THE THIRD
NATIONAL HEALTH AND MORBIDITY SURVEY
2006
(NHMS III)

HEALTH EXPENDITURE

INSTITUTE FOR PUBLIC HEALTH
NATIONAL INSTITUTES OF HEALTH
MINISTRY OF HEALTH
MALAYSIA
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HEALTH EXPENDITURE

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Institute for Public Health,
Ministry of Health Malaysia.

MESSAGE FROM THE DIRECTOR GENERAL OF HEALTH MALAYSIA

Since independence, Malaysia has achieved remarkable progress economically and socially, notably in the health sector, through a well planned and comprehensive health care delivery system. However, Malaysia's health care system still has to grapple with many challenges, particularly the rising costs of health care and the increasing demands and expectations for quality care by our consumers. In this respect, the Ministry of Health formed the 'National Institutes of Health' to spearhead health research that will provide the body of evidence to help formulate health policies and create new tools to measure health impacts arising from the series of interventions made in the provision of health care. This will lead to an environment of better governance.

The first National Health & Morbidity Survey (NHMS) was conducted in 1986 by the Institute for Public Health (IPH) which is currently one of the research organizations under the umbrella of the National Institutes of Health (NIH). IPH was also given the task of conducting the second NHMS II in 1996 and the current NHMS III in 2006. Data and information gathered by these surveys are consistently and extensively been used by the Ministry of Health in formulating the Malaysian Health Plans and evaluating the intervention programmes.

The publication of the current NHMS III report would generate much interest amongst of all health care stakeholders in the country as well as international health organizations. It is my sincere wish that the data and information generated by NHMS III be fully distributed, discussed and utilized to enhance further the provision of health care in this country. The date generated on the national health and health- related prevalence would be useful in assessing the national health burden as well as allowing for international comparison of health systems achievements.

I would like to take this opportunity to congratulate all those directly involved in the conduct of the survey, namely members of the National Steering Committee, the Advisory Committee, Research Groups and the Working Committee for their untiring efforts in the planning and conduct of the survey as well as publication of the reports. I would like to specially place on record the Ministry's appreciation of the excellent work done by the Principal Investigator and his team and for their dedication and tenacious efforts in spearheading this project to fruition. The Ministry of Health is committed to conduct these National Health and Morbidity Surveys on a regular basis and hope that IPH will continue to provide the leadership in conducting future National Health and Morbidity Surveys in this country.

Thank you.

Tan Sri Datuk Dr Hj. Mohd Ismail Merican
Director General of Health, Malaysia.

MESSAGE FROM THE DEPUTY DIRECTOR GENERAL OF HEALTH (RESEARCH AND TECHNICAL SUPPORT)

The Research and Technical Support Programme of the Ministry of Health emphasizes the need for research in supporting decision making and planning the activities in the Ministry. Only then can we ensure that every decision made either in planning resources or providing services to the people is supported by evidence based information and ensuring better results and outcome. We would certainly prefer local expertise rather than depend on foreign experts to carry out local research.

Under the umbrella of the National Institutes of Health, the Institute for Public Health has actively been involved in conducting research in public health and the National Health and Morbidity Survey is one of the major research conducted by IKU. This is the third time IKU has been given the responsibility to conduct such a mammoth task. I am very pleased that a lot of improvement have been made in the way this survey was conducted based on the experience learnt during the first and second surveys. However, due to the nature of the community survey, not all diseases and health issues were able to be covered in this survey. The research teams had to conduct an extensive literature reviews for relevant and up to date information on the health status of the Malaysian population.

I believe that the information in these reports are extremely valuable to all decision makers at the National State and district levels as well as those interested in the health of the Malaysian population. It can be a tool in providing guidance in developing and implementing strategies for the disease prevention and control programme in Malaysia.

I would like to take this opportunity to congratulate the research team members who have successfully undertaken and completed this survey. I would also like to thank all individuals and agencies who directly or indirectly made the completion of this survey possible.

The Institute for Public Health again gained a feather in its cap by successfully completing the Third National Health and Morbidity Survey.

Datuk Ir. Dr. M. S. Pillay,
Deputy Director General of Health (Research and Technical Support).

MESSAGE FROM THE DIRECTOR OF INSTITUTE FOR PUBLIC HEALTH

This is the third time the Institute for Public Health (IPH) was given the task to conduct the National Health and Morbidity Survey. The frequency of the study is every 10 years and I am proud that the Institute is able to conduct the surveys successfully since it was first initiated in 1986.

I would like to take this opportunity to thank the Director-General of Health Malaysia, Tan Sri Datuk Dr. Hj. Mohd Ismail Merican, and the Deputy-Director General of Health (Research and Technical Support), Datuk Ir Dr.M.S. Pillay, whose invaluable support and guidance were instrumental in the successful completion of the third National Health and Morbidity Survey (NHMS III). Our appreciations are also extended to all members of the Steering Committee and the Advisory Committee of NHMS III.

I would like also to take this opportunity to congratulate the Principal Investigator and his Project Team Members in completing the NHMS III study and the publication of its report. The NHMS III was made possible through the collaboration of all agencies. The meetings, workshops and conferences that were organised, met their intended objectives and the hard work put up by the field staffs, ensured the three months data collection productive and successful.

My sincere gratitude also goes to Dr.Nirmal Singh, the former Director of the Institute for Public Health, Chairman of the Advisory Committee for his continuous support and guidance which contributed towards the successful completion of the study.

I hope the documentation of this report will be beneficial for future reference.

Finally, I would like to thank all those involved in the survey for a job well done, in making the NHMS III a success and finally producing the national report of this survey.

Dr. Yahya Baba,
Director, Institute for Public Health.

MESSAGE FROM THE PRINCIPAL INVESTIGATOR NHMS III

It is indeed a challenging task when the responsibility was given to me to conduct this survey. I learned the hard way and gained a lot of valuable experience in leading the survey. The survey also taught me lots of new techniques and how it should be addressed which is not available in the textbook. In doing so, I also learned the meaning of friendship and honesty, how to manage people involved and manage properly the given budget.

I would like to take this golden opportunity to thank the Director General of Health Malaysia, Tan Sri Datuk Dr. Hj. Mohd Ismail Merican, Chairman of the Steering Committee for giving me the confidence, valuable support and guidance for the success of this survey.

I would also like to thank the Deputy Director General of Health Malaysia (Research & Technical Support), Datuk Ir. Dr. M.S. Pillay as Co-chairman of the Steering Committee for his patience in seeing through the survey until its completion the production of the national report.

My sincere appreciation to current Director of Institute for Public Health (IPH), Dr.Yahya Baba and former Directors of IPH, Dr.Nirmal Singh, Dr.Sivashamugam and Dr.Sulaiman Che Rus for their trust in me to carried out this survey. Their support for the survey has resulted the smooth conduct and success of the survey.

Special thanks to all State Directors, State Liaison Officers, Field supervisors, Scouts, Data Collection Team members for their full cooperation and efforts to ensure the success of the data collection. My appreciation is also extended to the Assistant Principal Investigator, Dr.Mohd Azahadi Omar, Main Research Group members, members of the Working Committee, Data Management group members, Statistics Consultant, Research group members , Research Officers and Research Assistants for their patience and tolerance of my behaviour to ensure the success of the study. Nevertheless I acknowledge a lot more can be done in strengthening the study.

I believe this report will serve as a useful reference for future surveys and helps in improving the local data sources and also add new valuable information for the Ministry of Health to use in the planning process. I also would like to encourage all research members to participate in further analysis of the data and publish the findings in peer review journals.

Thanks to everyone.

Dr. Hj. Ahmad Faudzi Hj. Yusoff,
Principal Investigator, The Third National Health and Morbidity Survey,
Institute for Public Health.

