SHA TECHNICAL PAPERS(2009)1

SHA-Based Health Accounts in the Asia/Pacific Region
: Malaysia 1997-2006

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9

OECD/Korea Policy Centre - Health and Social Policy Programme
SHA TECHNICAL PAPERS

Unclassified **SHA TECHNICAL PAPERS(2009)1**

OECD/Korea Policy Centre - Heatlh and Social Policy Programme **22-October-2009**

English text only

OECD/Korea Policy Centre
Health and Social Policy Programme : TECHNICAL PAPERS NO. 9

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JEL Classification : I10, H51

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This series is designed to make available to a wider readership Health and Social Policy studies with a focus on the Asia/Pacific region. The papers are generally available only in English, and principal authors are named.

ACKNOWLEDGEMENT

We would like to thank Y.Bhg Dato' Sri Dr Hj. Mohd Nasir Bin Mohd Ashraf, Secretary-General, Ministry of Health, Malaysia and Y.Bhg Tan Sri Datuk Dr. Hj. Mohd Ismail Merican, Director-General of Health, Malaysia for their continuous support in the development and institutionalization of Malaysia National Health Accounts (MNHA). Our sincere appreciation goes to Y.Bhg. Datuk Ir. Dr. M.S. Pillai, Deputy Director-General for Research and Technical Support and Dr Rosnah Hadis, the Director of Planning and Development Division, Ministry of Health Malaysia who had shown keen interest throughout the implementation of MNHA and for providing us with all the facilities and logistics required. Our sincere thanks go to Dr Rozita Halina Tun Hussein, Dr Rohaizad Yon and Dr Lailanor Bin Hj Ibrahim who were members of the MNHA Project Team during. In addition, we are very grateful for the support that was extended to us by various public and private agencies such as the Economic Planning Unit (EPU) of the Prime Minister's Department, Department of Statistics, Bank Negara Malaysia, Ministry of Higher Education, Ministry of Housing and Local Government, Public Service Department, Social Security Organization (SOCSO), Association of Private Hospitals of Malaysia and others that are too many to mention. We also thank Dr Ravi P. Rannan-Eliya for his technical guidance. Special thanks to Ms Chung Tsung Ping of the United Nations Development Programme (UNDP) who took care of the funding aspects in the initial MNHA project.

The opinion expressed here are the author's and does not necessarily reflect those of the government or any of the participating institutions and organizations.

ABSTRACT

The Malaysia National Health Accounts (MNHA) Project was launched in August 2001 and completed in September 2005. It collected data for the years 1997 to 2002 on Malaysia's national health expenditure covering both the public and private health sectors. Following the completion of the project, a MNHA Unit was established in 2005 to ensure that annual data for subsequent years were collected in a timely fashion. The subsequent cycle of data collection was carried out in 2006 to cover data on national health expenditure for the years 2003 to 2006.

The MNHA framework was adapted from the OECD System of Health Accounts (OECD, SHA 2000) classification with minor modifications to suit local needs. This report presents the SHA-based estimates of total expenditure on health in Malaysia for the period 1997 to 2006 with a focus on 2006 data.

During the ten years period, the Total Expenditure for Health (TEH) has progressively increased from RM8.1 billion (USD2.9 billion) in 1997 to RM23.8 billion (USD6.3 billion) in 2006. The TEH as a percentage of GDP has also increased from 2.9% in 1997 to 4.2% in 2006. Per capita health expenditure showed a progressive increase from RM376 (USD 134) in 1997 to RM899 (USD 237) in 2006. The contributions of the public and private sectors to total health spending were almost equal in 1997. However, by 2006, the private sector's contribution of RM13.4 billion (USD 3.1 billion) was higher than the public sector's contribution of RM10.4 billion (USD 2.8 billion) by 27%.

In 2006, by source of financing, the general government (excluding security funds) was the highest contributor to the TEH. It contributed RM10.2 billion (43.2%), followed by the private household out-of-pocket RM9.8 billion (40.9%), private insurance enterprises, RM2.0 billion (8.3%), and corporations (other than social insurance), RM1.5 billion (6.4%).

During the same year, the TEH by providers of health services showed that the largest share went to the hospitals whereby the amount spent was RM11.4 billion (USD 3.1 billion) (50.1%), followed by providers of ambulatory care, RM7.4 billion (USD 1.9 billion) (32.8%), retail sale and other providers of medical goods, RM1.5 billion (USD 0.4 billion) (6.5%), general administration and insurance, RM1.5 billion (USD 0.4 billion) (6.4%), and provision of administration of public health programmes, RM0.9 billion (USD 0.2 billion) (4.1%).

The TEH by functions of health services showed that the highest spending was for the services of curative care, RM15.6 billion (USD 4.1 billion) (65.1%), followed by ancillary services to health care, RM2.6 billion (USD 0.7 billion) (11.0%), health administration and health insurance, RM1.8 billion (USD 0.5 billion) (7.7%), medical goods dispensed to outpatients, RM1.8 billion (USD 0.5 billion) (7.4%), preventive and public health services RM0.80 billion (USD 0.2 billion) (3.3%). Capital formation of health care provider institutions RM1.2 billion (USD0.3 billion) (4.9%) was the other significant function.

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INTRODUCTION

Health financing system

1. When Malaysia gained independence in 1957, it inherited medical and health services that were predominantly urban based, with a heavy emphasis on curative services. Following independence, the government adopted the "affordable health services for all policy" and established extensive public health care facilities throughout the country. By 2005, there were 122 Ministry of Health hospitals (with a total of 30,021 beds), six special medical institutions (with 4,740 beds), 809 health clinics, 1,919 rural clinics, 89 maternal and child health clinics, and 146 mobile clinics.

2. In comparative terms, Malaysia's spending on health as a proportion of GDP is comparable to the lower middle income countries. In 2006, Malaysia's TEH was 4.2% of its GDP (Malaysia National Health Accounts, 2006).

3. The Malaysian population is served by a dual health system comprising public and private health sectors. In recent years, the country's rapid economic growth has led to unprecedented growth in the private health sector with a significant increase in the number of private hospitals and private clinics in the country. Consequently, Malaysia's health system is changing from a largely public sector-provided system financed largely by general revenue sources to a more balanced system with increasingly popular private sector services financed through fee-for-service arrangements.

4. The main public provider is the Ministry of Health (MOH) that provides primary, secondary and tertiary care through various types of health facilities (such as general hospitals, district hospitals and health clinics). The public health sector has an open-door policy in regard to general outpatient services and hospital admissions. Access to specialist services is nonetheless controlled through a national system of referrals. Specialist services are available at designated hospitals (such as the national referral hospital in the capital, the state hospitals and selected district hospitals). If patients cannot be managed at general outpatient facilities, they are referred for specialist services to the nearest facility.

5. In 2006, the government financed 44.1% of total expenditure on health, with the balance of 55.9% being financed by the private sector. The most significant private finance source of funds were out-of-pocket payments (40.9 percentage points), private insurance financing (8.3 percentage points), all corporations (6.4 percentage points) and non-profit institutions serving households (other than social insurance (0.3 percentage points) (Malaysia National Health Accounts, 2006).

6. Malaysian health services are significantly funded through the general population by tax payments, contributions to EPF (Employee Provident Fund) and SOCSO (Social Security Organization). The Ministry of Finance (MOF) collects general taxes (as direct and indirect taxes) to finance the public expenditures including health care. The employed population also contributes to EPF. The primary purpose of EPF is to create savings for old age for the contributor and his or her family; although, 30% of the individual's contributions can be withdrawn for reimbursement of health care expenditure. The employed population

earning less than RM 3,000 further contributes to SOCSO which provides medical benefits for the work-related injuries of its members.

7. Higher income earners have the capacity to pay user fees and use private sector services whilst the poor predominantly rely on public sector services. Private health services are perceived as being of higher quality than public health services with reduced waiting times. Private insurance is voluntarily purchased by individuals, with premiums depending on the type of health insurance and level of coverage. Public health services are almost free with only nominal charges levied for certain services which patients fund through out-of-pocket payments. Private health services are funded by out-of-pocket payments or for those covered by private health insurance, co-payments.

