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CESifo DICE Report

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Suggested Citation: Schreyögg, Jonas; Kin, Lim Meng (2004) : Health-Care Reforms in Singapore - Twenty Years of Medical Savings Accounts, CESifo DICE Report, ISSN 1613-6373, ifo Institut für Wirtschaftsforschung an der Universität München, München, Vol. 02, Iss. 3, pp. 55-60

This Version is available at:
https://hdl.handle.net/10419/166818

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Health-care Reforms in Singapore – Twenty Years of Medical Savings Accounts

Jonas Schreyögg and
Lim Meng Kin*

The economic and demographic development of Singapore

The model of Medical Savings Accounts enjoys increasing popularity in many countries all over the world (Henke et al. 2004, 10–19; Maynard and Dixon 2002, 121–123; Schreyögg 2004). In 1984, Singapore was the first country in the world to introduce Medical Savings Accounts (MSAs) as a method for financing health care. Later, South Africa, China and the USA adapted a similar form of the concept for certain parts of their populations. Singapore, however, has the most established system of MSAs so far and has integrated it into a particularly economically oriented health care system that keeps health costs at a very low level while maintaining a high standard of quality.

Singapore belongs to the so-called "tiger economies" and is a relatively small country with a population of four million inhabitants. As a result of high economic growth rates in the past few decades, the average per-capita income in Singapore is now comparable with that of European countries or the US. The unemployment rate in the year 2003, at 5.4 percent, was moderate, as was the inflation rate at 0.5 percent (Singapore Department of Statistics 2004).

Similar to other highly developed states, Singapore is confronted with the problem of low birth rates. The net reproduction rate, at 0.8 children per inhabitant, is too low to sustain the indigenous population level. For this reason, the government is endeavouring to bring qualified foreign workers to Singapore. In spite of the influx of young immigrant workers, the proportion of persons over 65 years is constantly increasing. In 2003, it amounted to 7.6 percent (Singapore Department of Statistics 2004) and will grow by 2015 to 11.0 percent. It is even estimated that by the year 2030 this proportion will reach 20.1 percent (Phua and Teng 1998, 36–40; Singapore Department of Statistics 2000).

In the face of this development and the additional accelerating rate of advances in medical technology, it became evident that a health care system funded entirely by taxes in an environment of rising health care expenditures and falling tax revenues as a result of a declining labour force would not be sustainable in the long run. In addition, the conclusion was reached that a system in which health is solely provided as a public good on demand negated the economic principle of the scarcity of resources because it did not reflect any prices. A reformed system was therefore intended to solve the anticipated demographic problem and, at the same time, to create incentives for the health-insured to act economically, in order to avoid a sharp rise in health expenditure as experienced in other industrialised countries. For this reason the old system was partially replaced in 1984 by a system of MSAs, combined with a mandatory health insurance for catastrophic illnesses.

The three pillars of financing health care

The health system in Singapore basically consists of three pillars (the so-called 3 Ms), each of which fulfils a different aim and is based on different financing mechanisms. The core is comprised of the MSA system-component called Medisave. This model is based on the idea that the usual insurance systems lead to an inefficient utilisation of resources, because insured persons frequently consume health services that, from a medical point of view, may actually not be needed. Hence, in contrast to commonly-known insurance systems, the MSA model does not incorporate any form of "risk pooling". This means that individuals do not pay into a common pool, in the framework of a health insurance, out of which, in the event of illness, each insured person receives certain funds to cover the costs of treatment. Instead, everyone puts aside individual savings to cover health care costs.

Medical Savings Accounts are part of a superordinated savings programme, called Central Provident

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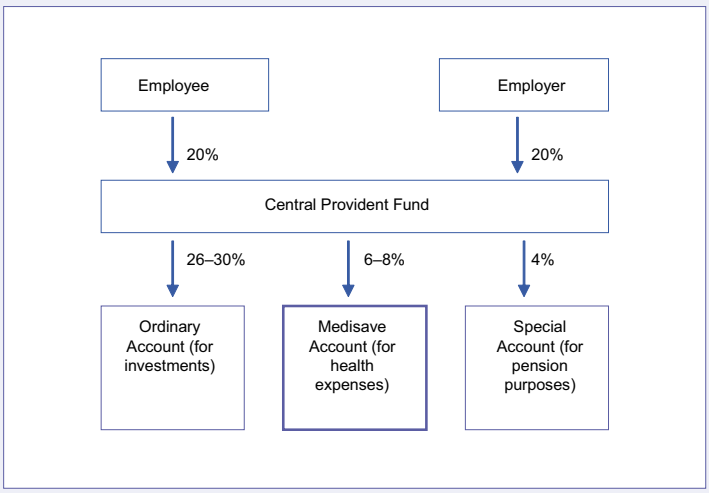
Figure 1