AUTHOR'S STATEMENT

The Out-of-Pocket (OOP) Health Expenditure report for the NHMS III has been produced through strong commitment of the authors and strong support from several institutions such as the Institute for Public Health, Institute for Health System Research, Planning and Development Division and the Family Health Development Division of the Ministry of Health.

In preparing this report, the authors have taken into account the requirements of the Malaysia National Health Accounts (MNHA) to ensure optimal utilization of the research findings.

It has to be noted that the respondents' demographic profile of the OOP Health Expenditure Survey is slightly different from the general respondent profile because the OOP Health Expenditure Survey did not include the respondents below 18 years. Both, the non-weighted and weighted respondent profile are described in the finding. For the purpose of health expenditures analysis, the weighted figures have been used.

The authors welcome any enquiries, comments and suggestions for further improvement of this report.

ACKNOWLEDGEMENT

The authors wish to express sincere gratitude and appreciation to the National Health and Morbidity Survey Steering Committee and the Advisory Group for their continued guidance and support, beginning from the preparation of this survey till the production of this report.

We would like to extend our gratitude and appreciation to the Director of Planning and Development Division, Director of Family Health Development Division and Director of Institute for Health System Research, Ministry of Health Malaysia for their support to this research group.

Our appreciation is also extended to the Director of Institute for Public Health, Director of Institute of Health Management, of the National Institutes for Health, Ministry of Health Malaysia that had generously allowed us to use the facilities in these institutions.

Special appreciation is extended to Principal Investigator, all research teams, working groups, all team members of the Third National Health and Morbidity Survey and others for their dedication and commitment in this survey. Without their earnest effort this survey could not have been successfully carried out and the report completed as scheduled.

We would also like to thank *Bank Negara Malaysia*, Life Insurance Association of Malaysia (LIAM) and General Insurance Association of Malaysia (PIAM) for their contributions toward this study.

Last but not least we would like to convey our special thanks and sincere appreciation to all those who have reviewed, edited and checked this report whose names are too many to mention.

ABSTRACT

In many countries, health care is provided by a complex and shifting combination of government and private sector entities. Policy-makers need reliable national information on the sources and uses of funds for health. This survey has focused on Out-of-Pocket (OOP) component of health expenditure for Malaysia. Health expenditure is all expenditures for activities whose primary purpose is to restore, improve and maintain health for the nation and for individuals during a defined period of time. The objectives of this survey are, to estimate the total household OOP health expenditures by their socio-demographic, socio-economic and insurance ownership distribution as well as distribution by providers and functions of health services. This study has utilized the sampling frame that is maintained by the Department of Statistics, Malaysia where Malaysia was divided into artificially created contiguous geographical areas. A two-stage stratified sampling design had been used with a face-to-face interview carried out by the research team. This report described the OOP health expenditures for those aged 18 and above excluding oral health. The findings showed that the overall expenditures for the year 2006 was RM 3.76 billion with a mean of RM 880 that can also be translated as RM 179 per capita per year. The amount spent is more amongst those in higher income bracket, those living in the urban areas and those who worked as professionals and skilled workers. By ethnic groups, the Chinese was found to spend highest from their OOP compared to the other ethnic groups with a total amount of RM 1.13 billion and a mean of RM 1,264. In terms of providers of service, 88.1% of the total health expenditure was spent at private facilities, 8.5% at government facilities and 3.4% at both facilities. These expenditures were made for various functions of health services namely hospitalization, ambulatory care, self-care, health promotion and training on health. Of these, the highest expenditure was for health promotion totaling RM 2.97 billion (79%) of the total expenditure followed by ambulatory care at RM 0.54 billion (14.4%), hospitalization at RM 0.17 billion (4.5%), training at RM 0.04 billion (1.2%) and self-care at RM 0.03 billion (0.9%). The survey also found that only 18.8% of the Malaysian population had private insurance either for health, life or other types of insurance related to health with a total premium of RM 2.99 billion. From this amount, it was estimated that the premium paid specifically for the medical and health component amounted to RM 1.21 billion.

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ABBREVIATIONS

BNM	*Bank Negara Malaysia*
CCT	Central Coordinating Team
CI	95% Confidence Interval
DOS	Department of Statistics
EB	Enumeration Blocks
FI	Face-to-Face Interview
GDP	Gross Domestic Product
GNP	Malaysian Gross National Product
HES	Household Expenditure Survey
HH	Household
HUKM	*Hospital Universiti Kebangsaan Malaysia*
HUSM	*Hospital Universiti Sains Malaysia*
ID	Individual Identification
LFS	Labour Force Survey
LI	Life Insurance
LIAM	Life Insurance Association Malaysia
LQ	Living Quarters
MENA	Middle East and North Africa
MEPS	Medical Expenditure Panel Survey
MHI	Medical and Health Insurance
MNHA	Malaysia National Health Accounts Unit
MOH	Ministry of Health
NGOs	Non Government Organizations
NHA	National Health Accounts
NHE	National Health Expenditures
NHFM	National Healthcare Financing Mechanism
NHHES	National Household Health Expenditure Survey

NHMS II	The Second National Health and Morbidity Survey
NHMS III	The Third National Health and Morbidity Survey
NIA	National Income Accounts
OECD	Organization of Economic Cooperation and Development
OOP	Out-of-Pocket
PHI	Private Health Insurance
PIAM	General Insurance Association of Malaysia
PPS	Probability Proportionate to Size
RM	*Ringgit Malaysia*
SHA	System of Health Accounts
SQL	Structured Query Language
TCM	Traditional and Complementary Medicine Centre
TEH	Total Expenditure on Health
USA	United State of America
WHO	World Health Organization

GLOSSARY OF TERMS

Ambulatory Care
Services of outpatient curative care which comprise of medical and paramedical services delivered to outpatient during a period of curative care. Outpatient health care comprises mainly services delivered to outpatient by health personnel in establishments of the ambulatory health care industry.

Health
A state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity (Source: WHO)

Health Expenditures
Expenditure made 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 Promotion
Out-of pocket health expenditure incurred by both sick and healthy individuals to improve and enhance their health status. In this context, health promotion is activities that the individuals viewed as promoting and enhancing health, that include purchase of medical equipments, food supplements and health education services and products.

Hospitalization
Comprises of medical, paramedical, allied, traditional and alternative health care services delivered to inpatients during an episode of curative care for an admitted patient. It includes overnight stays and it is usually not less than 24 hours after admission.

Insurance Premium
Insurance premium means total money paid (contribution) for insurance policy per year by the respondent above 18 years old. This is inclusive of life, medical and other forms of insurances such as executive card, which also provides some kind of health coverage.

Out-of-Pocket
Payments borne directly by an individual without the benefit of insurance. This includes any cost sharing and informal payments to health care providers, pharmacies and traditional healers.

Self Care
Component of health function applied to those who are sick but did not seek treatment at any health care facilities.

Training on Health
Education and training on health attended by individuals which includes public and private training institutions such as universities, allied health colleges, medical schools and homeopathy training centers.

1. INTRODUCTION

Health systems of nations whether created through conscious design or arrived at through evolution, produce benefits for the nations and their citizens. A health system mobilizes and channels resources into institutions and uses them for individual or social consumption. This consumption of goods and services produces benefit to the population that results in improvement of health. The performance of a health system is reflected by the health of the population and it must not only be assessed in terms of the level of benefit achieved, but also by their distribution in societies. Information on financial state of a system enables governments to develop national health policies that ensure effective and efficient distribution of resources and achieving their health system goals. Further, evidence-based information concerning the financing of the health care sector and the utilization of funds is a cornerstone for health policy development.

