



Shifting the burden of health care finance: a case study of public–private partnership in Singapore

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Abstract

Since becoming independent in 1965, Singapore has attained high standards in health care provision while successfully transferring a substantial portion of the health care burden to the private sector. The government's share of total health care expenditure contracted from 50% in 1965 to 25% in 2000. At first glance, the efficiency-driven health care financing reforms which emphasize individual over state responsibility appear to have been implemented at the expense of equity. On closer examination, however, Singaporeans themselves seem unconcerned about any perceived inequity of the system. Indeed, they appear content to pay part of their medical expenses, plus additional monies if they demand a higher level of services. In fact, access to needed care for the poor is explicitly guaranteed. Mechanisms also exist to protect against financial impoverishment resulting from catastrophic illness. Singapore's experience provides an interesting case study in public–private partnership, illustrating how a hard-headed approach to health policy can achieve national health goals while balancing efficiency and equity concerns.

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1. Introduction

Governments around the world are realizing that while publicly financed, universal health care is undoubtedly humane, it can be an enormous drain on national resources and extremely difficult to sustain in the long run. At the same time, no government has been reckless enough to abandon health care entirely to free market forces. Invariably, therefore, a public–private mix of funding mechanisms exists in

most countries. Increasingly, the debate is no longer about “who pays?” but what is the optimal formula for cost-sharing, bearing in mind the need to balance efficiency goals against equity concerns [1,2].

In the real world, governments able to cut back on the public share of health care spending without incurring unacceptably high political costs are few and far in between. In this respect, Singapore stands out as an exception. For more than two decades, the interventionist government of this highly disciplined city-state (area: 660 km²; population: 4 million) has successfully coaxed its citizens to assume greater responsibility for their own health care. Policies designed to shift

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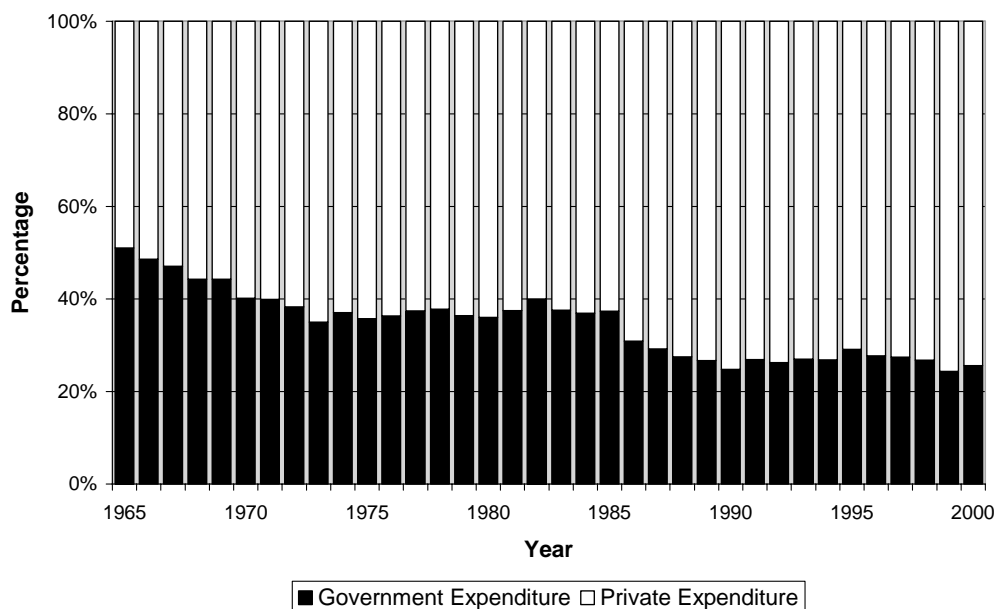


Fig. 1. Health care expenditure: proportion of public vs. private sources of funds 1965–2000.

the burden of health care away from the public purse into private pockets have been so effective that private spending now accounts for three quarters of national health expenditure (Fig. 1). This stands in sharp contrast to the pattern of high public spending typical of the industrialized welfare states (Table 1).

