

The **SDP** National Healthcare Plan

Caring For All Singaporeans



(FOR PUBLIC CONSULTATION)



SINGAPORE DEMOCRATIC PARTY

Presented by the
SDP Healthcare Advisory Panel

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FOREWORD

Just weeks after the general elections in May 2011, the Singapore Democratic Party put together an Advisory Healthcare Panel comprising several medical doctors and healthcare professionals who had come forward to help us during the elections. Under our Policy Unit headed by Dr James Gomez, the Panel got down to work on an alternative healthcare plan for Singapore. This was an extension and an elaboration of the healthcare programme we had proposed during the elections.



Nine months, several meetings and countless exchanges of emails later, a document emerged that we are proud to present to this nation. For the first time in Singapore's political history, an opposition party has come up with a comprehensive and detailed programme to chart the future for healthcare in this country. It is a plan that is in line with SDP's vision of fostering a compassionate and egalitarian Singapore. It puts forth policies that coalesce around the idea that a healthcare system must take care of anyone and everyone who needs medical assistance.

Equally important is that our plan looks at the question of sustainability. It builds in effective cost containment measures to prevent health expenditure from spiralling out of control and bankrupting the system. Our proposals also ensure that the system is: One, easy to manage as it has only one level of administration instead of the present complex Medisave, Medifund and Medishield schemes; two, transparent and accountable as it does away with questionable subsidies that the government claims to give; and three, minimises the use of our Central Provident Fund savings.

I want to thank the Panel members for their scholarship and erudition, not to mention the hours of hard work that they had put into this massive project. What is most significant, however, is the compassion that these professionals demonstrate. Convicted by their sense of right and wrong, they have been moved to write their vision of a healthcare system that takes care of *all*. With Singaporeans like them, there is hope yet for our nation.

For a long time, Singaporeans know that healthcare is extremely expensive and many, if not most, find it unaffordable – especially if one, or one's loved one, meets with a catastrophic or chronic illness. But they do not know what an alternative system looks like and what the government should do to make medical care people-centric rather than profit-oriented. Now there is a plan that shows the Singaporean people what they have been missing all these decades. It opens the window to a whole new system that Singaporeans never realised was possible.

We have striven to make ours a caring and financially sound plan. But we would like to make it an even a better one by consulting you and inviting you to give us your input. To this end, we present to you *The SDP National Healthcare Plan: Caring For All Singaporeans*.

*Chee Soon Juan
Secretary-General
Singapore Democratic Party*

ACKNOWLEDGEMENTS

The SDP Healthcare Advisory Panel would like to express its heartfelt gratitude to Mr Ansari Abudeen, healthcare economist and doctoral candidate at the University of New South Wales, who gave invaluable advice to the panel during the policy formulation stages on the economic aspects of running a healthcare system, with especial attention to managing healthcare costs and the positive impact of universal healthcare coverage on economic growth. His constant exhortation for us to measure our policy against the best healthcare systems in the OECD inspired us to strive towards a healthcare plan that will be the touchstone by which all future policies are measured.

Many thanks also go to Dr James Gomez, Head of Policy Unit, SDP, who was instrumental in adding a political thrust to our policy paper through his frequent inputs and painstaking edits to the draft. He dedicatedly supervised and co-ordinated the group's activities in the lead-up to the publication and launch of the plan.

Ms Tan Ee Lyn has been especially helpful in providing a critique of the paper and playing the devil's advocate to help us prepare for the launch of a groundbreaking policy paper such as this. We appreciate your help, Ee Lyn.

To all the SDP members who turned up for the internal presentation of this paper, we say a big thank you. Your robust feedback was much appreciated, and major revisions to the draft were made in the light of your recommendations as well as misgivings. We are also grateful to Mr Tan Jee Say, who stood as an SDP candidate in Holland–Bukit Timah Group Representation Constituency in General Election 2011, for his thoughtful and encouraging remarks at the presentation. His National Economic Regeneration Plan played a pivotal role in re-orientating us to the importance of allocating adequate resources to infrastructural and manpower development in a balanced and sound healthcare policy.

Through all the months of hard work put in by the entire team into this project, we would be remiss not to mention the loving support given us by our spouses and families. These are the unnamed people who are an inestimable source of moral strength and comfort behind the completion of every monumental task. To them we owe an immense debt of gratitude.

We would also like to express our utmost appreciation to a few close friends and associates who would wish to remain anonymous for offering their unstinting advice on how to make a good healthcare plan even better.

Finally, this project would not have taken off if not for the active advocacy of our party leader, Dr Chee Soon Juan. His calibrated idealism and compassionate vision of a better world for all, from beginning to end, have provided the impetus behind the formation of this advisory panel and the launching of this landmark project. Under his nurturing guidance and mentorship, the group gelled together and achieved a singular focus on delivering a healthcare plan that any political party in the world would be proud to call its own. From the bottom of our hearts, we thank you, Dr Chee.

The SDP Healthcare Advisory Panel
9 March 2012

THE SDP HEALTHCARE ADVISORY PANEL



Dr Ang Yong Guan graduated from the National University of Singapore in 1979 with a medical degree and did his post-graduate training in psychiatry at the University of Edinburgh from 1984 to 1986. Upon his return from Edinburgh, he served as a psychiatrist with the Singapore Armed Forces (SAF) for 17 years. Dr Ang is currently in private practice as a Consultant Psychiatrist. He was the President of the Singapore Psychiatric Association and Chairman of the Chapter of Psychiatrists, Academy of Medicine. He is the founding and current Chairman of the Action Group for Mental Illness (AGMI). He is also a member of the Clinical Advisory Committee for Chronic Disease Management Programme on Mental Illness 2009.



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Ms Eveline How is a corporate communications and marketing manager at a utility company. Her interest in healthcare stems from her being the main provider for her immediate family members' medical expenses. Other than healthcare, she is also an animal welfare advocate. She graduated from the National University of Singapore with a Bachelor of Business Administration and a Graduate Diploma in Law.



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Dr Neo Eak Chan graduated from the University of Singapore in 1968. He subsequently became a private practitioner running his own clinic. In 2000, he organised and ran Ezyhealth, a public-listed health provider company. In 1991, he was also in the Committee of the Singapore Medical Association that submitted its views to the National Health Review Committee. He was also a former Chairman of Ayer Rajah CCC. Dr Neo believes that the best healthcare is preventive health and any good healthcare system should focus on primary health as its main priority.



Associate Professor Paul Ananth Tambyah is a graduate of the National University of Singapore's Medical School where he obtained both the MBBS and MD degrees. After completing his national service, he did postgraduate training in Infectious Diseases at the University of Wisconsin, USA. He returned to Singapore and has served on a number of national and international committees including the Board of the Society of Healthcare Epidemiology in America and the Council of the Western Pacific Committee on Clinical Microbiology and Infectious Diseases. He is currently in academic medical practice at a major teaching hospital in Singapore.



Dr Tan Lip Hong obtained his M.B., Ch.B. from Leicester University, U.K. in 1988, and returned to Singapore for his clinical training. He subsequently obtained his M.Med. (Occupational Medicine) from the National University of Singapore in 1994. Dr Tan has worked as a General Practitioner in the heartlands for the past 17 years.



Dr Toh Beng Chye obtained his M.B.,B.S. from the National University of Singapore in 1988. He subsequently obtained his Designated Factory Doctor registration in 1997. Dr Toh has been practising as a General Practitioner in an HDB clinic for the past 16 years.



Dr Wong Wee Nam graduated with MBBS from the University of Singapore in 1972. After his housemanship, he served as a medical officer with the Singapore Armed Forces and, subsequently, the Ministry of Health. Over the years, he has published many letters on Health issues in the Straits Times. In May 1991, he submitted a paper to the Health Review Committee that was formed by the government to look into the problems of healthcare at that time.

I. INTRODUCTION

Healthcare is a basic right as enshrined in the Universal Declaration of Human Rights and other similar covenants. It is not a commodity, and we believe that market forces have no part to play in the financing or delivery of basic healthcare to the people in our country. This was historically the case in Singapore. The availability of low-cost, affordable, quality healthcare in the 1950s, '60s and '70s was one reason for Singapore's rapid progress into the ranks of developed nations.

No one should go bankrupt while seeking life-saving medical treatment and no sick person should be discriminated against on the basis of their wealth. If healthcare is a basic right, then the system must be designed to ensure that even the poorest can afford basic and essential healthcare.

Towards this end, it is critical that we move towards becoming a co-operative society in which we care and share with one another. We are not advocating a welfare state but the poor and needy should not become the objects for charity and handouts in an increasingly individualistic society. This is most demeaning. We need to affirm the worth and dignity of every Singaporean.

No one willingly falls sick but when it comes to healthcare consumption, due to inherent information asymmetry, the patient becomes an irrational consumer. This is affected by:

- The demand by the patient because of fear or anxiety or lack of accurate information.
- The demand created by the providers.
- The demand created by laboratories, pharmaceutical companies, new technologies and a profit-orientated healthcare system.

All these demands do not necessarily result in better healthcare. One key way to keep healthcare affordable, safe and effective is to find ways to restrict irrational and profit-orientated demands. It can be addressed somewhat with the right healthcare financing model and also a more creative form of healthcare delivery.

What is the aim of good healthcare? It is to ensure the physical, mental and social well-being of each and every one of our citizens. This has long been recognised by the World Health Organisation (WHO) and United Nations Children's Fund (UNICEF) in the 1978 Alma Ata declaration.

Except for irrational or profit-driven demands, healthcare is a necessity. As such, it is totally unacceptable in a developed country that any person who is sick be denied access to healthcare. This is a basic human right that must be accorded to everyone, even the poor or those who cannot afford it.

However because healthcare has different meanings for different people, and also elicits different expectations from different individuals, healthcare expenditure varies from individual to individual and cannot be predicted with a great degree of certainty.

It is not possible to predict what illness a person may suffer or who may meet with an accident or a catastrophic illness, or be sure how large a medical bill he or she will be

landed with. For this reason, it is not possible for anyone to estimate his or her healthcare needs in the future with any certainty. No matter how prudent one is, there is no way that one's savings can be enough for every complication or eventuality if there is no rational approach to the financing and delivery of the healthcare system. For the many individuals and families who have experienced this, they will know how easily their Medisave accounts can be depleted with just one catastrophic illness or a major complicated operation.

Good health is also dependent on good nutrition, a clean environment, good housing, low stress levels, gainful employment and the absence of poverty. If a sick person is afraid to go to hospital because of the costs, then he is likely to defer medical attention until it is too late to prevent the complications of his underlying disease. This leads to even higher costs and often loss of livelihood. If the medical bills are so huge as to make him poor and lose his home, this is a vicious cycle that will further aggravate his ill-health.

The Economic Argument for Healthcare Investment

It is widely accepted that economic status contributes to health. It stands to reason that the converse is true as well: health status contributes to economic outcomes. After all, healthy people are generally more productive.

A recent study¹ by the World Bank and WHO has revealed that investing in healthcare leads to more economic growth. It found that healthy citizens are more productive, earn more, consume more and work longer, all of which have a positive impact on the Gross Domestic Product (GDP) of a country. Better health also reduces the financial costs of healthcare for the family, the community, the private sector and the government. The report states that recent findings on the impact of health – as measured by life expectancy – on economic growth suggest that one extra year of life raises GDP by 4 per cent.

The study also notes that mechanisms need to be put in place to pool risks and ensure a more equitable approach to health, better manage health financing and promote cross-sectoral initiatives and programmes among others. A sound healthcare plan will have to address these issues and incorporate the appropriate mechanisms.

Commercialisation of Healthcare and The Need to Change Mindsets

Since the move by the Singapore government to turn all healthcare into an industry in the mid-1980s, they have commercialised medical care, and patients and diseases have become ways to make money. Medicine has become a business rather than a vocation.

The Ministry of Health has the responsibility to be a role model of healthcare as a social responsibility rather than being part of a system that turns medical care into a business enterprise. This social responsibility is practiced in many but not all developed countries.

In this regard, a much higher percentage of government revenue collected must be channelled into healthcare for our citizens. This is the only way to ensure universality and affordability of healthcare.

Secondly, we need to recognise that the essence of a democratic society is a caring and sharing co-operative. We pool our resources for the common good - that is the primary objective of our taxes - paying for national concerns such as defence and universal primary education. This gives value to our citizenship.

Thirdly, it is important to recognise that different areas of healthcare require different forms of health financing:

a. **Maternal and child care services** – these should be largely free and funded by the government from the taxes as these are health promoting and have a vital role in the future of our nation. This would reduce the cost of producing and bringing up children and potentially address the problem of our falling birth rates.

b. **Primary healthcare services** – for chronic illnesses, these should be paid through a risk pooling system so that the cost of running these services will be shared by all in the community.

c. **Hospital services** – the running costs of the hospitals must be paid from taxes. This is the only way to bring down the cost of services at the point of use.

d. **Hospice care** – caring for the dying. No one can abuse such services and such services should not be dependent on charity. Funding for such services should be from our taxes as well as from donations from appreciative family members of the care receivers as well as other donors. The bulk of the running cost of such services should be funded by the MOH, as most of the healthcare workers in hospice care are currently salaried. Currently, the MOH subsidy is based on the visits made by the doctors, nurses and social workers rather than the salaries paid to them.

e. **Home care for the non-ambulant chronic sick** – these services should also be funded in the same way as hospice care. Again, no one is going to deliberately choose to be home-bound and non-ambulant just to “abuse” these services.

Fourthly, there must be greater expansion of the use of other healthcare workers for the delivery of healthcare especially in chronic illnesses and home care. Void decks should be made available for voluntary and community organisations to bring healthcare closer to these patients.

We also need to recognise the importance of our environment and family service centres in contributing to the health of our nation. It is important to understand that providing more medical services alone does not necessarily result in better health for our citizens. This has to be part of a holistic approach to the well-being of Singaporeans.

Healthcare Spending²

Total expenditure on healthcare in Singapore has hovered around 3% of GDP in recent years. This is close to the average of 5% of GDP in low-income and lower-middle-income countries. High-income countries (of which Singapore is classified as one by the World Health Organisation) spend a much higher percentage of about 11% of GDP (Addendum A). Part of the reason for this is that Singapore has a relatively young population compared with most high income countries; the other part is that a

large proportion of healthcare expenditure in Singapore is in the arena of complementary and alternative medicine and this is not well documented in official statistics according to leading health economists.

In addition, the bulk of the expenditure in Singapore is borne by private individuals and organisations, and only about a third is accounted for by Government compared to the average figure of 61% in high-income countries.

This means that the Singapore Government spends only about 1–2% of GDP on healthcare a year.

The extremely low expenditure by the Government vis-à-vis other countries is a deliberate policy to get healthcare costs to be self-funded as much as possible by citizens through contributory schemes such as Medisave and MediShield, the latter being a catastrophic health insurance scheme³.

These schemes are usually not adequate to pay for the full costs of medical treatment and individuals invariably end up paying out of their own pockets, with these out-of-pocket expenses accounting for a significant proportion of total costs (Addendum A).

In absolute terms total healthcare expenditure in Singapore rose from \$0.1 billion in 1961 to \$5 billion (at 2002 market price) in 2001, and government healthcare operating expenditure rose from \$0.05 billion to \$1.2 billion (at 2002 market price) in 1961 and 2001 respectively.

From the mid-1980s onwards, the government healthcare expenditure has consistently hovered around 1% of GDP, down from the approximately 2% it spent before 1980.

The graphs⁴ below give the healthcare spending trend over the years 1960–2001:

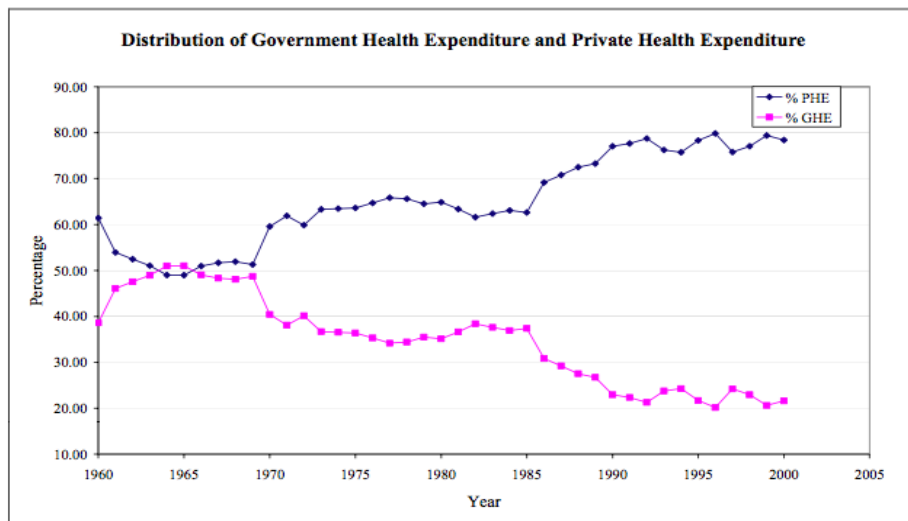


Figure 4: Time Series of Distribution of Government Health Expenditure and Private Health Expenditure

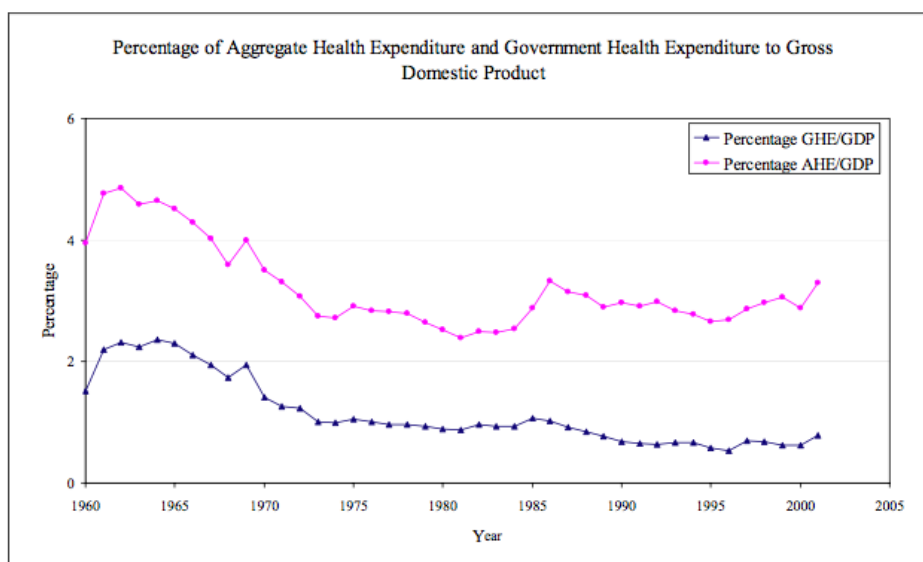


Figure 5: Percentage of Aggregate Health Expenditure and Government Health Expenditure to Gross Domestic Product from 1960 to 2001

As can be seen from the graphs, government spending over the years, despite rising health costs, an ageing population, more chronic illnesses, has actually not only not kept pace with inflation nor remained constant, but actually fallen, in relation to total healthcare expenditure (50% in 1965 to 20% in 2001) and as a percentage of GDP.

This means that more people are paying more for their healthcare out of their own pockets, whilst the government has been subsidizing less.

Government expenditure on health, as a percentage of total expenditure on health, declined from 41.6% in 1998 to 30.9% in 2002!