Most countries around the world are faced by the challenges of addressing the issue of escalating health care costs. Inability to address this important issue will result in inadequate provision and limitation in access to essential health care services. In order for governments to address this important issue that is closely linked to efficient and effective resource allocation, it is important that they understand both the amount and the characteristics of health care spending in their country.

As early as in the 1960's, much effort has been made particularly amongst the developed nations to report health expenditures in a systematic way. The main idea was to design a system that could facilitate the successful implementation of health system goals by its stewards. Consequently there is a rising demand for a core set of financial data provided by National Health Accounts as well as by international comparisons of health care spending. The way in which financing is displayed in the National Health Accounts (NHA) enables countries to understand the roles of government, industry, households and external organizations in the purchase of health care. NHA trace for any given year all the resources that flow through the health system over time and across countries.

National Health Accounts is a method of gathering national health financing and expenditure data from both the public and private health sub-sectors, including consumers. NHA describes national health spending as an absolute and relative term. In relative term, health spending is described relative to national resources, proxy by Gross Domestic Product (GDP). It is a practical and useful approach for understanding health care financing issues in low and middle income countries. Time series information permits the use of NHA as a standard management tool for situation analysis, planning, monitoring and evaluation purposes. This includes the assessment of a health system's effectiveness, the monitoring of the impact of recently introduced health reforms, and the reporting of structural changes as well as developments generated by new policies.

It is never possible to estimate health expenditure perfectly without error. Health expenditures are commonly defined as all expenditures for prevention, promotion, rehabilitation and care; population activities; nutrition; and emergency programs for the specific objectives of improving or maintaining health (Swedish International Development Cooperation Agency, Health Division Document 2001). Health includes both the individuals as well as of populations. All countries, no matter how sophisticated their systems, combine "hard" financial figures with "soft" estimates and extrapolations of hard-to-measure items to estimate their national health expenditures. The methodology used to derive at these estimates varies between countries, and to some extent, between regions.

In Malaysia, several health expenditure surveys such as National Health Morbidity Survey II (NHMS II) by the Ministry of Health, Household Expenditures Survey by the Department of Statistics, and National Household Health Expenditures Survey by University of Malaya were used to estimate the national health expenditures. All the three surveys provided information on Out-of-Pocket health care expenditures for Malaysia. Ten years have elapsed since the conduct of NHMS II. During the preparatory phase of the NHMS III, the OOP health care expenditure component of the NHMS II was reviewed in the development of the OOP Health Care Expenditure Questionnaire to suit the requirement of the MNHA framework. The findings of this survey are expected to provide information on OOP component of the national health expenditures. It answers the question of who provide and to what extent services are provided to people who pay from out of their pocket. In addition, it describes the types or functions of services that are provided.

Based on source of financing, for the year 2002, the MNHA estimate for OOP health expenditure for Malaysia was 33% of the total national health care expenditure (Planning and Development Division 2006). As contribution from OOP is high, there is a need for accurate and detail information on this component to ensure credibility of the MNHA. Through such information, weaknesses as well as opportunities within the health system is identified and appropriate actions can be made for improvement in the performance. The NHMS III shall be one of the main data source in estimating Malaysia's national health expenditure using the international framework adapted from The Organization of Economic Cooperation and Development (OECD).

2. LITERATURE REVIEW

2.1 Out-of-Pocket Health Care Expenditure

One of the major health challenges faced by many countries world wide is the escalating health care costs. The reasons for this escalation in health care costs are complex and many, but include the changing pattern of population demography and diseases, rising rates of health care utilization stemming from increased education, better transportation, increased expectations, advancement in medical technology and lack of incentives for cost-containment. This pressure of increasing costs of medical and health services has led countries to embark on various cost-containment measures and critical reexamination of existing health care systems. Such moves undoubtedly require countries to have a good understanding of their health financing mechanism.

Generally, a mix of four sources of financing are used to provide health services. Health financing can be sourced through general taxes, compulsory contributions to social security (public and/or private), voluntary contributions to private formal or informal insurance schemes and direct out-of-pocket payments.

According to MNHA study, private household out-of-pocket expenditure includes payments borne directly by a patient without being reimbursed by the employer, private insurance or other sources. Out-of-pocket payment also includes various form of cost-sharing such as user charges, co-payment, co-insurance, deductibles and also informal payments to health care providers, pharmacies and traditional healers made by patients. The payment of a private insurance premium, contribution to

public and private social insurance, or tax payment whether health care is received or not are not considered as out-of-pocket payment (Planning and Development Division 2006).

2.2 Global Trend on Out-of-Pocket Health Care Expenditure

As the nation's health care expenditures increase, the total out-of-pocket expenses paid by families and households also have increased in recent in recent years (Kim 2000), and the shares of health care spending by government and employers also have increased (Kim 2000). As their expenses for health care increases, the government, employers, and insurers are trying to shift their growing portion of the cost to families and households by increasing co-payments, deductibles and premiums. In addition, employers are discontinuing certain previously covered services to reduce their costs, which shift the burden to families and households (Kim 2000).

How much people should pay out-of-pocket for health care is a much debated issue in health policy. Current proposals suggest that increasing the amount that people must pay directly out-of-pocket for their health care at the point of service will encourage them to make more efficient and better health care decisions, leading to an overall reduction in health care expenditures. Up-to-date information with regard to the composition of expenditure according to sources of financing is limited and little systematized. The principal information problem is the measurement of out-of-pocket household contributions.

The United States National Health Expenditures (NHE) release in 2006 reported that the OOP Payments for US in 2004 were 15.1% of its total health expenditures (Planning and Development Division 2006). The OOP spending growth is expected to remain essentially flat in 2005, and then decrease substantially due to Medicare Part D coverage in 2006 and this is expected to decline to 12.6% by 2015. Earlier in another survey conducted in 2003, the Medical Expenditure Panel Survey (MEPS) reported that the share of total spending paid out-of-pocket for all people was 20% of the total health expenditures in the United States while the remaining 80% was paid by health insurance and other sources. The survey also showed that the average share paid out-of-pocket by people with health spending was 35%. This percentage is higher than the 20% figure share of total spending paid out-of-pocket because health expenditures are not distributed evenly across the population.

In several selected developed countries that are members of the Organization of Economic and Development Cooperation (OECD) such as United Kingdom, Spain, France, Italy, and Denmark the household health expenditures represented between 8.4% and 30% of total health spending. Although Korea is included as one of the OECD countries, its Household OOP health expenditures as a percentage of the total health spending for 2001 was 37.0% which was still one of the highest amongst the OECD countries. However this amount was much lower than the amount spent from Household OOP in 1999 which was 45.1% of Korea's total health spending (Jeong 2007).

These results were in contrast with those of the Latin America and the Caribbean region. The household expenditures in this region in 1991 represented around 57% of national health expenditure, while government expenditures represented the remaining 43% (ILO, PAHO 1999).

In 1999, eight countries in Middle East and North Africa (MENA) region jointly launched National Health Accounts (NHA) studies. They are Djibouti, Egypt, Iran, Jordan, Lebanon, Morocco, Tunisia

and Yemen. The MENA NHA findings revealed that health funds originate primarily from the private sector (61%) of total health expenditures. The single largest source of health expenditures is households that on average, account for approximately half of all national health expenditures. In many instances, households pay more for health care than their respective country governments, which average 33% of total health spending. Most OOP spending goes towards pharmaceutical drugs (46%) and secondly to outpatient services in the private sector that contributed approximately 35% (De & Ibrahim 2001).