Tables 1 & 2 summarize Malaysia's health financing statistics and arrangements.

Table 1: Health financing overview, Malaysia, 2006

Population (million)	26.114
of which	
Urban	16.974
Rural	9.140
Gross Domestic Product (GDP) (in RM millions)	572,555
Total expenditure on health (in RM millions)	23,826
funded by	
Government	10,436
Private insurance	1,981
Out-of-pocket	9,804
Private employers	1,527
Non profit institutions	68
Rest of world	9
Total health spending per capita	917
Total health spending as % of GDP	4.2%

Source: MNHA, 2006

Table 2: Health financing arrangements

Health care coverage	Malaysia's health care system is generally efficient and widespread. Malaysia has a universal healthcare system, with the public and private systems co-existing.
Risk pool structure/fragmentation	Government-financed public sector health services cover the entire population. Private services are funded by household out-of-pocket payments, private corporations and health insurance.
Health insurance contributions	The Social Security Organization (SOCSO) exists to administer the social security schemes under the Employee's Security Act 1969 legislation. Under the Act, the Employment Injury Insurance Scheme and the Invalidity Pension Scheme are enacted as a means of protecting the welfare of employees in case of injuries, or death arising from accidents and mishaps incurred during work. While the Employee Provident Fund (EPF)

	contribution is compulsory for all private and non-pensionable workers, the SOCSO contribution is only compulsory for those earning monthly wages (comprising basic salary, commission, overtime payments, leave payments and allowances (e.g. traveling, housing, shift, etc) of RM 3,000 or below. This is regardless of the employment status (i.e. permanent, contract or temporary employment) of the workers. Workers who earn more than RM 3,000, have the option of choosing to register with SOCSO and make deductions. Under Malaysia's current income tax system, the premium paid by an individual for medical and educational insurance (up to a ceiling of RM 3,000) may be claimed as a before tax deduction.
Benefits package and co-payments	The citizens of Malaysia have no statutory entitlements to government healthcare unless they fall into certain categories, such as the royal families, public servants, and pupils of government or government aided schools. The scope of medical benefits is as stipulated in the General Orders and relevant Acts.
Special arrangements for the poor	Malaysia does not have special arrangement for the poor since the public health facilities are universally accessible with minimal user charges.

Malaysia National Health Accounts(MNHA)

8. In August 2001, the government of Malaysia in collaboration with the United Nations Development Programme (UNDP) and supported by the Economic Planning Unit (EPU) of the Prime Minister's Department, launched the Malaysia National Health Accounts Project. Its main aim was to capture, for the first time, details of Malaysia's national health expenditure. A number of sources of data were identified including data from public and private sectors.

9. The MOH has the third largest budgetary allocation in Malaysia with the allocation spread across various programmes and activities. This makes it the largest public provider of health care within the Malaysian health care system. When the MNHA Project started, the data for health spending incurred by the MOH was provided by the Accountant-General Department (AGD). The AGD is also responsible for keeping the accounts of all spending incurred by federal government agencies. In the first cycle of data collection (1997-2002), the AGD was requested to provide MOH with an electronic database that recorded all spending incurred by the ministry. The same procedure was also applied in the subsequent cycles of data collection (2003-2006). The annual expenditure data received from the AGD consisted of both, operating expenditure and development expenditure (capital expenditure). The AGD uses various codes to indicate the responsibility centres and other variables and these codes were mapped against the MNHA codes prior to data entry. Data from other government agencies were obtained using specific questionnaires for government agencies.

Structure and Trends of Health Expenditure

National Health Expenditure

10. The Total Expenditure on Health (TEH) in 2006 progressively increased from RM8.1 billion in 1997 to RM23.8 billion in 2006 - which is a three-fold increase (Annex II, Table A1). The TEH as a percentage of GDP has gradually increased from 2.9% in 1997 to 4.2% in 2006. TEH as a percentage of GDP peaked in 2003 and 2004 at 4.4% before falling in the following two years (Table 3).

Table 3: Total Expenditure on Health, 1997 – 2006 (Nominal Value)

Year	Expenditure on Health (RM million)	Expenditure on Health as percentage of GDP (%)	Total GDP (RM million)
1997	8,055	2.9	281,795
1998	8,854	3.1	283,243
1999	9,605	3.2	300,764
2000	11,331	3.3	342,612
2001	12,287	3.7	334,309
2002	13,340	3.7	360,568
2003	18,443	4.4	418,769
2004	20,725	4.4	474,048
2005	20,972	4.0	519,451
2006	23,826	4.2	572,555

11. Per capita TEH shows a progressive increase from RM376 in 1997 to RM917 in 2006 - a more than two-fold increase. The most marked increase in per capita spending inter year was in 2003 with an increase of 35% compared to 2002 (Table 4).

Table 4: Per Capita Total Expenditure on Health, 1997 – 2006 (Nominal Value)

Year	Per capita spending (RM)	Per capita spending (USD)
1997	376	134
1998	401	134
1999	426	112
2000	493	129
2001	519	136
2002	545	143
2003	736	194
2004	810	214
2005	803	213
2006	917	241

Health expenditure by financing source (Figure 1, Annex II, Table A1)

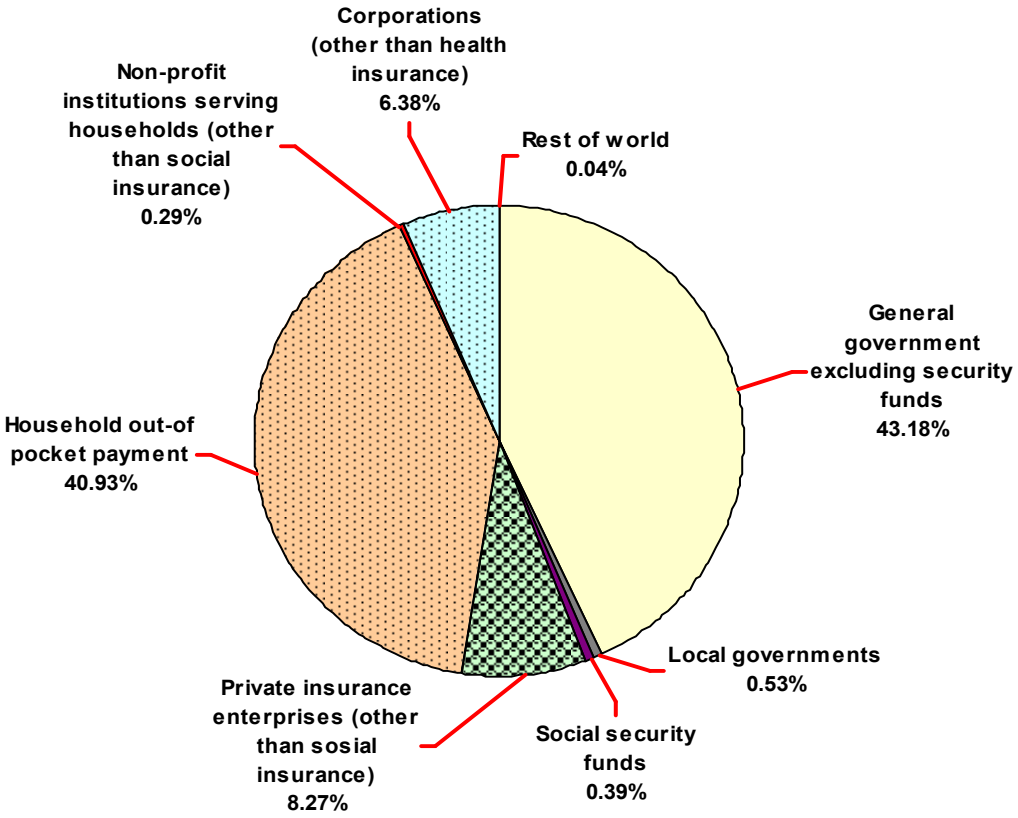
12. The mix of public and private expenditure has changed over the nine years to 2006 with the share of private spending growing from 50.9% in 1997 to 55.9% in 2006. It is difficult to precisely attribute the underlying reasons for this temporal change – a possible

explanation being that the longer waiting time at public facilities has encouraged the public to access the private facilities more.