THE CENTRAL PROVIDENT FUND AS THE CORE OF SINGAPORE'S SOCIAL SECURITY SYSTEM
(percentage refer to gross pay)



Fund (CPF), which represents the central element of Singapore's social security system (Figure 1). It is a savings programme run by the state in which every gainfully employed citizen of Singapore is obliged to participate. The citizen pays 20 percent of his gross income into the CPF while another 20 percent of gross income is paid by the employer. Within the CPF, 6–8 percentage points (depending on age) go into the Medisave Accounts while the remaining savings go into the other accounts for investment and pension purposes.

Thus, two working spouses will each have a Medisave Account, out of which their respective health care services and those of their children, until they reach working age, must be financed. At the end of 2001, 2.71 million Medisave accounts existed in Singapore. With a permanent population of 3.26 million, this corresponds to an 84 percent coverage ratio. Considering that health services provided for children and elderly dependents are financed through the Medisave Accounts of their family members, nearly comprehensive coverage has been reached (Ministry of Health 2002).

All amounts paid into this account are invested by the state government on the capital market and accrue a guaranteed rate of interest. In case of illness, the individual can pay for his treatment and that of his dependents from the savings in his Medical Savings Account. However, only hospital costs and certain selected out-patient costs approved by the state in a catalogue of services may be financed by the Medical Savings Account. In the case of out-patient services to treat non-serious illnesses or ailments that are not contained in the catalogue of services, the citizens must pay the expenses incurred out of their own pocket. Citizens receive regular statements of account, showing the current status of their savings account.

If the funds accumulated in the savings account are not exhausted by the end of a given year, the remaining amount is saved in the individual's account to finance future health care costs. As soon as a Medisave Account shows a balance of SD 30,000 (ca. EUR 14,650), all amounts paid above this amount are automatically transferred to the ordinary savings account of the respective individual's Central Provident Fund account, which every employed citizen of Singapore is legally obliged to maintain. The resources in this ordinary account are available for other investments, e.g. the purchase of an owner-occupied house or even "blue chip" shares on the Singapore Stock Exchange. In this way, old-age provisions can be steadily built up for the time after working life. The account holder can also bequeath the Medical Savings Account, as well as all other compulsory savings accounts, to his descendants.

Since, however, with Medical Savings Accounts there is no pooling of risks, costs for the treatment of chronic or serious diseases frequently exceed the amount saved in the Medical Savings Account. For such cases, the system-component Medishield – the second pillar of the system – was created as a complement to Medisave. This system-component can be characterised as "high-risk, catastrophic insurance", which functions purely in accordance with the principles of insurance and does not involve any income redistribution. It is intended to finance both expensive hospital treatments as well as out-patient treatments for chronic diseases. The insurance contributions are paid as premiums, depending on age, and can be financed from indi-

vidual savings, (i.e. from their respective Medical Savings Accounts). They are identical for all persons within a given age group, but rise with increasing age.

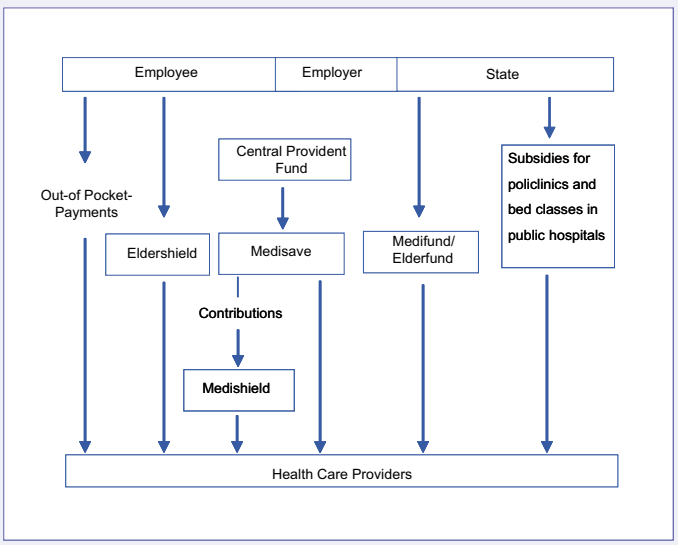
A third pillar guarantees minimum health provision for citizens who are unable to set aside sufficient savings for their health care. This minimum provision is achieved by direct transfers to pay for the hospital bills of citizens with low incomes, in the form of an endowment fund, called Medifund, which was set up by the state and introduced in 1993.