Not surprisingly, the Singapore model has attracted a fair amount of international attention, and some

mixed reactions. While admirers claim it holds useful lessons for others [3–6], critics charge that it sacrifices equity in the name of efficiency [7–9]. In Singapore, however, there is hardly any sign of protest and indeed, health care issues are seldom high on the political agenda. This article examines how Singapore manages to tap the financial strengths of the public and private sectors while balancing efficiency and

Table 1

Comparison of national health expenditures: Singapore and selected OECD countries (ranked in order of public health expenditure as % of total health expenditure)

Country	Public health expenditure as % of total health expenditure ^a	Private health expenditure as % of total health expenditure ^a	Total health expenditure as % of GDP ^a	Per capita expenditure in PPP \$ ^c
Sweden	84.3	15.7	8.1	2145
United Kingdom	83.7	16.3	6.7	1675
Japan	79.5	20.5	7.4	2243
France	77.7	22.3	9.4	2288
New Zealand	77.3	22.7	7.6	1163
Germany	76.6	23.4	10.5	2697
Australia	68.3	31.7	8.4	1714
United States	45.5	54.5	13.0	4271
Singapore	25.6 ^b	74.4 ^b	3.0 ^b	678

Sources:

^a World Health Organization.

^b Ministry of Health Singapore (2000).

^c UNDP Human Development Report 2002 (1998, figures).

equity goals. It argues that the seemingly hard-edged approach to health care financing in Singapore is in fact quite humane. Although imperfect, it has worked well for Singaporeans. To understand why, it is necessary to understand the policy context in historical perspective.

2. Background and policy context

Founded in 1819 as a British colonial outpost, Singapore inherited a largely tax-based and publicly provided health care system at independence in 1965. The government, which has been returned to power in every single election since, reconsidered from first principles the role of the state and concluded that social welfare based on heavy taxes was not a viable option, indeed a ruinous path. It resolved not to let an “entitlement culture” creep in to overburden public finances. In its own words,

Singapore believes that welfarism is not viable as it breeds dependency on the government. It has adopted a policy of co-payment to encourage people to assume personal responsibility for their own welfare, though the government does provide subsidies in vital areas like housing, health and education [10].

It is this no nonsense, “no free lunch” philosophy that has underpinned Singapore’s rapid economic growth—all in the space of a single generation. Eschewing egalitarian welfarism in favor of market mechanisms to allocate finite resources, government and people focused single-mindedly on economic development and raising living standards for all. Singapore now ranks among the world’s most prosperous countries, its per capita GDP (US\$ 26,500, purchasing power parity [11]) exceeding that of most western countries.

Convinced that health care cost is inherently inflationary, and the demand for it inherently insatiable, the government adopted “shared responsibility” as its guiding philosophy when it unveiled its National Health Plan in 1983: Government will subsidize health care to make it affordable but Singaporeans able to do so must fork out their share too. A compulsory medical savings scheme would provide the needed mechanism to mobilize private financial re-

sources. Thus, was born Medisave, the world’s first medical savings account, in 1984.

3. Public–private partnership in health care financing

3.1. *Medisave, medishield, medifund*

Medisave was introduced as an extension of a larger, national superannuation scheme called the Central Provident Fund (CPF). The latter is a compulsory, tax-exempt, interest-yielding savings scheme started in 1955 to provide financial protection for workers in their old age. Over the years, the scheme has been modified and liberalized to allow for pre-retirement withdrawals to purchase homes, buy home mortgage insurance, and even invest in “blue chip” stocks and pay for children’s college expenses.

Medisave represents 6–8% of wages (depending on age) sequestered from the individual’s CPF account in anticipation of hospitalization and acute-care medical expenditures in later life. It can be used for convalescent hospitals, hospices, and certain expensive outpatient treatments like day-surgery, radiotherapy, chemotherapy, renal dialysis, in vitro fertilization and even hepatitis B vaccination. Singaporeans presently contribute 36% of their gross salaries to the CPF, half of which comes from their employers. There is an element of risk pooling among family members, as it can be used to pay for the hospitalization bills of one’s spouse, children, siblings or parents. Any unspent balance in Medisave is passed on to the account holder’s beneficiaries upon his or her death. Medisave is complemented by Medishield (Table 2), a low-cost catastrophic illnesses insurance (with premiums payable from Medisave) introduced in 1990 and Medifund, a means-tested public safety net of last resort for the needy, introduced in 1993.