In a pilot study conducted for the NHA project in India (1995-1996), it was reported that households are the largest financiers of health services, providing 54% of the total spending on health care (Charu 2001). In Bangladesh, the national health expenditures are funded from several sources. The Bangladesh National Health Accounts 1998 reported that the largest single source of health care financing is direct payments by households, which accounts for 63% of the total. Government financing is only the second largest source of funds, contributing 34% of the total. NGOs, private insurance and employers together, account for less than 34% of the total financing (Bangladesh National Health Accounts 1998). Study on OOP health expenditure in India Sri Lanka for 2002 showed that it is approximately 41% of its total health expenditures (Ministry of Health, Nutrition and Welfare 2002).

Closer to home, Philippines reported that in 2002, the percentage of OOP health expenditure was 47.5% of its total health expenditures and this has been a consistent finding since 1991 although they were slightly lower between the years 1997 – 2001 ranging from 40.5% to 46.5% (Philippines National Health Accounts 2002). The government spending in 2002 reduced to 30% of the total health expenditures compared to 40.6% in 2000. A slightly different situation is observed in Thailand whereby in 1994, the OOP health expenditure was reported to be 44.5% of the total health spending but this has gradually declined over several years and by 2001 the OOP health expenditure as a percentage of the total health spending was 33.1% (Tisayaticom et al. 2005).

2.3 The OOP Health Expenditure in Malaysia

In Malaysia, a number of studies have been conducted for the past two decades to garner more information in the process of initiating health sector reform. Studies such as Malaysia's Health Services Financing Study (1985), National Health Security Fund Study (1989), Study on the Corporatization of General Hospitals in Malaysia (1995), National Household Expenditure Study and National Health Morbidity Survey II (1996) were studies that focused on the issues of health financing and expenditures.

The National Health Morbidity Survey II has provided information on the proportion of the population utilizing public and private care and their ability to pay, as a function of their income on an individual and household level. In addition it also provided information on the OOP expenditure for various sub-groups within the Malaysian population such as the indigent, the rural and urban population, and those in different employment categories. The national health expenditure findings from the NHMS II is a significant milestone in understanding the true pattern of the national health expenditures because it provided a clearer picture of the OOP component of the national health expenditure that was lacking in most of the other studies on the national health expenditures and financing.

The NHMS II Study showed that the estimated total OOP health expenditure for the whole population

(the estimated 21.2 million people) was RM 3.82 billion (CI: RM 3.30 – RM 4.33 billion) amounting to 1.3% of 1996 Malaysian Gross Domestic Product (GDP) or 1.4% of Malaysian Gross National Product (GNP). The per capita OOP health expenditure for Malaysia was estimated to be RM 180.00 (CI: RM 156.7 – RM 203.9) which was 2.7% of per capita annual income based on the Economic Planning Unit's income survey data estimation. This OOP expenditure in NHMS II also includes transportation costs for health and dental health.

The largest share of OOP expenditure went to private facilities (61.6%). Of these, RM 1.2 billion (51.0%) was spent at private clinics, RM 0.47 billion (19.8%) was spent for private hospitalization and RM 0.69 (29.2%) was spent at private hospital outpatient care. The remaining 38.4% were spent at government facilities (11.7%), self treatment (10.9%), eye care (6.4%), dental care (3.0%), traditional and alternative medicine (1.2%), health appliances (0.3%), and others (4.9%).

Apart from the NHMS II Study in 1996, the Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya conducted a National Household Expenditure Survey (1996). The study found that, in 1996, an estimated RM 2.8 billion was spent from households' OOP for health. Of these, 62.4% was spent at private facilities whereby 61% of this amount was spent for curative care, mainly for acute conditions. Households are paying a large quantum for health. The annual household health expenditure for 1996 is greater than the operating budget of the Ministry of Health, which was RM 2.2 billion in 1995.

In 2001, the Ministry of Health, supported by the Economic Planning Unit of the Prime Minister's Department and funded by United Nations Development Programme, embarked on the Malaysia National Health Accounts Unit (MNHA) Project to establish NHA for Malaysia using the Organization of Economic Cooperation and Development (OECD) countries framework. The first report on Malaysia National Health Accounts was published in 2006. The figures were for health expenditures study for the years 1997 – 2002. The MNHA was developed based on the System of Health Accounts (SHA) (A system of health accounts: health 2000) classification of health accounts for international comparison. The data collected were from many sources, processed separately and disaggregated into entities of health expenditure by source of financing, health expenditure by providers of health service, and health expenditure by functions of health services.

The study reported that for 1997, the estimated total expenditure on health (TEH) was RM 8 billion (equivalent to 2.9% of the gross domestic product or GDP) and this has increased to RM 14 billion (3.8% of GDP) in 2002, which represented an average increase of 11%. The per capita spending on health was RM 379 in 1997 and RM 555 in 2002. From 1997 to 2002, the proportion of public to private sector expenditure leaned slightly more towards the public sector, changing from 50: 50 to 56: 44 of TEH. In 2002, the total public sector health expenditure accounted for 2.1% of GDP while the total private sector health expenditure accounted for 1.7% (Planning and Development Division 2006).

As experienced by many countries world wide, the private household out-of-pocket expenditures were the most difficult item to estimate. The expenditure included data captured from various sources such as National Health and Morbidity Survey II, National Household Health Expenditure Survey (NHHES), Household Expenditure Survey, Department of Statistics (HES, DOS) National Income Accounts (NIA), MOH and University Hospitals' user charges and others. The data captured included those from traditional and complementary medicine and cost of drugs bought over the counters (Planning and Development Division 2006).

In 2002, the MOH Malaysia contributed the highest percentage of the total health expenditure (48.0%). This was followed by private household OOP expenditure (33.0%), private insurance enterprises, other than social insurance (6.0%) and all other corporations other than health insurance (5.0%). Most of the expenditure from household OOP went towards hospitals (39.0%), followed by retail sale and other providers of medical goods (30.0%) and providers of ambulatory care in a non-hospital setting (30.0%).

2.4 Private Health Insurance

Private health insurance (PHI) is optional and is usually purchased on a voluntary basis by the insured. Under the PHI, there is an agreement by the insurer to pay for the medical benefits provided to the policy owner in exchange for payment of premiums. PHI is one of the important sources of financing particularly for many developed countries such as Austria, Belgium, Denmark, France and USA. PHI premiums are much more likely to be rated according to individual risk of getting illness and this also known as risk-rated. Occasionally the premium is flat rated based on a community risk of getting illness as in Australia. Community-rated premiums are the same for all subscribers in that group. The size of the community can constitute a small community or as large as the whole country.

As for Malaysia, under the Insurance Act 1996, *Bank Negara Malaysia* (BNM) is empowered to revise any premium rates of the private insurance. According to its 2002 report, a total of 44 private insurers were licensed under the Act. Private insurance business is becoming important as a source of funding for the healthcare industry. As the premium for the private insurance is risk-rated, it is expected that private insurance is more attractive to the young and middle income group (*Bank Negara Malaysia* 2004).

There are 3 types of private insurance which provide some form of medical and health coverage namely (i) specific health and medical policies which is known as MHI, (ii) life insurance policy (which may also covers medical and health), and (iii) other insurance scheme (with multiple plans which may includes medical and health as part of the benefit). Data from Life Insurance Association Malaysia (LIAM) showed that 8.3% of the life insurance premium (category (ii)) is used to pay for health coverage. Insurance industry in Malaysia uses the term "medical and health insurance" (MHI) as in category (i) which according to BNM is known as "*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*" (*Bank Negara Malaysia* 2005).

Life insurers have been allowed to sell stand-alone medical and health insurance policies with the coming into force of the Insurance Act 1996 in January 1997. Prior to this, only general insurers were allowed to sell stand alone MHI policies while life insurers were selling it as a rider to life insurance. However since January 1997, life insurers were also allowed to sell MHI policies.