13. In 2006, the private sector was a more significant source of financing of health expenditure than the general government sector. The private sector contributed 55.9% with the private household out-of-pocket (OOP) payments contributing 9.8 billion (40.9 percentage points), private insurance enterprises, RM2.0 billion (8.3 percentage points), all corporations (other than social insurance), RM1.5 billion (6.4 percentage points). The general government sector contributed RM10.4 billion (44.1%), (Annex II, Table A1).

14. In the public sector, the highest expenditure was incurred by the Central Government. It spent RM10.2 billion (98%) of the TEH in the public sector, followed by the Local/municipal government, RM0.1 billion (0.5%) and social security funds, RM0.09 billion (0.4%), (Annex II, Table A1). In the private sector, the private household OOP was the highest contributor to the TEH contributing RM9.8 billion (73.2%).

Figure 1 : Total expenditure on health by financing source in Malaysia, 2006



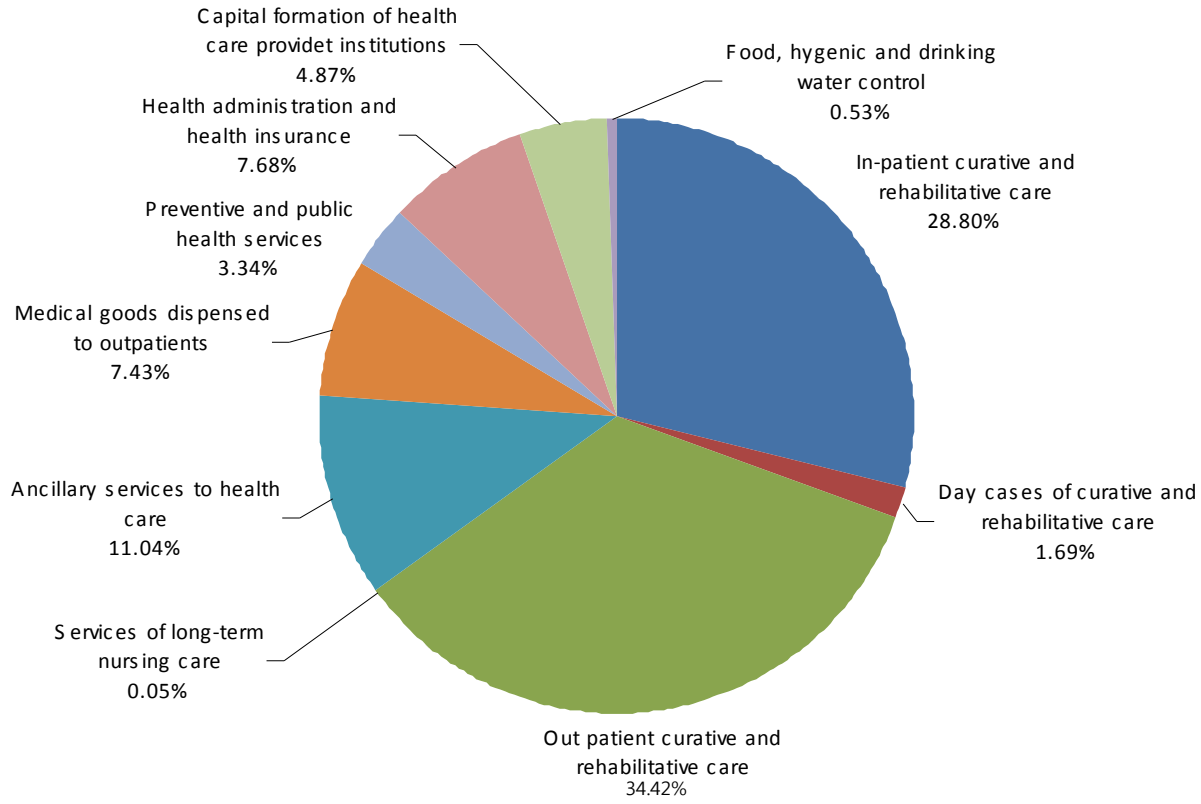
Health expenditure by function (Figure 2, Annex II, Table A2)

15. In 2006, services of curative and rehabilitative care accounted for the largest share of total health spending, RM15.6 billion (65%), followed by ancillary services to health care,

RM2.6 billion (11%), health administration and health insurance, RM1.8 billion (8%), medical goods dispensed to outpatients, RM1.8 billion (7%), capital formation of health care provider institutions, RM1.2 billion (5%), and others, RM0.9 billion (4%).

16. Between 1997 and 2006, the proportion of expenditure on outpatient care decreased slightly (from 36.5% to 34.4% of TEH), while the expenditure on inpatient care showed a slight increase (from 27.7% to 28.8%). The slight decrease in outpatient care is probably due to the reduced share of public sector funding over the period which saw the overall public to private sector ratio reduced from 49:51 to 44:56 (see previous section).

Figure 2: Total expenditure on health by function in Malaysia, 2006



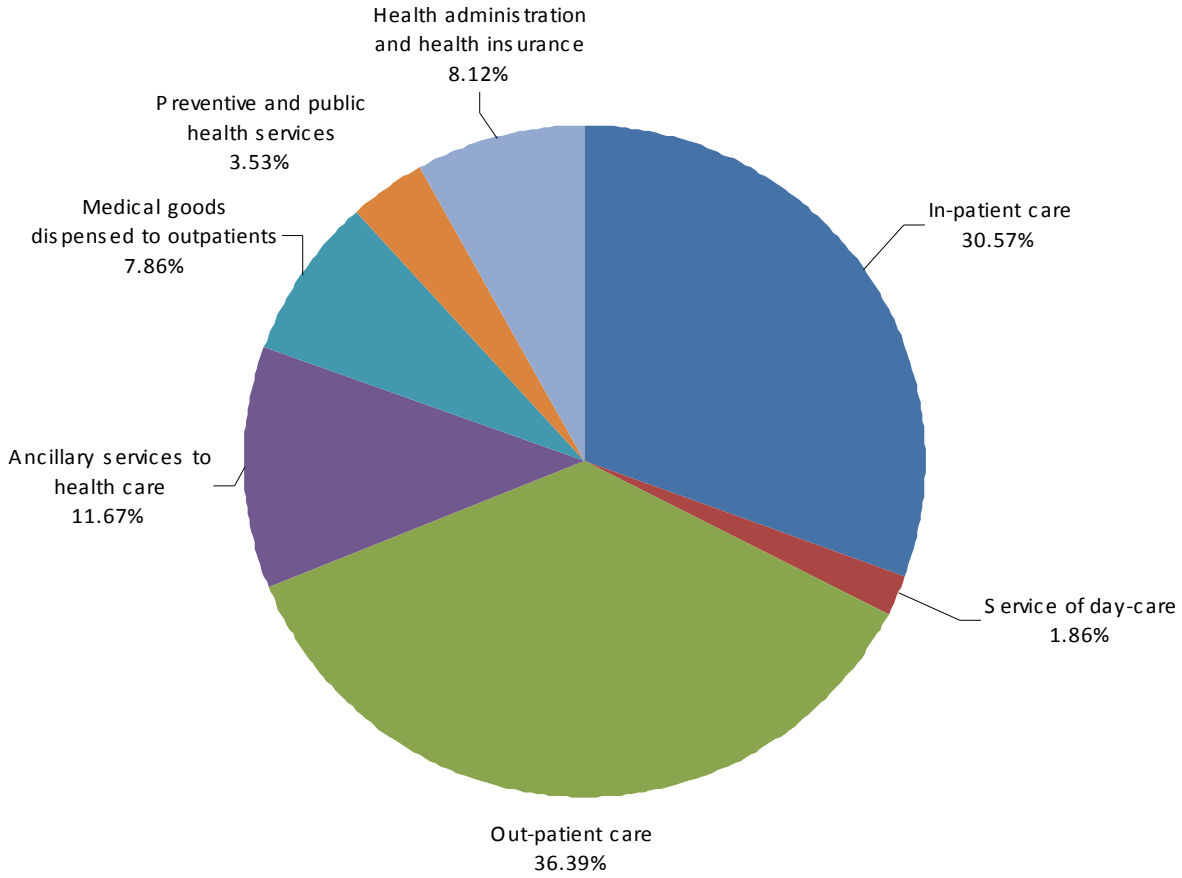
Current health expenditure by mode of production (Figure 3, Annex II, Table A3)

17. In 2006, 88.4% of the total current health expenditure (TCE) was spent on personal care. The four major modes of production classified as personal health care were in-patient care (30.6% of TCE), out-patient care (36.4% of TCE), ancillary services to health care (11.7% of TCE) and medical goods dispensed to out-patients (7.9% of TCE). Day care and home care expenditures were minor.