At the microeconomic level, Medisave was explicitly designed to counter the “moral hazard” believed to be inherent in any third-party, pre-paid system. In fact, the government used the vivid metaphor of the “buffet syndrome” in explaining to the public the need for such a scheme, which it said would encourage more responsible health care utilization. Even claims against Medishield (and other approved private insurance schemes) are subject to a deductible (S\$ 1000 per

Table 2
Medishield plans

Benefits	Medishield (basic plan)	Medishield plus	
		Plan B	Plan A
Room and Board	\$ 150 per day	\$ 375 per day	625 per day
Surgical operation	\$ 120–900	\$ 360–6400	\$ 480–7200
Deductible (per policy per year)	\$ 1000 (B2 class and above)	\$ 2500	\$ 4000
Co-insurance (%)	20	20	20

year for the basic plan) and a coinsurance rate of 20%, which can be financed by drawing down Medisave.

After 20 years of saving, the combined Medisave accounts of Singaporeans now total S\$ 28 billion, a not insignificant sum considering that the annual health care expenditure is S\$ 4.5 billion. In 2001, 262,000 Singaporeans (or 85% of the total number hospitalised that year) used Medisave to help pay their hospital bills. On average, each patient withdrew about S\$ 1500. MediShield paid out 91,000 claims amounting to S\$ 64 million. A total of 156,800 applications (or 99% of all applications) for Medifund assistance amounting to S\$ 26.9 million were approved.

3.2. Multi-faceted, multi-layered finance mechanism

Singapore's strong emphasis on "individual responsibility" and "co-payment" may run counter to western (especially European) ideals of equity and solidarity, but does that mean it is inequitable? Before rushing into judgment, a number of points are worth noting.

Firstly, Medisave is but one component of a multifaceted, multi-layered health care financing system. In fact, Medisave currently accounts for a mere 8% of national health care expenditure while Medishield and Medifund together account for not more than 2%. The rest comprise employer benefits (35%), government subsidies (25%), out-of-pocket payment (25%), and private insurance (5%). Hence, although the three-tiered "3M" system is often seen as the centerpiece of Singapore's health care financing system, it is by no means the whole picture. Nor is the picture final since it is constantly evolving.

Secondly, at no stage of the reform process did the government abrogate its responsibility for the poor and needy because at all times, the original taxed-based public safety net held firm. True, the population was consciously being weaned off their dependence on the

state, but this was done gradually over span of 20 years and at a pace that the people could bear.

Thirdly, affirmative action was built into the scheme as it evolved. The government periodically tops up (from budget surpluses) the various schemes in such a way as to preferentially benefit the less well-off and the elderly. To date, S\$ 2.75 billion has gone into the Medisave Top-Up Scheme for the elderly and the MediShield Top Up Scheme for the elderly. In 2001, the government paid 2 years' worth of MediShield premiums for all Singaporeans aged 61 and above and additionally set up an Eldercare Fund to finance long term care of the elderly. The fund, which provided subsidies to voluntary welfare organisations that care for the elderly, currently stands at 750 million and is expected to reach \$ 2.5 billion by 2010. Eldercare was followed in 2002 by ElderShield, a severe disability insurance scheme for elderly Singaporeans, with premiums payable from Medisave. Eldershield provides lifetime coverage of S\$ 300 per month, up to a maximum of 60 months. This amount should be sufficient to cover a substantial portion of patients' out-of-pocket share of subsidized nursing home care or home care since the average cost of stay for a nursing home patient ranges from S\$ 300 to S\$ 500 a month.

3.3. Allocative efficiency

By treating the majority who can afford as co-paying partners and targeting special provisions at the minority who cannot afford to pay, better distributional outcomes are achieved. The more costly "leveling down" option of ensuring universal access regardless of ability to pay is avoided, in which the undeserving rich enjoy the same handouts as the poor.