Since 1998, the BNM started to classify the insurance which provide Medical and Health benefits (MHI) into 4 broad coverage namely (i) medical and health expense insurance, (ii) dread disease benefits, (iii) disability income insurance and (v) others. Only categories (i) and (iv) are considered as true medical benefits. Categories (ii) and (iii) do not cover medical and healthcare benefits. According to the MNHA study, it is estimated that categories (i) and (iv) constitute 83.2% of the total MHI premium paid for the medical and health services (Planning and Development 2006). The dread disease benefit is a

lump sum benefit upon diagnosis of critical illness. Disability insurance provides income stream to replace a portion of the insured person's pre-disability income (*Bank Negara Malaysia* 2002).

Although the private health insurance contribution towards health expenditure in Malaysia is still small (only 6% in 2002), the trend has shown that this figure is increasing year by year (Planning and Development 2006). *Bank Negara Malaysia* estimated that 3.8 million Malaysians (15.5%) were covered with MHI policies, and it is growing rapidly (*Bank Negara Malaysia* 2004).

3. OBJECTIVES

3.1 General Objective

To estimate the total household out-of-pocket health expenditure and its distribution by socio demographic, economic factors and by providers and functions of health services.

3.2 Specific Objectives

3.2.1 To determine the quantum of household out-of-pocket expenditure for health.

3.2.2 To determine the distribution of household out-of-pocket expenditure by socio-economic and demographic factors, providers and functions of health services (according to NHA framework).

3.2.3 To determine the distribution of households with private health insurance by socio-economic and demographic factors and the quantum of premium made.

4. METHODOLOGY

4.1 Scope of the Study

Research problems, scopes and main issues to be included in NHMS III were obtained from discussions and feedbacks from Ministry of Health state health managers, as well as experts from the local universities and individuals. The main research team members of the NHMS III reviewed and studied closely the feasibility and practicality of the suggested research topics for this community-based household survey. Extensive literature review was initiated. Technical and research experts in relation to the identified research areas were consulted for further advise and comments. The main research group used the following criteria in considering the suggested scopes for this survey:

i. The issue/problem is current or has potential high prevalence.
ii. The issue/problem is focused on disease/disorders associated with affluence, lifestyle, environment and demographic changes.
iii. The issue/problem is causing physical, mental or social disability.
iv. The issue/problem has important economic implications.
v. It is feasible to implement interventions to reduce the problem.
vi. The information related to the issue/problem is not available through the routine monitoring system or other sources.
vii. The information is more appropriately obtained through a nation-wide community survey.
viii. It is feasible to obtain through a nation-wide community-based survey.

The short-listed research topics then presented to the Advisory Group Members for further deliberation and decisions. These topics were later refined by the research team members based on the decisions made at the Advisory Committee meeting. It was tabled to the Steering Committee and 18 research topics were approved to be included in the NHMS III.

4.2 Sampling Design and Sample Size

In calculating the sample size, stratification and sampling design, advice was sought from the Methodology Division Department of Statistics Malaysia as well as from several other biostatistics consultants.

4.2.1 Sampling frame

The sampling frame for this survey is an updated until 2004; an effort undertaken prior to the implementation of Labour Force Survey (LFS) 2004. In general, each selected Enumeration Blocks (EB) comprised of 8 sampled Living Quarters (LQ). The EBs was geographically contiguous areas of land with identifiable boundaries. Each contains about 80-120 LQs with about 600 persons. Generally, all EBs are formed within gazetted boundaries.

The EBs in the sampling frame was also classified by urban and rural areas. The classification into these categories was in terms of population of gazetted and built-up areas as follows:

Stratum	Population of gazetted areas and built-up
Metropolitan	75,000 and above
Urban Large	10,000 to 74,999
Urban Small	1,000 to 9,999
Rural	The rest of the country

For sampling purposes, the above broad classification was found to be adequate for all states in Peninsular Malaysia and the Federal Territories of Kuala Lumpur and Labuan. However, for Sabah and

Sarawak, due to problems of accessibility, the rural stratum had to be further sub-stratified based on the time taken to reach the area from the nearest urban centre.

For the purpose of urban and rural analysis, Metropolitan and Urban Large strata are combined together thus referred to as 'urban' stratum, while for Urban Small and the various sub-divisions of the rural areas they are combined together to form to a 'rural' stratum.

4.2.2 Sampling design

A two stage stratified sampling design with proportionate allocation was adopted in this survey. The first stage sampling unit was the EB and within each sampled EB, the LQs were selected as second stage unit. One LQ was estimated to comprise of 4.4 individuals. All households (HH) and persons within a selected LQ were studied.

4.2.3 Sample size

The sample size was determined based on 95% Confidence Interval (CI) and the following factors were taken into consideration:

a) Expected prevalence rate

The prevalence rate of the health problems for Malaysia obtained from the National Health and Morbidity Survey II (NHMS II) were used to estimate the overall sample size. Using the previous finding of 10% prevalence rate, the initial sample size at the state level was calculated in order to come up with overall sample size. The size was further apportioned for each state using the probability proportionate to size (PPS) method.

b) Response rate of the NHMS II

The response rates, which ranged from 83 to 97% for the NHMS II of each state, were taken into consideration in the course of the determination of sample size.

c) Margin of error and design effect

As the factors of precision and efficient of the survey are paramount, the decision reached for the targeted margin of error is 1.2 and the design effect valued at 2. These values were used at the initial stage of the calculation of the sample size of each state.

The survey findings addressing the specific objectives of this survey are expected to be used for state level programmed planning. Thus, the calculation for the sample size has taken into consideration that the data is to be analyzed at the state level.

In addition to the major factors mentioned earlier, the availability of resources, namely, financial and human resources, and the time taken to conduct this survey also becomes part of the process of the determination of sample size.

4.3 Preparation of Field Areas and Logistic Support

A number of state liaison officers were recruited in preparation for the survey proper. Strong networking with state liaison officers and District Health Officers (MOH and local authorities) from the areas sampled for the survey was established. Field scouts were mobilized from these areas to identify and tag the LQ's selected for the survey, as well as to inform the community and related government agencies of the importance and schedule of the planned survey. State liaison officers were also assisting Field Supervisors in the arrangement of transportation, accommodation and other logistics for the survey teams.

4.4 Method of Data Collection

4.4.1 The questionnaire

A bi-lingual (*Bahasa Malaysia* and English) pre-coded questionnaire was designed, pre-tested and piloted prior to the survey. All research topics for the questionnaire are arranged into modules ranging from A to Z. Topics that are similar area are arranged into sub-modules under a particular module. Questions comprised of both close ended and open ended. The questions in each module were tailored to the target group.

The face-to-face interview (FI) questionnaires consisted of two subtypes, i.e., the household questionnaire (orange) to be answered by the head of the household of the LQ selected, and the individual questionnaire such as health expenditure (B1), hospitalization (B2) and private insurance (B3) to be answered by each member of the household. Individual questionnaire were developed, to cater for aged 18 years old and above (purple).

Those aged 18 years and above were required to answer their respective questionnaires directly through the interview.

All the FI questionnaires have a consent form to be read and signed by the respondent. The outside cover of all questionnaires had to be filled with a unique individual identification (ID) number by the enumerator. The enumerator also had to fill his or her ID as well as the code for the outcome of the interview as part of the quality assurance process.

4.4.2 The interview

As far as possible, all adult members who qualify from the selected LQ's were interviewed by the data collection team members. Parents or guardians were expected to provide information for their children aged 12 years and below (primary school). Interviews commenced early in the morning and lasted till late in the evening. A trained non-medical or paramedical interviewer conducted the interview. Where an interview had been unsuccessful due to the absence of the respondent at the selected LQ, repeat visits were conducted after leaving messages with neighbours or by other means for an appointment at a later date. A household member can only be classified as a non-responded after 3 unsuccessful visits.