18. Between 1997 and 2006, the proportion of expenditure on in-patient care increased slightly (from 29.3% to 30.6%) while out-patient care decreased similarly (from 38.7% to 36.4%). During the same period, expenditure on prevention and public health services declined from 7.9% of TCE in 1997 to 3.5% by 2006 while expenditure on health

administration and health insurance increased slightly from 7.9% to 8.1% of TCE. The reduced expenditure for prevention and public health services is due to a generally lower government contribution for health by 2006 as government funds contribute more than 90% of prevention and public health services expenditures. The expenditure on ancillary services has increased from 2.1% to 11.7% of TCE due to more public sector patients getting these services from the private facilities to reduce waiting time for procedures. The reduction in medical goods dispensed to outpatients from 13.4% of TCE in 1997 to 7.9% of TCE in 2006 is probably due to less patients self medicating.

Figure 3: Current expenditure on health by mode of production in Malaysia, 2006

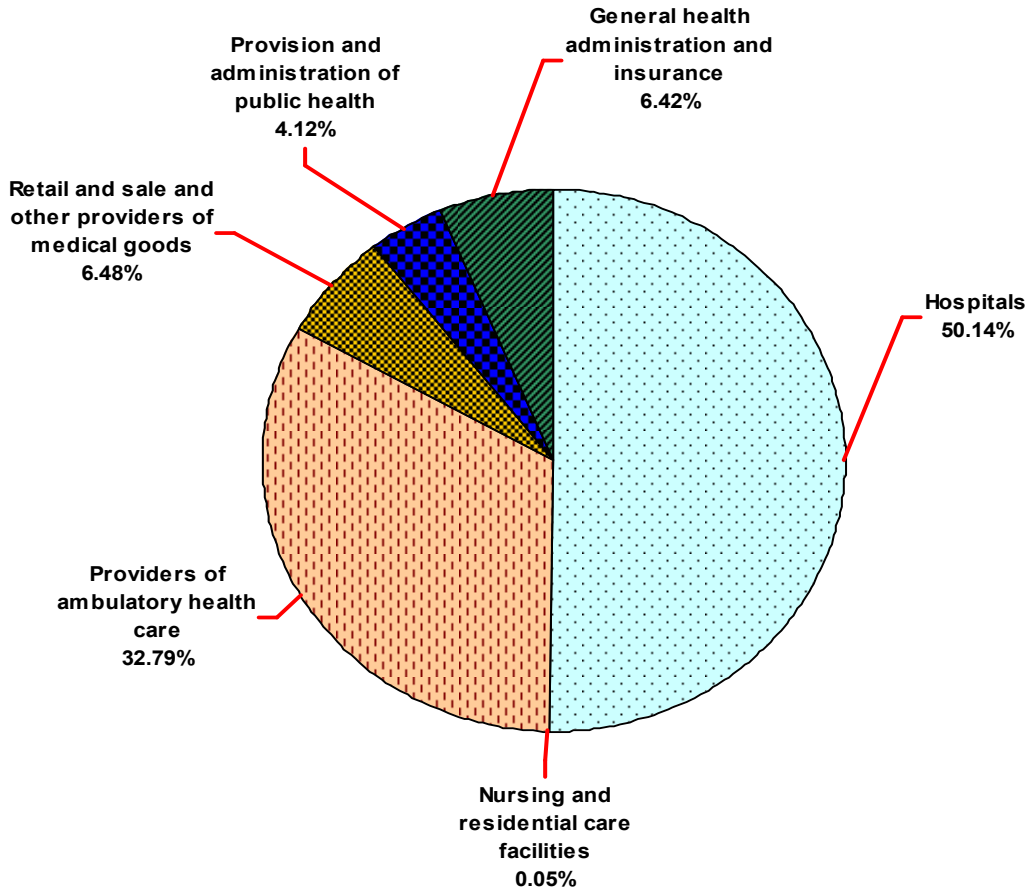


Current health expenditure by provider (Figure 4, Annex 1I, Table A4)

19. The largest share of TCE in 2006 was spent by hospitals (50.1%) with providers of the ambulatory health care making up 32.8% and general health administration and insurance 6.4%. Pharmacies and other retail outlets accounted for 6.5% of TCE, a significant reduction from 13.2% in 1997. This is probably due to a reduced number of patients that self medicate. In order to reduce ward congestion and cut down inpatient care costs, under the 8th Malaysia Plan (2000-2005), the government made a policy that hospitals should encourage more patients to be treated as day care cases. During that period, more day care centres including stand alone hemodialysis centres were built. Apart from this, private hemodialysis centres

were also given government grants to subsidize the patients' hemodialysis costs. These policies probably are the reason for the share of "expenditure by providers of ambulatory care" increasing from 26.4% to 32.8% of TCE and the share of "other providers of ambulatory health care" increasing from 0% in 1997 to 11.0% of TCE in 2006. Under the 8th Malaysia Plan the government also built more health care facilities and employed more health workers to manage these facilities. Capital formation increased two fold over the period from 1997 to 2006. As a result, the government health administration also increased from 1.8% in 1997 to 6% in 2006.

Figure 4: Current expenditure on health by provider in Malaysia, 2006



Current health expenditure by function and provider (SHA Tables 2.1, 2.2, and 2.3 in Malaysia 2006 SHA Tables)

20. In 2006, expenditure on in-patient care was RM 6.93 billion (30.6% of TCE). This was predominantly accounted for by hospitals (99.8% of total in-patient care) with all other industries contributing the remainder (0.2% of total in-patient care). Provision of in-patient care by nursing and residential care facilities is limited in Malaysia.

21. Expenditure on out-patient care was RM8.25 billion (36.4% of TCE), which was almost equally distributed between hospitals and providers of ambulatory care in the ration of

48.8% and 51.1%. Amongst providers of ambulatory care, offices of physicians accounted for 33.7 percentage points, out-patient care centers 13.0 percentage points and all other providers of ambulatory health care 4.4 percentage points.

22. Expenditure on ancillary services to health care was RM2.64 billion (11.7% of TCE), of which 98.4% was paid to providers of ambulatory health care while the remaining 1.6% was paid to the hospitals.

23. Expenditure on medical goods was RM1.78 billion (7.9% of TCE) of which, 82.4% was paid to retail and sale and other providers of medical goods and 17.4% to providers of ambulatory health care.

24. Expenditure for long term nursing care at home was not estimated because most patients that require nursing care at home are looked after by their family members, and these expenditures were not quantified.

25. Services provided by hospitals included in-patient and out-patient care that collectively accounted for RM11.36 billion (50.1% of TCE). The distribution of this expenditure by healthcare function was 60.8% (in-patient care) and 35.4% (out-patient care) and 3.8% (others).

Current health expenditure by provider and financing agent (SHA Tables 3.1, 3.2 and 3.3 in Malaysia 2006 SHA Tables)

Spending structure of the financing agents

26. In 2006, general government current expenditure on health amounted to RM9.27 billion (40.9%) of total current expenditure whereby RM9.18 billion (40.5 percentage points of TCE) was funded from general government (excluding social security) and RM0.09 billion (0.4 percentage points of TCE) from social security funds. Private sector expenditure on health in 2006 was RM13.38 billion (59.1% of TCE) of which RM9.80 billion (43.3 percentage points of TCE) was funded by private household out-of-pocket expenditure, RM1.98 billion by private insurance (8.7 percentage points of TCE) and RM1.53 billion (6.7 percentage points of TCE) was funded by corporations (other than health insurance).