A further re-distributional element is embedded in Singapore's graded public hospital ward system, which ranges from one-bedded rooms to open

Table 3
Singapore's ward subsidy policy

Class	Subsidy (%)	Difference
A	0	One–two bedded, air-conditioned, attached bathroom, TV, telephone, choice of doctor
B1	20	Four-bedded, air-conditioned, attached bathroom, TV, telephone, choice of doctor
B ²⁺	50	Five-bedded, air-conditioned, attached bathroom
B ²	65	Six-bedded, no air-condition
C	80	More than six beds, open ward

dormitories with eight or more beds. Stratification according to level of comfort and amenities (disparities that are a result of individual choice) allows preferential targeting of subsidies at the lower classes of wards. Patients pay more for higher levels of service and better amenities but there is no difference in the standard of clinical care. The resulting price discrimination allows full costs to be recovered from patients in A class beds compared to patients in C class who enjoy 80% subsidy (Table 3).

The Ministry of Health estimates that more than 96% of B2 and almost 98% of C patients should be able to fully pay for their bills using Medisave alone. Those unable to provide for themselves through Medisave and other means such as employee benefits or private insurance, can turn to MediShield, and finally, to Medifund. Two examples [12] giving the breakdown of actual bills of patients who were by no means rich but who had incurred sizeable hospital bills illustrate how the system works:

Case 1: A 63-year-old man admitted to a B2 Class Ward at the National University Hospital in December 2002 for an angioplasty with stent operation, chalked up a hospital bill of S\$ 4486. His Medisave withdrawal limit for the 2-day stay was S\$ 600 (2 days × S\$ 300 per day) for hospital charges + S\$ 799 for surgical operation, a total of S\$ 1399. His MediShield (Basic plan) payout was S\$ 1240. Hence, his out-of-pocket cash payment was S\$ 4486 – S\$ 1399 – S\$ 1240 = S\$ 1847, an amount which his son paid in cash on his behalf.

Case 2: A 66-year-old man admitted to the Singapore General Hospital in December 2002 stayed in a B2 Class ward for 52 days (diagnosis: fibromatoses of the muscle ligaments and fascia), incurring a S\$ 12,200 hospital bill.

Medishield (Basic plan) paid out S\$ 7200 while the remaining S\$ 5000 was settled by his Medisave account. Hence no cash payment was necessary.

In both cases, there was no need to ask for Medifund assistance. The way Medifund works is for those who cannot pay their medical bills to have their circumstances assessed by the hospital's medical social worker, who will then recommend the appropriate financial assistance. Disbursement of funds is decentralized to hospital Medifund committees.

Mandatory financial counseling at the point of admission, based on a preliminary assessment of the medical condition, is a key feature of the system. It ensures that patients make informed choices between the different types of ward accommodation. The latter has a direct impact on the final bill size, as Table 4 shows.

Finally, the government funds 90% of capital expenditure and 50% of operating expenditure of voluntary welfare and charitable organizations that care for the poor and elderly. There are presently 50 such institutions with a total of 6200 beds. In 2000, these subsidies amounted to \$ 40 million. Needy and terminally-ill patients discharged to step-down facilities such as hospices run by charitable institutions also benefit from additional government social welfare financial assistance and community donations.

3.4. Humaneness and equity of the system

Is Singapore's system humane and fair? The controversial WHO 2000 report gave Singapore high marks for overall efficiency (6th out of 191 countries) but a relatively low ranking (101st) for "fairness of financing" [13]. It turns out that the latter criterion was met "if the ratio of total health contribution of total non-food spending is identical for all households

Table 4
Hospital bill size for coronary angioplasty (1 October 2002 to 30 September 2003)

	Hospitals	Volume	Average length of stay (days)	50th percentile bill size (\$) ^a	90th percentile bill size (\$) ^b
Ward A (1 bedded)	NHC	194	3	12955	19451
	NUH	54	3	16432	26750
Ward B1 (four bedded)	NHC	211	3	12037	16482
	NUH	83	3	12757	16730
Ward B2 (6–10 bedded)	NHC	703	4	4826	7699
	NUH	402	3	4801	8247
Ward C (open ward)	NHC	484	4	4421	7125
	NUH	258	3	4072	7276

Legend: NHC: National Heart Centre; NUH: National University Hospital. (Source: Ministry of Health.)