At the same time, certain hospital bed classes are subsidised from tax revenues (Low and Aw 1997). There are different levels of subsidies for bed classes A to C. While C (open ward) is subsidized at a rate of 80 percent by the state, A (single bed room) is not subsidized at all. Patients of all bed classes, however, receive the same quality of treatment. This concept of differential pricing of beds allows citizens to stay in the lowest bed classes C or B2 (6 beds) if they wish to enjoy government subsidies or in the more exclusive wards if they wish to finance the difference by out-of-pocket payments or private health insurance (Lim 1998, 16–22).

The existing system of health assurance, comprising Medisave, Medishield and Medifund, has been complemented since 2002 by the two further pillars, "Eldershield" and "Eldercare Fund", which serve as a scheme for long-term care. Figure 2 gives an overview on all pillars of the Singapore healthcare system. The long-term care insurance, Eldershield, is not obligatory and the contributions are levied in the form of age-dependent, per-head premiums. If long-term care is needed, Eldershield pays the insured a monthly sum of SD 300 (EUR 145) for a period of 5 years. Presumably, due to this short period of reimbursement and the limited payments, only 70 percent (2003) of the population are members of this insurance so far (Busse and Schlette 2003, 26–27). Eldershield is complemented by Eldercare Fund, which finances subsidies for elderly care facilities and services run by the voluntary welfare organisations for elderly citizens with low incomes who may be unable to afford the contributions for Eldershield. Like Medifund, this fund was also set up and administered by the state.

Figure 2

MONETARY FLOWS IN THE SINGAPOREAN HEALTH-CARE SYSTEM

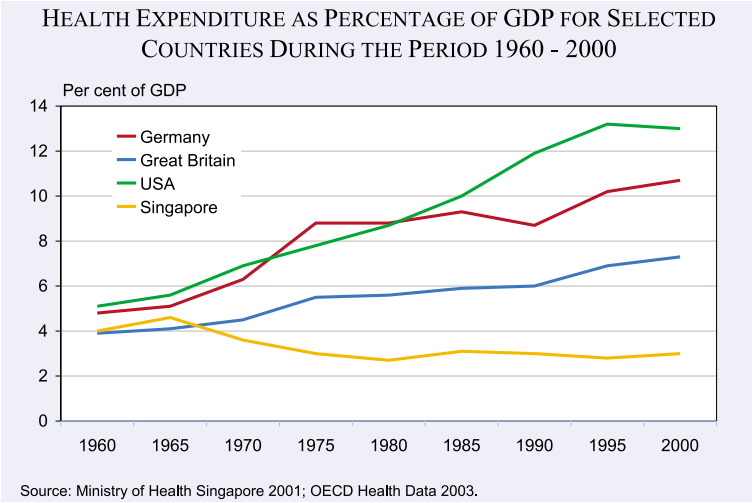


Low health expenditure and its causes

Compared with other industrialised countries of the west with a similar per-capita income, health expenditure in Singapore is notably lower. In the year 2003, health costs represented a proportion of 3.0 percent of the Gross Domestic Product. Figure 3 clearly illustrates that health expenditure in Singapore over the years have been kept constant at ca. 3 percent, while in countries like the USA, Germany or Great Britain they have been increasing.

This development is very surprising, because per capita income, living standard and the standard of the health care system are comparable, for example, with Germany. To a certain extent this can be explained by the low percentage of the Singaporean population above age 65 (about 7.3 percent), which is lower than in European countries (Singapore Department of Statistics 2001, 9). But calculations show that, even assuming that 14 percent of the population is older than age 65, (comparable to that of European countries), the share of health expenditures would still only sum up to 5.8 percent (Low et al. 1996). This may not be exclusively attributable to the introduction of Medical Savings Accounts but there exists a number of indications on the basis of different studies that they have at least made a considerable contribution to

Figure 3



this comparatively low figure (Prescott/Nichols 1998, 19–32).