27. Funding by the general government (excluding social security) sector amounted to RM9.18 billion (40.5% of TCE) of which 67.8% was incurred at hospitals, 15.7% was incurred at providers of ambulatory care, 6.1% related to general health administration and insurance and 10.4% related to all other industries.

28. Funding by social security amounted to RM92.7 million (0.4% of TCE), of which, 46.4% was incurred at hospitals, 33.6% was incurred at providers of ambulatory care, 10.9% was incurred at nursing and residential care facilities, 4.6% related to retail sale, 1.9% related to general health administration and insurance and 2.6% related to all other industries.

29. Private sector expenditure on health amounted to RM13.4 billion (59.1% of TCE) of which, RM9.80 billion (43.3 percentage points of TCE)) was from out-of-pocket payments, RM2.0 billion (8.7 percentage points of TCE) from private insurance and RM1.5 billion (6.7 percentage points of TCE) from corporations (other than health insurance).

30. Expenditures funded from out-of-pocket payments RM9.8 billion or 43.3% of TCE comprised spending to providers of ambulatory care (50.2%), hospitals (35.4%) and retail sale and other providers of medical goods (14.4%).

31. Most of the RM1.5 billion or 6.7% of TCE corporations' spending was used to fund services by hospitals (57.1%) and providers of ambulatory care (42.7%). Only 0.2% was used to fund retail sale and other providers of medical goods.

32. Funding from rest of world for Malaysia was minimal at RM8.8 million (0.04%) only.

How different providers are financed

33. Of the RM11.4 billion spent on hospital care, 55.2% was funded by the general government sector and 44.8% by the private sector.

34. Providers of ambulatory care had a wide mix of financing sources including private household out-of-pocket (66.3%), general government excluding security funds (19.4%), corporations (other than health insurance (8.8%), and private insurance (4.8%).

35. General health administration and insurance was mainly funded by private insurance (60.0%) with general government (excluding social security funds) funding 38.4%. The remainder was funded by non-profit organizations serving households (other than social insurance), 1.3%, rest of the world 0.2% and social security funds 0.1%.

36. The funding for retail sale and other providers of medical goods was predominantly (96.2%) from private households out-of-pocket payments. The remaining funds were from general government (1.7%), non-profit organizations serving households (excluding social insurance) (1.6%) and corporations and rest of world, each contributing 0.2%.

Current health expenditure by function and financing agent (SHA Tables 4.1, 4.2 and 4.3 in Malaysia 2006 SHA Tables)

Functional structure of spending by financing agents

37. While both public and private spending was predominantly expended on personal medical services and goods, the distributional patterns among different functional categories were different. Public expenditure on personal health care services (81.9% of total general government sector expenditure) was targeted at in-patient services (41.9 percentage points) and out-patient care (35.0 percentage points). The remainder of public funding was mostly distributed to health administration and health insurance (10.2% of total general government sector expenditure), and prevention and public health services (7.9% of total general government sector expenditure). By comparison, private spending on personal medical services and goods (92.8% of total private sector expenditure) was split between in-patient care (22.7 percentage points), out-patient care (37.4 percentage points), ancillary services to health care (18.8 percentage points) and medical goods dispensed to out-patients (13.1 percentage points). Health administration and health insurance and prevention and public health services (6.7 and 0.5% respectively of total private sector expenditure) were the other categories outside personal medical services and goods.

38. In 2006, general government (excluding social security) funding was split between in-patient care (41.9%) and out-patient care (35.3%), health administration and insurance (10.3%) and preventive and public health services (7.9%). Social security funds were concentrated on inpatient care (42.6%), day care (34.8%), out-patient care (3.4%), services of long term nursing care (10.9%) and preventive and public health services and health administration and health insurance, 1.9% each.

39. Rest of the world funding was predominantly split between medical goods dispensed to outpatients (35.6%), health administration and health insurance (27.6%), out-patient care (15.6%) and preventive and public health services (10.8%).

How the different functions are financed

40. Private financing plays a major role in funding personal medical services and goods (62.0%) with the general government sector funding 37.9%. Private household OOP expenses contributed 48.9 percentage points of the private sector funding with corporations (other than health insurance) (7.6 percentage points) and private insurance (5.3 percentage points) the other major funding sources.

41. Expenditure on in-patient care was predominantly funded by the general government (excluding social security) (55.5%), with the remainder being shared between household out-of-pocket payments (24.4%), private insurance (10.2%), corporations (9.3%) and social security funds (0.6.%).

42. Out-patient care had a mix of funding sources; specifically, 39.3% was from general government (excluding social security funds) and 60.7% from the private sector, 0.04% from social security funds and 0.02% from the rest of the world.

43. Ancillary services were predominantly funded by the private sector (95.2%) particularly through household out-of-pocket payments (92.0 percentage points)

CONCLUSIONS

Summary of findings

44. In terms of level of expenditure, Malaysia's spending on health is comparable with that of other lower middle income economies. Total expenditure on health is 4.2% of GDP compared with 3 - 5% of GDP in most lower-middle income countries (Malaysia National Health Accounts, 2006). There was a three fold increase in the total health expenditure over the ten-year period from 1997 to 2006. There was also a progressive increase in the per capita spending during the same period. The increase is less marked if adjusted for inflation using GDP deflators [1]. The progressive increase in the per capita spending is probably partly due to the spending on health for the huge number of immigrants and foreign workers (many of them illegal) in the country over recent years. These foreign nationals are not accounted for in the population figures due to their illegal status. Other reasons include the additional demand flowing from the increased number of private facilities that has been set up recently – including the tendency of some patients from public hospitals to purchase ancillary services from these facilities to expedite treatment at the public hospitals.

45. In 1997, the cost sharing between the public and private sector was approximately equal (49:51). However, by 2006, the share of private spending has increased to 55.9%. The increasing trend of the private sector funding of health expenditure - particularly the private household out-of-pocket and private insurance components is probably due to increased doctors' consultation fees, as well as hospital and drug charges. Further, patients from the public facilities that could afford to purchase ancillary services would do so from the private facilities so that they can be treated early by the public facilities' doctors. Over the years private employers had also improved the medical benefits that they provide for their employees, both in terms of the services that they were allowed to access as well as the number of dependents that employers were willing to cover. Other minor reason included specialists retaining primary care patients for their monthly supply of medicine, when they could have been referred back to the primary care doctors (MNHA (1997-2006) Workshop Proceedings, 2008).

46. Public sector sources of funding and provision dominate expenditures on in-patient care whilst private sector sources predominantly fund out-patient care. The private sector also dominates the funding and provision of medical goods dispensed to outpatients.

47. The spending for preventive and public health services has reduced from 7.5% of total health expenditure in 1997 to 3.3% in 2006. This is probably due to the relative reduction in the government's allocation for preventive and public health services. More than 90% of the expenditures for preventive and public health services come from the government. In 2006, there was rapid expansion of the curative care services in public health facilities in the country. With budget allocation for health remain relatively constant, the preventive and public health services budget was lowered.

48. In conclusion, the Malaysia National Health Accounts has enabled Malaysia, to understand better the pattern of its national health expenditures that cover both the private and public sectors. Several policy changes that were made between 1997 and 2006 have

1. GDP Deflator (base 1997 = 100): 1998: 108.5; 1999: 108.5; 2000: 116.6; 2001: 114.7; 2002: 118.3; 2003: 122.2; 2004: 129.6; 2005: 135.6; 2006: 140.8

impacted the expenditure pattern. The construction of more public facilities has increased the administrative costs of the government as can be seen in the two fold increase in capital formation spending. The policy of encouraging cases who would previously have been treated as inpatients to be instead treated as day care cases has resulted in an increase in spending at ambulatory care providers. As more private facilities offered sophisticated ancillary services, coupled with the perceived long waiting time at public facilities, the more affluent patients were willing to purchase these services privately. This has also contributed to the increase in spending at the ambulatory care providers.

