public services account for the majority of care – some 98% of all care delivery.

We estimate that the total cost for selected stress-related illness on the Thai health system to be around **USD 717 million, 4% of health expenditure.**

For inpatient care, this represents around 26% of the total health expenditure on inpatient care with USD 415 million and USD 20 million in cost to government and the private sector respectively. For outpatient services, the figures are estimated to be lower with only 12% of total outpatient services spend related to stress-related illness.

Overall, the costs associated with stress-related illness are lower in Thailand than other countries. This is mainly due to the low unit costs in Thailand which limit the overall cost exposure (when compared to the other 8 markets in this report).

### INPATIENT ADMISSIONS DRIVEN BY STRESS-RELATED ILLNESS

**1,512,203  
PER YEAR**

**435M  
USD**

### A&E ATTENDANCES DRIVEN BY STRESS-RELATED ILLNESS

**868,170  
PER YEAR**

**22M  
USD**

### GP APPOINTMENTS DRIVEN BY STRESS-RELATED ILLNESS

**26,178,748  
PER YEAR**

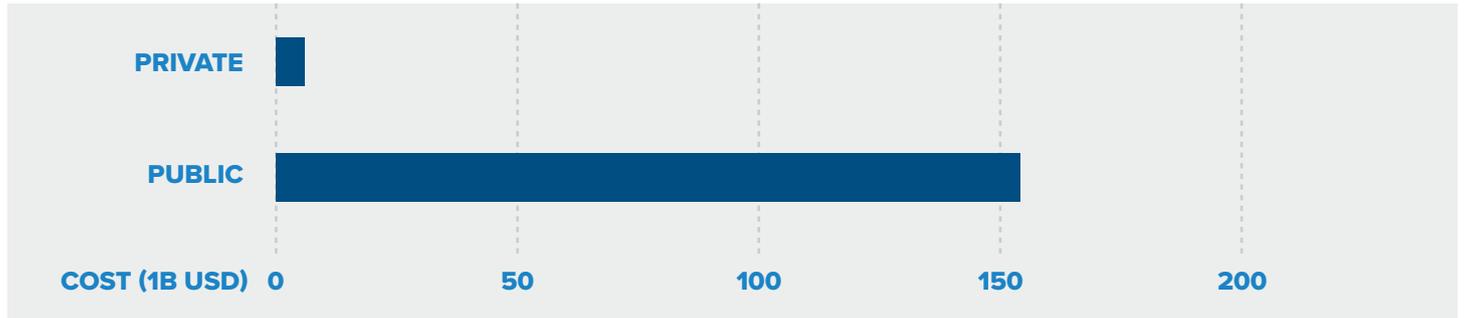
**167M  
USD**

### OUTPATIENT ATTENDANCES DRIVEN BY STRESS-RELATED ILLNESS

**10,779,071  
PER YEAR**

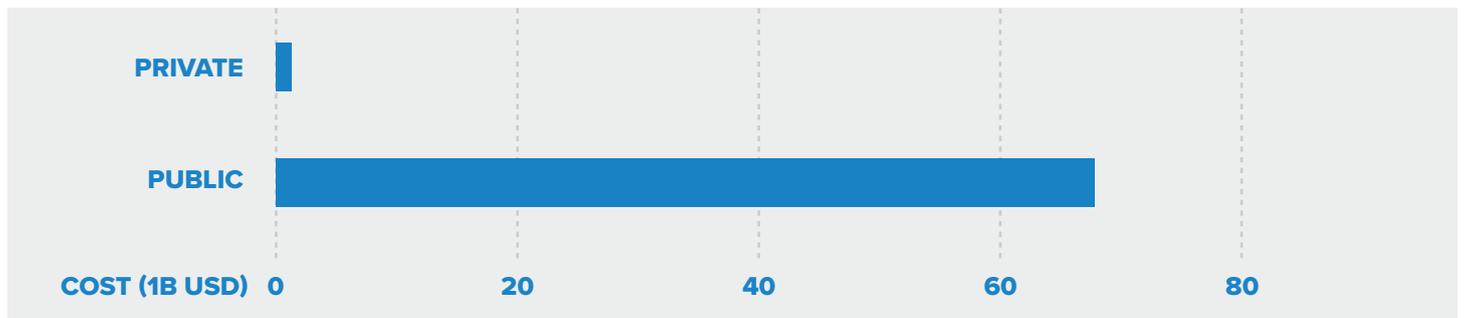
**94M  
USD**

## COST OF HOSPITAL ADMISSIONS, ANNUALISED (COHORT 3)



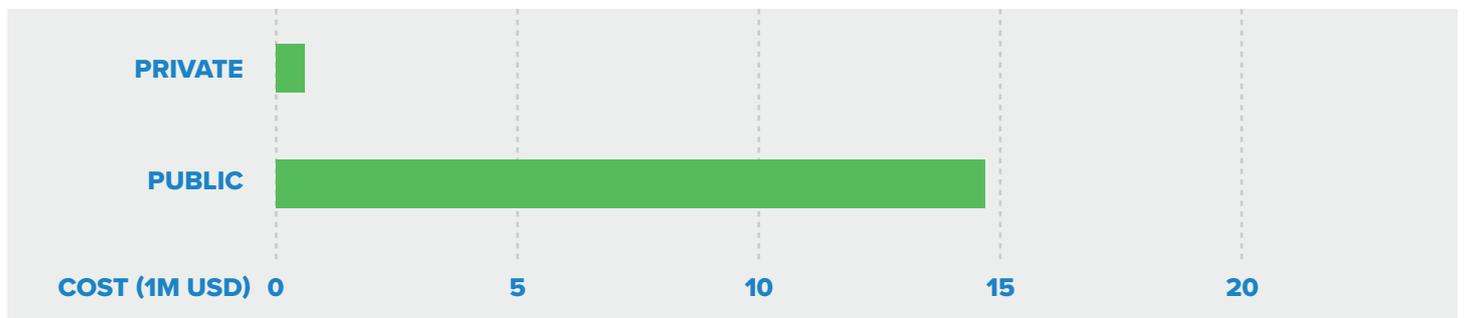
 COST OF ALL SELECTED PHYSICAL SYMPTOMS DRIVEN BY STRESS-RELATED MENTAL ILLNESS

## COST OF GP ATTENDANCES, ANNUALISED (COHORT 3)



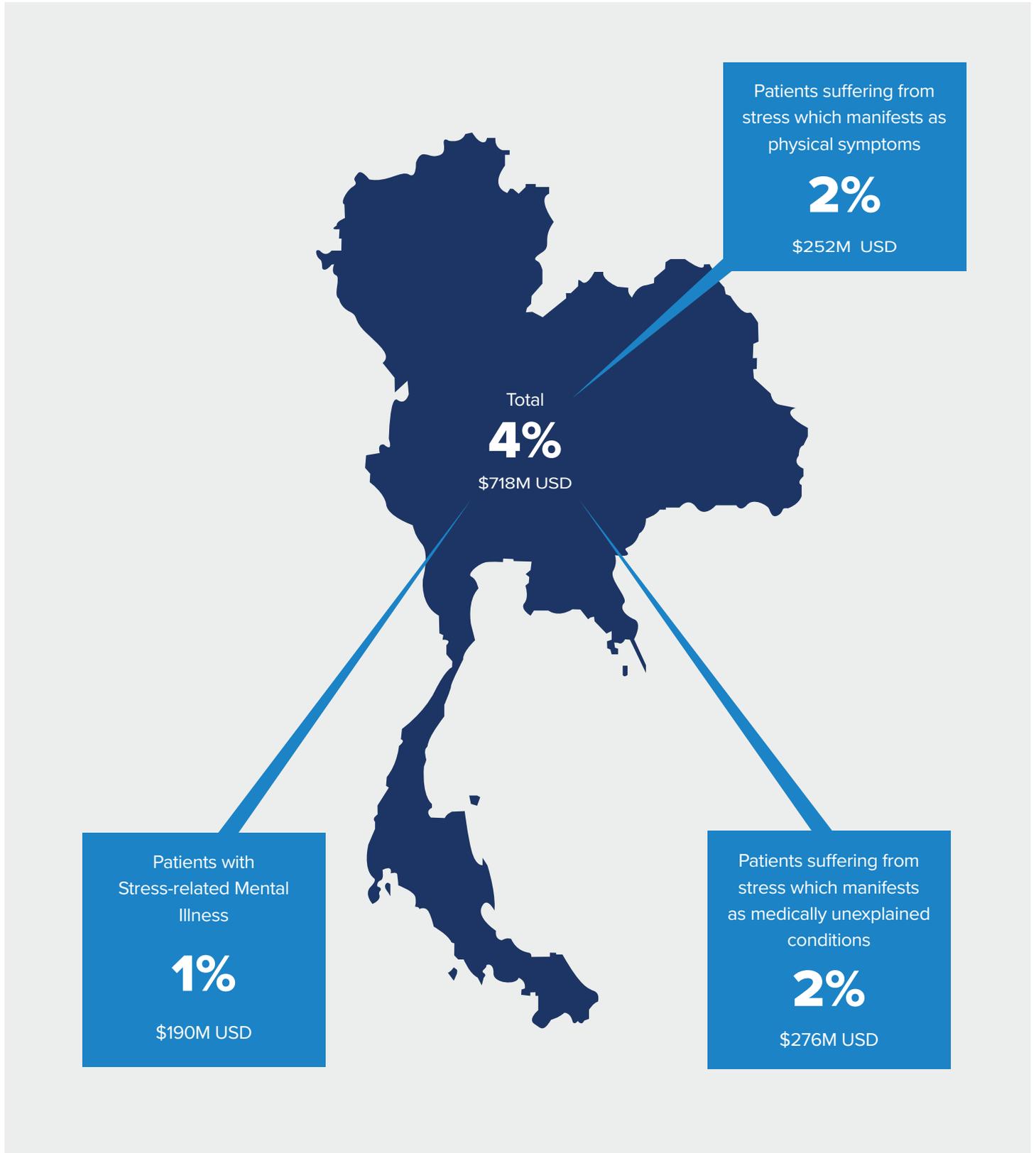
 COST OF ALL SELECTED PHYSICAL SYMPTOMS DRIVEN BY STRESS-RELATED MENTAL ILLNESS

## COST OF OUTPATIENT ATTENDANCES, ANNUALISED (COHORT 3)



 COST OF ALL SELECTED PHYSICAL SYMPTOMS DRIVEN BY STRESS-RELATED MENTAL ILLNESS

**FIG 8 - COSTS ASSOCIATED WITH STRESS-RELATED ILLNESS (ANNUALLY) IN USD AND AS A PERCENTAGE OF THAILANDS' TOTAL HEALTH EXPENDITURE**