^a Fifty percent of patients pay this amount or less, and 50% pay more. This figure provides an estimate of the typical bill sizes for patients.

^b Ninety percent of patients pay this amount or less, and 10% pay more. This figure provides an estimate of the upper range of bill sizes.

independently of their income, their health status or their use of health care system [9],” implying that it would be fair if contributions are proportional to ability to pay, and objectionable if the better-off spend more than the poor (e.g. by paying for expensive, private care). Using this criterion of “fair financing”, the report rated those systems that were financed by tax revenues and social insurance highly.

It would be simplistic and wrong, however, to conclude that Singapore’s system is inequitable just because the poor might not have enough money in their individual Medisave accounts. Equity in health, after all, means “eliminating health disparities that are associated with underlying social disadvantage or marginalization [14].” The focus should be on improving the lot of the socially disadvantaged, and not on bringing down the well-off. Singapore’s 3M system positively discriminates against the rich who are not eligible for Medifund and other government subsidies. By targeting help at the poor, it is in fact in active pursuit of equity. Both Medishield and Medifund are pro-equity because one protects against financial impoverishment resulting from catastrophic illness while the other ensures access to needed care for the poor.

Neither should notions of fairness and equity be rigidly conceived. Doctrinally correct definitions of equity, such as “equal access to care for equal need”, “equal use of resources for equal need”, and “equal quality of care for all” are all fine in theory [15], but putting them into practice is quite another thing

[16,17]. Equity is understood in Singapore in terms of what the collective consensus deems to be both realistically achievable in an imperfect world and at the same time humane enough, as evidenced by adequate social safety nets for the poor and vulnerable.

Nor should equity be confused with equality. Singaporeans do not consider it inequitable if some people should own two houses or three cars. In fact, they do not see widening income inequality as such a bad thing in itself (Gini coefficient increased from around 0.410 during 1990–1998 to 0.424 in 1999 and 0.432 in 2000) [18]. To pragmatic Singaporeans, it is as clear as day that there must first be a pie before speaking about one’s share of the pie. Helping those left behind in the economic growth is considered infinitely more productive than attempting to eliminate inequalities by ensuring equal contribution or consumption by all, something no system on earth has succeeded in doing. Everyone deserves a decent roof overhead, but need the latter be the same size? A system that guarantees health care to the economically worst-off at a minimum standard of C-class ward accommodation, but at the same time allows those who can afford to pay more to enjoy a higher level of service, is considered by Singaporeans to be sufficiently humane, equitable, and morally defensible, and all they can manage at this stage of their nation-building.

An interesting question this raises is, to what extent is the conception of equity dependent on context? Is there a single, universal criterion or does it vary across cultures or progressively change according to

socioeconomic development? In this regard, Singaporeans appear to be less bounded by ideology and more driven by pragmatism than their European counterparts. Their ultimate test of policy is not what's doctrinaire, but what works. They are no less concerned about those who are socially and economically disadvantaged in society, but it is good enough for them that a 1996 pledge made by Singapore's Prime Minister, that "no Singaporean will ever be denied needed health care because of lack of funds [19]" has not been broken. If Singaporeans are happy with their social contract, who is to challenge that?

3.5. *Uniqueness of the social contract to Singapore*

Singaporeans' ready acceptance of their social contract based on "individual responsibility" and "co-payment" may be contrary to the western mindset, but not hard to understand if one appreciates the politico-social context. To begin with, Singapore is a tiny island without natural resources (even its drinking water has to be piped daily from neighboring Malaysia) and at its birth faced a most uncertain future—it was unceremoniously ejected in 1965 after a failed, 2-year political union with Malaysia. That it has not only survived, but prospered against great odds, is largely due to the strong government–people partnership forged under the "sink-or-swim" circumstances of the early years of independence. The willingness to place the common good above self-interest was an important factor leading to the population placing their trust in the judgment of a sagacious government which earned more and more trust as it delivered more and more on its promises, including the good life.