Lessons drawn

49. The data sources were many, thus distributing the questionnaires and getting the feedback took time and required many follow-ups. With the rapid turnover of manpower, these tasks proved challenging.

50. Since there was no comprehensive list of the government agencies that carried out health activities, new data sources were identified from time to time. When they were identified, adjustments had to be made to the previous years' data to ensure accurate reflection of the country's trend in health spending.

51. Since there was no direct source for private household OOP expenditure data, an indirect approach was conducted to estimate the household OOP component. Firstly, the gross revenues from the relevant available sources (MOH user charges, University Hospitals user charges, National Heart Institute user charges, private hospitals' gross revenue, private clinics' gross revenue, private dentists' gross revenue, pharmacy sales, medical supplies, medical durables/prostheses/equipment, ancillary services, traditional medicines, traditional treatment providers) were obtained. The summation of all these revenues was considered to be the gross spending (which accounts for both, OOP and non-OOP expenditure). In order to derive the net Household OOP expenditure, amounts paid by other third-party payment schemes (i.e. the non-OOP payments) were subtracted from the gross spending. The third-party payers identified were private insurance enterprises, private corporations (private companies), Employer Provident Fund (EPF), Social Security Organization (SOCSO), other federal agencies and other states agencies. All payments, refunded by third parties, were subtracted from the gross spending and the remaining balance was taken as the estimated household OOP expenditure.

52. The database containing private employer health spending data was obtained from several sources, one of which was the Department of Statistics (DOS). DOS provided the data on health expenditure through various surveys: Manufacturing Survey, Professional and Industrial (Medical) Survey, Professional and Industrial (Non-Medical) Survey, and Labour Force Survey (which provided data on the total workforce in Malaysia). Since the Manufacturing Survey and the Professional and Industrial Surveys are not conducted every year, the data for the missing years had to be derived using linear regression (Intercool STATA 8.0 software). The sampling data on health expenditure by industry given by DOS only covered selected industries. Thus, estimations were done to obtain the figures for private employees in other industries not surveyed. A special survey of several corporations was used to break down aggregate data into proportions for health providers and functions of services. These proportions were applied to all the other private companies.

Future work

53. The MNHA Unit plans to expand the MNHA framework in the future. In addition to the three principal health care dimensions, (i.e. financing sources, providers and functions), additional dimensions such as geographical boundaries, beneficiary groups, health problems and diseases are to be developed. These additional dimensions will be able to be used to organize health expenditure information in a way that responds to important health policy priorities. It is hoped that when this information is combined with other data such as health outcome information, the government will be able to analyse the extent to which current expenditures and services produce advances in health outcomes.

54. The capacity and capability building for MNHA that include recruiting team members who are familiar with national economic statistics and accounting practices, are knowledgeable about health systems and policies, experienced with data collection, data analysis and report writing.

55. MNHA hopes to create an e-reporting system. A web-based interactive information system would enable data sources to respond to questionnaires posted to them in a timely manner as well as facilitate response to inquiries.

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ANNEX 1: METHODOLOGY

1. Data Sources

Public Sector

Government ministries and departments

- Ministry of Health
  - Finance Division
  - Accounts Division
  - Policy and International Affairs Division
  - Pharmaceutical Services Division
  - Family Health Development Division
  - Oral Health Division
  - Medical Practices Division
  - Traditional and Complementary Medicine Division
  - Disease Control Division
  - Health education Division
  - Medical Development Division
  - Training Division
  - Engineering Services Division
  - National Institutes for Health
  - National Pharmaceutical Control Bureau
  - National Blood Bank
  - National Heart Institute
  - Public Hospitals (115 hospitals and 6 institutions)
- Ministry of Finance
  - Accountant-General Department
  - Bank Negara Malaysia
  - Inland Revenue Department
- Ministry of Higher Education
  - University Malaya Medical Centre
  - Universiti Sains Malaysia
  - Universiti Kebangsaan Malaysia
- Ministry of Defense
  - Hospital Angkatan Tentera Terendak
  - Hospital Angkatan Tentera Lumut
  - Hospital Kinrara
- Ministry of Women, Family and Community Development
  - Department of Social Welfare
  - Department of Women's Affairs
  - Department of Aborigines Affairs
  - National Population and Family Development Board
- Ministry of Internal Security Malaysia
  - Prisons Department Malaysia
  - Civil Defense Department
  - National Anti Drugs Agency
- Ministry of Human Resources
  - Department of Occupational Safety and Health
  - National Institute of Occupational safety and Health

- Ministry of Agriculture
    - Department of Agriculture
    - Department of Fisheries
    - Department of Veterinary Services
    - Farmers Organization Committee
- Ministry of Energy, Water and Telecommunication
    - Water Supply Department
- Ministry of Housing and Local Governments
    - Fire and Rescue Department
- Ministry of Science Technology and Environment
    - Department of Environment
    - Department of Chemistry
- Prime Minister's Office
    - Public Service Department
    - Department of Statistics
- Social Security Funds
    - Social Security Organization (SOCSO)
    - Employees Provident Fund (EPF)
- Local Authorities
    - City Halls (3)
    - City Councils (4)
    - Sub City Councils (33)
    - District Councils (103)

Private Sector

Non-Government Organizations

- Private Insurance Association Malaysia (PIAM)
- National Insurance Association Malaysia (NIAM)
- Life Insurance Association Malaysia (LIAM)
- Fomema Sdn Bhd
- Private Corporations
    - Keretapi Tanah Melayu Berhad
    - Malaysia Airline System
    - Telekom Berhad
    - Petronas Malaysia
    - Tenaga Nasional Berhad

Surveys

- National Household Health Expenditure Survey (NHHES) by University Malaya
- National Health and Morbidity Survey (NHMSII) by Institute of Public Health, Ministry of Health Malaysia.
- Household Expenditure Survey (HES) by Department of Statistics Malaysia (DOS)
- Intercontinental Medical Survey by IMS Health Malaysia Sdn Bhd.

2. Methodology

2.1. Conceptual Framework: Criteria for Developing the MNHA

The conceptual framework for the MNHA specifies in detail the definition of what constitutes health expenditure (including health care financing or health care funding), the institutional entities involved, and the specification of the types of disaggregations involved.

The final framework also specifies the standard reporting formats to be used. The decision has been to base the framework closely on the OECD SHA, making adaptations where necessary for national circumstances. Several major decision points in the development of a proposed framework (such as determining the analytical dimensions) were identified, and recommendations made to the MNHA Technical Committee. Members of the Technical and Steering Committee and other resource persons were consulted on these points and their input has been considered in completing the proposed framework.

2.2. Criteria for Developing the MNHA

The MNHA framework was developed according to the following criteria:

2.2.1. The MNHA should be policy-relevant and easily interpretable by health sector policy-makers.

2.2.2. The MNHA should be reproducible.

2.2.3. Categories used in classifications should be mutually exclusive.

2.2.4. The production of MNHA should be accurate and timely, within the constraints of secondary data availability or limited primary data collection.

2.2.5. The MNHA should be compatible with international practice and other economic measurement systems. The decision was made to base the MNHA on the OECD SHA.

2.2.6. The MNHA should be comprehensive (i.e. they should cover the whole health care system), consistent (i.e. definitions, concepts, and principles should be the same for each entity and each transaction measured), and comparable across time and space.

2.3. Key Definitions in the MNHA Framework

The proposed definition to be used in MNHA in terms of what constitutes health spending is based on review OECD SHA and Berman (1997). In the Malaysia context, TEH are expenditures from various sources both from public and private sectors, including non-governmental organizations (NGOs).

Health spending consists of health and health related expenditures. Expenditures are defined on the basis of their primary or predominant purpose of improving health, regardless of the primary function or activity of the entity providing or paying for the associated health services.

Health includes the health of individuals as well as the health of groups of individuals or populations. Health expenditure consists of all expenditures or outlays for medical care, prevention, promotion, rehabilitation, community health services, health administration and regulation, and capital formation with the predominant objective of improving health.