It is obvious that a system of savings accounts demands an increased sense of responsibility on the part of the citizens regarding the way they use the funds available in their respective accounts. The separation of utilisation and financing of health services, which is characteristic for a pure health insurance system, no longer exists. In Singapore, the responsibility for making decisions regarding an efficient use of available resources has been transferred to the individual. The fact that the insured are required to finance a part of their health costs from their own savings, accumulated in the MSAs, encourages a higher degree of cost-consciousness (Lim 2002, 302–3; Schreyögg 2003, 78–86).

The translation of this cost-awareness into a real change in behaviour with regard to the demand for services on the part of the insured is facilitated by a very high degree of transparency concerning services and their prices in hospitals, polyclinics and physicians' practices, respectively. The prices of individual institutions may be viewed on the internet or are available on request so that the risk of excessive invoices for the delivered services is reduced. In Singapore, insured persons attach great importance, during the entire process of treatment, to being able to exert their own influence on the amount of costs involved and on the efficacy of the results.

At the same time, it must be mentioned that the transformation phase after the introduction of Medical Savings Accounts lasted several years. Many insured persons at the beginning, i.e. immediately after the introduction of MSAs in the year 1984, were unable to cope with this responsibility. For example, it was seen in the first few years that some citizens did not make use of the amounts saved in their MSAs in a sustainable manner. In the first year after introduction 24 percent of the patients treated in the highest bed class had a monthly net income of less than S$ 1,000. The savings accumulated in the MSAs of these insured were thus, in many cases, immediately exhausted all at once by one claim. On subsequent questioning of the insurees concerned, it was discovered that they frequently had insufficient knowledge concerning the actual prices for inpatient treatments and the various different bed classes (Lim 1997, 277).

For this reason, an obligatory financial advisory service in hospitals and polyclinics was established in 1986, whereby potential patients are informed about the current balance of their Medical Savings Account and the estimated hospital bill size at the point of admission so that they can make informed choices with regard to the selection of bed class.

A further motivation for Singapore to introduce MSAs was to enable the accumulation of individual capital stocks from the amounts saved which, in this way, would serve as reserves to cover health costs in old-age. The inter-generation redistribution from young to old was to be gradually reduced and the system as a whole, in view of the expected development towards an aging society, was to be relieved. The investment of the capital stock in the capital market, at the same time, has a positive influence on the welfare of the national economy by the increased accumulation of capital. Though this may trigger certain risks concerning exchange rates, currency and inflation, these have not yet been seen in the case of Singapore.

The transition from a system funded primarily through taxes to a system of MSAs based on individual savings required a solution for those who have lived with the old system for the longest part

of their lives. The generation that went into retirement before 1984 was not in a position to build up a capital stock sufficient to provide enough reserves for old-age. For this reason, a law was created that obliged Singapore's citizens to take care of their own direct family members in need (Phua 2001, 169–83). The provision of security against illness for persons that had been unable to build capital stocks in the framework of the new system-component was thus and still is initially assured by inter-family transfers. Only when the direct family members are not in a position to pay for their needy relatives, the health costs of the persons concerned are financed by the state.

The accumulated assets of all Medical Savings Accounts have grown constantly since their introduction and in the meantime amount to SD 22.7 billion (EUR 11.1 billion). The average amount per account amounts to SD 8,300 (EUR 4,070; Central Provident Fund Board 2002). In spite of simultaneously rising pay-outs, the Medical Savings Accounts are increasingly fulfilling their function for building up reserves for health costs in old-age.

"Lessons learned" for other countries

As already mentioned at the beginning, the model of Medical Savings Accounts in Singapore has meanwhile been adopted in various other countries. In South Africa it is applied on the market for private health insurances and in the meantime has reached a market share of over 50 percent. In the USA, it was tested during the period from 1996–2003 in the framework of a pilot project in the private health insurance market and since the beginning of 2004 it has been permitted within the framework of Medicare. Both in the USA as well as in South Africa, Medical Savings Accounts are designed somewhat differently than in Singapore. In the former cases, citizens pay a certain tax-free amount per month into their Medical Savings Accounts, which in the optimal case is precisely sufficient to cover a defined annual deductible. The focus is rather on a higher cost-awareness on the part of the insured than on the function of building up capital reserves for old-age (Schreyögg 2004; Dixon 2002, 408–16).

The examples of South Africa and the USA clearly show the variability of the model of MSAs. They can be used both as a complement to an existing compulsory system of funding, as is practised in Singapore, or as a feature in certain health plans for private health insurance.