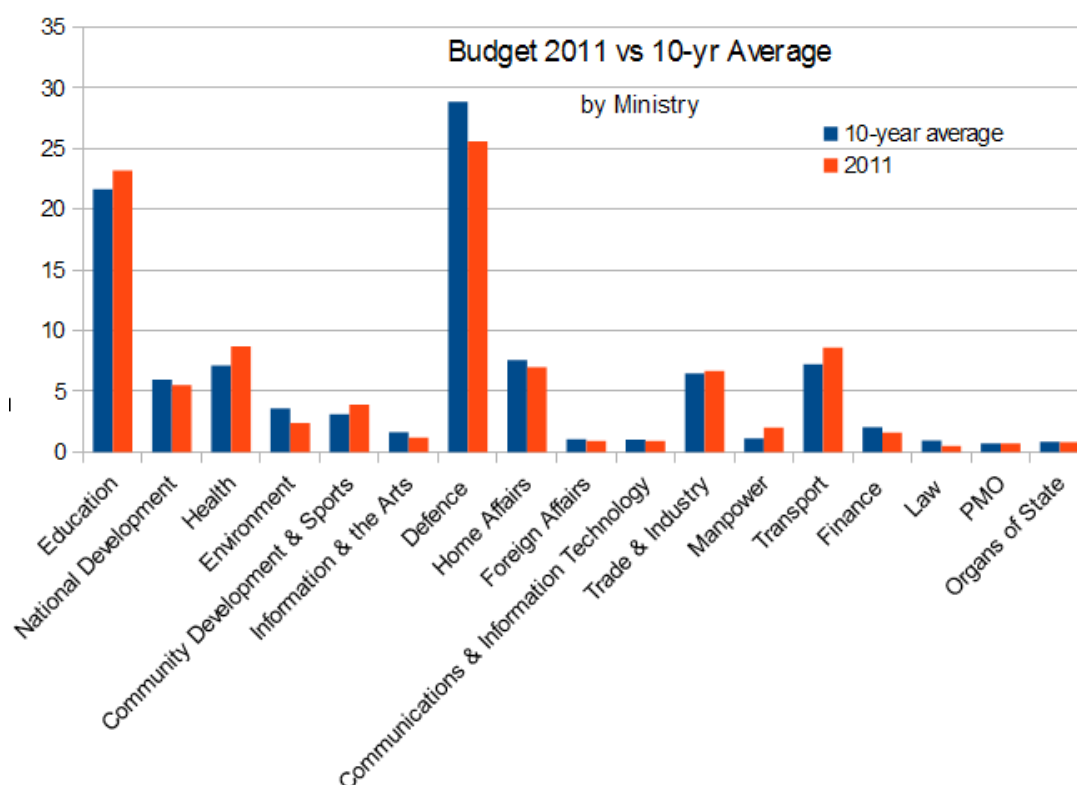
As a percentage of GDP, government health spending fell below 1% from 1986 - 2001 (Figure 5).

In 2007 and 2008, the government expenditure expenditure on healthcare was 0.8% and 1% of GDP respectively.

In his budget speech in 2007, then Finance Minister Lee Hsien Loong stated: “the Government will be ramping up our healthcare expenditure over the next five to 15 years. Over the next five years alone, we expect to increase spending to reach about \$3 billion a year by 2012, compared to \$2 billion today.”⁵

However, by 2009, healthcare costs had increased exponentially, and Government spending on healthcare had already reached about \$ 3.63 billion/year or about \$1000 per citizen/PR, although it remained at only 1.3% of GDP, a figure that was repeated in 2010⁶.

Private healthcare spending in 2009 was about S\$8 billion/year or about \$2000 per citizen/PR (2.8% of GDP).



Percentage Spending in Budget 2011 by Ministries versus 10-year Average⁷

For Budget 2012, the Singapore Government has budgeted Government healthcare expenditure with a slight increase, although this is projected to reach \$8 billion over the next five years. In per capita terms, the overall expenditure will still remain the lowest among developed economies

As a percentage of the total budget, government healthcare spending has remained at about 6% over the past ten years, rising to 8% in the 2011 budget. This is compared to a 25% spending on Defence.

Healthcare Indicators

The insufficient Government investment in healthcare over the years has resulted in insufficient hospital beds to serve the population and over-crowding of public hospitals, with newspaper reports of patients lying in beds along corridors of hospital wards. This over-crowding was relieved to some extent with the completion of a new 550-bed hospital (the Khoo Teck Puat Hospital) which took over the bulk of patients and staff from Alexandra Hospital in 2010. This is the first major new public hospital to be built by the Government in more than a decade. However, there are to date still many reports of long waits for appointments and long waits at the Accident & Emergency Department, as well as for available beds.

A recent report⁸ has noted that, in the week before the report was published, four of the six restructured hospitals had more than 85 per cent of their beds occupied on most days. The exceptions were Singapore General Hospital (SGH), with occupancy rates hovering at 84 per cent, and Alexandra Hospital (AH), where more than one in four beds remained empty. At Changi General Hospital (CGH), bed occupancy

topped 95 per cent for significant periods. Khoo Teck Puat Hospital had occupancy at or above 90 per cent on a significant number of days⁸.

Former Health Minister Khaw Boon Wan had been reported as saying that public hospitals should have average occupancy rates of 85 per cent for maximum efficiency⁸. Private hospitals generally work on rates of 70 per cent or below for patient safety and to ensure surge capacity.

Currently there are 21 hospital beds per 10,000 resident population, less than half the average number of 58 beds in high-income countries. Other indicators also show Singapore lagging far behind, for example, 17 doctors per 10,000 population compared to an average of 30 doctors in other high-income countries, and 54 nurses and mid-wives versus their 100.

Table 1: Selected Health Input Indicators in 2009 (Per 1000 Population)

	Singapore	UK	US	OECD
Doctors	1.7	2.7	2.4	3.0
Nurses	5.4	9.8	10.7	10.0
Hospital Beds	2.08	3.3	3.1	5.8

Source: Singapore Government statistics¹³ & OECD 2011⁹

Singapore has allocated comparatively lesser resources to healthcare than other developed countries. Nevertheless our health outcomes like life expectancy and infant mortality have been comparable to these countries. This does not mean that we can conclude that we can get a healthy population in spite of our low healthcare expenditure. This is because our population is still relatively young, we have a small geographical area where accessibility to healthcare facilities is not a major problem, and we do not have a rural population.

Singapore Healthcare: A Broken System?

Former Health Minister Khaw Boon Wan, current Health Minister Gan Kim Yong, and other Government officials have consistently defended the Singapore Health System, with its 3Ms (Medisave, Medishield and Medifund) as being efficient, affordable and the envy of other countries.

However, we continue to hear of Singaporeans being unable to afford treatment especially when their health concerns are major and require long-term assistance. For a country that boasts of such high GDP, such a situation is unacceptable.

In a study done in 2007¹⁰, hospital bills of 30 thousand admissions to a restructured hospital of patients above 64 years old were analysed. The results are worrying:

- Only 25% of bill amounts were subsidized
- 55% percent used Medisave accounts for payment; of these 51% had their bills paid from Medisave accounts of family members
- Majority of their CPF accounts fell short of the minimum sum; average Medisave balance was only \$5300 at time of admission

- Only 22% had MediShield coverage; of those 80 -85 years old only 8.4% were covered; those above 85 (limit of MediShield coverage) had no coverage
- Only 8% had private insurance
- Only 0.9% had Medifund assistance approved

Statistician Leong Sze Hian has listed a large number of less than satisfactory outcomes as result of our current system of healthcare¹¹:

- About 21 per cent of Singaporeans who sought financial counselling from Credit Counselling Singapore had to do so due to medical costs;
- The zero increase in total hospital beds over the last decade in relation to the surge in population;
- A 99 per cent unsuccessful rate (or 1% success rate) for patients' applications to downgrade to lower classes of hospital rooms;
- The last available disclosed statistic from the Chairperson of the Government Parliamentary Committee (GPC) on Health was that 750,000 people had no form of medical insurance;
- Public hospitals' average hospitalisation bills have increased by as much as double over the last four years;
- \$86 million of Medifund surpluses were transferred to the protected reserves, instead of allowing Medifund usage for the needy at Polyclinics;
- A refusal to disclose Medifund applications success rates on a patients' rejected basis, instead of total applications basis;
- A refusal to make public the criteria for approving Medifund applications;
- Longer and longer waiting times for practically all types of subsidised medical treatment – up to a year for dental;
- About half of Medisave account holders' Medisave being consumed for other family members – thus creating the likely future problem of insufficient funding for account holders as they grow older; and
- No transparency in the funding to public hospitals vis-à-vis the subsidies shown in patients' hospital bills.

Clearly, the system is in need of a serious rethink.

Recent Healthcare Changes – Too Little, Too Late?

Since becoming health minister in June 2011, Mr Gan Kin Yong has introduced a number of changes to the current healthcare system, including¹²:

1. Extension of the Primary Care Partnership Scheme (renamed Community Health Assist Scheme¹³) to more needy citizens (the qualifying age limit has fallen from 60 and above to 40 and above; qualifying per capita household income has increased from \$800 and below to \$1500 and below). This scheme provides limited government subsidy for acute illness as well as certain chronic illness visits at private general practitioner (GP) clinics, and is expected to shift the patient load away from government polyclinics to private GP clinics.
2. Higher Medisave withdrawal limits for outpatient treatment of chronic illnesses (from S\$300 to S\$400/year).
3. Palliative care to be made available at more hospitals.
4. Drug subsidies to be increased at polyclinics and public hospitals.
5. Public hospitals to lease space from private hospitals to address bed shortages at public hospitals.
6. A number of nursing homes to move to improved premises.
7. More community health centres to support private GPs. These centres provide screening, nursing and counselling services not provided by GPs.

While a number of these changes are certainly steps in the right direction, these changes remain piecemeal, in certain cases no more than stop-gap measures to prop up an ailing and out-dated healthcare system. They certainly do nothing to address the fundamental flaws in our current system.

Minister Gan has also so far not addressed the issue of insufficient spending and development of healthcare infrastructure, services and manpower, especially for secondary and tertiary care. Waiting lists for specialist outpatient appointments remain very long, and our hospitals remain chronically short of beds.

Budget 2012

In his Budget Speech⁵⁰ on 17 February 2012, Finance Minister Tharman Shanmugaratnam announced the following with regards to the healthcare sector^{50,51}:

1. Total Government Healthcare Spending
To be *doubled* over the next five years, from the current \$4 billion a year, to \$8 billion by 2017.
2. Infrastructure
 - a. **acute hospital** capacity will be increased by about 30%, or 1,900 beds by 2020.
 - b. **community hospital** capacity will be increased by 1,800 to double that of current capacity.
 - c. **capacity in long term care services** to more than double by 2020, including that for nursing homes, home-based health and social care services, day care and rehabilitation facilities, and Senior Activity Centres.
 - d. **primary & secondary care** - access to polyclinics to improve, new models of care, such as Medical Centres that provide specialist outpatient services in the

community to be introduced.

3. Extra healthcare subsidies for residents
 - a. ***community hospitals***
 - lower-income patients will receive a 75% government subsidy,
 - those above the median income, who previously did not receive any subsidy, will now receive 20% - 50% subsidy.
 - b. ***nursing homes, day care and rehabilitation facilities and home-based care***
 - two-thirds of Singaporean households will qualify for subsidies, including about 80% of elderly
 - extra \$120 grant per month to help families who hire foreign domestic helpers to care for an elderly member at home (on top of current \$95).
 - \$2000 subsidy for elder-friendly home modifications such as grab bars and anti-slip treatment for bathroom tiles
 - full GST absorption extended to subsidised patients in the long term care sector
 - c. ***Medisave, Medifund & MediShield***
 - \$600 million top-up to Medifund
 - MediShield coverage to extend from age 85 to 90 with a view to extending coverage to people who suffer from congenital conditions
 - one-off Medisave top-up to all Singaporeans currently on MediShield to cover expected increase in MediShield premiums

A significant number of these changes are steps in the right direction that deserve strong support, especially those with regards to infrastructure expansion, and elderly and long term care.

There are however concerns about the practicality of these suggestions in the light of the manpower shortages in public facilities, the persistently preserved differential means-testing for acute hospitals versus intermediate and long term care facilities and the dependence on voluntary welfare organisations or private corporations for provision of intermediate and long term care.

After decades of controlling government healthcare spending at about 1 percent of GDP (government healthcare spending was actually *below 1%* GDP from 1986 – 2001), the government has finally realised that this is unsustainable. A commitment to double healthcare spending to \$8 billion by 2017 represents a significant change in mindset of the government.

A large part of this spending would appear to be towards infrastructure investment alone. To increase acute hospital beds by 1900 would be equivalent to building an extra 3 mid-sized 600-bed hospitals, which would cost upwards of \$700 million each³. Together with an additional 1800 community hospital beds, as well as expansion of the intermediate and long term care sector infrastructure, these changes alone will cost the government upwards of \$6 billion over the next five years. This is likely to consume a significant proportion of the projected increase in government healthcare financing over the next five years.

When we take into account the expected increase in healthcare running costs due to inflation as well as the extra expanded infrastructure and manpower running costs, we can expect healthcare to cost significantly more for the man in the street.

It is unfortunate that this budget and the government has still not adequately addressed the important issue of spiralling healthcare costs, and the increasing unaffordability of healthcare in Singapore for the common man.

In this respect, the 3Ms have proven to be woefully inadequate in rising to the twin healthcare challenge of escalating costs and increasing unaffordability. As a forced self-funding scheme without any risk-pooling, Medisave is not effective in funding healthcare in the long term, especially for catastrophic illness and chronic disease management. Indeed, many of the current generation are depleting their own Medisave to pay for their dependents' medical expenses. The numerous exclusions and restrictions in Medishield make it a less-than-comprehensive insurance scheme, while Medifund in practical terms is accessible to only a very small proportion of the population on account of its onerous criteria.

Addressing these fundamental issues would require a fundamental change of mindset on the part of the government, as well as the political will to radically overhaul our current flawed '3M' healthcare financing model and rationalise our currently fragmented CPF account structure.

II. SINGAPORE DEMOCRATIC PARTY HEALTHCARE PLAN

A. HEALTHCARE INFRASTRUCTURE AND MANPOWER INVESTMENT PROGRAMME

There is an urgent need to increase the number of hospital beds, doctors, nurses and other healthcare personnel to the levels of the high-income countries of the developed world. The government must have the political will to urgently embark on the necessary spending to adequately develop these infrastructure and manpower needs.

In 2009, there were 10 387 acute hospital beds in 22 hospitals and specialty centres, of which the 14 public hospitals and specialty centres accounted for 81.4% or 8 456 beds¹². Khoo Teck Puat Hospital, which opened in 2010, after 6 years of planning and building, adds 550 beds, while an uncertain number of beds were removed from the “old” Alexandra Hospital. Ng Teng Fong hospital (700) beds, will only be operational in 2014¹⁴, and Seng Kang Hospital (500 – 600 beds) will only be ready in 2018¹⁵.

These are very long lead times, considering that Mount Elizabeth@Novena, a \$2 billion 333 bed private hospital was built in just 3 years¹⁶.

Even with the addition of these 3 new hospitals, the total number of acute hospital beds will increase by only 15%, bringing the number of beds per 100 000 population to 2.39, still way short of what is needed.

Tan Jee Say in his paper ‘Creating Jobs and Enterprise in a new Singapore economy – Ideas for Change’³ has suggested that Singapore needs to roughly double the number of hospital beds, doctors, nurses and other healthcare professionals over the next 5 years. He estimates that a modern hospital in Singapore costs an average of \$1.27 million per hospital bed to build, so the government will need to spend \$10 billion to double the number of hospital beds in public hospitals. There is scope for private hospitals to also increase their number of beds.

There is also an urgent need for the government to increase the number of healthcare personnel including specialist doctors, nurses, pharmacists, laboratory staff, technicians and technologists, as well as administrative support staff. This should not be done primarily via recruitment of foreign staff, who bring with them their own set of problems, especially difficulties of adapting to the local culture, as well as communication problems with older patients. The pool of local healthcare professionals should be enlarged by increasing the intake of medical, nursing and other healthcare students at the tertiary level or by making it easier for private specialists and general practitioners to serve in public hospitals. Post-graduate specialist training should also be advanced.

Specialist training – especially procedure-based specialties like surgery – depends in large part on patient load. More specialists cannot be trained if we do not have more hospitals and patients to train on. The current surgery training program is already stretched to the maximum. This is can only be overcome if the new hospitals actually start taking in new patients or if trainees are allowed to work under supervision in private hospitals.

Attrition rates of doctors and other healthcare specialists from the public sector will also have to be seriously looked into, to minimise the loss of personnel to the private sector. Alternatively, equitable solutions must be considered to allow private practitioners to look after patients in public hospitals.

To do all this, the government must be willing to urgently commit sufficient financial resources to support these infrastructural and manpower expansion programmes. These sums will be large, as all investment in infrastructure tends to be. There must also be the political will to see these programmes through, even if it means running a temporary deficit budget. With the upcoming recession, investment in these programmes will serve to stimulate the economy and provide gainful employment for Singaporeans.

We propose that an amount of \$1.5 billion a year be budgeted to carry out these programmes.

B. HEALTHCARE ISSUES

Singapore's healthcare system and the financial system that underpins it are coming under increasing strain from Singaporeans who find it harder and harder to afford healthcare especially when they require prolonged hospitalisation.

There must be a rethink of our healthcare system if we are going to provide the people with affordable and efficient medical care.

First, universal healthcare must be the *raison d'être* of a developed nation's healthcare system. That is, legislation must be enacted to ensure that every single citizen is covered by a basic healthcare policy regardless of age, employment status or gender.

Second, whatever amount each citizen contributes to the national healthcare plan as an annual payment, as well as out-of-pocket expenses, must always remain affordable.

Everything we discuss about healthcare reform must spring from and be underpinned by this fundamental principle of universal, affordable coverage.

Affordability versus choice

The main bugbear of many universal healthcare systems is that citizens are presented with a Hobson's choice: Affordable but low-quality healthcare in run-down state institutions or high-quality care in unaffordable private institutions.

This need not be the case. We can, and should, introduce a healthcare model with universal healthcare coverage that allows the patient to choose his or her healthcare provider – public institutions, partially subsidised private facilities, private institutions – but the plan will only pay up to the official tariff.

Additional flexibility is ensured by allowing private insurers to sell supplementary insurance to those who want a higher level of service.

Funding Models (Addendum A)

Australia, Canada, the Nordic countries, United Kingdom and, closer to us, Taiwan have a single-payer system, whereby healthcare for the entire population is financed from a single pool to which several parties – the state, employers, employees – have contributed.

Contributions from citizens and residents to this pool are collected by way of a flat tax or premium paid to the state. The government administers and disburses funds from this pool to finance healthcare services for the population.

An alternative model is the multi-payer model used in Switzerland, Holland and Germany, where healthcare is financed both from a public pool — run by the government — and private insurance. Under this system, everyone is mandated by law to buy basic health insurance from any of a group of nationally appointed private insurers. These insurance plans are provided on a not-for-profit basis.

The premium is standardised for a particular policy regardless of age and is paid out-of-pocket up to a fixed percentage of income; the government tops up the rest. For the unemployed, infirm, aged and handicapped, the government pays the entire premium. A deductible as well as a co-payment fee is charged per treatment.

The single-payer model is easy to implement and administer, but it may involve more government bureaucracy in the long term at taxpayers' expense.

The multi-payer model has the advantages of requiring less government with a correspondingly lower burden on income taxation, and providing a choice of plans for the people. Providing the government audits and regulates the insurers strictly, private insurers may provide sounder actuarial risk management than the state and at the same time act as a check on healthcare providers to minimise unnecessary treatments and prescriptions of expensive drugs.

However, the downside is that premiums tend to rise over the years as insurers struggle to cope with burgeoning healthcare costs.

And detailed comparative study of the healthcare systems in various countries is included in Addendum A.

Private Insurance–Based or Government-Run?

As has been noted, healthcare can be financed in three major ways:

1. The State pays everything through taxes
2. The individual pays for his own care.
3. The State pays some, the individual pays some and some kind of insurance pays the rest.

It obvious we cannot achieve universal healthcare by having the individual self-finance his or her own healthcare. The poor and those who are hit with a catastrophic illness would not be able to afford the fees.

Neither can we have a system that is totally private insurance-financed. This brings the problem of 'moral hazard' where payers may have no incentive to economise on consumption of healthcare services, and some individuals may even choose to consume health resources or lose the incentive to try to keep healthy by avoiding potentially unhealthy habits. In reality, because of the asymmetry of information, it is more likely that providers are going to raise their charges to the limit of insurance coverage and to encourage patients to purchase services to the maximum of their entitlements. It also has the problem of adverse selection where cover is denied to those who are at higher risk.

Our Health Service has practically been running in Singapore for 50-plus years, relatively efficiently with limited insurance coverage. Even today, the insurance component in secondary and tertiary healthcare is negligible - only MediShield and private Shield plans, mandated by the government. According to the government report to the WHO, in 2010 the insurance component of total healthcare spending made up only 2.8%².

Without any significant insurance input in our Health Service, we have managed to have comparatively high standards of healthcare at a low GDP rate (below 5%). This is partly artificial because of the relatively young population and the lack of accurate data on the complementary and alternative sector.