Health related expenditures include expenditures on health related functions such as medical education and training, and research and development. Training expenditures are included if they are specifically related to health. So, health expenditures would include expenditures at medical, nursing or other schools for the specific training of doctors, nurses, and other allied

health professionals (at basic and post-basic levels) as well as continuous professional educational activities (including in-service training).
National Health Expenditure (NHE) covers all health expenditures for the benefit of individuals resident in Malaysia. Expenditures for the benefit of Malaysian citizens living abroad are excluded, although expenditures in other countries for the benefit of Malaysian residents are included, as well as expenditures for the benefit of foreign citizens resident in Malaysia. The definition of residents used in this framework is likely to be consistent with definitions used by the Department of Statistics Malaysia.

The characteristics of the MNHA Framework which allow it to estimate total health spending is expected to provide a complete and comprehensive picture of the country's health system which can be used for analytical purposes. The dimensions are as follow:

a. Base Year – In the initial MNHA Project, the base year for the MNHA was determined based on available data according to the following criteria: (a) the base year should be a year with reasonable complete data (b) it should be a recent year and (c) it should be suitable for deriving extrapolations. The years 2002 and 2006 were selected for most of the measurements in the first and second cycles of data collection respectively.
b. The first MNHA estimates covered the period 1997–2002 whilst the second cycle covered the period 2003-2006. In the future, with the availability of a longer time series, it may be possible to reduce the time lag for the release of provisional estimates to perhaps less than six months, with the availability of a longer time series.
c. Accounting Basis: Malaysia NHA are estimated on a calendar year basis as the government fiscal year follows the calendar year. Ideally, expenditures should be measured on an accrual basis, however, because public sector expenditures are reported on a cash basis, MNHA are estimated on a cash basis.
d. Geographic Regions: As far as possible, the MNHA will attempt to report data disaggregated according to the thirteen states and the federal territories of Malaysia, Kuala Lumpur, Putrajaya and Labuan to allow monitoring of health financing and expenditure changes at a sub-national level. A lesser degree of disaggregation would be according to the three regions of Peninsular Malaysia, Sabah and Sarawak. The possibility of producing these sub-national level estimates depends upon the availability of the sub-national disaggregated data.
e. Secondary Analyses: The NHA project disaggregated expenditures as estimated in the final NHA matrices according to the following breakdown of beneficiaries. These secondary analyses will not be done every year, but will be estimated for years in which necessary data are available. The following additional analyses have been proposed but have not been finalized:

   Demographic characteristics
   i. Age groups – the exact categorization of age groups will need to be determined, but should be consistent with DOS's disaggregated tabulations from the relevant surveys.
   ii. Sex – Male and female.
   iii. Urban/rural residence.
   iv. Ethnicity – Malay, Chinese, Indians, Other Bumiputeras and Others
   v. Resident/migrant

   Socio-economic status

From the perspective of equity, the distribution of health expenditures across socio-economic groups is important. Expenditures will be disaggregated across expenditure/income quintiles, where individuals are ranked according to their per capita household expenditure/income, as reported in DOS surveys.

2.4. Data Collection and Analysis

2.4.1. Health care expenditures from private sources were estimated using feedback from questionnaires sent to data sources. Health care expenditure studies performed in Malaysia were also extensively reviewed. Information from several health expenditure surveys such as the National Health Morbidity Survey II (NHMS II, 1996) by the Ministry of Health, Annual Household Expenditures Survey (HES) by the Department of Statistics, and the National Household Health Expenditures Survey (NHHES) (1996) by University of Malaya were also used to produce estimates for national health expenditures.

2.4.2. The private household out-of-pocket (OOP) health expenditure component of the MNHA was a challenging component to estimate. All the three surveys mentioned in the previous paragraph provided information on OOP health care expenditures for Malaysia. The OOP Health Care Expenditure Questionnaire for the NHMS III Survey (2006) was developed to suit the requirement of the MNHA framework. It allowed data to be derived which answered the questions of who provided health services and to what extent these services were provided to people who paid for them from out of their own pockets. In addition, it described the types and functions of services that are provided.

2.4.3. In the NHA framework, health insurance other than social health insurance is considered as a private source for health financing. The private insurance business is becoming more important as a source of funding for the health care industry. As the premium for private insurance is risk rated, private insurance is most attractive to the young and middle income group (BNM, 2004). Under the Insurance Act 1996, the Central Bank, also known as Bank Negara Malaysia (BNM) is empowered to set all premium rates of private insurance providers. According to its 2002 report, a total of 44 private insurers were licensed under the Act.

2.4.4. In Malaysia, there are three types of private insurance that provide some form of medical and health coverage namely, (i) specific health and medical policies which is known as Malaysia Health Insurance (MHI), (ii) life insurance policies (which also covers medical and health), and (iii) other insurance schemes (with multiple plans that include medical and health coverage as part of the benefit). In the MNHA Project, it was estimated that only 83.2% of the premium for category (i) is used to pay for the medical and health services. Data from Life Insurance Association Malaysia (LIAM) showed that 8.3% of the life insurance premium (category (ii)) is used to pay for health. The insurance industry in Malaysia uses the term "medical and health insurance" (MHI) as in category (i) as the "*insurance which provides specified benefits to cover medical expenses incurred or against risks of persons becoming totally or partially incapacitated as a result of sickness or infirmity*" (BNM, 2005).

2.4.5. Data on health expenditure that is financed through insurance are collected using questionnaires sent to the BNM and the Insurance Associations. BNM was able to

provide aggregated data on MHI premiums and claims. Estimation of health expenditure excluded the benefits paid directly to the policy owners. The Insurance Associations provided the data on claims paid out according to providers and functions. The total claims figure from BNM was then used to estimate the required expenditure.

2.4.6. Apart from the OOP expenditure and insurance as private sources of health funding, the private employers also contribute to the health care spending either through direct payments to health care providers or through insurance as the financing agents. Several sources of data were identified that provided useful database regarding the private employer spending in Malaysia. One of the sources of data is the Department of Statistics (DOS) of Malaysia that provides data on health expenditure by industries through various rolling surveys - namely, the Manufacturing Survey, the Professional and Industrial (Medical) Survey, the Professional and Industrial (Non-Medical) Survey, and the Labour Force Survey (which provides data on the total workforce in Malaysia). Data were also collected from private companies in order to estimate private employees' health expenditure.

2.4.7. The process of data entry and analysis were carried out using the Microsoft Excel Program, STATA Version 6.0 and MNHA Business Intelligence Solutions (MBIS) software. The initial MNHA data preparation, analysis, and coding were done in Microsoft Excel spreadsheets and the resulting text data files were loaded into the MBIS after data cleaning and programme verification using STATA. The MNHA Business Intelligence Solutions is the first Malaysia web-based software developed specifically for the project to facilitate health accounts analysis. It allows the tracking of results and compilation of estimated data based on the identified classifications to generate meaningful data.

2.4.8. Several steps have been taken in an effort to institutionalize the MNHA. Upon completion of the MNHA Project in 2005, the MNHA Unit was established and placed under the purview of the Planning and Development Division of Ministry of Health, Malaysia. Soon after its establishment the MNHA Unit announced its vision, mission and objectives and outlined its short, middle and long term plans. The capacity and capability building included sending officers for training on NHA, NHA Sub-accounts and other related courses such as statistical programs. As part of the plans to improve data collection, continuous identification of new data sources from public and private sectors are carried out regularly. To date, Malaysia has made available its ten years data on its national health expenditures.