4.5 Field Preparations

Two main survey implementation groups had been formed: the Central Coordinating Team (CCT) and the field team. The CCT's main role was to monitor and coordinate the progress of implementation and provide administrative support in terms of financial and logistic arrangement for the field survey. The Field Teams were responsible to oversee and manage the field data collection process as well as undertake quality control.

The field data collection was conducted throughout Malaysia simultaneously, spanning within a continuous period of 4 months starting from April 2006. Teams were organized to move into 5 regions in Peninsular Malaysia, 2 regions in Sabah and 4 regions in Sarawak for data collections.

4.5.1 Pilot study

A pilot study was conducted on a sample of EB's (not included in the NHMS III) about 2 months prior to the actual nationwide survey. It was conducted in three different areas in and around the Klang Valley, namely Sepang, Klang and Bangsar. The population in these locations comprised of three distinct socio-demographic strata that are rural, semi-urban and urban respectively. The pilot study focused on the following aspects of the survey such as testing of the questionnaire, testing of the field logistic preparation, testing of the scouting activities and testing of the central monitoring and logistic support.

4.5.2 Training of data collection teams

A two weeks training course was held for field supervisors, team leaders, nurses and interviewers to familiarize them with the questionnaire, develop their interpersonal communication skills and appreciate the need for good teamwork. Briefing on the questionnaire, mock interview in the classroom and individual practice under supervision was conducted during the training.

4.6 Quality Control

Quality control procedures for the data collection were done at two stages, field and central. Detail description of quality control process has been described in NHMS III protocol.

4.7 Data Management

4.7.1 Data screening

The following data screening exercises had been conducted at field and central levels prior to data entry:

a) Field data screen by each interviewers at the end of his/her interview.
b) Field data screen of each question by peer interviewers through exchanging questionnaire booklets.
c) Field data screen by team leaders and field supervisors.

d) Central data screening of the questionnaire by the quality control team.

4.7.2 Data entry

The data entry system was developed to record the information collected during the data collection phase. It is a web based system that allows multiple simultaneous accesses to the database. The NHMS III used a double manual data entry method and any discrepancy between both entries was verified by the supervisors. The data entry started simultaneously with data collection (first week of April 2006) and was completed at the end of January 2007. The data entered was stored in the database according to the module. The databases were designed using Structured Query Language (SQL) which is a standard language for relational database management system.

4.7.3 Data analysis

Data analysis was done by exporting the data into other analysis tools such as Microsoft Excel, SPSS and STATA. The data in database (text form) was exported to the Microsoft Excel form then to the SPSS and STATA. The raw data was cleaned and analysed according to the terms, working definition and dummy table prepared by the research groups. All the analysis process were monitored and advised by the NHMS III Statistics Consultant.

4.8 Definition of Terms / Variables

i. OOP health expenditure per person per year means total OOP health expenditure per person per year multiply to a constant.
ii. OOP total household health expenditure means summation total OOP health expenditure per person per year multiply total household members.
iii. Hospitalization expenditure per person per year means total health expenditure per person per year multiply to a constant.
iv. Hospitalization expenditure per household means summation total hospitalization expenditure per person per year multiply total household members.
v. Insurance premium means total money paid for insurance policy per year.

5. FINDINGS

5.1 Respondent Profile

The total number of eligible respondents who answered to questions from Module B was 34,539. From this number, males responded more with 52.3%. By ethnic groups' category, Malays were the biggest contributor with 61.5%, followed by other bumiputeras (14.6%), Chinese (13.6%), Indians (6.9%) and others (3.5%). Malaysian citizens were the majority of respondents with 96.9% while non-Malaysian made the rest (3.0%).

The breakdown of respondents based on the household income groups showed about 79% fell under

the RM 3,000 and below category. The major contributor was those who earned RM 1,000-RM 1,999 with 28.2%. The respondents which fell under the RM 4,000 and above category made up only 10.5%.

The urban population was the majority of contributors with 54.5% whereas the rural population contributed 45.5%. Housewives, service workers and the unemployed were the highest contributors with 23.5%, 16.6% and 9.9% respectively. Meanwhile, the senior officials and managers were the lowest with 2.0%. Breakdown by states showed that the highest number of respondents came from Selangor (15.5%), followed by Sabah (14.9%) and Johor (10.8%). The least number of respondents came from Perlis (0.8%), followed by Labuan (1.7%) and Malacca (2.2%). Breakdown by age groups showed that those aged 25–49 years were the highest with 53.5% while those aged 66 and above were the least with 8.4%.

The findings of this study would be based on weighted figures to the Malaysian population.

5.2 Out-Of-Pocket (OOP) Health Expenditure for Ages 18 and Above

For the year 2006, the total Out of Pocket (OOP) health expenditure for ages 18 and above, excluding oral health was RM 3,757,035,662. The mean OOP health expenditure among those who were paying was RM 880 per person. This translated to RM 179 per capita OOP health expenditure per year.

This OOP health expenditure included payments for the following functions of care:

i. Hospitalization
ii. Ambulatory Care
iii. Self Care
iv. Health Promotion
v. Training on Health

The overall OOP health expenditure by functions is shown in Table 5.1. This expenditure was made at various providers of care, whether at public or private sector.

Table 5.1: Overall OOP health expenditure by functions

Functions	Total sum, RM (000,000)	Percentage (%)
Hospitalization	170.25	4.5
Ambulatory care (non-hospital)	540.70	14.4
Self-care	32.06	0.9
Health promotion	2,970.46	79.1
Training on health	43.57	1.2
Total	3,757.04	100.0

5.2.1 OOP health expenditure by gender

The breakdown for OOP health expenditure based on gender was RM 1,582,253,729 (42%) for males with a mean of RM 926 (CI: RM 923 – RM 928) and median of RM 420 whilst for females it was RM 2,174,781,931 (58%) with a mean of RM 849 (CI: RM 846 – RM 850) and median of RM 396 (Figure 5.1).

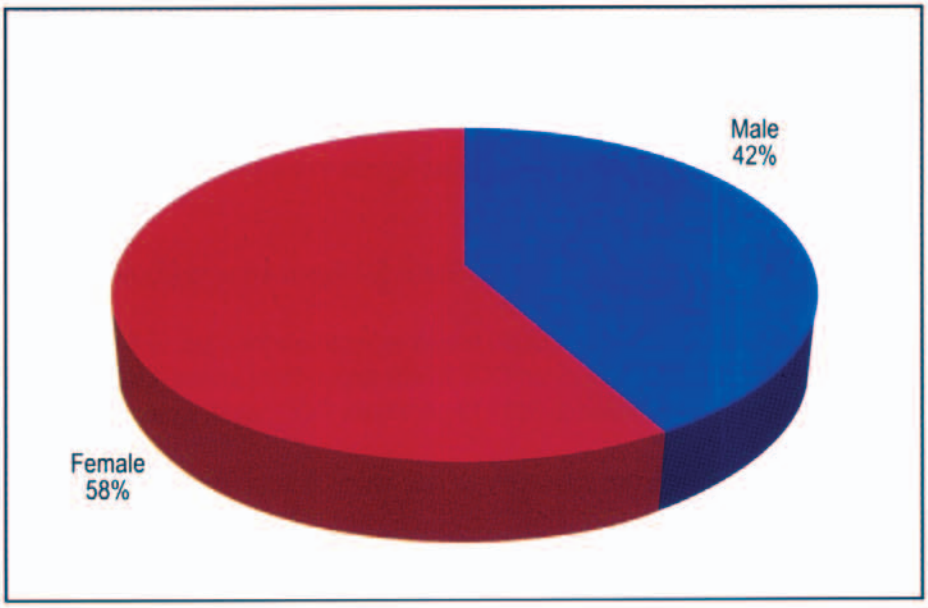

Figure 5.1: OOP health expenditure by gender

5.2.2 OOP health expenditure by ethnic group

Breakdown by ethnic groups showed that the total OOP health expenditure for Malays was RM 1,978,223,056 with a mean RM 790 (CI: RM 788 – RM 791) and median of RM 360, for Chinese it was RM 1,127,066,738 with a mean of RM 1,264 (CI: RM 1,260 – RM 1,267) and median of RM 660, for Indians it was RM 365,899,530 with a mean of RM 941 (CI: RM 936 – RM 947) and median of RM 480. For other bumiputeras, the OOP health expenditure was RM 185,689,792 with a mean of RM 550 (CI: RM 547 – RM 553) and a median of RM 240 whilst for other ethnic groups the total OOP health expenditure was RM 100,156,545 with a mean of RM 675 (CI: RM 670 – RM 680) and a median of RM 360.