According to their respective aims, MSAs represent an instrument for correcting possible weaknesses in an existing system. They are suitable for encouraging a higher cost-awareness on the part of the insured, thus bringing about a more efficient utilisation of health services, as well as for building up capital reserves for old-age, thus relieving the burden of intergenerational redistribution inherent in pure pay-as-you-go systems.

However, for a possible implementation of MSAs, it is apparently very important to recognise, as in the example of Singapore, that a certain redistribution mechanism has to be integrated into the system (Maynard and Dixon 2002, 121–23; Lim 2000, 83–92). And as already mentioned, for this system to work it is necessary to provide comprehensive guidance and information in order to ensure that older or handicapped insured also have the chance to cope with this innovation.

References

Busse, R. and S. Schlette (2003), *Health Policy Developments – International Trends and Analyses*, no. 1, Verlag Bertelsmann Stiftung, Gütersloh.

Central Provident Fund Board (2003), Years 1985–2001, Singapore.

Dixon, A. (2002), "Are Medical Savings Accounts a Viable Option for Funding Health Care?", *Croatian Medical Journal* 43, 408–16.

Henke, K.-D., K. Borchardt, J. Schreyögg and O. Farhauer, "Evaluating Reform Proposals for Financing Health Care in Germany", *Journal of Public Health* 12, 10–19.

Lim, J. (1997), "Health Care Reform in Singapore: The Medisave Scheme", in T.M. Tan and S.B. Chew, eds., *Affordable Health Care*, Singapore, 277–85.

Lim, M.-K. (1998), "Health Care Systems in Transition II. Singapore, Part I: An Overview of Health Care Systems in Singapore", *Journal of Public Health Medicine* 20, 16–22.

Lim, M.-K. (2002), "Singapore's Medical Savings Accounts – Beyond the Rhetoric and Doctrine to "What Works": A Response from Singapore", *Journal of Health Politics, Policy and Law* 27, 302–3.

Lim, M.-K. (2004) "Shifting the Burden of Health Care Finance: A Case Study of Public–Private Partnership in Singapore", *Health Policy* 69(1);83–92.

Low, L. and T. C. Aw (1997), *Housing a Healthy, Educated and Wealthy Nation Through the CPF*, Singapore.

Low, L., K.-H. Phua, M. H. Toh and Y. M. Teng (1996), "Projection of the National Health Expenditure in Singapore: The Effect of Ageing Population and Policy Implications, Study Presented at the Institute of Policy Studies (IPS)", *Forum on National Health Expenditure & Population Ageing*, 2 August 1996, Singapore.

Maynard, A. and A. Dixon (2002), "Private Health Insurance and Medical Savings Accounts: Theory and Experience", in E. Mossialos, A. Dixon, J. Figueras and J. Kutzin, *Funding Health Care: Options for Europe*, Buckingham, 109–27.

Ministry of Health Singapore (2001), *Annual Report 2001*, Singapore.

OECD Health Data (2003), Paris.

Phua, K.-H. (2001), "The Savings Approach to Financing Long-Term Care in Singapore", *Journal of Aging and Social Policy* 13, 169–83.

Phua, K.-H. and Y. M. Teng (1998), "Financing Health Care in Old Age: A Case Study of Singapore", in *Choices in Financing Health Care and Old Age Security*, World Bank Discussion Paper no. 392, Washington, 33-42.

Prescott, N. and L. M. Nichols (1998), "International Comparison of Medical Savings Accounts" in *Choices in Financing Health Care and Old Age Security*, World Bank Discussion Paper, no. 392, Washington D.C., 19–32.

Singapore Department of Statistics (2000), "The Baby Boomers in Singapore", *Occasional Paper Series*, no. 51, Singapore.

Singapore Department of Statistics (2001), *Statistical Highlights*, Singapore.

Schreyögg, J. (2003), *Medical Savings Accounts – eine ökonomische Analyse von Gesundheitssparkonten unter besonderer Berücksichtigung des Gesundheitssystems in Singapore*, Nomos Verlag, Baden-Baden.

Schreyögg, J. (2004), "Demographic Development and Moral Hazard: Health Insurance with Medical Savings Accounts", *Geneva Papers of Risk and Insurance* 29(4), 690–705.

Singapore Department of Statistics (2004), *Statistical Highlights*, Singapore.