ANNEX 2: TABLES

Table A1: Total expenditure on health by financing source

		1997		2006	
ICHA Code	**Sources of financing**	**RM Million**	**%**	**RM Million**	**%**
HF.1	**General government**	**3,957.47**	**49.12**	**10,436.21**	**44.10**
HF.1.1.1	General government excluding social security funds	3,644.40	45.24	10,224.40	43.18
HF.1.1.2	State Governments	8.73	0.11	-	-
HF.1.1.3	Local governments	284.38	3.53	119.14	0.53
HF.1.2	Social security funds	19.96	0.25	92.68	0.39
HF.2	**Private Sector**	**4,098.45**	**50.88**	**13,381.46**	**55.86**
HF.2.2	Private insurance enterprises (other than social insurance)	408.78	5.07	1,981.00	8.27
HF.2.3	Household out-of pocket payment	3,138.78	38.96	9,804.21	40.93
HF.2.4	Non-profit institutions serving households (other than social insurance)	14.49	0.18	68.29	0.29
HF.2.5	Corporations (other than health insurance)	536.40	6.66	1,527.95	6.38
HF.3	**Rest of world**		**-**	**8.75**	**0.04**
Total expenditure on health		**8,055.91**	**100.00**	**23,826.43**	**100.00**

Table A2 : Total expenditure on health by function

		1997		2006	
ICHA Code	**Function**	**RM Million**	**%**	**RM Million**	**%**
HC.1;HC.2	**Services of curative and rehabilitative care**	**5,213.16**	**64.71**	**15,584.66**	**65.06**
HC.1.1 ; HC.2.1	In-patient curative and rehabilitative care	2,228.62	27.66	6,928.23	28.80
HC.1.2 ; HC.2.2	Day cases of curative and rehabilitative care	46.22	0.57	410.06	1.69
HC.1.3 ; HC.2.3	Out patient curative and rehabilitative care	2,938.09	36.47	8,245.18	34.42
HC.1.4 ; 2.4	**Home care curative and rehabilitative care**	**0.23**	**0.00**	**1.19**	**0.00**
HC.3	**Services of long-term nursing care**	**0.02**	**0.00**	**11.67**	**0.05**
HC3.1	In-patient long-term nursing care	0.02	0.00	-	-
HC.3.2	Day cases of long-term nursing care	-	-	11.67	0.05
HC.4	**Ancillary services to health care**	**160.53**	**1.99**	**2,643.47**	**11.04**
HC.4.1	Clinical laboratory	9.89	0.12	121.49	6.34
HC.4.2	Diagnostic imaging	1.63	0.02	30.27	1.58
HC.4.3	Patient trans port and emergency rescue	0.0013	0.00	0.19	0.01
HC.4.9	All other miscellaneous ancillary services	149.01	1.85	2,491.52	3.11
HC.5	**Medical goods dispensed to outpatients**	**1,016.26**	**12.62**	**1,780.94**	**7.43**
HC.5.1	Pharmaceuticals and other medical non-durables	852.01	10.58	949.49	3.95
HC.5.2	Therapeutic appliances and other medical durables	164.25	2.04	831.45	3.48
HC.6	**Preventive and public health services**	**601.76**	**7.47**	**800.75**	**3.34**
HC.7	**Health administration and health insurance**	**602.93**	**7.48**	**1,838.95**	**7.68**
Current health expenditure		**7,594.65**	**94.27**	**22,660.44**	**94.60**
HC.R.1	Capital formation of health care provider institutions	461.27	5.73	1,165.99	4.87
Total Expenditure on Health		**8,055.92**	**100.00**	**23,826.43**	**100.00**

Table A3 : Current expenditure on health by mode of production

		1997		2006	
ICHA Code	**Mode of production**	**RM Million**	**%**	**RM Million**	**%**
In-patient care		**2,228.62**	**29.34**	**6,928.23**	**30.57**
HC.1.1 ; HC.2.1	In-patient curative and rehabilitative care	2,228.62	29.34	6,928.23	30.57
Service of day-care		**46.24**	**0.61**	**421.74**	**1.86**
HC.1.2 ; 2.2	Day cases of curative & rehabilitative care	46.22	0.61	410.06	1.81
HC.3.1	In-patient long-term nursing care	0.02	0.000	-	-
HC.3.2	Day cases of long term nursing care	-	0.00	11.68	0.05
Out-patient care					
HC.1.3 ; 2.3	**Out patient curative and rehabilitative care**	**2,938.09**	**38.69**	**8,245.39**	**36.39**
HC.1.3.1	Basic medical and diagnostic services	270.69	3.56	950.20	4.19
HC.1.3.2	Out patient dental care	196.38	2.59	90.97	0.40
HC.1.3.3	All other discipline-specific specialized curative care	8.58	0.11	301.76	1.33
HC.1.3.9 ;2.3	All other allied health outpatient curative care	2,462.44	32.42	6,902.46	30.46
Home care				-	
HC.1.4 ; 2.4	Services of curative care	0.23	0.00	1.19	0.00
Ancillary services to health care		**160.53**	**2.11**	**2,643.47**	**11.67**
HC.4.1	Clinical laboratory	9.89	0.13	121.49	0.54
HC.4.2	Diagnostic imaging	1.63	0.02	30.27	0.13
HC.4.3	Patient trans port and emergency rescue	0.0013	0.00	0.19	0.00
HC.4.9	All other miscellaneous ancillary services	149.01	1.96	2,491.52	11.00
Medical goods dispensed to outpatients		**1,016.26**	**13.38**	**1,780.94**	**7.86**
HC.5.1	Pharmaceuticals and other medical non-durables	852.01	11.22	949.49	4.13
HC.5.2	Therapeutic appliances and other medical durables	164.25	2.16	831.45	3.73
Total expenditure on personal health care		**6,389.97**	**84.14**	**20,020.96**	**88.35**

Preventive and public health services		**601.76**	**7.92**	**800.75**	**3.53**
HC.6.1	Maternal and child health, family planning and counseling	393.00	5.17	19.53	0.09
HC.6.2	School health services	60.54	0.80	142.94	0.63
HC.6.3	Preventive of communicable diseases	110.67	1.46	130.33	0.58
HC.6.4	Preventive of non-communicable diseases	27.20	0.36	16.66	0.07
HC.6.5	Occupational health care	-	-	56.17	0.25
HC.6.9	All other miscellaneous public health care	10.35	0.14	435.12	1.92
Health administration and health insurance		**602.93**	**7.94**	**1,838.95**	**8.12**
HC.7.1	Government administration of health and health related social security	297.69	3.92	944.40	4.17
HC.7.2	Private health administration and health insurance	305.24	4.02	894.55	3.95
Current expenditure on health		**7,594.65**	**100.00**	**22,660.66**	**100.00**

Table A4 : Current expenditure on health by provider

		1997		2006	
ICHA Code	**Provider**	**RM Million**	**%**	**RM Million**	**%**
HP.1	Hospitals	3,567.93	46.98	11,361.58	50.14
HP.2	Nursing and residential care facilities	0.60	0.01	12.28	0.05
HP.3	**Providers of ambulatory health care**	**2,011.34**	**26.48**	**7,429.50**	**32.79**
HP.3.1	Offices of physicians	1,150.24	15.15	2,862.93	12.63
HP.3.2	Offices of dentists	189.02	2.49	419.42	1.85
HP.3.3	Offices of other health practitioners	36.24	0.48	310.13	1.37
HP.3.4	Out-patient care centres	484.37	6.38	1,249.18	5.51
HP.3.5	Medical and dignostic laboratories	151.21	1.99	91.31	0.40
HP.3.6	Providers of home health care services	0.23	0.00	1.20	0.01
HP.3.9	Other providers of ambulatory health care	0.04	0.00	2,495.32	11.01
HP.4	Retail and sale and other providers of medical goods	998.98	13.15	1,468.10	6.48
HP.5	Provision and administration of public health	564.81	7.44	933.48	4.12
HP.6	**General health administration and insurance**	**445.56**	**5.87**	**1,454.46**	**6.42**
HP.6.1	Government administration of health	133.74	1.76	555.68	5.95
HP.6.9	All other providers of health administration	5.24	0.07	898.78	0.46
HP.6.3 ; 6.4	Other social insurance				
HP.7	Other industries (Rest of the economy)	-	-	-	-
HP.7.9	All other industries as secondary producers of health care	-	-	-	-
HP.9	Rest of the world	5.42	0.07	0.69	0.00
Current expenditure on health		**7,594.65**	**100.00**	**22,660.09**	**100.00**

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