Secondly, Singapore has no tradition of state largesse. The people had started off as poor, hungry migrants escaping from the poverty and oppression of their original homelands. It would be a mistake to think that because Singapore was under British colonial rule for 144 years, the people would have benefited from a comprehensive, NHS-style system of health care. The record shows that British interest in the health of the locals was for a long time no different from that displayed by the Belgians, or French or Dutch in Africa, Indochina or Indonesia, respectively: Western medicine on the heels of western expansionism was principally concerned with the colonizers

rather than the colonized. Local residents principally sought care from private traditional healers. Despite rampant problems of poverty, malnutrition, overcrowding and disease, there was no hospital and virtually no medical care for the public in Singapore before the first charity hospital (Tan Tock Seng hospital) was built in 1844 with funds raised by the Chinese community leaders. Thus, the spirit of self-help is deeply ingrained in the Singaporean psyche.

Thirdly, Singaporeans are a pragmatic lot and understand that trade-offs are an inevitable fact of life. They understand that whether the burden falls on Taxes, Medisave, Employer benefits, or Insurance, it is ultimately Singaporeans themselves who must pay—since taxes are paid by taxpayers, insurance premiums are ultimately paid by the people, and employee medical benefits form part of wage costs [20]—and that overburdening the state or employers would affect the competitiveness of Singapore's externally-oriented economy and ultimately, their own livelihoods.

Thus, the architects of modern Singapore had the rare advantage of being able to start from a clean slate, almost, when political independence was suddenly thrust upon the island-state. It was not difficult to convince the people that they live in a non-Utopian world where free health care in the face of potentially insatiable demand was illusory and potentially ruinous. Neither was it beyond them to grasp that the opposite extreme of fee-for-service, open-ended, insurance-based health care which only the rich can afford, would be too inequitable. It was almost inevitable that a "third way" was found, but it was guided more by a conscious avoidance of failed models than by a clear vision of what the perfect model might be.

3.6. *Work in progress*

To be sure, the Singapore model is far from perfect. For example, any risk-pooling element to be found in Medisave, does not extend beyond the immediate family members. Like a family fortune, once it is depleted by even a single event, there is nothing left. Then there are also questions like how effective the demand-side constraints are when (like credit card spending) the pain is not felt at the point of consumption, and whether the contributions would be sufficient when old age kicks in. After two decades of

trial-and-error, Singapore's 3M scheme has become more robust but a good deal of tinkering is still going on. At the time of writing, the government has proposed:

1. Raising the Medisave withdrawal limits by basing them on casemix (DRG was implemented in Singapore's public sector hospitals in 1999)—the more serious the medical condition or the more resources are utilized, the more patients would be able to withdraw from their Medisave accounts. In the first worked example cited earlier, the patient who underwent angioplasty with stent and chalked up S\$ 4486 in hospital bills could only withdraw up to S\$ 1399 from Medisave under the current system. With the proposed withdrawal limits based on casemix, he will be able to withdraw up to S\$ 7000 and hence not need to pay out of pocket.
2. A Portable Medical Benefits Scheme under which employers will make additional Medisave contribution to the employee's Medisave account (subject to a minimum of 1% of monthly salary) so as to enable employees to purchase their own medical insurance. An alternative proposal that is also being considered is a Transferable Medical Insurance Scheme which is basically an enhancement of the existing employer-based group medical insurance.

Both are aimed at enhancing the portability of employment medical benefits while encouraging a bigger role for private medical insurance.

3.7. Outcomes

Singapore appears to be getting good value for the money it is spending on health, given its impressive attainments of life expectancy of 78.4 years and infant mortality rate of 2.2 per 1000 [21]. Patients enjoy complete freedom of choice between easily accessible private (80%) and public (20%) clinics for outpatient care, and public (80%) and private (20%) hospitals for inpatient care. Singapore doctors enjoy a high reputation, as attested by the steady streams of well-heeled foreign patients (150,000 in 2000) [22] who fly in from the surrounding region for medical treatment. The high standards of care and service today are a far cry from the overcrowded wards and specialist outpatient clinics of yesteryear. Average waiting time for elective surgery is a mere two weeks. Average length of stay in a public hospital is 5 days. A recent nation-wide survey of patients discharged from all the corporatized public hospitals revealed a high overall patient satisfaction rate of 80% [23].