## HONG KONG - THE COST OF STRESS: 3.8B USD

Hong Kong's dual-track healthcare system encompasses a large public acute care system and a predominately private primary care system. Around 90% of all inpatient services are delivered by the Public Hospital Authority. Similarly, emergency department usage skews heavily toward public delivery, with 99% of all attendances being undertaken in the Hospital Authority. Conversely, primary care is dominated by private providers who deliver 81% of all consultations, and around 70% of all outpatient episodes. The structure of Hong Kong's health system has created incentives to use more resource intensive services; attending the emergency room for minor conditions is cheaper than attending a GP practice leading to some potential over use of emergency care. In addition, the low cost of public care, combined with an ageing population, has led to high demand for acute care putting pressure on hospital service.

The cost of stress on Hong Kong's health system is substantial. We estimate that **25% of total spending on inpatient care relates to stress-induced illness**, equating to some USD 1.7 billion of public sector spend and USD 586 million of spend in the private sector. Perhaps most importantly, close to **550,000 admissions relate to stress-related mental illness**. Helping prevent the escalation of these largely avoidable conditions would release a significant amount of bed days, which is much needed in a public system that routinely operates at over 100% capacity. For emergency care, we estimate that around **17% of total emergency department spending relates to stress-related illness**, with the majority of spend in the public system. For GP appointments, the numbers are high. We estimate that **35% of total GP appointment spend relates to stress-related mental illness**; a staggering USD 832 million and around 12 million appointments. Moving treatment of health related illness out of hospital settings would save considerable expense.