Accountability is already relatively high but could be improved especially in the direct costs of various services. The current model of administering government/restructured hospitals will continue, up to and including the generation of invoices and bills for all procedures. These invoices will be used to compare cost-effectiveness and manpower/productivity requirements. This is to ensure accountability, not to make any profit.

However, the key performance indicators will be radically changed as administrators will now see the overall mental, social and physical health of the residents living in their catchment area as the primary outcome that determines their performance. Hospitals will compete against each other in terms of how well they can take care of the health of the population covered rather than in media coverage of new and more expensive services, cost recovery from patients or profits generated.

Since there is currently a negligible insurance component in our current healthcare system, and there is no track record of insurance companies being able to run or administer our healthcare system in a more effective way, private insurance companies will continue to concentrate on those who want additional services not provided under the National Healthcare Programme.

C. PROPOSED NATIONAL HEALTHCARE PROGRAMME

We need to establish a system where every single citizen is covered by a basic healthcare policy to which the government and the people contribute, and which must remain genuinely affordable.

To achieve this we suggest a single-payer universal healthcare system in which the government manages a central health investment fund. This fund will be run along the lines of a government-subsidised public insurance scheme to finance *compulsory* basic health, accident and pregnancy (for women) coverage for all citizens and permanent residents (PR) residing here for more than 6 months a year. No one may be rejected or excluded from this basic plan on the basis of age, gender, or state of health. The usual exclusion clauses will apply: non-essential surgery, dental, alternative medicine, aesthetic treatment. The government subsidy in our plan should not be seen as a handout *per se*, but as a contribution by the community via taxes towards healthcare investment.

The annual government healthcare expenditure was just under \$4 billion in 2009, or about 1.4% of GDP². Based on a total annual healthcare spending of \$12 billion in 2009², the Government's portion is about one-third.

This expenditure should be increased to about \$10.5 billion annually immediately on passage of the legislation and be paid into the central health investment fund. Singaporeans/PRs will contribute the remaining \$2 billion (or about \$500 per person on average) yearly, making the gross government to private healthcare spending ratio of 84:16.

This healthcare fund will be named the National Health Investment Fund and be used to operate both public and private (in part) healthcare institutions as well as pay for all healthcare services.

Singaporeans/PRs' annual contributions to the National Health Investment Fund will be deducted from every resident's CPF or bank account. For those who cannot afford to pay the annual premium, the Government will subsidise the payment in part or in full.

Cost-containment, co-payment, additional private healthcare spending will ultimately alter this ratio, decreasing the government part, and increasing private spending, approaching 80:20 or 75:25. This brings the ratio closer to the era which saw the highest gains in healthcare in Singapore in the 1950s and 1960s.

Revenue for Government spending on Healthcare (Addendum B)

We propose several sources of revenue to make up for the extra \$6.5 billion in government spending on healthcare:

1. Spending on defence should be reduced to those nearer that of other small developed nations (\$5.75 billion).
2. Because the burden of spending on healthcare under the plan has shifted from private enterprise to the government, we proposed a slight increase in the corporate tax rate (\$1 billion).
3. A luxury tax on luxury items (\$1.85 billion).
4. A tax on foreign buyers of local properties (\$200 million).
5. Spending from the revenue of the Tote Board will be recalibrated to focus more on healthcare and other social welfare programmes as priority areas.
6. A larger dividend payment from earnings from our past reserves should be made available for use on social programmes including healthcare.

In addition, the cost of healthcare will be reduced by about \$300 million by abolishment of GST on healthcare services provided under the National Healthcare Plan.

These topics are discussed in detail in Addendum B.

Contribution to the National Health Investment Fund (NHIF)

The individual contribution to the National Health Investment Fund works as in an insurance system, where individual risks are pooled. The individual pays a regular premium when he does not require the service so that his payment will not be overwhelming when he requires it.

Why has this model been chosen? We can easily do away with the individual contribution, increase taxes in other areas, and just implement a co-payment system at the point of care to avoid abuse.

Among other reasons, the individual contribution is there to make healthcare spending a part of the consciousness of the public. A large number of young and healthy will not have healthcare spending on their minds. They are vulnerable to

providers who try to sell alternative healthcare, dubious health supplements, aesthetic treatments or private healthcare insurance that might not be to their benefit.

In addition, having everyone make an annual contribution helps promote the idea of a co-operative where – “I am paying for the care of my neighbour’s sick parents because he or she is my neighbour and we are Singaporeans.” This is fundamental.

Also, if total healthcare cost increases, this individual contribution will increase accordingly. This is very transparent, and everyone thus has a stake to keep healthcare costs low.

Several alternative schemes were considered for the individual contribution to the National Health Investment Fund.

A scheme similar to Australia’s where a proportion (1–2%) of the individual annual taxable income was considered. A scheme such as this would be redistributive as the rich would contribute more than the poor.

However, this scheme would be based on taxable income, and currently, only about 1.9 million citizens/PRs have assessable incomes¹⁷. With the average income at \$4089¹⁶, and taking into consideration the various deductions, it is estimated that a 1% contribution would amount to a sum of \$700 million (Addendum C).

Various means were considered to redress this shortfall, but eventually, a fixed amount for the individual contribution was chosen for administrative ease and, for reasons of equity.

For a healthcare system to be equitable and afford universal coverage, it is a given that the young and healthy will 'subsidise' the old and sick, and they in turn will be 'subsidised' by the young and healthy when they grow old. Having a tiered fee structure may result in inadvertent discrimination: the really sick are usually the one least able to afford higher premiums or taxes because they are more likely to be unemployed (or partially employed) and/or are old and indigent.

In our universal healthcare model, government and private healthcare spending is apportioned in the ratio of about 83%:17%. The 17% will come from the individual contribution, while the 83% will be financed primarily by income and other taxes.

Quantum of Individual Contribution to the NHIF

We propose that PRs should pay a slightly higher quantum of contribution. Lower income earners should pay a lower premium. The government will fully subsidise those who cannot afford to pay the premium.

To encourage procreation, and to reduce the burden on families with children, the quantum paid by those below 18 will be lower.

The table below sets out the quantum of payment by an individual to the health investment fund:

Table 2: Individual Contribution to the National Health Investment Fund

Adults	Singaporeans	Permanent Residents
- Single: Income >\$1500 - Married: Total family income ^a >\$3500	\$600	\$700
- Single: Income \$1500 - >\$800 - Married: Total family income ^a \$3500 – >\$2000 - Full-time Tertiary Students: Parents' combined income >\$3500	\$300	\$400
- On Unemployment ^b or Social Welfare ^b benefits - Single: Income ≤\$800 ^c - Married: Total family income ^a ≤\$2000 ^c - Full-time Tertiary Students: Parents' combined income ≤\$3500 ^c	Full subsidy	Full subsidy

a. Combined income of husband & wife.

b. Under proposed SDP benefit schemes.

c. Subject to restrictions under SDP benefit schemes and the FS schemes.

Minors	Singaporeans	Permanent Residents
Parents' combined income >\$4000	\$300	\$400
Parents' combined income \$4000 - >\$3000	\$150	\$200
Parents' combined income ≤\$3000 ^a	Full subsidy	Full subsidy

a. Subjected to conditional restrictions under SDP benefit schemes and the FS scheme where applicable

Based on available demographic and income distribution information, this would result in an average contribution rate of approximately S\$427 per person and a total contribution by all Singapore residents of approximately \$1.31 billion to the National Health Investment Fund (Addendum C).

This is matched by a contribution from the government of \$10.5 billion from the healthcare budget.

The contribution rate for a family of 4 (parents and 2 children), based on the individual contribution rates above, will range from \$1800 to \$0 depending on total family income.

**Table 3: Monthly Contribution Rates for a Family of 4*
(Compared to Current Medisave Contribution)**

Total family income	National Healthcare Plan			Current Medisave		
	Annual Contribution	Monthly Contribution	% of Earnings	Annual Contribution	Monthly Contribution	% of Earnings
>\$4000	\$1800	\$150	≤3.750%	>\$3360	>\$280	7% – 9.5%
\$4000 - >\$3500	\$1500	\$125	≤3.571%	>\$2940	>\$245	7% – 9.5%
\$3500 - >\$3000	\$900	\$75	≤2.500%	>\$2520	>\$210	7% – 9.5%
\$3000 - >\$2000	\$600	\$50	≤2.500%	>\$1680	>\$140	7% – 9.5%
≤\$2000	\$0	\$0	0.000%	≤\$1680	≤\$140	7% – 9.5%

* For Singaporeans. PRs will pay a slightly higher rate as published.

In all cases, the total contribution paid out by a family is less than 4% of total family income. This compares to the current contribution rate for individuals for Medisave, which is between 7 - 9.5% of total income depending on the person's age (Addendum D).

For citizens/PRs working overseas, it will be mandated that those who reside in the country for at least 6 months in a calendar year will pay the full contribution amount. This is in line with tax residency rules in Singapore and major developed countries which regard a person as a tax resident if he resides or works in a country for more than 6 months a year. For those who are within the country less than 6 months a year, they will decide at point of utilisation of service whether to pay the unsubsidised amount incurred, or to pay the annual contribution amount plus the subsidised amount incurred. There will be no pro-rating of the annual contribution quantum.

For PRs who become citizens, a minimum period of at least one year citizenship is necessary before they qualify for the citizen rate.

We have decided to include PRs in the scheme because of their presence here in large numbers and their substantial consumption of healthcare services. In addition, providing healthcare coverage to PRs is a tacit recognition and affirmation of the significant social and economic contributions they have made to Singapore.

Collection of Contribution

The contribution will be collected in a variety of ways:

- a. For active CPF account holders, the amount can be deducted from their CPF accounts.
- b. For the self-employed, homemakers or retirees with income, the amount can be deducted by GIRO from their bank accounts or from CPF accounts of their working spouse.
- c. For children, the amount may be deducted from their baby-bonus account or by GIRO from their parent's bank account.

The amount will be deducted monthly from the respective accounts. This works out to \$50 per month for those paying the full rate, and \$25 per month for those paying the half-rate. The equivalent amounts for PRs are \$58.33 and \$33.33 respectively.

To ensure minimal default of contribution, especially for the self-employed, the government might impose additional clauses on all renewal of trade or business licences, professional practice certificates, that the healthcare fund contribution must be up-to-date before issuance of these licenses or certificates. For children of school-going age, their contribution will similarly have to be up-to-date.

National Healthcare Benefits Card

Upon payment of the annual contribution, each resident will receive a National Healthcare Benefits Smart Card.

This Card entitles the holder to a 90% subsidy on the majority of their healthcare spending (excepting acute illnesses).

The Smart card may be used at all polyclinics, GP clinics, all private and public specialist clinics and hospitals that participate in the programme.

The smart card will contain information on payment and utilisation history, and well as important medical information, including allergies, major medical conditions, as well as the current medication the patient is on.

Co-payment

We propose that a co-payment fee of 10% be charged for medical services at the point of utilization to discourage over-consumption, up to a cap of \$2000 per year. This co-payment fee will be paid out-of-pocket by the healthcare user or by optional private insurance.

The 10% co-payment will apply for all medical services including hospitalisation, drugs, investigations, surgeries, with the exception of:

- a. acute self-limiting illnesses seen at the primary and secondary care level e.g. normal coughs and colds, gastroenteritis. For these visits, a fixed subsidy of \$10 per visit applies. This will be drawn down from the National Health Investment Fund.
- b. non-essential healthcare items under the exclusion list, including aesthetic treatment, dental treatment, health supplements (the full list under heading 'Exclusion List').

Table 4: Co-payment amounts at point-of-use under the National Healthcare Plan

	Co-payment amount
Items under the Exclusion List	Full payment
Acute self-limiting illnesses at Primary and Secondary Care Level (Including at A&E)	\$10 ^a
All other illnesses at Primary and Secondary Care Level including all procedures & investigations ^b .	10% of bill ^a
All illnesses at Tertiary Care Level	10% of bill ^a

a. Those under the Additional Partial Subsidy (APS) & Full Subsidy (FS) Schemes will receive additional subsidies. Please refer to section: Details of Additional Healthcare Plan Subsidies.

b. Excepting non-directed health screening and those for medical examinations

For the purpose of calculation of the total bill size, a table of standardized tariffs will be drawn up for all consultation charges, diagnostics and therapeutics, and ward charges. These charges will be reviewed on a regular basis in consultation with the profession and the public. The current means testing for medical subsidies will be abolished.

Where healthcare services are provided by private hospitals, the medical bill will be paid for by the plan at the rates specified for public hospitals. The difference will be topped up out-of-pocket or by optional private insurance.

Capping

Despite the 90% subsidy, there will be instances when the out-of-pocket payment by an individual can reach quite substantial amounts. Major operations including hospital stay can reach \$100,000. Because of this, we propose a cap of \$2000 per calendar year in co-payment amount.

For the purpose of assigning year of capping, the date of invoice will be used.

Table 5: Co-payment capping per year

	Capping per year
All illnesses/treatment excepting those specified in Table 6.	\$2000 ^{a,b}

a. Those under the Additional Partial Subsidy (APS) & Full Subsidy (FS) Schemes will receive additional subsidies. Please refer to section: Details of Additional Healthcare Plan Subsidies.

b. Excludes acute self-limiting illnesses.

For chronic illnesses that require expensive continuous or recurrent treatment, for example, dialysis treatment, chemo or radiotherapy, stroke treatment and rehabilitation, even the \$2000 per year cap can represent a significant outlay over time.

For these illnesses, we propose a cap of \$2000 in the first year of treatment, \$1000 in the second, and \$500 thereafter.

Table 6: Capping amounts for chronic illnesses requiring expensive continuous/recurrent treatment.

	Capping per year ^{a,b}
First year of treatment	\$2000
Second year of treatment	\$1000
Third and subsequent years of treatment	\$500

a. For particular illness and treatment. Overall cap remains.

b. Those under the Additional Partial Subsidy (APS) & Full Subsidy (FS) Schemes will receive additional subsidies. Please refer to section: Details of Additional Healthcare Plan Subsidies.

Details of Additional Healthcare Plan Subsidies

Despite the substantial reduction in healthcare spending for the general population under the proposed National Healthcare Plan, certain groups of people will require additional help. To this end, we propose that the following groups of Citizens/PRs receive additional subsidies under the Healthcare Plan:

Table 7: Details of Additional Subsidies under the National Healthcare Plan

Beneficiaries	Subsidies
<u>Additional Partial Subsidy (APS) Scheme</u> <u>Adults</u> - Single: Income \$1500 - >\$800 - Married: Total family income \$3500 – >\$2000 - Full-time Tertiary Students: Parents’ combined income >\$3500 <u>Minors</u> - Parent’s combined income >\$3000	1. Annual Contribution: \$300 (\$150 for some minors) 2. \$20 subsidy per acute illness visit. 3. 10% co-payment for chronic illnesses. Cap per year of \$500. 4. Chronic illnesses requiring expensive continuous/recurrent treatment: Full Subsidy after 1st year.
<u>Full Subsidy (FS) Scheme</u> <u>Adults</u> - On Unemployment ^a or Social Welfare ^a benefits - Single: Income ≤\$800 ^b - Married: Total family income ≤\$2000 ^b - Full-time Tertiary Students: Parents’ combined income ≤\$3500 ^b <u>Minors</u> - Parents’ combined income ≤\$3000 ^b	1. Annual Contribution: Full subsidy. 2. All acute and chronic illness medical treatment: Full Subsidy.

a. Under proposed SDP benefit schemes.

b. Subject to restrictions under SDP benefit schemes and the FS scheme.

Note: For persons under the APS and FS schemes, the additional subsidies only apply if the person utilises government healthcare services or private healthcare services at the primary care level. These additional subsidies do not apply if the person utilises private healthcare services at the secondary or tertiary care level.

Table 8: Summary Table of Payment Schemes under the National Healthcare Plan

Adults	Scheme	Annual Contribution		Copayment		Annual Cap	
		Singaporean	PR	Acute Illness	Chronic Illness	Chronic Illness	Chronic Illnesses requiring Expensive Long Term Treatment
- Single: Income >\$1500 - Married: Total family income >\$3500	Normal	\$600	\$700	\$10 Subsidy per visit	10%	\$2000	\$2000 1 st Year. \$1000 2 nd Year. \$500 subsequently.
- Single: Income \$1500 - >\$800 - Married: Total family income \$3500 – >\$2000 - Full-time Tertiary Students: Parents' combined income >\$3500	APS	\$300	\$400	\$20 Subsidy per visit	10%	\$500	\$500 1 st Year. Full subsidy subsequently.
- On Unemployment ^a or Social Welfare ^a benefits - Single: Income ≤\$800 - Married: Total family income ≤\$2000 - Full-time Tertiary Students: Parents' combined income ≤\$3500 ^b	FS	Full subsidy	Full subsidy	Full Subsidy	Full Subsidy	Full Subsidy	Full Subsidy

a. Under proposed SDP benefit schemes.

b. Subjected to restrictions under SDP benefit schemes and the FS scheme.

c. For particular illness and treatment. Overall cap remains.

Minors	Scheme	Annual Contribution		Copayment		Annual Cap	
		Singaporean	PR	Acute Illness	Chronic Illness	Chronic Illness	Chronic Illnesses requiring Expensive Long Term Treatment
Parents' combined income >\$4000	APS	\$300	\$400	\$20 Subsidy per visit	10%	\$500	\$500 1 st Yr. Full subsidy subsequently.
Parents' combined income \$4000 - >\$3000		\$150	\$200				
Parents' combined income ≤\$3000 ^b	FS	Full subsidy	Full subsidy	Full Subsidy	Full Subsidy	Full Subsidy	Full Subsidy

Exclusion List

The following are excluded from subsidy under the National Healthcare Programme:

- Dental care/orthodontics/dental appliances
- Aesthetic healthcare
- Cosmetic procedures
- Weight loss medication (except for those with BMI above 27.5, or 25 in those with co-morbidities)
- Fertility treatment outside of government approved programmes
- Contraceptives
- Health supplements
- Medical examination for pre-employment, vocational, fitness and insurance reports, including accompanying investigations – these should be covered by employers
- Non-directed health screening
- All investigations, medications, implements and devices (e.g. crutches, wrist guards) not prescribed by a doctor, occupational or physiotherapist
- Expensive medical devices for self-use e.g. dialysis machines
- Private nursing charges
- Experimental procedures or treatments - these should be covered in clinical trial protocols
- Alternative healthcare
- Work injuries and accidents (these will be covered by the respective insurance programmes)
- Vaccinations not recommended under the National Vaccination List

The 3Ms (Medisave, MediShield and Medifund)

It is obvious that the proposed healthcare plan will make redundant the Medisave and MediShield schemes which even now do not really aid in the running of an efficient and economical healthcare system.

Medisave

In spite of the implementation of the Medisave scheme, about 21 per cent of Singaporeans who sought financial counselling from Credit Counselling Singapore had to do so due to medical costs¹¹.

Up to half of Medisave account holders' Medisave are being consumed for other family members¹¹ – thus creating the likely future problem of insufficient funding for account holders as they grow older.

A study done in 2007 found that the majority of aged patients admitted to a public hospital had CPF accounts that fell short of the minimum sum, and the average Medisave balance was only \$5,300 at time of admission¹⁰.

In the same study, an analysis of thirty thousand hospital bills of aged patients who were admitted to a re-structure hospital in 2007, it was found that 5% (or 1500) was above \$8,000 and 1% (or 300) was above \$19,000. Seven cases had bills above \$100,000, and the maximum bill size was above \$200,000!

Healthcare costs have almost doubled since then, and these bill sizes will be likely be even larger today.

It is clear that Medisave is an out-dated concept. It is essentially a camouflaged form of self-financing scheme. Like all self-financing schemes, a single catastrophic illness or major operation is enough to wipe out an individual's Medisave many times over. Even its highly publicised goal of "forcing individuals to take responsibility for their own health" is negated by allowing family members Medisave accounts to be drained for individual needs.

With the implementation of the National Healthcare Programme, Medisave will no longer serve a purpose. The Medisave scheme will be abolished, and all Medisave monies returned to the individual's CPF Ordinary Account, where they can be used for other purposes, and withdrawn at retirement age.

MediShield

The total amount of premiums collected for this government insurance scheme run by the CPF Board was \$ 372.13 million a year in 2009¹⁸. It is a catastrophic illness scheme meant to provide coverage for large hospital bills, as well as out-patient treatment bills for certain illnesses, such as kidney dialysis, chemotherapy and radiotherapy for cancer treatment. It covers up to 80% of these bills at C or B2 class.