With regards to cost-containment, however, Singapore has been less successful. The annual rate of

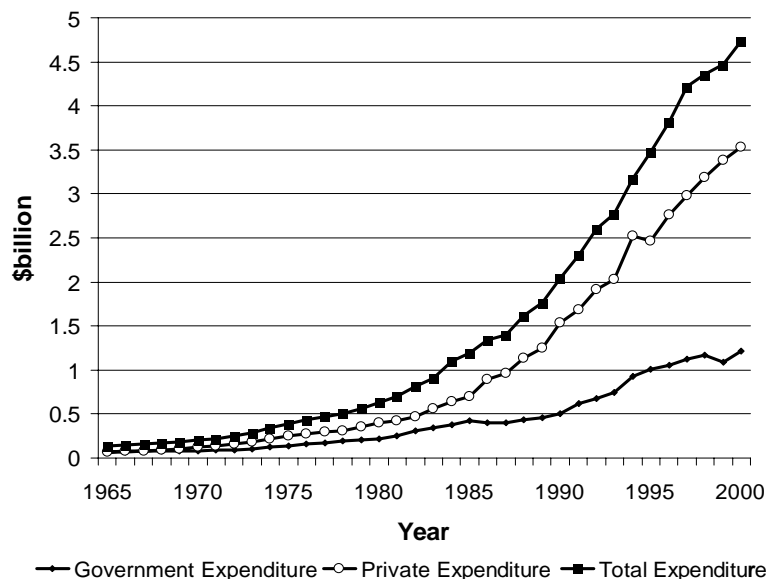


Fig. 2. Trends in national health care expenditure, Singapore 1965–2000.

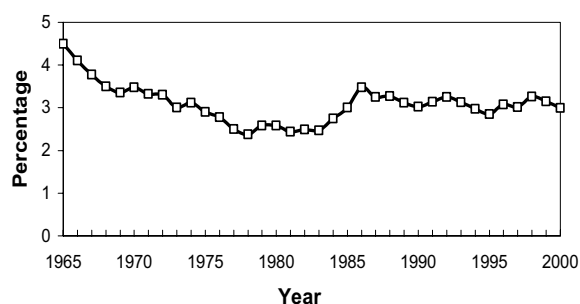


Fig. 3. Health care expenditure as % of GDP Singapore 1965–2000.

increase of health care costs over the last decade was 3.8%, or 1.7% higher than the overall inflation rate. We do not know if the rate of increase would have been faster had the stringent demand-side measures not been in place. What is clear, however, is that the public share of health care costs has been moderated to a greater degree than the private share, while total health care expenditure has risen exponentially (Fig. 2).

Health care expenditure as a percentage of GDP has been kept low at 3% (Fig. 3) but it is doubtful if this level can be maintained as GDP growth will inevitably slow as the economy matures, and then the masking effect of an expanding GDP denominator (averaging 8% per annum over the last 20 years) will lessen. Moreover, the elderly now constitutes a mere 7% of population, but are projected to increase to 25% in 2030. Hence, the pressures for cost containment will mount. Rising health care costs will accentuate disparities between different socioeconomic classes and further trade-offs between efficiency, quality and equity will have to be made. But the public-private partnership in health care finance that Singapore has so carefully forged will most likely remain. If anything, it will confer advantage in the range of policy options available, for it is easier to set priorities when patients are used to cost-sharing than free health care.

4. Conclusion

Singapore's experience demonstrates how a hard-headed approach to health policy, tapping on public and private resources to finance health care, can

achieve national health goals on a sustainable basis while balancing efficiency and equity concerns. Its experimental model of public-private partnership may even hold lessons for others. However, Singapore's small and manageable size, high per capita level of income, high degree of public trust in government, and conspicuous absence of an urban-rural divide, are conditions not easily found in combination elsewhere. This means that any applicable policies must be carefully adapted to suit local conditions.

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