### INPATIENT ADMISSIONS DRIVEN BY STRESS-RELATED ILLNESS

**550,627**  
PER YEAR

**2.2B**  
USD

### A&E ATTENDANCES DRIVEN BY STRESS-RELATED ILLNESS

**371,612**  
PER YEAR

**65.8M**  
USD

### GP APPOINTMENTS DRIVEN BY STRESS-RELATED ILLNESS

**11,748,406**  
PER YEAR

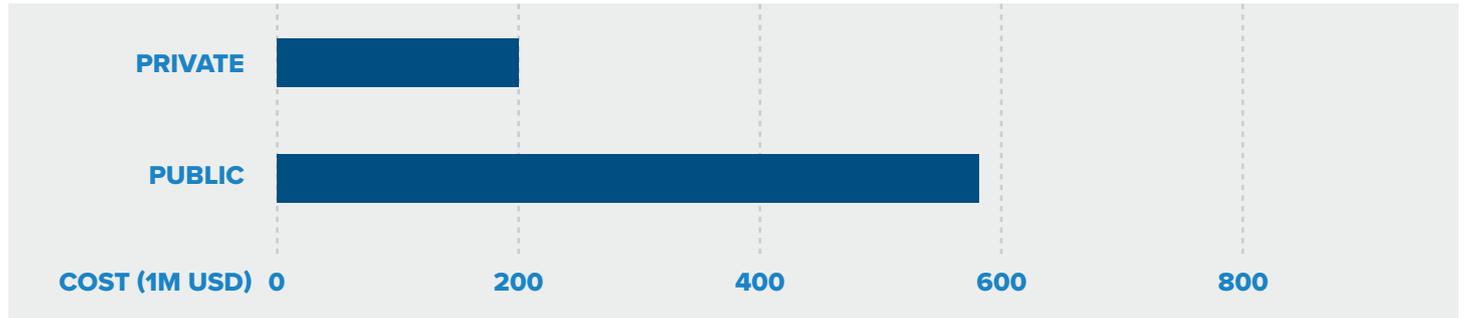
**832M**  
USD

### OUTPATIENT ATTENDANCES DRIVEN BY STRESS-RELATED ILLNESS

**3,172,206**  
PER YEAR

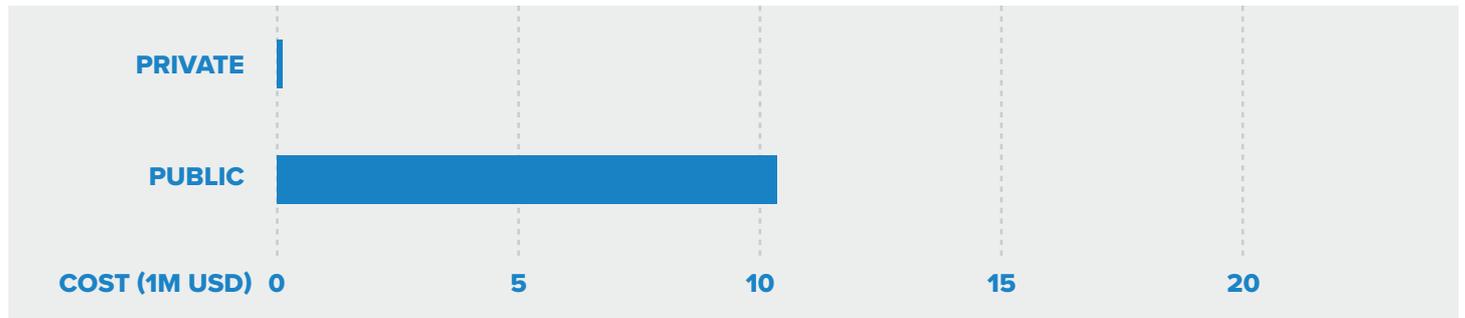
**624M**  
USD

## COST OF HOSPITAL ADMISSIONS, ANNUALISED (COHORT 3)



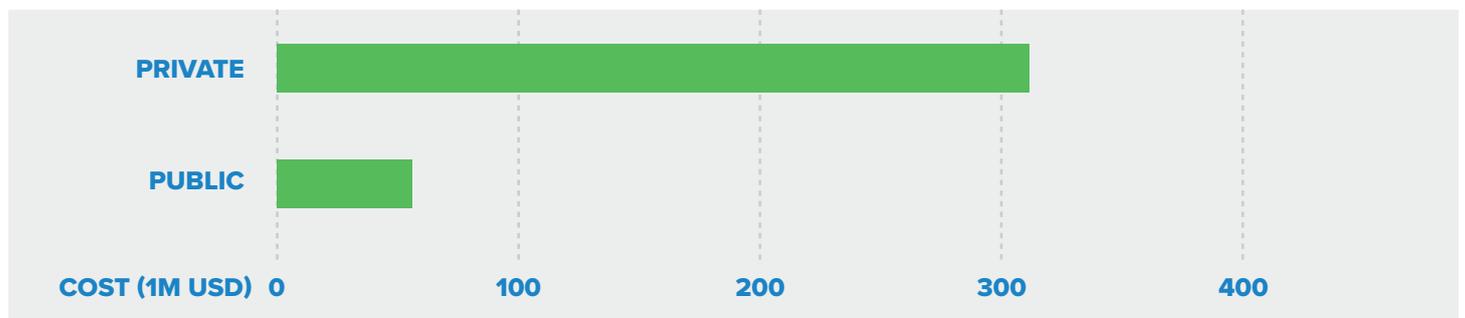
 COST OF ALL SELECTED PHYSICAL SYMPTOMS DRIVEN BY STRESS-RELATED MENTAL ILLNESS

## COST OF ED ATTENDANCES, ANNUALISED (COHORT 3)



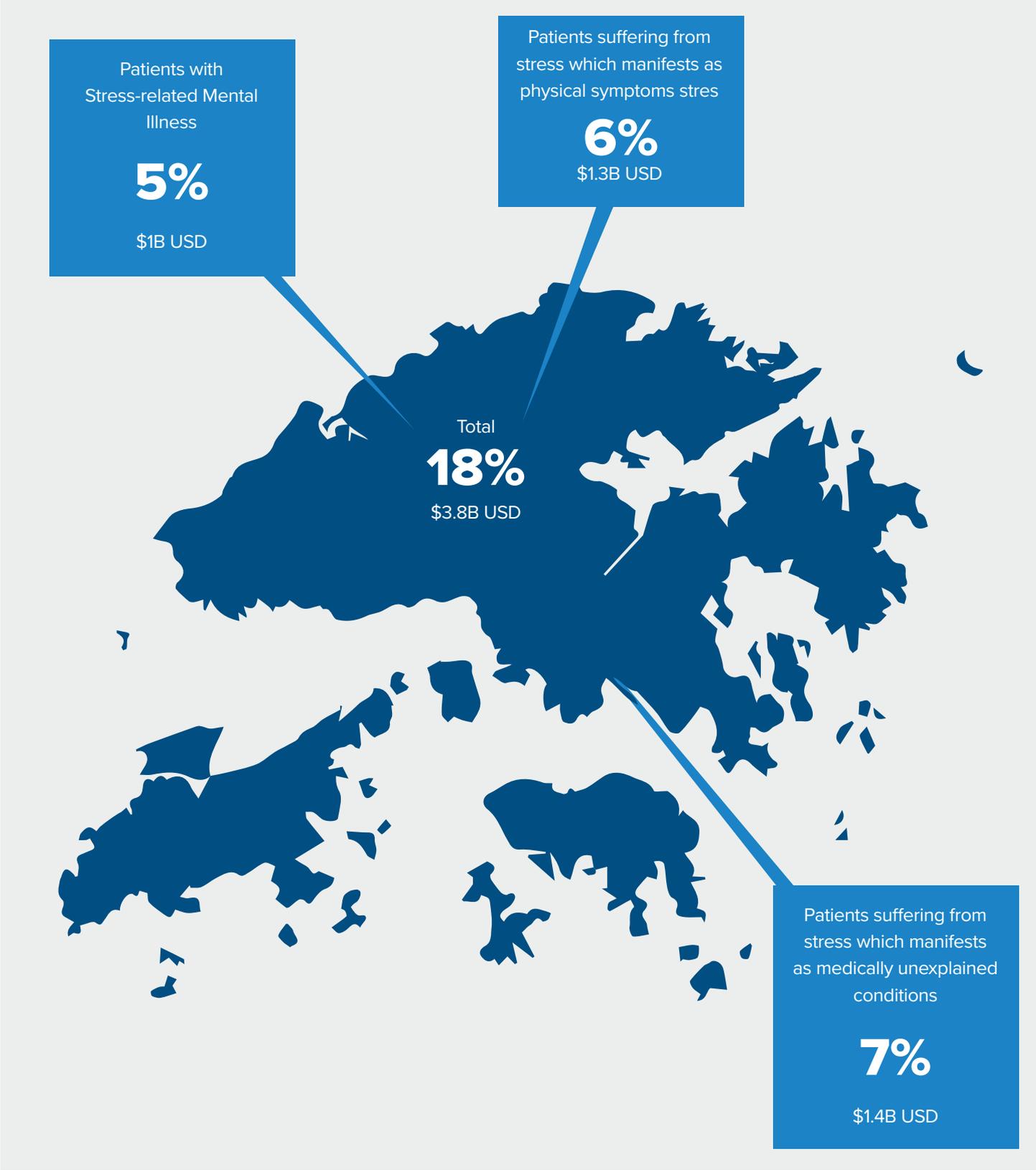
 COST OF ALL SELECTED PHYSICAL SYMPTOMS DRIVEN BY STRESS-RELATED MENTAL ILLNESS

## COST OF GP ATTENDANCES, ANNUALISED (COHORT 3)



 COST OF ALL SELECTED PHYSICAL SYMPTOMS DRIVEN BY STRESS-RELATED MENTAL ILLNESS

**FIG 9 - COSTS ASSOCIATED WITH STRESS-RELATED ILLNESS (ANNUALLY) IN USD AND AS A PERCENTAGE OF HONG KONG'S TOTAL HEALTH EXPENDITURE**





## UNITED ARAB EMIRATES - THE COST OF STRESS: 1.9B USD

The UAE has invested heavily in developing its healthcare system, and has an expansive public programme providing care to its citizens. A vast hospital infrastructure programme has created a growing network of public hospitals and clinics. Growing affluence in the region has stimulated the development of private insurance and numerous private hospitals which provide first-class care to patients. For now, private providers also provide much needed additional capacity in areas where Government provision is growing – but still developing. For inpatient services, around 47% of services are delivered in public settings, and 53% in private. For Emergency Department, GP and Outpatient attendances, public services account for less than 23% of the care delivery.

We estimate that the total cost for selected stress-related illness on the UAE’s health system is in the region of **USD 1.9 billion, 13% of health expenditure**. Better management of these patients should be a priority.

For inpatient services, we estimate that 28% of all inpatient services spend relates to stress-related illness with USD 511 million and USD 918 million of cost to government and private sector respectively. For GP services, we estimate 35% of total GP appointments spending pertains to stress-related illness with USD 61 million and USD 290 million cost to government and private sector respectively. This equates to over 3.5 million GP attendances.

For emergency care, we estimate that around 600,000 attendances were driven by stress related illness. However, accurate unit cost data is not available so quantifying the cost of emergency care has not been possible.