For coverage at B1 class or higher, one would have to turn to one of the 5 Medisave-approved private Integrated Shield Plans on top of MediShield. MediShield also only covers up to 85 years old*, whereas the private plans cover illnesses beyond that age.

The various Integrated Shield Plans⁴² have confusingly different levels and areas of coverage for different illnesses and treatment as well as limit and exclusion clauses. There is generally, for both MediShield and the private Shield plans, a copayment of 10% of the total bill and an excess of \$1,500 to \$3,000.

MediShield only covers hospitalisation/inpatient surgery/day surgery and approved outpatient treatments sought on medical grounds in MOH-accredited medical institutions in Singapore. A large number of pre-existing illnesses are excluded. In addition, there is also a list of standard excluded medical treatments and expenses which MediShield does not cover, including congenital disease, mental illness, AIDS related conditions, self-inflicted injuries (Addendum F). Additional exclusions may also be imposed on an insured, depending on his or her health condition at the time of application on a case-to-case basis. There is also no coverage beyond 85 years old.

In 2007, it was found that only 22% of the aged inpatients had MediShield coverage; of those 80 - 85 years old only 8.4% were covered; those above 85 (limit of MediShield coverage) had no coverage¹⁰.

That these confusingly complicated schemes are not having their desired effect of meeting patients' needs is clearly shown by the following¹¹:

- About 21 per cent of Singaporeans who sought financial counselling from Credit Counselling Singapore had to do so due to medical costs;
- The last available disclosed statistic from the Chairperson of the Government Parliamentary Committee (GPC) on Health was that 750,000 people had no form of medical insurance

- About half of Medisave account holders' Medisave being consumed for other family members – thus creating the likely future problem of insufficient funding for account holders as they grow older

Just as worrying, although the Ministry of Health has said explicitly that MediShield is a non-profit scheme, a quick calculation of MediShield's Medical Loss Ratio (claims divide by premiums) using CPF Board's 2009 Annual Report¹⁸ for data shows that the Medical Loss Ratio is at an astonishing 42% (Addendum G)! That means that the scheme has made a 'profit' of 58% or at least \$215.84 million a year for the CPF Board.

In the US's recent health reform law, private *for-profit* health insurers are required to have a Medical Loss Ratio of at least 80%.

Again, with the implementation of the National Healthcare Programme, MediShield and private Shield plans will no longer serve a purpose, and the schemes will be abolished or converted to optional plans for services not covered under the National Healthcare Plan.

All current premiums payable, which can be quite substantial, reaching \$1123* a year for those above 80 years old (see Addendum G), will be abolished.

*On 17 February 2012, Finance Minister Tharman Shanmugaratnam announced that MediShield coverage will be extended to those up to 90 years old. He also announced that MediShield premiums will be increased.

Medifund

Medifund is a medical endowment fund set up by the Government to act as the ultimate safety net for needy Singaporean patients who cannot afford to pay their medical bills despite subsidies, Medisave and MediShield.

Be that as it may, the Government has consistently refused to disclose Medifund applications success rates on a patients' rejected basis, instead of total applications basis. It has also refused to make public the criteria for approving Medifund applications

Access to Medifund is also limited – in practical terms, you have to sell your home, and have depleted all your children's Medisave before you are considered eligible for Medifund. A study done in 2007 found that only 0.9% of aged inpatients at a public hospital had Medifund assistance approved¹⁰.

In 2010, \$86 million of Medifund surpluses were transferred to the protected reserves, instead of allowing Medifund usage for the needy at Polyclinic outpatient treatment.

Under the Healthcare Plan, Medifund will be restructured to become part of the Health Investment Fund. The current government endowment funds will be used as the core of the national healthcare fund. This simplification of the 3Ms into a single payer system will result in marked reduction in bureaucratic and administrative costs.

Master Drugs List

For the purpose of standardisation, a Master Drugs List of approved drugs will be set up. These drugs will be based on the World Health Organisation's essential drugs list and will not be determined by cost alone.

All drugs on this list will be identified by their Drug Identification Number or DIN. These drugs will be provided by the manufacturer to all healthcare establishments at equal cost. There will be no different bonus or incentive schemes provided to different establishments.

The Government will bid for the more expensive drugs to bring cost down, and provide the drug at bid-price to all healthcare sectors.

Drugs on the list will be reimbursed at cost plus 35% to account for stock keeping, dispensing manpower, ancillary item (labels, envelopes, packing) cost, as well as stock expiry cost.

It is expected that this list will consist of a majority of drugs that are more than 3 years old, and proven to be treatment- and cost effective. Where there is more than one type of drug in a single drug class, the most cost effective drugs will be included. Relatively more expensive new drugs will only be added if they have been shown to be significantly more effective in relation to cost as compared to older drugs, or if no other alternatives exist.

Vitamins and health supplements will not be covered unless medically indicated.

The Master Drugs List will not be kept secret but will be openly available for public scrutiny.

Reserve Drugs List

This list is for very expensive novel, unique or special order proprietary drugs/drug regimes.

Drugs on this list include expensive experimental, chemotherapy, immune mediating drugs, or unique life-saving drugs with no other drug alternatives, as well as third- or forth-line drugs for patients allergic or intolerant of the first- or second-line drugs.

Drugs on this list will have to be individually approved for each patient using it.

The prices of these drugs will be aggressively negotiated with manufacturers. Once the quantity of use of a drug on the reserve list exceeds a certain amount, it will trigger a larger scale government bid for the said drug. If bidding fails to bring down the price of the drug, compulsory licensing may be enacted to circumvent unfair patent laws in order to combat serious diseases and epidemics.

Expensive life-saving proprietary drugs in emergency, national health crisis or epidemic situations will be included in this category. The use of these drugs will be governed by the 2001 DOHA Declaration⁴⁸ guidelines, allowing circumventing of international patent legislation (Addendum H) in times of epidemics or national health crises.

The Reserve Drugs List will not be kept secret but will be openly available for public scrutiny.

National Formulary

The government will produce a National Formulary listing all drugs on the Master and Reserve Drugs List. The formulary will provide detailed drug information as well as drug prices. The formulary will be updated regularly and may be web-based.

Primary Care

The Healthcare Plan will concentrate on chronic long term illnesses and acute illnesses at the tertiary level.

Acute self-limiting illnesses at the primary and secondary level will be subsidised \$10 per visit. However, in times of declared epidemic, the government can decide to subsidise these acute illnesses at a higher rate. For house-calls (excepting for the immobile or those with nursing care considerations, which will be addressed in the section on Nursing Care), the subsidised rate is a similar \$10.

This \$10 subsidy will also apply to acute self-limiting non-emergency illnesses seen at A&E departments of hospitals.

For calculation of subsidy for chronic illnesses, a standard consultation fee of \$20 will be used. Individual GPs may charge more for their consultation fee, but the SMA Guidelines on fees⁵⁷ will be re-instated and used as a guide to prevent overcharging.

All clinics will be connected via the internet to the central National Health Programme database in real time.

The Government will mandate that all Clinic Management Programme producers develop and provide at nominal cost upgrade plug-in modules that will allow for a single 'click and send' function for upload of all clinic attendance and claim data via the internet to the MOH website at the end of each session or day. This will greatly simplify the claim process, as well as clinical data updating. The government will subsidise the development cost of these modules.

Participation of individual clinics in the government Healthcare Plan is not compulsory. However it is envisaged that the majority of clinics will sign on if clear benefits can be seen for patients and providers.

Secondary Care

To reduce unnecessary demand by patients for referral to a Specialist for simple, acute, self-limiting conditions, these conditions will similarly be subsidised at \$10 per visit.

For the purpose of chronic or more severe illness reimbursement, the Specialist consultation fee will be set at \$90 for first consultation and \$60 for repeat consultation. Individual specialists may charge more for their consultation fee, but the SMA Guidelines⁵⁷ on these charges will be re-instated and used as a guide to prevent overcharging.

Similarly, all clinics will be connected via the internet to the central National Health Programme database in real time and Clinic Manager Programmes will be required to have 'click and send' functionality for upload of data to the MOH website.

Participation of individual specialist clinics in the government Healthcare Plan is not compulsory.

There will no longer be different classes at government outpatient clinics. Waiting times for appointments and all charges will be the same for all users of the healthcare system.

All public hospital-based specialists will no longer attend to private patients. Instead, they can be freed for a certain number of sessions to do private practice by their own arrangement, in other words, the public hospitals could pay them for example for eight sessions and they could do three sessions in private clinics.

Tertiary Care

All restructured hospitals will be converted back to public hospitals and operated by the government on a non-profit basis. The clusters will be removed and a central transparent administration with representation by community leaders will run the hospitals.

All ward classes will be removed from public hospitals. There will be a single class and all charges will be the same for all hospital occupants, including consultant, medication, investigation and operation charges.

There will no longer be different waiting times for operations dependent on ward classes. Clinical care will be the same for all patients in hospital. Operations will be prioritised on the basis of clinical indications.

All new hospitals will be built on a 2-bedder and 3-bedder norm. Special wards like ICU, high dependency or isolation wards will continue to follow current room norms.

Existing hospitals will be up-graded. All 12- to 6-bedded dormitories will be converted to 4-bedded norms or better (without significantly decreasing total bed counts) to improve patient care, reduce overcrowding and hospital infections.

These up-gradings will be carried out in stages using cost-effective methods, including the use of dry walls, sliding and folding panels, pre-fabricated modular components, and other innovations that will cut down renovation time and cost.

Intelligent design will be utilised to design rooms that maximise patient comfort and privacy when in hospital.

Where feasible and cost effective, some 1-bedded rooms in existing hospitals may be converted to 2-bedded rooms to increase the overall number of beds.

Current 'fringe benefits' like TVs in rooms etc, will for the meantime be kept as is, but in future such non-essentials will not be a priority, unless they can be made cost-effectively available.

Despite these conversions, there will continue to be different room standards in existing hospitals, including a number of single bedded rooms. Hospital admission policy in these existing hospitals will be: 1-bedded rooms to be filled first, followed by 2-bedded rooms, followed by 4-bedded rooms.

All this will result in a more egalitarian and equitable delivery of tertiary care.

Patients who prefer to be admitted to 1-bedded rooms exclusively may choose private healthcare, which will still be part-subsidised by the Healthcare Plan.

There will no longer be a distinction between subsidy plans for acute and community hospitals in the National Healthcare Plan, thus removing the current bottle-neck situation in the transfer of patients from acute to community hospitals.

(An alternative public hospital admission policy is discussed in Addendum I)

Intermediate and Long Term Care (ILTC)

This would be the main area of concern for an aging population and in time to come the costs involved in providing intermediate and long term care can become very substantial.

The 2010 Population Census¹⁹ recorded more than 36,000 senior residents as being semi-mobile and more than 8,000 as being non-ambulant. In the decade from 2000 to 2010, the number of persons above 65 years grew by 48.7%, and that of persons above 75 years by 70%.

This would clearly present a huge strain on our resources for caring for the elderly and non-ambulant sick.

There are two broad categories of intermediate and long-term care healthcare services in Singapore - residential and community-based healthcare services. These services are managed either by Voluntary Welfare Organisations (VWO) or by private operators. The government currently does not directly fund or run these services.

Residential ILTC Services²⁰

These services are provided by:

- Community Hospitals
- Chronic Sick Hospitals
- Inpatient Hospice Care
- Nursing Homes
- Respite Care
- Sheltered Home for Ex-Mentally Ill

Community and Chronic Sick Hospitals

There are currently about 900 community hospital beds¹³. This is grossly insufficient, and has resulted in additional pressures on acute hospital beds due to the difficulty in discharging patients.

The government has announced an increase in number of beds to 2700 by 2017^{50,51}. This process should be greatly accelerated.

Co-payment amounts for community hospital stay will be the same as for acute public hospitals, except for the cap amount (Table 9).

Table 9. Co-payment and Capping amounts for Community Hospital stay

Healthcare Scheme	Co-payment amount	Capping per year*
Normal	10%	\$4000
Additional Partial Subsidy (APS)	10%	\$1000
Full Subsidy (FS)	Full Subsidy	Full Subsidy

*Includes acute hospital cap.

When a patient is stable and deemed ready for discharge from the hospital, those with home support will be encouraged to be discharged home. To this end, community-based ILTC services will be greatly enhanced (refer to the section on Community-based ILTC) to provide enough support for home-based care.

For patients without home support, or for patients or relatives who opt for long-term institutional care, transfer to these facilities will be arranged expeditiously.

Once the patient is ready for discharge, the above published co-payment rates will be increased on a sliding scale to match the co-payment rates to be paid for the other long-term care residential facilities based on needs-testing (see section below).

Other ILTC Residential Institutions

Those institutions run by VWOs are generally reasonably run. However such services should not be largely dependent on charity. We should not make the chronic or elderly sick and the dying objects of charity drives. They should be cared for through the sharing of the resources of a caring, compassionate and co-operative society.

Those institutions run by private operators are run on a for-profit basis. They generally employ inadequately trained or paid foreign workers as care givers. There have been stories of poor care and abuse of the residents of these homes²¹. They are generally expensive.

We propose that residential ILTC services should be partly financed from our taxes. These services should be included as part of the overall National Healthcare Plan, and be financed from the Health Investment Fund.

A set of strict regulations for the standard of care at these institutions should be legislated. There should be an adequately staffed and trained accreditation unit set up by the MOH to oversee the running of these homes. Those homes in breach of these regulations should be placed on probation, and if they show no improvement, should be taken over by MOH and run as public institutions.

Overall planning and building of these institutions should not be dependent on market forces, but on the needs of the population, with the government taking an active lead.

Existing homes may continue to be run by VWOs and private operators if they meet stringent standards.

There will continue to be a co-payment component for residence at nursing homes, unless the patient or family is unable to afford it. To prevent abuse of the service, strict admission criteria and a new needs-based test will be instituted. Those families with enough resources should be encouraged where-ever possible to continue to care for their elderly at home, which will continue to remain the cheaper option.

An accreditation scheme will be set up to regulate the standard of care and charges for all ILTC residential institutions. Patients admitted to accredited institutions will be subsidised for *medical care* in the institution according to the subsidy scheme detailed for community hospitals under the National Healthcare Plan (10% co-payment with cap). For commercially run accredited institutions, the level of subsidy will be based on that given public institutions or those run by VWOs.

For other services (residential-based) provided in these accredited institutions, the co-payment amount will be based on the needs test.

Community-based ILTC Services²⁰

Many older individuals prefer to live in a familiar environment with their family members and friends. There is a range of home-based and centre-based healthcare services to enable the older person to age-in-place in the community.

Home based: Healthcare services are provided within the homes of the older persons. These healthcare services provide medical, nursing and palliative care.

- Home Medical
- Home Nursing
- Home Hospice Care Services

Centre-based: These services allow the older person to attend these centres during the day, usually on a regular basis.

- Day Rehabilitation Centres for the Elderly
- Dementia Day Care Centres
- Psychiatric Day Care Centres
- Psychiatric Rehabilitation Homes

At the moment, most long term nursing care is provided at home by family members or domestic workers. This is not really sustainable and we cannot depend on untrained individuals. We should work to provide extra support to allow allied health and nursing practitioners to provide home care on a regular basis at the community level.

Starting in areas of high proportion of aged population, we propose the setting up of Nursing Care Centres at void decks (although we have seen some local resistance, but with better dialogue and partnership with local communities we can keep nursing care in the community and closer to family members) run by nurse practitioners (and part-time physiotherapists) that can give service and advice on NG tube insertion and maintenance, on in-dwelling catheters, on wound care and bedsores, physiotherapy.

These nurse practitioners can also do house-call if necessary for, say measurement of blood sugar levels, BP or even drawing of blood for patients who are too bed-ridden to visit the polyclinics. They will act under guidance of doctors of course, who will

review these results and prescribe medications accordingly. Nurses can supervise nursing aides and other healthcare workers to provide basic services for residents. Such services are essential in helping families to cope in such difficult times and will indirectly contribute to the productivity of family members by reducing their stress.

For home care for the non-ambulant chronic or elderly sick, most of the organisations currently charge the families whatever fees not recovered from MOH subsidies based on the means test. With regard to the provision of home care services to the terminally ill, it is currently free for all the patients being served by Voluntary Welfare Organisations. MOH provide subsidies to these organisations based on the means test.

This is not satisfactory as the organisations providing hospice care at home find it difficult to impose a charge for their services. They therefore have to depend on donations from families who have benefited from their care and from fund raising activities. It is a paradox that the donations received goes to fund those who do not qualify for the government subsidy based on the means test.

We propose that the health workers providing such services be salaried and the funding should be provided through the budget of MOH. The use of all such services should also be largely subsidised by the government through the National Healthcare Investment Fund, with a 10% co-payment component at point of utilisation to be paid by patients who can afford it, as has been detailed in previous parts of this report.

In addition, the cost of wheelchairs, diapers, etc can be much reduced though a co-operative when these are bought in bulk. Used appliances can be donated and resold at much cheaper prices or loaned free of charge to the needy.

To further help families care for their chronic or elderly sick, a subsidy or waiver of levy should also be given for employment of home caregivers.

Hospice care services cannot be abused and should be fully subsidised.

Preventive Healthcare

Preventive healthcare, health education and directed health screening will be further developed and supported. Cost- and outcome effective health screening tools will be adopted early. Pilot projects will be carried out to assess the effectiveness of these screening tests (e.g. diabetes and lipid screening) in the local population.

Medical Research

Medical Research will continue to be encouraged and supported, but a larger proportion of funding would have to be private.

The funding for Medical Research must be directed at goals which are of community interest. The priorities should be in the development of local researchers who are sensitive to the needs of Singaporeans. Further assistance should be given to health services research that aims to honestly evaluate the different components of the new healthcare system and propose evidence based alternatives. Basic science research should be driven by clinicians to focus on areas which have a public health impact on Singaporeans. Research funding needs to be transparent and community groups need to have a say in the allocation of public moneys to researchers. The results of publicly

funded research must be freely available to all and any patents on novel products developed with public funds should belong to the National healthcare fund. All this will be funded out of the National Research Fund which is currently under the PMO.

Private Medicine

Private medicine will continue to have a part to play in the Singapore Healthcare scene. They will cater in large part to overseas patients and non-citizens, as well as to wealthier Singaporeans. When public hospitals no longer need to provide private healthcare, they will be able to distribute work equally and ensure that training of post-graduates proceeds efficiently and for the future of the profession.

But the annual contribution paid by citizens to the National Health Investment Fund will also allow them to have treatments and operations in private hospitals, abet only up to the equivalent amount they would have paid in the government sector (these tariff-tables are already available today). The rest will have to be topped up by the patient out-of-pocket or via other private insurance schemes.

Private healthcare establishments will continue to be monitored for over-charging.

Private Insurance

Supplemental private insurance and riders may be purchased from private insurers to cover for conditions not covered under the basic plan (e.g. dental care) and/or for a higher level of service (e.g. private ward hospitalisation).

All supplemental health insurance policies and riders will have to meet minimum standards of ethics and compliance to be laid down by a National Healthcare Committee.

Accidents/Work Injuries

To encourage maintenance of a safe work environment, the Work Injury Compensation Act should be amended to include all hospitalisation charges without cap on top of lump sum compensation to the workman.

Workplace Safety and Health Act should also include legislation for insurance coverage of all hazardous workplaces against accidents suffered not just by work men, but by passers-by and other personnel on site. Again, this insurance should cover hospitalisation charges.

For road traffic accidents and other accidents, hospitalisation charges will be covered by the respective insurances.

Foreign Workers

Employers of all foreign workers who reside in Singapore, and who utilise the local health service will be mandated by law to buy comprehensive hospitalisation insurance for the worker. Outpatient medical costs should also be covered by the respective employers by law; the employer may in addition decide to buy insurance to cover out-patient expenses.

This law should include employers of foreign domestic maids. Low-income migrant workers should be once again entitled to proper medical care.

III. HEALTHCARE COSTS

Healthcare can be divided into primary healthcare and hospital care. It can also be divided into public and private healthcare. In Singapore 80% of the primary care is left to the private doctors whereas in hospital care, the public hospitals take up 80% of the care²².