In general, the mean OOP was highest for the Chinese followed by the Indians, the Malays and the least was from other bumiputeras. The distribution of total health expenditure by ethnic groups is shown in (Figure 5.2).

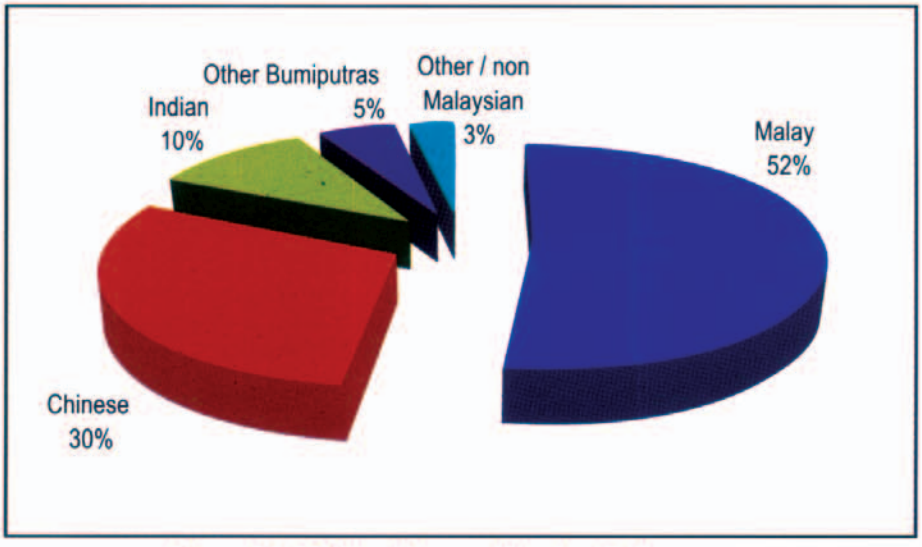

Figure 5.2: OOP health expenditure by ethnic groups

The study also showed that the non-Malaysian contributed RM 122,240,341 to total OOP Health Expenditure which was 6.4% of total amount spent on health in the country (Figure 5.3).

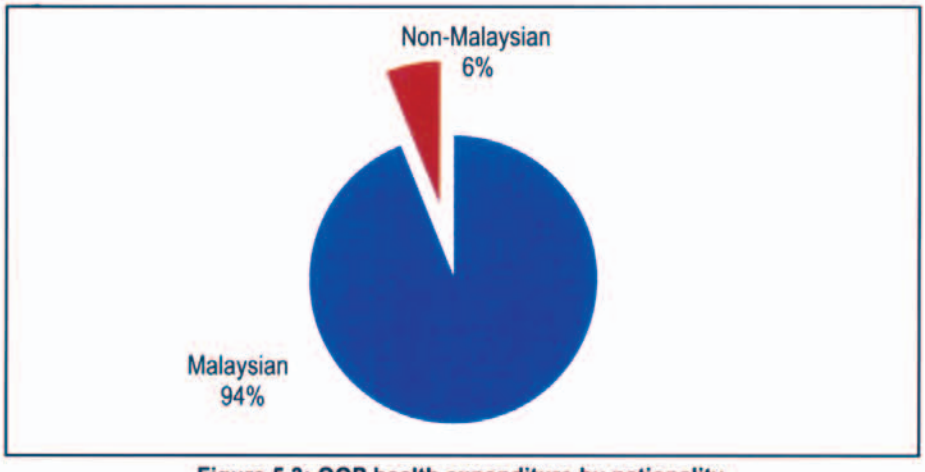

Figure 5.3: OOP health expenditure by nationality

5.2.3 OOP health expenditure by location strata

By location, the urban group paid more from OOP for their health whereby their total OOP health expenditure was RM 2,926,091,191 with a mean of RM 1,019 (CI: RM 1,017 – RM 1,020) and median of RM 600, as compared to the rural group that paid RM 830,944,471 with a mean of RM 594 (CI: RM 592 - RM 596) and a median of RM 240. (Figure 5.4)

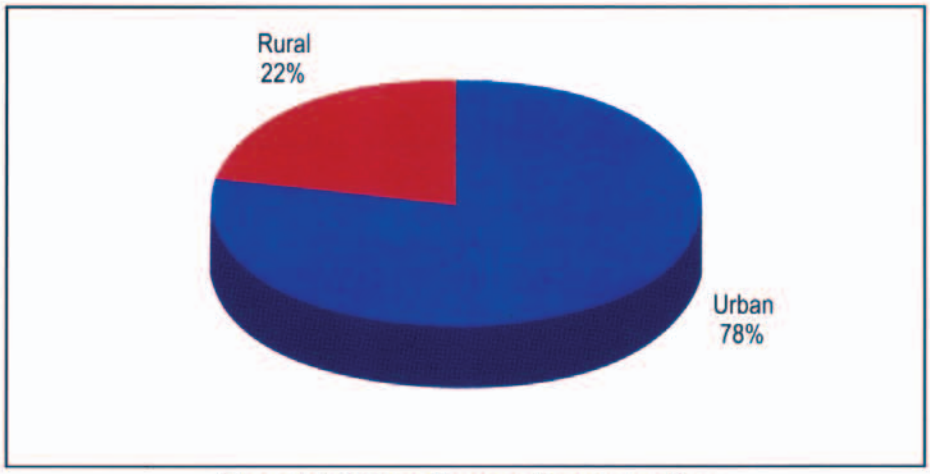

Figure 5.4: OOP health expenditure by location

5.3 Mean Household OOP Health Expenditure

5.3.1 Mean OOP health expenditure by age group

The mean OOP health expenditure was the highest among the 50-65 years age group (RM 950), followed by the 25-49 years (RM 919), 66 years and above (RM 808) and lowest amongst the 18-24 years age group (RM 530). (Figure 5.5)

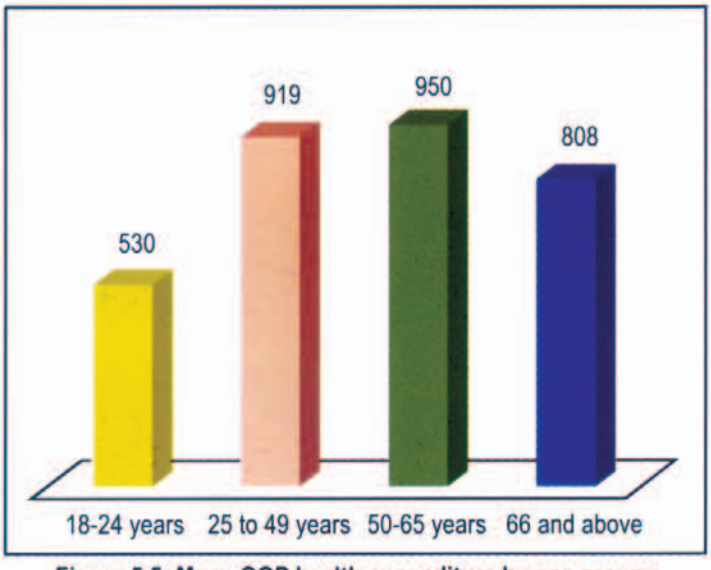

Figure 5.5: Mean OOP health expenditure by age groups

5.3.2 Mean OOP health expenditure by occupation

By occupation, the professionals and the skilled workers were paying more for OOP compared to those manual workers and the unemployed. Senior officials and managers, professionals and technical

workers paid the most for their OOP with a mean of RM 1,843, RM 1,295 and RM 1,109 respectively. The categories of occupation which paid the least for their OOP were skilled agricultural and fishery with RM 470, elementary occupations with RM 544 and craft and related trade workers with RM 589. (Figure 5.6)