### INPATIENT ADMISSIONS DRIVEN BY STRESS-RELATED ILLNESS

**161,394**  
**PER YEAR**

**1.4B**  
**USD**

### A&E ATTENDANCES DRIVEN BY STRESS-RELATED ILLNESS

**582,966**  
**PER YEAR**

**N/A**

### GP APPOINTMENTS DRIVEN BY STRESS-RELATED ILLNESS

**3,509,806**  
**PER YEAR**

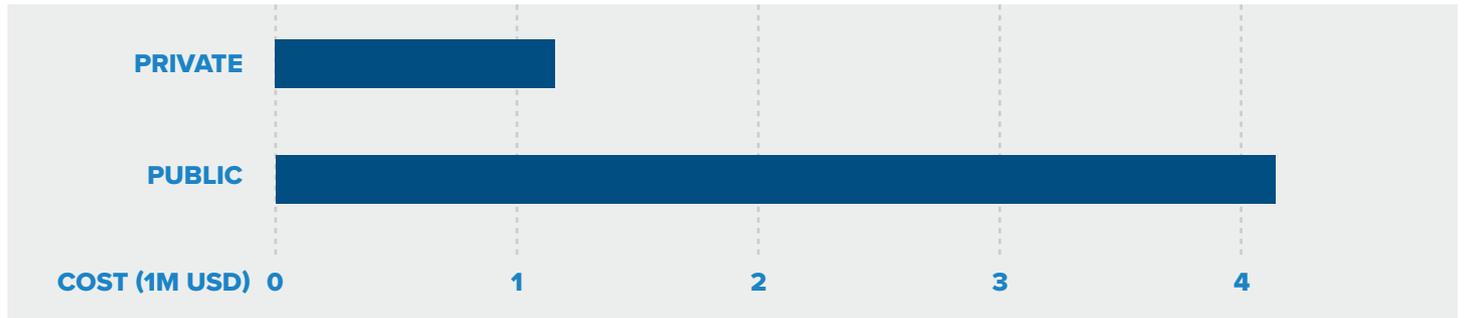
**351M**  
**USD**

### OUTPATIENT ATTENDANCES DRIVEN BY STRESS-RELATED ILLNESS

**581,407**  
**PER YEAR**

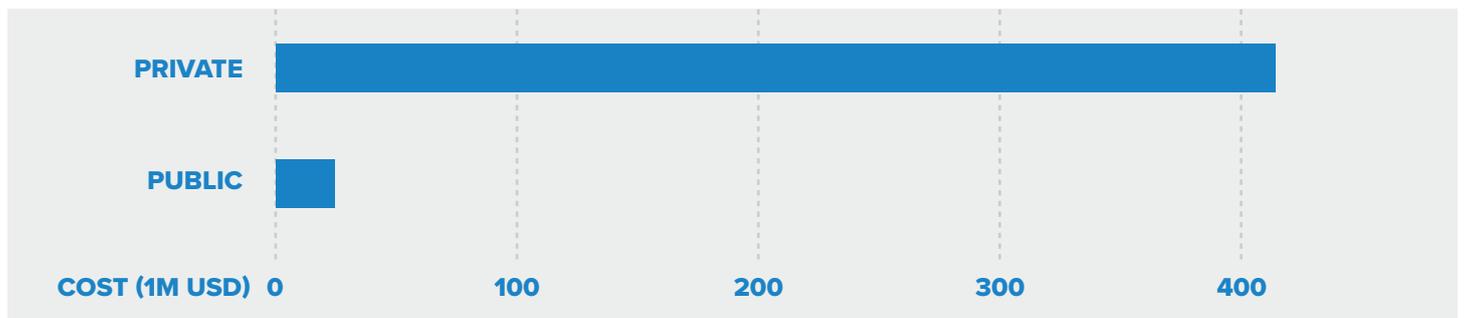
**85M**  
**USD**

## COST OF HOSPITAL ADMISSIONS, ANNUALISED (COHORT 3)



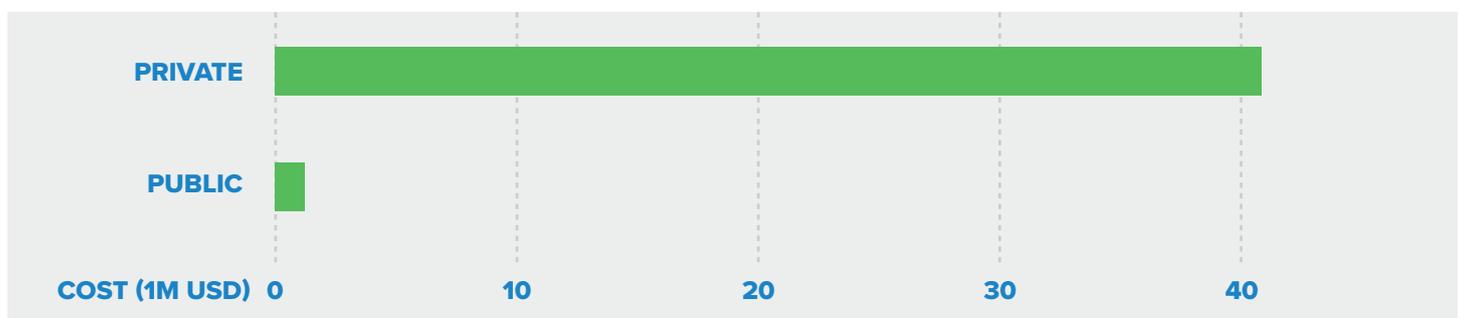
**COST OF ALL SELECTED PHYSICAL SYMPTOMS DRIVEN BY STRESS-RELATED MENTAL ILLNESS**

## COST OF GP ATTENDANCES, ANNUALISED (COHORT 3)



**COST OF ALL CHEST PAIN DRIVEN BY STRESS-RELATED MENTAL ILLNESS**

## COST OF OUTPATIENT ATTENDANCES, ANNUALISED (COHORT 3)



**COST OF ALL CIRCULATORY ISSUES DRIVEN BY STRESS-RELATED MENTAL ILLNESS**

**FIG 10 - COSTS ASSOCIATED WITH STRESS-RELATED ILLNESS (ANNUALLY) IN USD AND AS A PERCENTAGE OF UAE'S TOTAL HEALTH EXPENDITURE**





## SOUTH KOREA - THE COST OF STRESS: 13.1B USD

South Korea has a significant social health insurance system, the funding of which accounts for just over 7% of GDP. Despite this, co-pays and shortfalls are common as the benefit limits of social health insurance plans are often too low to cover the fees charged by hospitals. The majority of providers – around 90% - of both hospitals and clinics operating in the country are privately owned. Due to the considerable cost of private hospital care, the use of primary care clinics is extensive and the population generally seek to manage their conditions well to avoid costly inpatient care at hospitals.

**More than 11% of health expenditure** in South Korea was due to stress-related illness. There was **particularly high levels of unexplained medical symptoms, with 4.9% of costs being due to that.**

The heavy use of primary care is also reflected in our findings – we estimate that about 258 million GP attendances could be related to stress-related illness. This equates to a considerable cost – around USD 5.2 billion of spend. By comparison, visits to the emergency department for stress related conditions are comparatively low, at about 2 million attendances. These findings reflect the incentives that are in place to help encourage South Korean citizens to utilise the most appropriate level of care.

For inpatient care, we estimate that 19% of total spend relates to stress related conditions, with a USD 3.6 billion and USD 1.9 billion cost to insurers and citizens respectively. This translates to over three million admissions and several million bed days. The high costs of inpatient care makes tackling the issues related to stress important, as part of overall efforts to ensure premiums and medical costs continue to be affordable for the overall population.