In the primary healthcare, in spite of the dominance of the private sector, the free market system seems to work well to keep the services accessible and the fees affordable. The potential for the delivery of inexpensive healthcare, however, has not been fully realised. In view of the growing aging population with its attendant of chronic illnesses, a review to tap this potential is necessary so that stable patients now under the care of hospital specialists could be discharged to this sector for cheaper follow-up care. This will also free the hospital specialists to look after the acute patients better and also to relieve them of the stress of overload.

Healthcare costs have risen exponentially in recent years. Part of this is because of the lack of cost containment carried out by the government.

On the contrary, the government has encouraged this cost increase by running all restructured hospitals as profit making entities. This is reflected in the amount of expensive 'in vogue' unsubsidised medications and equipment increasingly being used by government doctors. It is also reflected in the large budgets set aside for marketing and advertising by public restructured healthcare providers. Public healthcare providers need to see themselves once again as guardians of the health of Singaporeans rather than as sellers of services to the highest bidders.

In recent years, there has also been severe mark-up by big health and pharmacological conglomerates of their products. The government has continued to allow this because it wants to encourage these companies to invest in the biomedical production/research facilities in Singapore. But our citizens pay the cost. A comparison with the prices of the same drugs or equipment in Malaysia will make quite evident this mark-up²³.

Public hospitals' average hospitalisation bills have increased by as much as double over the last few years.

Table 10: Singapore Public Hospitals Average Bill Sizes.

	2004 ²⁴	2005 ²⁵	2007 ²⁶	2009 ²⁷
Class A		3473	4138	4750
Class B1		2736	3439	3870
Class B2	1054	1094	1401	1660
Class C	786	858	1250	1530

HEALTHCARE COST CONTAINMENT

Healthcare costs have been spiralling in many developed nations. They are driven primarily by hospital fees, physicians' remuneration, pharmaceutical expenses and technology.

Total healthcare spending in 2010 was about \$12 billion³⁶. We project this to increase to about \$14.7 billion (including about \$1.5 billion spending on additional

infrastructure and manpower) by the time the Healthcare Plan is implemented. This will be made up of:

- National Health Investment Fund of \$11.8 billion made up of \$10.5 billion government and \$1.3 billion private contribution (from Annual Contributions)
- Co-payment amount of about \$600 million (Addendum C)
- Private healthcare of about \$ 2.3 billion* (Addendum B. Section 5^{54,55}.)

*excludes NHP government subsidised and co-payment component

In order for healthcare expenditure, both public and private, to remain under control steps must be taken to manage the costs of these areas. Taken together, these measures will control healthcare costs in Singapore and make affordable medical care for all Singaporeans.

Capitation

A discussion of healthcare provision would not be complete without a discussion on capitation.

At one time in the evolution of healthcare financing systems, mainly in the 1970s and '80s, capitation was thought to hold great promise. By paying a fixed fee per patient to the doctor per year for the doctor to take care of the complete health of the patient, it was thought to be a good way to incentivise doctors to keep their patients healthy and thus reduce the cost of treating the patient. It was also thought to be a good way to prevent over-treatment and unnecessary procedures and to control healthcare cost.

However, the last 30 years of practical experience has proven otherwise, and capitation as a healthcare financing model has been largely discredited. Despite its theoretical advantages, in every system where it has been introduced it has failed miserably in containing costs (its supposed strength) and in ensuring equitable outcomes for both doctors and patients²⁸.

A capitation system has only 2 advantages vis-a-vis a fee-for-service²⁹:

1. It controls healthcare costs by fixing the amount paid out to the health provider per patient per year. The healthcare provider will have to work within these constraints by not over-prescribing, over-treating, over-investigating.
2. The corollary of the above is that the physician will be incentivised to focus on preventive healthcare to limit treatment costs.

But capitation has many drawbacks and inequities^{28, 30, 31}:

1. Capitation involves insurance risks. A fixed amount is paid to a pool held by the healthcare provider. Every time a patient is seen, the doctor loses money from this pool.
2. The insurance risks are shifted to the healthcare providers, who lack the actuarial, underwriting, accounting, financial skills required for insurance risk management. The result is that many healthcare providers lose money under capitation, whilst some others actually gain financially disproportionately. Many capitation schemes actually

over-compensate for the former by over-paying healthcare providers resulting in even more disproportional gain by the latter.

3. Insurance risks are a function of portfolio size, i.e. the larger the pool of patients, the lower the risks. GPs don't have a large enough pool to average out the risks and approximate the kind of risks quoted by large insurers for capitation plans. That's why capitation systems work better for larger providers like hospitals and big healthcare chains.

4. You need a middleman, typically the HMO, to collect the money from patients, pool it, and disburse it to doctors for a commission. Ergo, one more layer of costs. Even if the government plays the middleman role, admin costs will be incurred and have to be paid for by taxpayers.

5. Capitation encourages physicians to under-diagnose, under-prescribe, under-treat patients in order to save money. Doctors work less hard. This introduces the problem of moral hazard: there's an inherent conflict between managing insurance risks (saving money) and treating patients (losing money). Patients end up the biggest losers.

We do not propose adopting capitation in any part of our healthcare plan. (Please see Addendum J for a discussion on the practical implications of a capitation system and its flaws in the Singaporean context.)

However, we need to work towards a model of community clinics – the sharing of the cost of primary care clinics by the community. It is important to recognise that the current fee-for-service system for primary care is detrimental to the provision of chronic care and home care services for the elderly as well as hospice care at home by the general practitioners (GP). The GPs can do so much more to reduce healthcare costs if we can have an adequate system to ensure that they have an adequate and satisfactory income.

Over-charging in third-party payment schemes

The practice of profit-based medical practice, especially when covered by insurance or the government, soon makes medical care so expensive that it cripples those individuals or governments who have to pay for it. Information asymmetry is a major reason for distortion of this practice. The doctor, knowing that some faceless insurance company will pay his bill, regards as "reasonable" whatever sum he can get away with.

With a proposed 90% government subsidy and 10% co-payment by the patient, we can expect that a large number of GPs and private specialists will start to increase prices, as out-of-pocket payment will drop drastically.

We must counter this by re-issuing the SMA Guidelines⁵⁷, and having very vigilant policing. Public hospitals must also not take the opportunity to increase prices. Their prices will be fixed on the implementation of scheme, and thereafter linked to inflation level and median wage.

The ‘Buffet Syndrome’ and the Prevention of Abuse of a Pre-Paid Healthcare Service

A patient often demands much more detailed medical attention once his healthcare is insured or prepaid. They are more likely to demand unnecessary tests and medications especially if these are suggested by providers who have an incentive to encourage patients to demand this. An environment which allows for unlimited advertising also encourages patients to demand for additional services which may not be clinically indicated. These increased patient demands soon raise the cost of healthcare.

Requiring the patient to share part of the cost of treatment is thought to discourage this type of behaviour but in reality, it only exacerbates the inequality between the rich and the poor. A stronger ethical code or national body which provides evidence-based guidelines can help as well as restrictions on advertising, whether direct or indirect.

This behaviour is also more likely in symptomatic illnesses where the patients feel physically unwell, as in acute contagious illnesses.

The behaviour is less likely seen in chronic non-symptomatic illnesses like hypertension or diabetes, where it is more likely to encounter non-compliance with treatment or medication, even in patients who are having their treatment paid by third parties.

Drug / Devices / Investigative Costs

With the government health programme being the main healthcare provider in Singapore, a considerable saving in costs can be achieved by regulating fees for laboratory tests, X-rays and medical devices, aggressive bidding to bring down drug costs, economies of scale practices, and if need be, setting up of healthcare product production facilities in Singapore to serve the local market.

Expensive AIDS drugs and other medications should be negotiated intensely with the drug manufacturers. If this fails, compulsory licensing should be enacted to circumvent unfair patent laws in order to combat serious diseases and epidemics by providing affordable medicines to the people.

In this way expensive proprietary drugs can be prescribed without ballooning pharmaceutical costs. This approach was adopted under the DOHA Declaration and is practised in countries like Brazil, India and South Africa.

As certain implants and prostheses can be prohibitively expensive, these devices should similarly be bid for. There should be a cap in payment for certain very expensive prostheses, especially for those with a large cosmetic or special functionality component.

We should also invest in the manufacturing of generic drugs as well as the production of medical devices such as stents, prostheses and other instruments. This will help to cut healthcare expenses and will have the added advantage of creating more jobs. Deals with suppliers of such instruments must also be negotiated stringently to control costs.

The Practice of Cost-effective Medicine

Aggressive cost-containment measures will have to be set in place controlling prescribing practices, interventional medicine and overly defensive medical practices. Private medical practitioners and allied health professionals should be allowed to practice in public hospitals/polyclinics and vice versa. This reduces brain drain, redistributes talent more equitably between the public and private sectors, maximizes economies of scale, improves remuneration and working conditions for physicians.

In order to ensure that physicians don't over-treat or overcharge and contribute to spiralling costs, evidence-based clinical practice guidelines should be reinforced and refined. Treatment norms should be standardized and formalised in tariff tables. An independent panel of doctors should be formed, not influenced by drug companies or equipment makers, to work out these guidelines and tariffs.

Additional investment in health education, preventive healthcare and early detection will reduce overall costs, increase life expectancy and quality of life. This is particularly important with an aging population. Screening tests that have been economically evaluated to have a high cost-benefit ratio should be encouraged.

End-of-life issues should be fully debated and addressed, and a clear and fair policy instituted under the National Healthcare Plan.

Mediation and Tort Reform

Tort reform should be introduced to reduce malpractice litigation and damages. There also needs to be a clear and more transparent medical regulatory system. The current system where patients can go to both the Singapore Medical Council and the courts is unnecessarily duplicative. An approach that removes the role of the medical council as a court of arbitration and restores it to its original role as a licensing body will help clarify matters considerably for doctors and patients. There should be a greater role for pre-litigation mediation in dispute resolution and medical negligence claims. This would discourage frivolous litigation, reduce the costs of medical litigation, and reduce the burden on the courts. This not only reduces malpractice insurance premiums (which have been rising exponentially for the surgical disciplines) but also discourages defensive medicine where doctors order multiple and often unnecessary tests to protect themselves from suits.

Audit and Compliance

There should also be in place a system of audit and incentive for doctors to avoid over-treatment and overcharging.

The government will carry out annual audits of a proportion of invoices sent to them, whether public or private. Computer programmes will sieve out doctors who are outliers in terms of treatment cost, and reminder letters can be sent to these doctors.

If the practice continues, a field audit will be carried out by the MOH Medical Audit and Accreditation Unit.

Prescribing practice and investigative/therapeutic procedural practice norms will have to be audited by an independent professional medical panel.

Hospital Charges

Restructured hospitals will be converted back to public hospitals and operated on a non-profit basis. At the moment, these state-run hospitals operate on a cost-recovery basis where the hospitals are expected to register profits.

As mentioned earlier in this report, all ward-classes will be removed. This reduces costs incurred by ward differentiation, advertisement for private patients, renovations/refurbishments of non-essential installations, and marketing expenses. It also removes supplier-induced demand to fill A-class wards – a huge component of the recent increase in healthcare cost. This results in more egalitarian and equitable healthcare delivery.

Healthcare must not be reduced to merely a commodity to be purchased based on which patient can pay more. It is a service that is rendered to people who fall ill and to the elderly. The service to heal must be one based on care and compassion.

There is another overlooked fact and that is a hospital provides essentially two services: an accommodation service and a medical service. Often when talking about costs containment, the focus is only on the medical service. There must also be a review on how to reduce costs of the accommodation service.

Healthcare Contingency Fund

Despite active cost-containment measures, healthcare spending in practically every developed nation has continued to rise unabated owing to inflation, ageing population, and increasing pharmaceutical costs.

We expect Singapore to follow this trend, and we therefore propose that the government set aside a Healthcare Contingency Fund of \$20 billion, to be financed from our national reserves, to deal with future increases in the healthcare budget. This fund will be professionally managed and invested conservatively for an average return of 6% per annum.

The projected returns on the Healthcare Contingency Fund should be able to finance future annual increases in healthcare expenditure of up to 10% without dipping into the principal sum.

Expert Committees

Professor William Hsiao, the architect of the Taiwan Healthcare System, has been quoted as saying: "Now it is difficult to obtain data on the performance of Singapore's healthcare system. Relatively little is published, and therefore comparisons with other countries' systems are not possible. I would not have an issue with this confidentiality if Singapore did not promote its healthcare system outside its borders. However, because the Singapore Government is actively advocating the '3M' system to other countries (like China) as a means of controlling healthcare costs, I believe that Singapore has a social responsibility to release this data so that others can independently evaluate the advantages and disadvantages of the Singaporean system."³²

We will have to continually build up academic expertise on healthcare research. MOH data and data from other sources will have to be made freely available and

shared. Expert Committees independent of MOH will have to be set up to look into areas of

1. Clinical practice guidelines implementation & outcomes
2. Policy research & healthcare Indicators
3. Cost containment (efficiency)
4. Healthcare outcomes (quality and equity)

These committees may be independent or based in academic institutions and will conduct research and continually assess the state of healthcare in Singapore, from different perspectives, ensuring that our healthcare system is up to date and never left behind in this fast-changing world.

Economically Favourable Effects of the Healthcare Plan

1. The Singaporean worker will become more attractive compared to foreign worker, since the employer will have to buy additional health insurance for the foreign worker.
2. Because healthcare spending will go down for companies, they will spend less on human resources, and thus be more amenable to a Minimum Wage Law.
3. The plan will be a boost to small companies that employ few workers, since for these companies, healthcare costs constitute a heavy burden on their operating cost.
4. Of course the biggest side effect will be a healthy and more motivated work force that is happier and less distracted.

V. CONCLUSION

Healthcare is a fundamental human right and governments have a responsibility for the health of their people through the provision of adequate health and social measures. A just and equitable healthcare system should therefore make basic and essential healthcare system affordable for even the poorest among us. As society becomes more individualistic and embraces market forces as part of a global trend towards neo-liberalism, we have to ensure that the poor and needy do not become objects of charity and handouts.

There is an economic impetus as well. Investing in healthcare has also been shown to have a positive impact on GDP growth. A healthier, wealthier citizenry in turn bolsters social stability, which in turn facilitates democratic governance.

While healthcare's status as a basic human right is not in question, it cannot be over-emphasised that for any healthcare system to remain workable and functional, society must recognise that a nation's health has to be the *shared* responsibility of the people, the government and the healthcare providers. We do not advocate welfarism but rather espouse co-operation and sharing as fundamental tenets underpinning the quest for social justice and societal well-being.

Towards this end, it is critical that we move towards becoming a co-operative society in which we care and share with one another:

- Our government leaders need to set the example of being good stewards of the taxes received – this includes the issue of how much our leaders are paid. Our political leaders need to set the example of servant leadership.
- The medical profession needs to recognise their responsibility to be physicians and not merchants of medical care.
- Patients need to come to terms with the reality of death as well as the limitations of medical care.
- The rich must recognise and fulfill their responsibility to pay their dues taxes. We must help the poor to upgrade themselves so that they too can pay their dues even though their contributions may be small.
- Spiralling healthcare costs cannot be resolved purely by economic measures – we need to address the spiritual, emotional and psychological dimensions of healthcare as well. Every Singaporean must be challenged to be part of the solution rather than being part of the problem.

The SDP National Healthcare Plan is one that emphasises our community as Singaporeans and espouses the values we stand for. It is a social insurance-based system with no exclusions and an affordable premium that will be fully subsidised for those who cannot pay. Because it is a single-payer system, audits and formularies can be controlled to ensure that only the best and most effective treatments are provided for Singaporeans rather than unproven and expensive technologies. The existing private healthcare system which is world-class will be retained and strengthened while the embattled public healthcare system will be supported and reinforced. Elimination of Medisave, Medishield and Medifund will result in considerable

administrative savings and ensure that all Singaporeans receive the healthcare that they need as a basic human right.

Notwithstanding the groundbreaking nature of our proposal, the SDP recognises that this document is a work in progress and further refinements are needed. Towards this end, the party is launching the paper as a public consultation exercise, and we welcome constructive criticism and feedback from the public so that we may further improve the final document for more effective implementation.

It bears reminding that even in the most progressive societies, there are people who still slip through the cracks. Truly universal healthcare remains the holy grail of a humane and caring society that puts its people's physical, mental and social well-being at the fore and centre of policy-making. Ultimately, the most well-conceived health plan in the world will not deliver universal care unless we first change the mindsets of the stakeholders involved in a nation's health: the people, the healthcare professionals, and the government.

The SDP is confident that its Healthcare Plan will take the nation in the right direction – a healthier, happier populace working hand-in-hand with a responsible government to ensure that no one who is in need should ever be denied medical treatment, that the greatness of our society is vouchsafed only by the care we give to the least among us.

V. ADDENDAAddendum A

Main healthcare models

National Health System (NHS) or Beveridge model

- Funded by tax
- Single payer – the government
- Free at point of use – doctors get payment from NHS directly; patients receive no bills
- Most hospitals and hospital doctors are employed by government; GPs may be self-employed

Bismarck model

- Private, non-profit insurers (“sickness funds” in Germany) jointly financed by employers & employees
- Guaranteed issue – insurers must cover everybody and cannot cherry-pick

National Health Insurance (NHI) model

- Single insurer – the government, with considerable bargaining power with providers
- Control over coverage helps to control costs
- First dollar coverage – no co-payment
- Administrative costs tend to be very low due to no marketing; underwriting

Out of pocket

- Also known as “market driven healthcare” (euphemism)
- Accessibility to healthcare depends on wealth
- Hallmark of most poor countries

	Singapore	Japan	Canada	Germany	Switzerland	Taiwan¹	Netherlands
Theme	"Can die but cannot fall sick"	"Over 70 percent of the Japanese, when they're asked that question, say they're not only in favor of basic coverage, they are in favor of egalitarian coverage."	"Canadians don't mind the waiting list so much, so long as the rich Canadian and the poor Canadian have to wait about the same amount of time."	"The German system is way less fair than it is expected to be, and the difference is [be]coming bigger..."	"Everyone is entitled to healthcare... it's a basic human right."	"When a society is seriously concerned about its people having equitable access to care, the free market is not a good choice."	"It is socially irresponsible and unacceptable if insurers were to screen out undesirables that apply."
Per capita total health expenditure (US\$)²	1,503	3,321	4,380	4,629	7,141	1,127	5,164
Numbers							
Life expectancy in years	82	83	81	80	82	78	81
Infant mortality per 1,000 live births	2	2	5	3	4	6	4
Total health expenditure as a percentage of GDP	3.9%	8.3%	10.9%	11.3%	11.3%	6.87	10.8%
Private expenditure as a percentage of total expenditure	58.9%	18.5%	31.3%	21.2%	40.4%	42.22%	15.2%
Out of pocket (OOP) as a percentage of private expenditure	94.1%	80.6%	49.6%	53.9%	75.0%	83.02%	37.7%
Doctors per 10,000 people	18	21	19	35	41	16.7 ³	39
Avg family premium per month	S\$19.5 ⁴	US\$280	NA	US\$750	US\$750	US\$54.20 for 4	€100 per person (€1,200 per year)

¹Department of Health, ROC (Taiwan), <http://www.doh.gov.tw/> (2009 figures)

² Indicators for all countries other than Taiwan.Global Health Observatory Data Repository, World Health Organization, <http://apps.who.int/ghodata/?theme=country> (2009 / 2008 figures); Sick Around The World, PBS Frontline, <http://www.pbs.org/wgbh/pages/frontline/sickaroundtheworld/countries/>;

³2004 figures, Taiwan Supplement, Department of Health, ROC (Taiwan)

⁴Assuming Medishield for Father (42), Mother (38), 2 Children (15 and 12)

	Singapore	Japan	Canada	Germany	Switzerland	Taiwan	Netherlands
Co-payment	100% (GP / outpatient) Minimum S\$1,000 + at least 10% (inpatient only)	30% per procedure up to cap ⁵	No payment at point of service	€10 /3 mths	10% up to CHF700/year cap	20% up to \$6.50; max \$7 O/P; \$1.80 dental & TCM. Some exemptions	Deductible €170
Healthcare model	Mixture of several models <ul style="list-style-type: none"> • Bismarck – for those covered by private shield (however, there is no guaranteed issue) • NHI – for those covered by MediShield (however, no guaranteed issue and government is not active in controlling costs) • Out of pocket – for the uninsured 	Bismarck <ul style="list-style-type: none"> • Private, non profit; same price for same coverage • Premium according to income • Employed: company-linked insurance • Unemployed: private community • Poor – government pays 	NHI <ul style="list-style-type: none"> • Medicare: public health insurance • No bills, no co-payment 	Bismarck <ul style="list-style-type: none"> • “Sickness funds” (private) • Almost 100% coverage (rich can opt out) • No charge for unemployed • Sickness funds KPI = no. covered (motivation to remain in business) • Patients receive no bill; direct payment by sickness funds 	Bismarck <ul style="list-style-type: none"> • Individuals required to purchase private insurance • No group insurance exists • Basic package: non-profit; supplemental for-profit available • Premium based on residence (canton), insurer, deductible, insce model • Government subsidies for those who cannot afford (1/3 of pop.) 	NHI <ul style="list-style-type: none"> • Compulsory • Government-run insurance 	Bismarck <ul style="list-style-type: none"> • 2 pronged insurance • Private insurance for short-term treatment (regulated) funded by employer, self and government (50:45:5) • Government insurance for long term treatment (hospitalisation etc) • No cherry picking; premiums are community-rated • Consumers can change insurers yearly and insurers cannot reject • All must contribute to Risk Equalisation Fund, paid to insurers who accept high risk patients
Administrative costs				Public – 6% Private – 17%		2.58% Smart card cuts administrative costs	
Coverage	Medical, dental, mental health	Medical, dental, drugs	Hospital, doctor	Medical, dental, optical, hearing aids, nursing care, childbirth etc. “Everything which is medically necessary is covered.”	Basic – medical & hospitalisation; pregnancy (no copay). Supplemental can be purchased for dental, private ward	Drugs, optical, TCM, dialysis, in/out patient	Medical Dental, PT, optical, plastic surgery covered by supplemental insce (no limit on premiums)

⁵

Low income earner (under 70 years) monthly cap is ¥35,400, *Social Security in Japan*, National Institute of Population and Social Security Research, www.ipss.go.jp/s-info/e/Jasos2011/SS2011.pdf

	Singapore	Japan	Canada	Germany	Switzerland	Taiwan	Netherlands
Hospital owned by	50-50 (by number of hospitals) ⁶ 77% public-23% private (by number of beds)	80% private		10% private for-profit 90% non-profit	60% public 40% private (by number of hosp)	36.5 public 63.5% private (by hospital beds) ⁷	Mostly privately run and not for profit
Doctors employed by	Total 56.5% public 37.3% private (rest not active) Specialist⁸: 39% private 61% public	Almost 100% private <ul style="list-style-type: none"> Primary care more profitable than specialised care Reimbursement 		100% private for-profit	2/3 self employed (ambulatory care)	30% western primary care doctors private	Capitation + partial FFS
Gate keeper	No But patients will not receive subsidy if bypass polyclinic GP	No Patients can go directly to specialist with minimal waiting GP	Yes Patient must be referred by a GP or a family practitioner	No But co-pay will be higher if bypass GP	No Although access may be limited under managed care plans	No	Yes GPs as gatekeepers
Price control	Predominantly set by market <ul style="list-style-type: none"> Limited list of subsidised drugs (1,000nos) Providers free to set prices for services (MOH publishes prices for consumer comparison) Public: 2 health groups negotiating separately for supplies 	Full control by health ministry <ul style="list-style-type: none"> Comprehensive price list for every single procedure / drug Revised every 2 years Doctors free to choose any drug or procedure 	<ul style="list-style-type: none"> Drug control board determines drug prices 	Negotiated <ul style="list-style-type: none"> Standard pricing for consultation and drugs Yearly negotiation between providers and sickness funds Panel of physicians and scientists determines which drugs should be covered by funds 	Regulated <ul style="list-style-type: none"> Doctors' fees regulated Drugs: fixed by government (but still higher than neighbours) 	Negotiated <ul style="list-style-type: none"> Government as single-payer negotiates with doctors and hospitals 	Negotiated <ul style="list-style-type: none"> Insurers enter into contracts with their network of hospitals, doctors and providers Hospitals – Diagnostic Treatment Combinations (DTC)
Tiered service	Yes Private patients get quicker access and different treatment	No Medical treatment at all levels easily accessible	No Against egalitarian values	Yes Patients with private insurance receive different treatment	Yes	[Probably not due to no gate keeper]	No Patients have complete freedom of choice

⁶<http://www.singstat.gov.sg/pubn/reference/yos11/statsT-health.pdf>

⁷ Hospital sector: Taiwan, International Hospital Sector, www.ihf-fih.org/en/content/download/896/.../Taiwan+HS_Layout+1.pdf

⁸SMC Annual Report 2010, [http://www.smc.gov.sg/html/MungoBlobs/382/1007/SMC%20Annual%20Report%202010%20\(Final\).pdf](http://www.smc.gov.sg/html/MungoBlobs/382/1007/SMC%20Annual%20Report%202010%20(Final).pdf)

	Singapore	Japan	Canada	Germany	Switzerland	Taiwan	Netherlands
Problem	Medicine is commodity <ul style="list-style-type: none"> Medishield deductible deters patients from seeking early treatment Medisave discriminates against lower income; higher income earners enjoy more tax rebates] 	Underinvestment <ul style="list-style-type: none"> Inadequacies in some areas e.g. emergency Doctor shortages in regions and specialties Consultation time too short for complicated cases Specialised training can be improved Overconsumption (3X American) 	Long queues, long waiting time for elective care	<ul style="list-style-type: none"> Doctors feel underpaid (salary 1/2 of US) – although medical education \$0 and malpractice insurance cost 1/10 of US Existence of private insurance (rich exempted) leads to doctor discriminating between patients (less fair) Quality of medical care is average; too many hospitals and specialists Preventive healthcare underdeveloped 	Spiralling costs <ul style="list-style-type: none"> Not able to control healthcare costs; over-consumption Competition among insurers not showing results Cherry picking and manipulation of risk pool Very expensive insurance 	Spiralling costs <ul style="list-style-type: none"> Coverage increasing without corresponding increase in premiums (politics) Co-payment is not deterring over-consumption Little R&D, technological assessment 	Competition not showing results⁹ <ul style="list-style-type: none"> Healthcare expenditure still outpacing inflation Premiums and deductible still increasing “Competition” increases administrative costs and complexity Competitive yet still heavily regulated, consumers not seeing benefits (little variety between insurers; low switching)
Bankruptcy (as a result of medical bills) ¹⁰	Unknown, but patient and families need to drain Medisave and bank accounts to qualify for Medifund. In 2010, 20.9% of Singaporeans seeking help from CCS do so due to medical bills	“Medical bankruptcy is unknown.”		“In Germany it's impossible to go bankrupt for medical bills, because even if you are bankrupt... the social solidarity system pays for your medical bills.”	“Doesn't happen. It would be a huge scandal if it happens.”		

⁹ Managed Competition for Medicare? Sobering Lessons from the Netherlands.(15 June 2011) New England, Journal of Medicine Health Policy and Reform. Retrieved from <http://healthpolicyandreform.nejm.org/?p=14712>

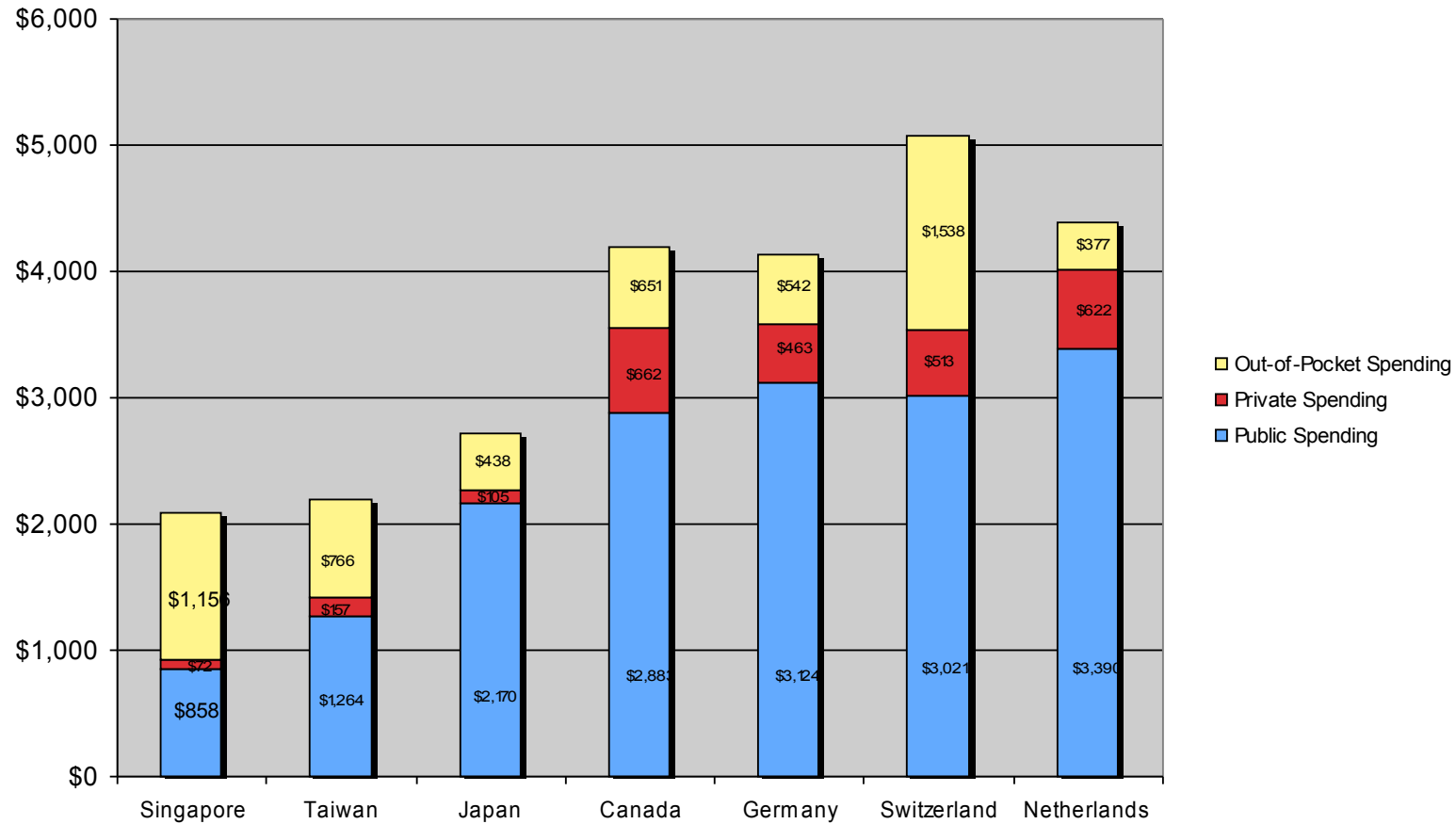
¹⁰Quotes may not be based on facts. Statistics on bankruptcy may depend on procedures of applying for bankruptcy in the specific country.

Finally, an important quotation:

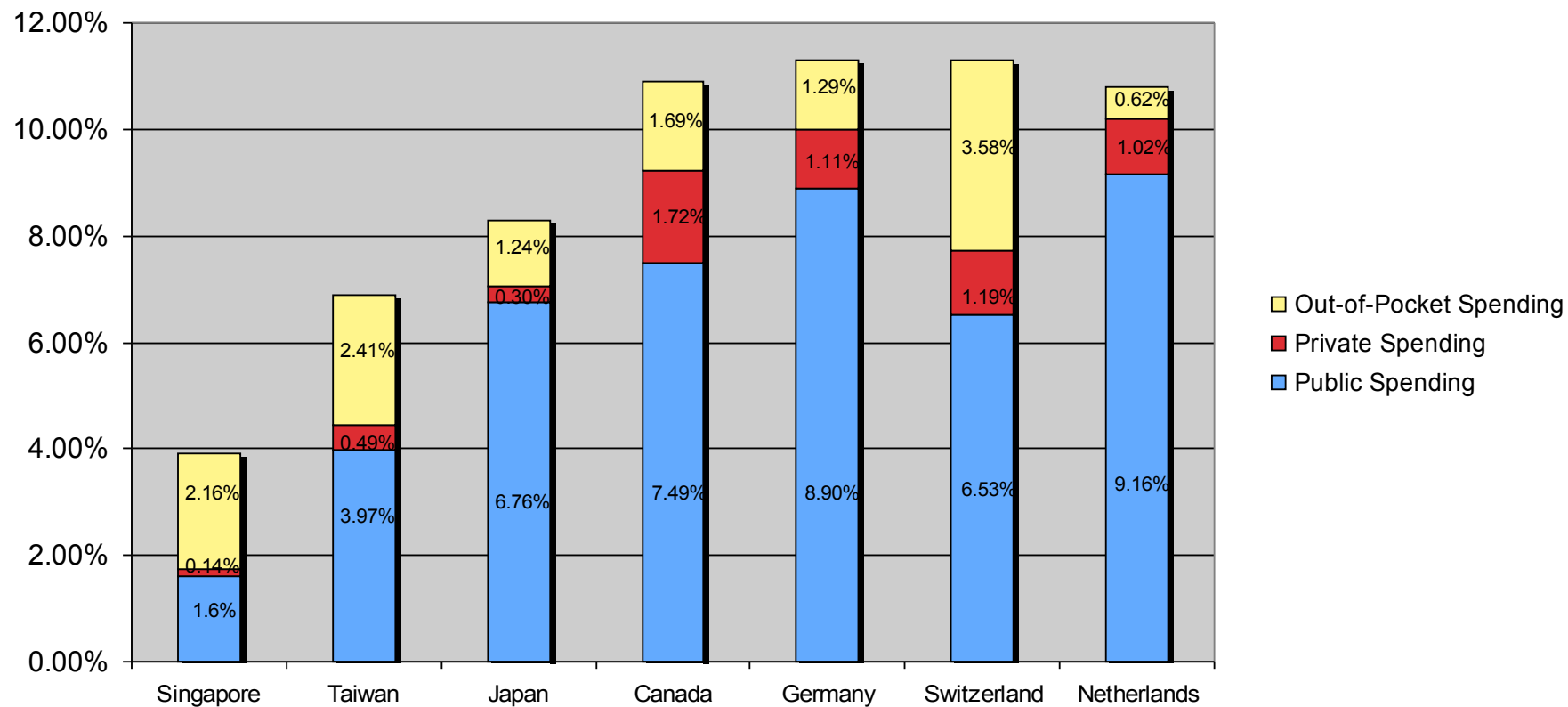
“Before you can set up a health care system for any country, you have to know that country's basic ethical values. The first question is: Do people in your country have a right to health care? If the people believe that medical care is a basic right, you design a system that means anybody who is sick can see a doctor. If a society considers medical care to be an economic commodity, then you set up a system that distributes health care based on the ability to pay. And then the poor, pretty much, are left out.”

- William Hsiao, Harvard economist and one of the designers of Taiwan's healthcare system³²

**Health Care Expenditure per Capita
by Source of Funding in US\$ (2009)
Adjusted for Differences in Costs of Living**



Health Care Expenditure as Percentage of GDP by Sources of Funding (2009)



Addendum B

Sources of revenue for extra Government spending on Healthcare (Preliminary)

The act of apportioning a higher percentage of government monies, collected through taxes and other sources of government revenue, must be differentiated from the current government's threat of collecting more taxes from citizens to fund an increase in healthcare cost component to be borne by the government.

To this end, we propose several sources of revenue to make up for the extra government spending on healthcare.

Spending on defence should be reduced to those nearer that of other small developed nations. Because the burden of spending on healthcare under the plan has shifted from private enterprise to the government, we proposed an increase in the corporate tax rate. A larger dividend payment from earnings from our past reserves should be made available for use on social programmes including healthcare. All revenue from the Tote Board will be spent on healthcare and other social welfare programmes, and no longer on sports.

Other sources of revenue would include a luxury tax on luxury items, and a tax on foreign buyers of local properties.

1. Reduce defence spending (\$5.75 billion)

Singapore has the 3rd highest defence spending⁶⁰ as % of GDP (3.76%^{58,59}, 2011) in the developed world, after the US (4.7%)⁶⁰ and Israel (6.3%)⁶⁰. While the US is the world's sole superpower and has defence commitments throughout the world, and Israel lies in a politically volatile region where the threat of conventional and military attacks is very real, there is little justification for Singapore's high defence spending.

These are some figures for military expenditure for small developed countries⁶⁰:

Singapore 3.76% of GDP^{58,59}

Switzerland 0.8%

New Zealand 1.2%

Sweden 1.2%

Finland 1.5%

Holland 1.5%

Norway 1.6%

As a percentage of total budget spending, the defense budget makes up about 25%⁵⁸. We propose progressively reducing defence spending to about 2.0% of GDP, or about 13% of total budget spending, within 3–5 years.

This will ultimately save us \$5.75 billion a year.

2. Luxury tax (\$1.85 billion)

Tax on \$5000 handbags, \$1 million cars, \$5 million apartments, fine dining, branded goods, branded watches, luxury yachts, etc.

Finance Minister Tharman has stated that the richer 40% pay 84% of GST³³. It follows that the poorer 60% pay 16% for the more essential goods, and 100% of residents will pay approximately 27% for more essential goods. Based on a conservative estimate, half of the remaining 73%, is for luxury goods, i.e. 37%. Total

GST collected was about \$7 billion in 2010. So for luxury goods, the government nets about \$370 million for each percent of GST collected. A luxury tax of 5% would thus net the government an additional \$1.85 billion.

3. Property Tax on foreign buyers of property (\$200 million)

Total real estate transaction in 2010 was \$35 billion. Historical high was \$54 billion in 2007. Of these, residential homes made up at least \$19 billion.

From government sources, Singaporean buyers made up only about 67% of all private property transactions for 2011. Foreigners made up 19% of buyers in the second half of 2011³⁵. The rest of the transactions are made up of companies and PRs. If we estimate that foreigners account for about 20% of private homes sold, that would be equivalent to about \$4 billion worth of private homes sold a year. An imposed tax of 5% on these transactions would mean a collection of about \$200 million a year.

A similar tax should also be imposed on third and subsequent properties owned by residents (Singaporeans/PRs).

* On 7 December 2011, the Singapore Government announced an increase of buyers stamp duty by 10% for foreign buyers of Singapore private property, as a means to limit speculative buying by these investors³⁶.

4. Corporate Tax increase (1 billion)

The government collected \$10.5 billion in corporate taxes in 2010³⁷.

Current tax rate: 4.25% up to \$10 000, 8.5% up to \$300 000, 17% above \$300 000³⁸. Burden of healthcare is shifted to the government. Approximately 1.9 million workers would spend of an average of \$2000 per person per annum. Let's say corporate burden is 10% of that. That's at least \$380 million.

Increase of 1% at mid and 2% at high range will give us about \$1 billion.

5. Abolishment of GST on healthcare spending (\$350 million)

Abolishing GST on healthcare spending (based on the Healthcare Plan model) will save about \$300 million a year*.

*In 2009, the government transferred \$2.5 billion out of \$3.7 billion healthcare spending to Institutions under SingHealth and National Healthcare Group³⁹. Private healthcare spending was \$8 billion².

So primary care + secondary care + tertiary care spending = approx \$8 billion + \$2.5 billion = \$10.5 billion.

GPs cover approx 80% primary care²². Estimate per GP clinic \$350 000 turnover a year x 2000 clinics = \$700 million a year. Polyclinics make up another 25% of this figure, that's total \$875 million a year, estimate $\frac{3}{4}$ of which serves residents, that is \$650 per year for residents. Average GP spends about 1/3 on medications, investigations, utilities, rental, etc. which is GST taxable, that's \$215 million GST taxable.

Secondary & hospital care = \$10.5 billion - \$650 million = \$9.85 billion. 70% or \$6.90 billion public and 30% or \$2.96 billion private (estimated based on Average hospital bill sizes⁵⁴ & hospital admissions⁵⁵). Of the \$6.90 billion, there is a 10% co-pay with cap, so approx 6% or \$414 million. The other 92% or \$6.49 billion is government paid. Of this, we estimate about 10% to contain GST items, so that is \$649 million GST taxable.

Adding all up (\$215mil+\$2.96bil+\$414mil+\$649mil), approx \$4.238 billion is GST taxable. 7% of that amount is \$297 million.

This is based on \$12 billion healthcare spending. We estimate healthcare spending to reach about \$14.6 billion, so there is a GST amount of about \$369.36 million.