### INPATIENT ADMISSIONS DRIVEN BY STRESS-RELATED ILLNESS

**3,042,211  
PER YEAR**

**5.5B  
USD**

### A&E ATTENDANCES DRIVEN BY STRESS-RELATED ILLNESS

**1,997,899  
PER YEAR**

**54M  
USD**

### GP APPOINTMENTS DRIVEN BY STRESS-RELATED ILLNESS

**258,487,329  
PER YEAR**

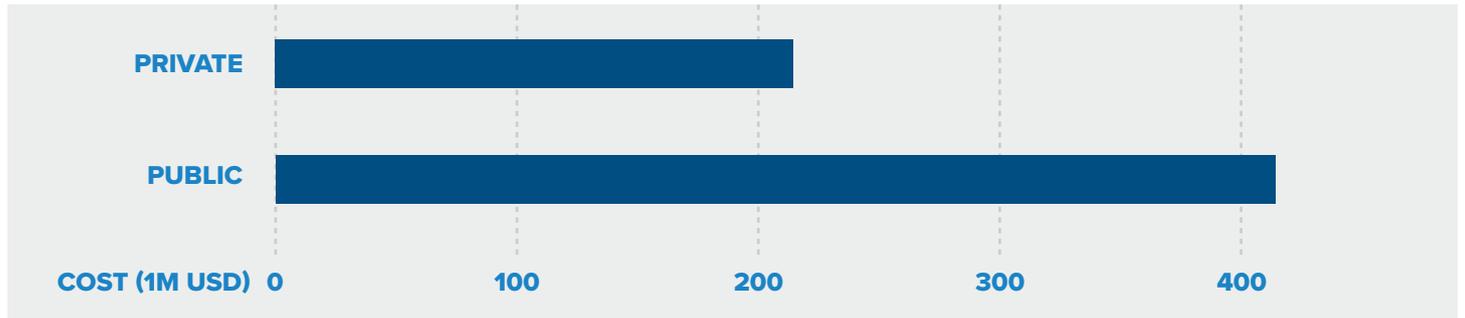
**5.2B  
USD**

### OUTPATIENT ATTENDANCES DRIVEN BY STRESS-RELATED ILLNESS

**31,895,517  
PER YEAR**

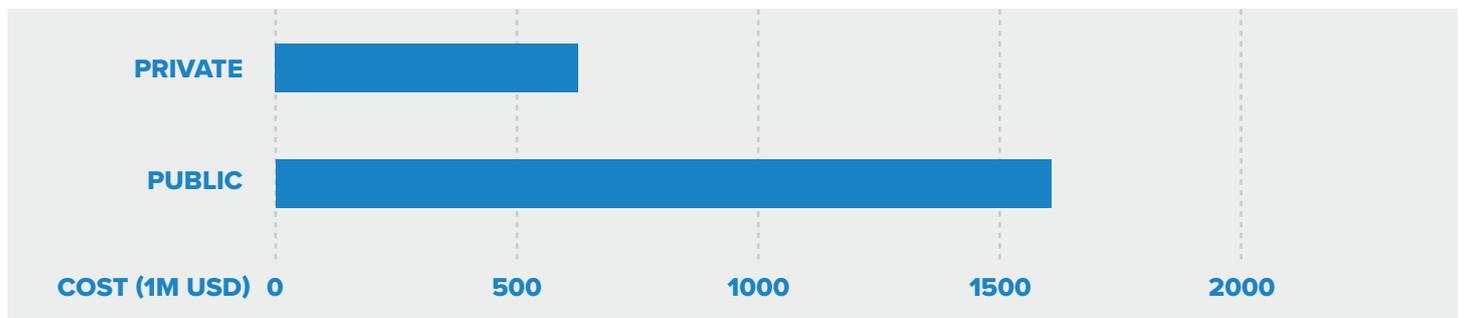
**2.3B  
USD**

## COST OF HOSPITAL ADMISSIONS, ANNUALISED (COHORT 3)



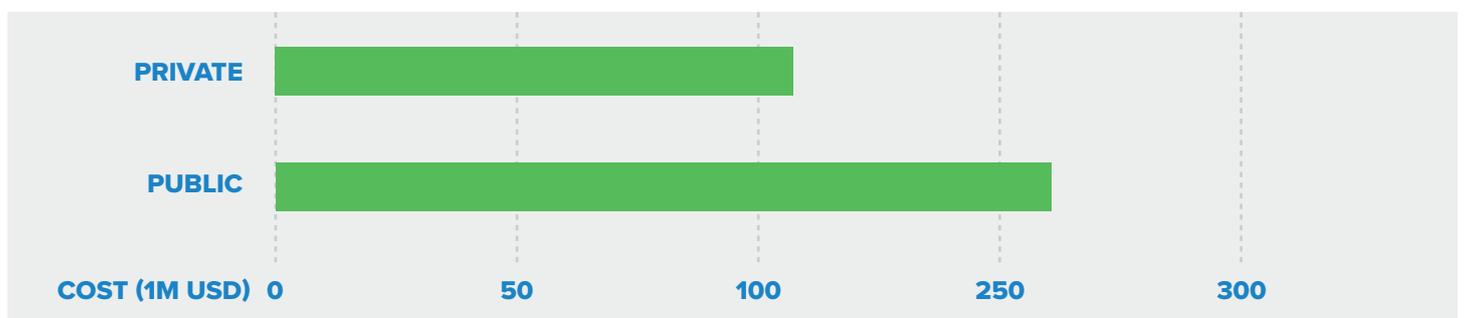
 COST OF ALL SELECTED PHYSICAL SYMPTOMS DRIVEN BY STRESS-RELATED MENTAL ILLNESS

## COST OF GP ATTENDANCES, ANNUALISED (COHORT 3)



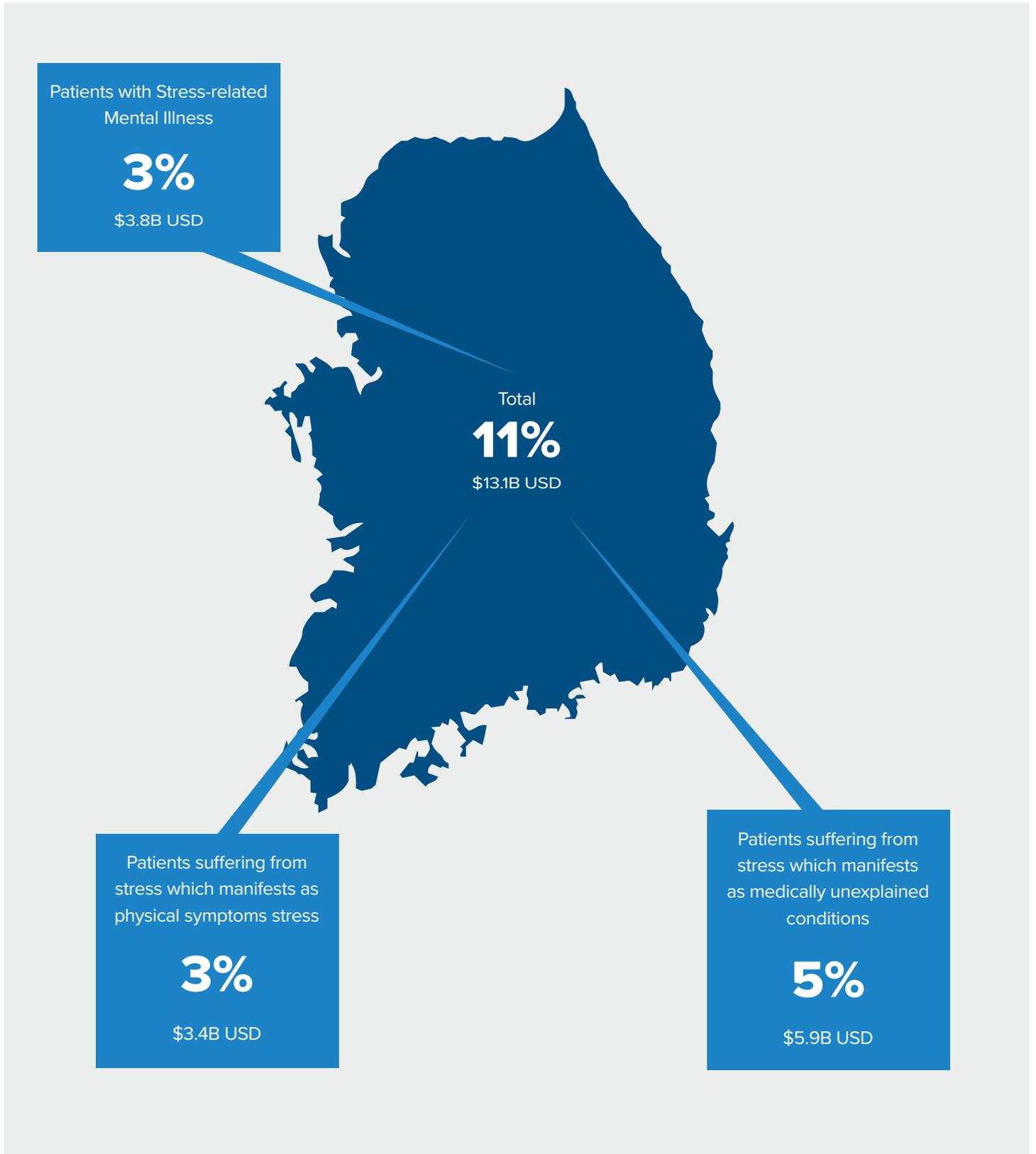
 COST OF ALL CHEST PAIN DRIVEN BY STRESS-RELATED MENTAL ILLNESS

## COST OF OUTPATIENT ATTENDANCES, ANNUALISED (COHORT 3)



 COST OF ALL CIRCULATORY ISSUES DRIVEN BY STRESS-RELATED MENTAL ILLNESS

**FIG 11 - COSTS ASSOCIATED WITH STRESS-RELATED ILLNESS (ANNUALLY) IN USD AND AS A PERCENTAGE OF SOUTH KOREA'S TOTAL HEALTH EXPENDITURE**





# CHRONIC STRESS:

## ARE WE REACHING HEALTH SYSTEM BURN OUT?

NOVEMBER 2019

~ Asia Care Group ~

Asia Care Group are a specialist management consulting firm, that advise healthcare organisations on strategy and change. They work across the industry - with Governments, Payors, Providers and a range of development organisations - to help create sustainable systems across Asia-Pacific.