6. Tote Board (\$1.5 billion)

The Tote Board receives about \$6 - \$8 billion in revenue each year (Betting Taxes³⁷ being equivalent to about 25%⁴³ of total bets placed), including about \$140 million⁴⁶ in Casino Entry Levy for 2010. Actual profit after expenses and taxes is estimated to be in the region of \$1 - \$1.5 billion.

We propose the majority of this to be spent on healthcare as healthcare will become the largest item of social spending.

Sports and sporting events (except mass sports) should no longer largely be supported by the government or Tote Board collection, but largely by private sponsorship.

7. Capping of Budget Surpluses

The budget surplus that is returned to Singaporean pockets – as seen in the amount returned just before GE-2011 – had amounted to approximately \$3.2 billion in the dubious ‘Grow and Share’ program³³.

This is on top of the over \$4 billion ‘GST Off-set package’³⁴ that was paid-out annually during 2010 2009, 2008, and 2007 since GST was first introduced in Singapore at 3 percent – the total amount refunded is staggering.

Budget surpluses and earnings from reserves should be capped at 5 - 10%. All additional monies should be used to build and run our social infra-structure.

Addendum C
National Health Investment Fund Contribution Options & Quantum of Individual Contribution & Estimated Total Co-payment Amount

1% of Taxable Income

The Population Census in 2010¹⁹ registered 1.9629 million working residents in 2010. Average wage was \$4089¹⁷ (Median wage \$2588⁴⁴). A very quick calculation will give us \$40 per month or \$480 per year. But this amount is only paid by about 1/2 of residents, so effectively you will collect \$240 per resident per year.

A more detailed calculation results in a figure of \$700 million a year.

Monthly Wage Level (2009) (\$)	No. of persons (000)	Average monthly wage (\$)	Total wage (\$) (000)	Remarks
Up to 200	33.8	100	3380	
200 – 399	31.4	300	9420	
400 – 599	58.4	500	29200	
600 – 799	87.6	700	61320	
800 – 999	74.6	900	67140	
1,000 – 1499	178.6	1250	223250	
1,500 – 1999	191.8	1750	335650	
2,000 – 2499	180.7	2250	406575	
2,500 – 2999	159.1	2750	437525	
3,000 – 3499	126.7	3250	411775	
3,500 – 3999	93	3750	348750	
4,000 – 4499	74.2	4250	315350	
Total	1289.9		2649335	Aggregate wage (of those earning < \$4500 p. m.)

Source of data: CPF Board⁴⁰

	Total employed persons (000)	Average monthly wage (\$)	Total Wage (\$) (000)	Remarks & Calculations
2010	1962.9	4089	8026298	
	Persons (000)	Per mth (\$)		
Relief	1962.9	250	-490725	250x1962.9
CPF for those earning above \$4500 (21.56%)	423.11	2535	-1072584	
CPF for those earning below 4500 (78.44%)	1539.79		-790646	25% of 2649335÷1289.9x1539.79
Total non-taxable income			-2353955	
Total taxable income per mth			5672343	
Taxable per yr			68068116	
1% of Taxable			680681.2	

Source of data: CPF Board⁴⁰ & Census of Population 2010¹⁹

‘Tiered Premium’ model

Estimation of Total and Average Contribution based on available individual income data

	Residents (000)	Citizens (000)	Contr Rate (\$)	Total Contr (\$ (000))	PRs (000)	Contr Rate (\$)	Total Contr (\$ (000))	Total Contr Citizens & PRs (\$ (000))
Total no. (2010)	3771.70	3230.70			541.00			
Adults	2948.11	2525.24			422.87			
<18 Yrs	823.59	705.46			118.13			
Known Employed Adults	1962.90							
Known Unemployed Adults	84.40							
Missing Adults	900.81							
Missing Adults - Homemakers - Unem Seniors(e)	577.82							
Missing Em Adults(e)	384.72							
Missing Unem Adults (e)	193.10							
Total Em Adults(e)	2347.62							
Total Unem Adults(e)	600.49	514.36			86.13			
Total Unem Adults - HM ≤\$2000(e)	416.55	356.80	300	107040.3	59.75	400	23899.37	
Homemakers(e)	255.90							
Homemakers with Spouse earning >\$3500(e)	97.12	83.19	600	49915.76	13.93	700	9751.81	
Homemakers with Spouse earning \$3500 - >\$2000(e)	86.81	74.36	300	22308.59	12.45	400	4980.94	
Total Em Adults earning ≤\$1000(e)	407.97	349.45	300	104836.02	58.52	400	23407.22	
Total Em Adults earning ≤\$1750(e)	858.05	734.98	300	220492.81	123.08	400	49230.45	
Total Em Adults earning >\$1750(e)	1489.57	1275.91	600	765545.7	213.66	700	149561.06	
<18 yrs, Parents earning ≤\$3000(e)	232.56	199.21	150	29880.98	33.36	200	6671.66	
<18 Yrs, Parents earning \$4000 - >\$3000(e)	96.05	82.27	150	12341.02	13.78	200	2755.44	
<18 Yrs, Parents earning >\$4000(e)	494.98	423.98	300	127193.62	71.00	400	28399.11	
Total Contr (\$ (000))				1334718.73			275249.84	1609968.57
Average Contr (\$)				413.14			508.78	426.85
Persons on FS Scheme (Government Subsidises Contr)	1057.09			241757.26			53978.26	295735.52
Total Private Contribution to Healthcare Fund (\$)(000)								1314646.19

Source of data: CPF Board⁴⁰ & Census of Population 2010¹⁹ & Labour Force Survey of Singapore 2010⁴⁷

Notes:

1. (e) indicates that the figure following is estimated based on publicly available data.
2. Sub-distribution of citizen/PRs status is estimated according to overall citizen/PR ratio¹⁹.
3. Employed adults income bracket estimated from 2009 CPF data⁴⁰.
4. Adults with unclear employment status (2010 census¹⁹) distributed as for adults with known employment status.
5. Unemployed housewives estimated from difference in employment numbers between males:females. Husbands' earnings estimated from 2009 CPF data⁴⁰.
6. Data for average family income is unavailable and represented using individual income. This over-estimates the contribution of individual employed families but under-estimates the total number of these families.
7. The above calculation underestimates contributions made by single/divorced/widowed individuals who constitute about 28.4%⁵² of the workforce.
8. For the purpose of calculating average contribution, individuals on full subsidy who have their contributions covered by the government are included.

‘Tiered Premium’ model

Estimation of Total Contribution based on available household income data

Total resident households, 2011 (000s)	1146.20
Estimated resident population size, 2011 (000s)	378900

Resident households	Percent of total households	Average household size	No of persons	Contribution amount (corrected according to citizen:PR ratio)	Total Contribution (000s)
No working persons	9.3	3.75	399737.25		
Total household income ≤\$2000	10.9	3.75	468509.25		
Total household income \$2000 - ≤\$3500 (e)	12.45	3.75	535132.13	\$314.03	\$168047.54
Total household income >\$3500	67.35		2385621.38	\$614.02	\$1464819.24
All households					\$1632866.78
Contribution by adults (85.9%)					\$1402632.56^a

Resident households	Percent of total households	Average household size	No of persons	Contribution amount (corrected according to citizen:PR ratio)	Total Contribution (000s)
No working persons	9.3	3.75	399737.25		
Total household income ≤\$3000	19.2	3.75	825264.00		
Total household income \$3000 - ≤\$4000 (e)	16.6	3.75	71350.95	\$157.02	\$56017.61
Total household income >\$4000	63.2		220724.4	\$314.03	\$693140.83
All households					\$749158.46
Contribution by minors (14.1%)					\$105631.34^b

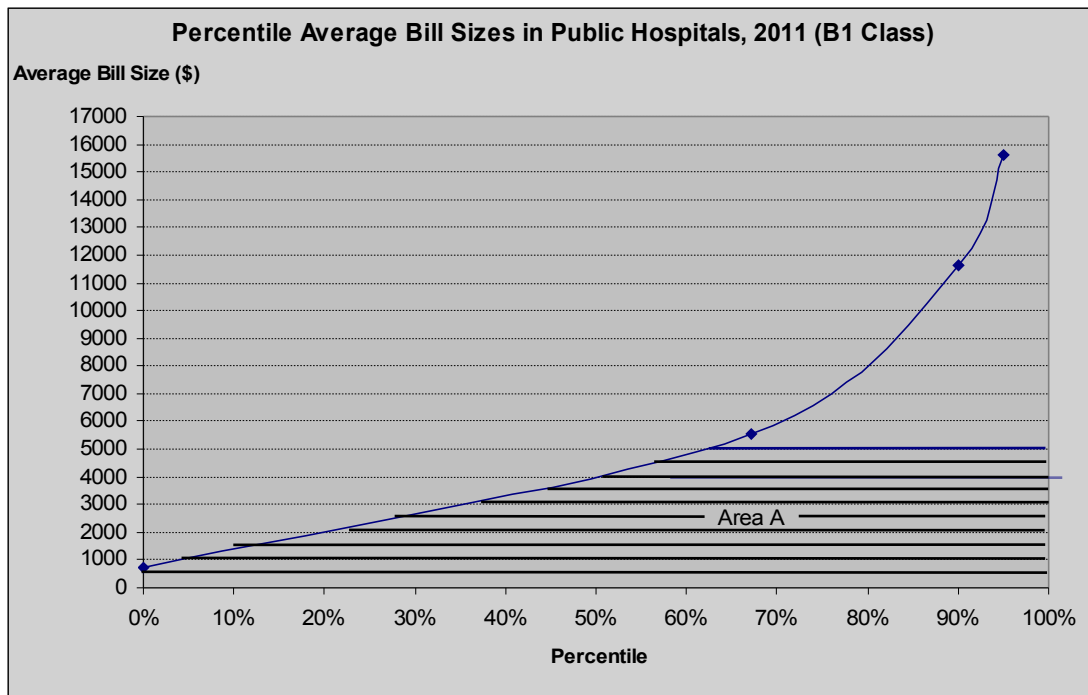
Source of data: Key Household Characteristic and Household Income Trends, 2011. Department of Statistics, Singapore⁵³

Total private contribution to healthcare fund (adults(a) + minors(b)) = **\$1508263.90**

Notes:

1. Household income brackets used to represent family income brackets.
2. Adult and minor proportion in households unknown and assumed the similar over different household income brackets.
3. OECD, IMF and World Bank now use equivalized rates for household incomes to compare incomes countries with different average household sizes. Per capita is not used, because it underestimates disposable incomes, since most households have only 2 working adults and 1 or two minors. OECD uses the following formula to calculate equivalised household income: (Median Annual Total Household Income) divided by (square root of mean household size). As the average household size in Singapore is 3.5, square root of which is 1.87 (less than 2), the above representation is unlikely to over-estimate for total family income for the purpose of our calculation.

Gross Estimation of Total Co-payment amount



Average bill sizes in Public Hospitals, 2011 (B1 Class) ¹	Percentage of inpatients with bill sizes below indicated amount
\$750 ²	0%
\$5572	67% ³
\$11661	90%
\$15641	95%

Source: Ministry of Health, 2011^{54,56}

Notes:

1. Average bill sizes represents a non-weighted average of B1 bill sizes in all 8 Public Acute Hospitals⁵⁴ at indicated percentiles.
2. Minimum bill size is estimated at \$750 based on lowest B1 average hospital bill size for individual conditions⁵⁶ and lowest B1 average per day bill size in various public hospitals⁵⁴.
3. This percentile is calculated based on overall average bill size (\$5572⁵⁴) and bill sizes at 90th and 95th percentile⁵⁴.
4. Maximum average bill is estimated at \$30000 based on extrapolation of graph.
5. Calculations based on area of polygon below graph bound by indicated points.

Scheme	Number of persons (000s)	Proportion	Approximate final effective co-payment percentage ^a	Weighted percentage (Final effective copayment rate under HNP) ^b
Normal	1586.692	0.396352	0.0941	0.037297
APS	1359.458	0.33959	0.061	0.020715
FS	1057.086	0.264058	0	0
Total	4003.236			0.058012

a. For APS patients, calculated from area under the curve below \$5000 plus rectangular area under horizontal line drawn at \$5000 to 100% (Area A). For Normal scheme, the area is that bound by \$20000. For APS recipients, about 61% of total aggregate bill cost will be subjected to co-payment of 10%. For normal scheme, at least 94% of total aggregate bill cost will be subjected to co-payment of 10%.

b. Based on acute hospital bills.

Addendum D
Monthly Contribution Rates to Medisave Account

Monthly Contribution Rates to the CPF and Medisave Accounts⁴⁹

Employee Age (Years)	Contribution Rate (for monthly wages exceeding \$1,500)			Credited into		
	Contribution by Employer (% of wage)	Contribution by Employee (% of wage)	Total Contribution (% of wage)	Ordinary Account (% of wage)	Special Account (% of wage)	Medisave Account (% of wage)
35 & below	16	20	36	23	6	7
Above 35-45	16	20	36	21	7	8
Above 45-50	16	20	36	19	8	9
Above 50-55	12	18	30	13	8	9
Above 55-60	9	12.5	21.5	11.5	1	9
Above 60-65	6.5	7.5	14	3.5	1	9.5
Above 65	6.5	5	11.5	1	1	9.5

Current Medisave contribution ceiling is \$41000 and minimum sum is \$32500.

Addendum E

An Alternative: Insurance Company Management of Healthcare Plan

1. The contribution paid by each resident to the Healthcare Fund, may alternatively be handled by a private insurance company. It would not be a good idea to have more than one insurer, and the insurer cannot sub-contract out the service.
2. No opting out. Everybody is covered. Those who want to use private hospitals and specialists can do so, but they will only be able to claim up to an agreed equivalent government hospital rate. The rest they can top-up out-of-pocket, or buy extra private insurance.
3. Claims generated by the private sector will have to be physically paid on per claim basis (consult, drug cost, procedure cost). To save cost, claims generated by the public sector will not be physically paid per claim, but the claims used to audit for productivity, manpower, and cost reduction issues in the public sector.

Premium Collection

The government will provide the insurer with a Master List with names and addresses of all residents (citizen & PR).

It must be emphasised that the entire list is SECRET and information on it must not be sold to 3rd parties or used for other commercial purposes. This rule has to be strictly enforced.

The government will provide the insurer with information on the premium quantum to be paid by each resident, either \$0, \$300, \$400, \$600 or \$700.

- a. For active CPF account holders, the amount can be deducted from their CPF accounts.
- b. For the self-employed, homemakers or retirees with income, the amount can be deducted by GIRO from their bank accounts or from CPF accounts of their working spouse.
- c. For children, the amount may be deducted from their baby-bonus account or by GIRO from their parent's bank account.

For collection via CPF accounts, the government will charge the insurer a fee to carry out the transaction.

Defaults

What would the insurer do with people who don't pay? Or cannot afford to pay?

First step: send reminder.

Second step: send reminder with admin fee.

Third step: reminder with government fine (to be paid out to government).

Fourth step: recalcitrant defaulters will have to go to court.

For those unable to pay, refer to government social services to sort out. Outcome will need to be followed up.

On no occasion shall the insurance company deny payment of any claims based on non-payment of premium.

At this point in time, it is not envisaged that the government will 'top-up' the amount not paid by those under extra government subsidy into the \$2 billion account.

\$2 Billion

The \$2 billion collected will be deposited into a government account, out of which the insurer will draw out necessary amounts to pay claims. Insurer will not make any interest from the \$2 billion.

The insurer will not at any time hold any money in-lieu.

Claims Payment

a. The government will subsidize all public sector invoices to the tune of 80%.

The outstanding 20% of claim amount (after co-payment) will be paid out by insurer.

This would apply to all primary, secondary and tertiary care. Polyclinic bills received will also be paid out at the 20% rate. The other 80% will be borne by government (which will not actually pay all public sector bills individually to save cost).

It is envisaged that due to the large number of claims, payment will largely be automatic, with random auditing of a certain proportion of claims.

b. Private sector claims will similarly be paid according to the rate specified by the government, e.g. for drug cost, etc. Tertiary care bills will be paid out according to pay-tables derived from public sector norms.

Only 20% of private sector claims will be covered by the insurer.

The other 80% will be paid out by the government portion of healthcare spending (i.e. from the \$10 billion budget).

The government will set up a parallel department to deal with this 80% payment to the private sector.

If the government wants to farm out this function as well, there has to be mechanism worked out to allow the insurer to access the government healthcare account of \$10 billion.

Audit

The insurer will audit a proportion of bills/claims sent to them, whether public or private.

Computer programmes will sieve out doctors who are outliers in terms of cost, and 'blue letters' can be sent to these doctors, e.g. obstetricians with high LSCS rates.

If the practice continues, a field audit will be carried out by the insurance company, which will have to employ qualified medical personnel to do this.

Prescribing practice and investigative/therapeutic procedural practice norms will have to be audited by an independent professional medical panel employed by the insurer.

The government will run its own panel of medical specialists to oversee the insurance company audit teams and specialist panels.

Alternatively, all professional auditing functions can be handled by the government (in which case the management fee paid to the insurer will fall accordingly).

Surplus or otherwise

It might happen that at the end of the year, after paying all the claims, there might remain a surplus in the \$2 billion account. In this case, the insurer will not have access to the surplus. This surplus will be carried over to the next year.

It can be envisaged that for certain years the \$2 billion might not be enough to cover the cost of all the claims paid out. What will happen then?

Since all the terms have been dictated by the government (i.e. premium level, reimbursement amounts etc), it is clear that the insurer has no power to adjust these factors. It has only an enforcement role to make certain that the rules are followed.

In this case, the government will, in the first place, pay out the amount the insurance company had previously not received from citizens exempted from paying the \$500.

After this, if the amount is still outstanding, the government will pay out the remainder under any previously agreed upon formula. By right, the government should reimburse the full extra amount previously paid out by the insurance company.

Management Fee

The insurer will be paid a management fee previously agreed upon to run the scheme. (I think this amount should not top 1%).

From the above, it can be seen that the insurance company is actually acting more as a management agent in the running of the scheme than acting as a real insurer. They have limited powers to control the cost of the scheme, and can only do an enforcement or policing job on all the rules already laid down by the government.

The government will also have to set up a department to oversee the practice of the insurance company.

Addendum F
MediShield: List of Excluded Treatments & Expenses
Source: CPF Board⁴¹

Generally, the following expenses are outside the scope of MediShield and cannot be claimed:

- Entire stay in hospital if the member was admitted to the hospital before he was insured by MediShield
- Treatment of any of the following categories of pre-existing illnesses or any other serious illnesses for which the patient had received medical treatment during the 12 months before the start of MediShield cover:
 - o Blood disorder
 - o Cancer
 - o Cerebrovascular accidents (stroke)
 - o Chronic liver cirrhosis
 - o Chronic obstructive lung disease
 - o Chronic renal disease, including renal failure
 - o Coronary artery disease
 - o Degenerative disease
 - o Ischaemic heart disease
 - o Rheumatic heart disease
 - o Systemic lupus erythematosus
- Ambulance fees
- Congenital anomalies, hereditary conditions and disorders e.g. hole-in-heart, hare-lip
- Cosmetic Surgery
- Maternity charges (including Caesarean operations) or abortions
- Dental work (except due to accidental injuries)
- Infertility, sub-fertility, assisted conception or any contraceptive operation
- Sex change operations
- Mental illness and personality disorders
- Optional items which are outside the scope of treatment
- Overseas medical treatment
- Private nursing charges
- Purchase of kidney dialysis machines, iron- lung and other special appliances
- Treatment for which the insured person received reimbursement from Workmen's
- Compensation and other forms of insurance coverage
- Treatment of any illness, disability, injury or any condition arising from or due to the Acquired Immune Deficiency Syndrome (AIDS) virus
- Treatment for drug addiction or alcoholism
- Treatment of injuries arising directly or indirectly from nuclear fallout, war and related risk
- Treatment of injuries arising from direct participation in civil commotion, riot or strike
- Treatment of self-inflicted injuries or injuries resulting from attempted suicide
- Vaccination

Addendum G

MediShield premium amounts and MLR calculation

Annual premiums⁴¹ for MediShield range from \$33 for those below 30 years old, to \$1,123 for those between 84 and 85 years old. Medisave may be used to pay for MediShield premiums.

Age Next Birthday	MediShield Yearly Premiums (\$)
1 to 30	33
31 to 40	54
41 to 50	114
51 to 60	225
61 to 65	332
66 to 70	372
71 to 73	390
74 to 75	462
76 to 78	524
79 to 80	615
81 to 83	1 087
84 to 85	1 123

Source: CPF Board⁴¹

Though the Ministry of Health has said explicitly that MediShield is a non-profit scheme, a quick calculation of MediShield's Medical Loss Ratio (claims divide by premiums) using CPF Board's 2009 Annual Report¹⁸ for data shows that the MLR is at an astonishing 42%!

That means that the scheme has made a 'profit' of 58% or at least \$215.84 million a year, which is returned to the Medishield reserves.

(\$'000)

Premiums collected – 372 132¹⁸

Claims paid – 214 642¹⁸

Loss ratio = 57.7%

Investment income + interest = 139 133 (this item appeared under Medishield so the inclusion is correct)

Loss ratio (including investment) = 42.0%

Administrative costs – 9 379

(including fees, salaries, computers, building & maintenance)

Admin cost as % of premium = 2.52%

(if including investment = 1.83%)

In the US, the Affordable Care Act passed by Congress and signed into law in March 2010, private for-profit health insurers are required to meet a Medical Loss Ratio of at least 80% to ensure that premiums collected go towards meeting its primary objective (medical care and healthcare quality improvements) and not administrative costs.

If MediShield is supposed to be "non-profit" then it should adhere to a "non-profit" KPI of MLR at least 80%. MOH's reasons for accumulating reserves – that it needs to prepare for future payouts – do not hold water.

Addendum H

DOHA Declaration 2001⁴⁸

The price of expensive life-saving proprietary drugs in emergency, national health crisis or epidemic situations should be negotiated intensely with the drug manufacturers. If this fails compulsory licensing should be enacted to circumvent unfair patent laws in order to combat serious diseases and epidemics by providing affordable medicines to the people.

In this way expensive proprietary drugs can be prescribed without ballooning pharmaceutical costs. This approach was adopted under the DOHA Declaration and is practised in countries like Brazil, India and South Africa.

Drug patents are covered under the WTO's TRIPS agreement (1994) which basically protects big pharmaceutical companies at the expense of the well-being of people in developing countries.

So the DOHA Declaration (2001) came into being, to help developing countries develop low cost drugs and to make TRIPS fairer for poor countries. It was supposed to ensure WTO members' right to protect public health and ensure access to medicines for all citizens. DOHA does not amend the obligations and rights laid down in TRIPS, but gives guidance for interpretation of the relevant parts of TRIPS.

Some of the clauses in DOHA:

- ... member states recognize the gravity of the public health problems afflicting many developing and least-developed countries, especially those resulting from HIV/Aids, TB, malaria and other epidemics.
- ... IP protection is important for the development of medicines, but that the effects on prices is concerning.
- TRIPS shall be read in light of the object and purpose of the Agreement, found in Articles 7 and 8 of TRIPS, and that each member has the right to grant compulsory licences and the freedom to determine the grounds for such a licence.
- When using compulsory licensing in accordance with TRIPS Art 31, the Doha Declaration further gives the member states the right to determine what constitutes a national emergency or other circumstances of extreme urgency, which are conditions to issue compulsory licences.*
- Article 5 also leaves each member free to establish its own regime for the exhaustion of intellectual property rights without challenge.

* Doha Declaration, Art 5c). It is understood that public health crises, including HIV/Aids, TB, malaria and other epidemics, can represent a national emergency or other circumstances of extreme urgency.

Addendum I

Alternative Hospital Admission Policy

Under the Healthcare Plan, all medical services and care will be provided equally. There will be no different tiers in healthcare provision.

However, because it would not be possible to convert all hospital rooms to a single standard, there will still be single- or 2-bedded rooms in the older hospitals.

For those who want increased privacy and the convenience of an en-suite bath, they will have to pay up-front for these added benefits in accommodation. This component can be covered by individual insurance if the insurance companies want it, but the government plays no part in subsidising this.

A hotel-like charge may be administered for admission to 1 or 2-bedded rooms. This accommodation charge will be substantial, say \$300 per day for a 1-bedder and \$160 for a 2-bedder. The actual charges will to an extent depend on demand, but a high enough level should be charged to prevent abuse.

The extra profit from these charges will be ploughed back into the healthcare system.

This means that admission policy for patients would be first to 4-bedders, then 6-bedders and larger rooms. In times of bed crunch, patients from 4- or 6-bedded or larger rooms will be automatically overflowed to 1- and 2-bedded rooms. This will ensure optimal use of hospital beds, and that no-one is left in want of a bed.

Because of this latter policy, and due to the shortage of hospital beds, it is envisaged that there will be patients overflowing to 1- and 2-bedders most of the time. This means that a patient being admitted at a certain time may not want to fork out extra if he or she is aware that he or she will already be assigned to a 1- or 2-bedded room.

Unless we are amenable to keeping 1- and 2-bedded rooms exclusively reserved for extra-paying patients, which we definitely are not, this system would not be feasible.

Addendum J

Capitation: Local Implementation Study

There is a pool of about 4 million citizens/PR to be divided. According to MOH, the 18 polyclinics provide primary healthcare for 20% of residents, and the 2000 GPs clinics provide the other 80%.

The patient pool might not be similarly distributed, but let's assume it is.

3.2 million patients divided by 2000 GP clinics is about 1600 patients per GP clinic on average (some will have more, some less, plus some of the clinics are 3-4 doctor clinics).

For the capitation system to work, the government must ensure that every citizen/PR is registered with a GP clinic.

Letters will be sent out for each citizen and PR to register. Patients will also be allowed to register at GP clinics. So when patients walk into a clinic, they will be asked whether they want to be registered with the clinic. I assume about 6 months will be given for all citizens/PR to register. After that, if there are still unregistered patients, the MOH will register them with the nearest GP.

Alternatively, those not registered will just be left out. This is unlikely, since if the number who don't register is large, the government will have to act to get them to register, and if the number is small, say, a few percent, then it would be better to 'force' register these then to leave them out (there will be those overseas, these people will have to indicate that, and remember, these people will also not pay the annual \$600 'premium').

So, all patients will be registered with either a GP or a polyclinic. No patient is to be registered with a specialist clinic except for children, whose parent may want to choose them to be registered with a paediatrician.

For the system to work properly, both GPs and polyclinics have to be paid according to the capitation system by the government.

The philosophy behind capitation is that the doctor takes care of the whole range of illnesses of the patient, so acute illnesses will have to be included in the scheme.

We have already talked about the problem of including acute illnesses in the health programme (MC seekers, cough mixture addicts, etc). A co-payment for acute illness will limit these visits to a small extent, but it would be very difficult to predict the number of visits to prevent overcrowding of the clinic (e.g. epidemics, etc).

We have discussed before the different patterns of acute illness attendance at GP clinic in the local context and in the context of the more mature economies, where self-medication is prevalent.

What is a reasonable monthly rate that should be paid?

We estimate on average 1800 patients per GP. Let us work on \$7 per month per patient. The GP will have an intake of \$12600 per month from this scheme alone, but

will have to treat all illnesses including acute and chronic illnesses, including medication cost.

Of course some GPs will protest. They will say that certain groups of people have more chronic illnesses e.g. the old, so we will start to stratify the capitation amount, say \$10 per patient for the older folk, and \$5 per patient for the rest, etc.

This might still not satisfy some GPs, who will ask for stratification according to sex, smoking status, presence of re-existing illness. We are entering the realm of the insurance companies here, with different morbidity tables, etc.

It is clear that we should not allow this thing to be carried too far. What we want is a simple system. Yet from experience we know that a simple capitation system is so inequitable that it doesn't exist anymore. All capitation systems require an intense amount of tweaking to make it work. However, we might believe in a certain philosophy so much that we might want to spend the time, money and energy tweaking the system to make it work.

The other philosophy of the capitation is that by paying a GP a fixed amount of money a patient, the GP will be motivated to keep his patient pool healthy by doing a lot of preventive healthcare. This is another assumption that has been proven wrong. However much power we might like to think the GP has over his patients, the reality is that they have very little over the majority of his patients' lifestyle or heredity.

From a patient perspective, would a patient like being assigned to a single GP for his healthcare?

The NTUC MHS experience has proven otherwise. It is very difficult to force a patient to see only one doctor for all his ailments. Patients want the convenience of seeing their 'company doctor' near work during office hours, and their 'family doctor' during non-office hours.

This is the whole point with the APCC (alternate primary care clinic) doctor in the NUTC scheme, which ended up being non-capitation (\$15 a visit - and the amount taken out of the payment to the PCC doctor).

The patient might further be allowed to be registered with 2 GPs, and then we will have to work out the fine points about equitable payment again – more 'engineering' to try to make a flawed system work.

VI. REFERENCES

1. Harmonization for Health in Africa, consisting of WHO, World Bank, UNFPA, USAID, UNICEF, UNAIDS, JICA, the African Development Bank, in collaboration with the Partnership for Maternal, Newborn and Child Health. Investing in Health for Africa: The Case for Strengthening Systems for Better Health Outcomes (2011). http://www.who.int/pmnch/media/membernews/2011/investing_health_africa_eng.pdf
2. Unless otherwise specified, all facts and figures on healthcare expenditure, manpower, facilities, indicators and outcomes are referenced from the Singapore Budget reports, and Singapore country reports to the World Health Organisation for the respective years.
app.mof.gov.sg/singapore_budget_archives.aspx
http://www.who.int/gho/publications/world_health_statistics/en/index.html
3. Creating Jobs and Enterprise in a new Singapore economy – Ideas for Change. Tan Jee Say. 15 February 2011.
http://theonlinecitizen.com/wp-content/uploads/2011/04/New_Economy_-_Jobs_and_enterprise_Singapore_15_Feb_11.pdf
4. Factors Influencing Healthcare Spending in Singapore: A Regression Model by Seng Lee Huang. International Journal of The Computer, the Internet and Management Vol.12 No.3 (September-December, 2004)
5. Budget Statement 2007: Ready for the Future, Ready for the World. Lee Hsien Loong.
http://www.mof.gov.sg/budget_2007/budget_speech/downloads/FY2007_Budget
6. Singapore Health Facts: Government Health Expenditure. Ministry of Health, Singapore, website.
http://www.moh.gov.sg/content/moh_web/home/statistics/Health_Facts_Singapore/Government_Health_Expenditure.html
7. Same budget, Different outcome? Singapore Democrats. Tuesday, 01 March 2011.
<http://yoursdp.org>.
8. Jump in number of inpatients at hospitals. Salma Khalik. Straits Times, 10 June 2011.
9. OECD Health Data 2011 - Frequently Requested Data.
http://www.oecd.org/dataoecd/52/42/49188719.xls#Frequently_Requested_Data!A1
10. Singapore's Healthcare System: Some Challenges. Tilak Abeysinghe, Economics, NUS. On-going joint research with Ms Himani, Economics, NUS & Dr Jeremy Lim, Chair, SingHealth Centre for Health Services Research Advisory Committee.
11. Paying Tribute to the former Health Minister. Leong Sze Hian. The Online Citizen. 10 June, 2011. <http://theonlinecitizen.com>.
12. 8 must-knows about health care in 2012. AsiaOne Your Health. 9 January 2012.
<http://www.yourhealth.com.sg/content/8-must-knows-about-health-care-2012/page/0/0>

13. Singapore Health Facts: Health Facilities. Ministry of Health, Singapore, website.
http://www.moh.gov.sg/content/moh_web/home/statistics/Health_Facts_Singapore/Health_Facilities.html
14. Jurong Health. Ng Teng Fong General Hospital.
http://www.juronghealth.com.sg/ourhospitals/jgh_overview.asp
15. Sengkang hospital to open two years early / Planning for manpower to begin early. Salma Khalik. The Straits Times, 02 December 2011.
<http://www.sgh.com.sg/about-us/newsroom/News-Articles-Reports/Pages/sengkang-hospital-open-years-early-planning-manpower-early.aspx>
16. Media Articles, various. Parkway Novena Hospital website.
<http://www.parkwaynovena.com.sg/>
17. Earnings and Wages. Ministry of Manpower website.
<http://www.mom.gov.sg/statistics-publications/national-labour-market-information/statistics/Pages/earnings-wages.aspx>
18. CPF Board 2009 Annual Report. Section 21.1 Changes in Insurance Fund balances.
<http://mycpf.cpf.gov.sg/NR/rdonlyres/020C9CC2-4DC3-4632-99F7-7C4ED3C44DA9/0/Financials.pdf>
19. Census of Population 2010. <http://www.singstat.gov.sg/pubn/popn/c2010acr.pdf>
20. Intermediate and Long-Term Care (ILTC) Services. Ministry of Health website.
http://www.moh.gov.sg/content/moh_web/home/our_healthcare_system/Healthcare_Services/Intermediate_And_Long-Term_Care_Residential.html
21. Elderly woman mistreated at nursing home. Fann Sim. Yahoo Singapore. 10 June 2011.
<http://sg.news.yahoo.com/blogs/singaporescene/elderly-woman-mistreated-nursing-home-174803277.html>
22. Primary Healthcare. Ministry of Health website.
http://www.moh.gov.sg/content/moh_web/home/our_healthcare_system.html
23. Cheaper Medicine across the Causeway. Nur Dianah Suhaimi. Straits Times. 14 May 2006. <http://www.pss.org.sg/main/content/view/67/2/>
24. Is Class B2/C Hospitalisation Affordable? Chua Boon Loy. Ministry of Health Information Paper: 2005/ 09
http://www.getforme.com/previous2006/200106_isclassb2chospitalisationaffordable.htm
25. Publication of Data on Affordability of Healthcare. Ministry of Health Press Release Press Release 22 Aug 2006.
http://www.getforme.com/previous2006/210806_publicationofdataonaffordabilityofhealthcare.htm

26. Ministry of Health: Bill Size for Patients in Public Hospital (2007)
<https://orgnet.income.com.sg/uiGuide/guideDetailsPublic.aspx?gde=3931>
27. Average bill sizes up slightly: Khaw. 938live. 03/03/2010.
<http://entertainment.xin.msn.com/en/radio/938live/singaporenews.aspx?cp-documentid=3965317>
28. [Health-Care Systems: Lessons from the Reform Experience](#). Elizabeth Docteur and Howard Oxley (2003). OECD.
<http://www.oecd.org/dataoecd/5/53/22364122.pdf>.
29. From volume to value: better ways to pay for health care. [Harold D. Miller](#) (September–October 2009). [Health Affairs \(Project Hope\)](#) 28 (5): 1418–1428
30. Exposing the true risks of capitation financed healthcare. Cox, T. *Journal of Healthcare Risk Management*, 30: 34–41. doi: 10.1002/jhrm.20066.
31. Legal and Ethical Implications of Health Care Provider Insurance Risk Assumption. Cox, T. (2010). *JONA'S Healthcare Law, Ethics, and Regulation*, 12(4): 106-116.
32. Talking Healthcare at Harvard, An Interview with Prof William Hsiao. Hsu Li Yang. *SMA News*. Volume 39 No.9 September 2007.
33. FY2011 Budget Debate Round-Up Speech. Tharman Shanmugaratnam.
http://www.mof.gov.sg/budget_2011/download/FY2011_Budget_Debate_Round_Up_Speech.pdf
34. Budget Speech 2007: GST Off-set Package. Tharman Shanmugaratnam.
http://www.mof.gov.sg/budget_2007/budget_speech/header6.html
35. New stamp duty hike will hit foreign buyers hard. *Property.com*. Sheena Chua. 8 December 2011
<http://www.iproperty.com.sg/news/4650/New-stamp-duty-hike-will-hit-foreign-buyers-hard>
36. Additional Buyer's Stamp Duty for a stable and sustainable property market. Media Release. Ministry of Finance and Ministry of National Development. 7 December 2011. <http://www.ura.gov.sg/pr/text/2011/pr11-162.html>
37. Singapore Budget 2011. Ministry of Finance. Revenue and Expenditure Estimates.
http://www.mof.gov.sg/budget_2011/revenue_expenditure/attachment/4%20GOS%20EE2011%20Revenue.pdf
38. Singapore Corporate Tax Rate. AsiaBiz website.
<http://www.asiabizservices.com/singapore-corporate-tax-rate>
39. Singapore Budget 2010. Ministry of Finance. Expenditure Estimates by Head of Expenditure. Head O. Ministry of Health.
http://www.mof.gov.sg/budget_2010/revenue_expenditure/attachment/21%20MOH%20EE2010.pdf

40. Yearbook of Statistics Singapore, 2011. Department of Statistics, Ministry of Trade & Industry. Page 69. Table 4.10 Active Central Provident Fund Members by Wage Level.
<http://www.singstat.gov.sg/pubn/reference/yos11/yos2011.pdf>
41. General Information on MediShield Scheme. Central Provident Fund Board.
<http://ask-us.cpf.gov.sg/Home/Hybrid/themes/CPF/Uploads/Healthcare/General%20Information%20on%20MSH.pdf>
42. Ministry of Health website. Medisave-approved Insurance.
http://www.moh.gov.sg/content/moh_web/home/costs_and_financing/schemes_subsidies/Medishield/Medisave-approved_Insurance.html
43. Inland Revenue Authority of Singapore. Betting & Sweepstake Duties.
<http://www.iras.gov.sg/irasHome/page.aspx?id=1594>
44. Section 5. Income. Occasional Paper. Singaporeans in the workforce. Manpower Research and Statistic Department & Singapore Department of Statistics. October 2011. <http://www.singstat.gov.sg/pubn/papers/people/op-s17.pdf>
45. Section on Health. Singapore in Figures 2011. Singapore Department of Statistics.
<http://www.singstat.gov.sg/pubn/reference/sif2011.pdf>
46. Tote Board commits \$625 million in funding this year, an increase of \$325 million over last year. Tote Board Press Release. 10 February 2011.
app.toteboard.gov.sg/Data/ImgCont/1135/Tote%20Board%20Press%20Release%20ver1.0.pdf
47. Labour Force Survey of Singapore. Ministry of Manpower, 2010.
<http://www.singstat.gov.sg/stats/themes/economy/ess/aesa22.pdf>
48. DOHA WTO Ministerial 2001: Ministerial Declaration. 14 November 2001.
http://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.htm#implementation
49. CPF Contribution and Allocation Rates from 1 September 2011. Central Provident Fund Board. <http://mycpf.cpf.gov.sg/Employers/Gen-Info/cpf-Contrib/ContribRa.htm>
50. Budget Speech 2012. Tharman Shanmugaratnam. 18 February 2012.
http://www.singaporebudget.gov.sg/budget_2012/pe.html
51. Key Budget Initiatives. Singapore Budget 2012. Ministry of Finance.
http://www.singaporebudget.gov.sg/budget_2012/key_initiatives/families1.html
52. [Marital Status, Age and Sex, June 2010](#). Report on Labour Force in Singapore 2010: Statistical Tables. Ministry of Manpower. <http://www.mom.gov.sg/statistics-publications/national-labour-market-information/publications/Pages/statistical-tables-2010.aspx>
53. Key Household Characteristic and Household Income Trends, 2011. Department of Statistics, Singapore. <http://www.singstat.gov.sg/pubn/papers/people/pp-s18.pdf>

54. Average Hospital Inpatient Bill Size Tables. Ministry of Health. 2011.
http://www.moh.gov.sg/content/moh_web/home/statistics/healthcare_institutionstatistics/average_hospitalinpatientbillsizetables.html
55. Hospital Admission Rates by Age and Sex, 2009. Ministry of Health.
http://www.moh.gov.sg/content/moh_web/home/statistics/healthcare_institutionstatistics/hospital_admissionratesbyageandsex/Hospital_Admission_Rates_by_Age_and_Sex_2009.html
56. Hospital Bill Sizes, A- Z Listing. Ministry of Health.
http://www.moh.gov.sg/content/moh_web/home/costs_and_financing/HospitalBillSize.html
57. Guideline on Fees. Singapore Medical Association. 4th Edition (2006).
58. Time Series on Annual GDP at Current Market Prices. Singapore Department of Statistics. Updated 16 February 2012.
<http://www.singstat.gov.sg/stats/themes/economy/hist/gdp2.html>
59. Singapore Budget 2012. Ministry of Finance. Expenditure Estimates by Head of Expenditure. Head J. Ministry of Defense.
http://www.singaporebudget.gov.sg/budget_2012/revenue_expenditure/attachment/25%20MINDEF%202012.pdf
60. Stockholm International Peace Research Institute (SIPRI) Military Expenditure Database for 2010 (in constant 2009 US\$). <http://milexdata.sipri.org/>