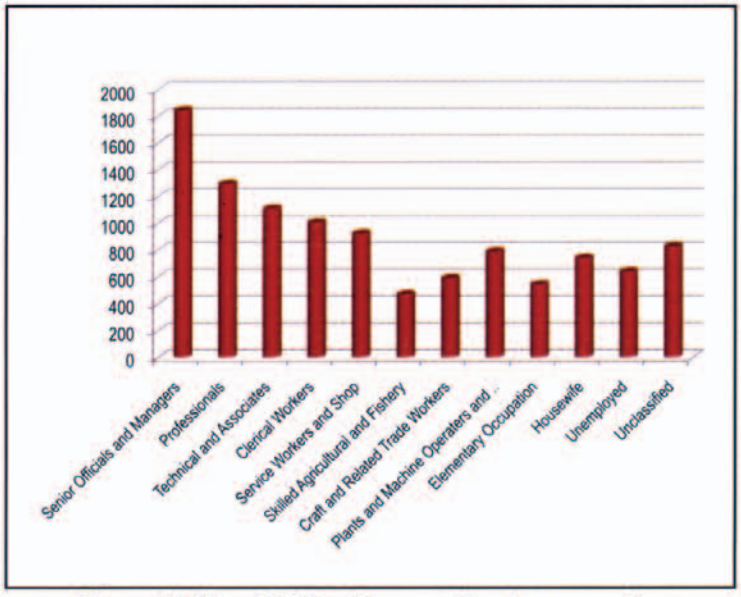

Figure 5.6: Mean OOP health expenditure by occupation

5.3.3 Mean OOP health expenditure by state

People living in Kuala Lumpur, Selangor, Melaka, Sarawak and Pulau Pinang were paying the highest for their OOP with a mean of RM 1,281, RM 1,105, RM 1,056, RM 1,046 and RM 917 respectively compared to those in Pahang (RM 715), Perlis (RM 660), Kedah (RM 607), Sabah (RM 591) and Kelantan (RM 552) who were paying the least for OOP. (Figure 5.7)

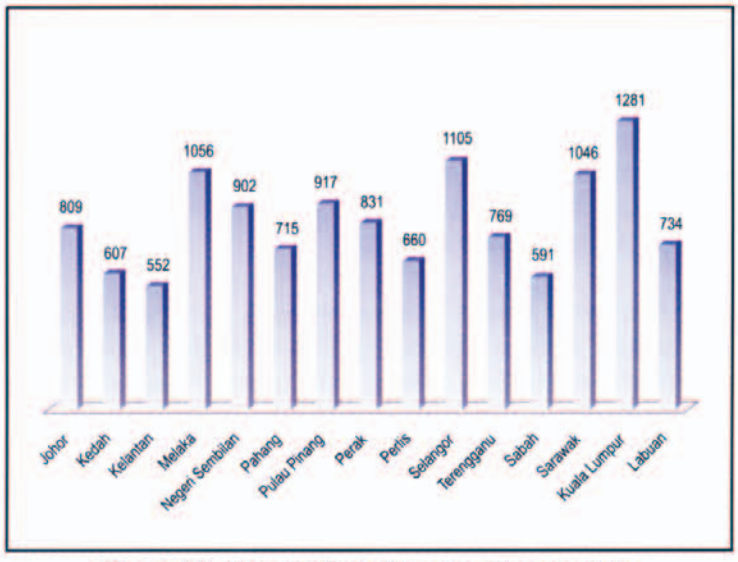

Figure 5.7: Mean OOP health expenditure by state

5.3.4 Mean household OOP health expenditure by income group

This study showed that as the household income increases the mean household OOP health expenditure also increases. For household income less than RM 400, the mean household OOP health expenditure was RM 342, for household income category of RM 400-RM 699 the mean household health expenditure was RM 436 whilst for household income of RM 700-RM 999 the mean household health expenditure was RM 577. At the higher end of the income group, for income category of RM 4,000-RM 4,999 and those with income of above RM 5,000 the mean household OOP health expenditures were RM 1,333 and RM 1,720 respectively. The mean household OOP health expenditure by household income category is shown in Figure 5.8.

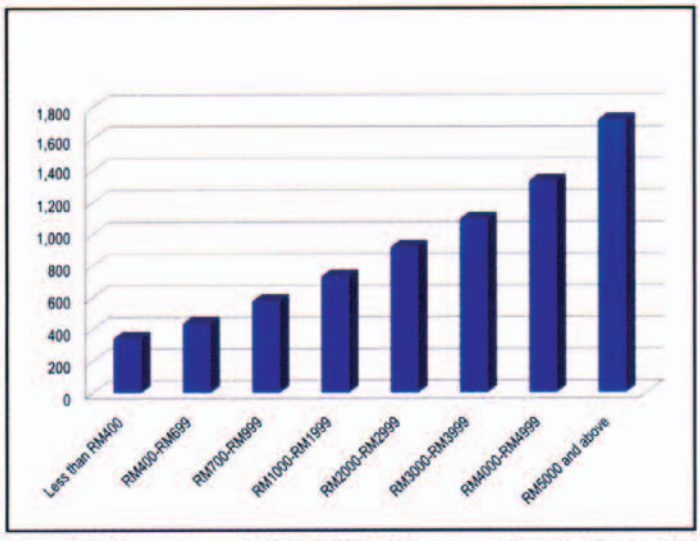

Figure 5.8: Mean household OOP health expenditure by household income category

5.4 OOP Health Expenditure by Providers and Functions

The classification of provider and function of the health services were adapted from the Malaysia National Health Accounts (MNHA) Framework. Providers were broadly classified into public and private health services. The public sector, it is further classified into hospitals, nursing homes and residential care facilities, ambulatory care (non hospital, standalone), health promotion and training on health. The same classification also applies for the private sector providers. In addition, retail sale and other provision of medical goods had been included.

The providers under public sector include facilities owned by Ministry of Health, Ministry of Higher Education (University Malaya Medical Centre, HUKM and HUSM), Ministry of Defence (*Hospital Lumut, Terendak* and Kinrara) and Ministry of Rural Development (*Hospital Orang Asli Gombak*).

The study showed that of the total OOP health expenditure 87.9% was spent at the private facilities, 8.7% at public facilities whilst the remaining 3.4% was spent at both public and private facilities (respondents accessed both facilities).

As for the functions of health services, MNHA had classified them into eight main areas namely services of curative care, rehabilitative care, long term nursing care, ancillary services to health care, medical goods dispensed to outpatients, public health services including prevention and health promotion, health programme administration and health insurance and training on health.

5.4.1 Ambulatory care

In terms of functions of health services, RM 540,695,696 (14.4%) was paid for ambulatory care. Of these RM 140,510,719 (27%) was spent at public facilities, RM 381,137,844 (70%) at private facilities and the remaining RM 14,207,778 (3%) was a mix, at both sectors.

The providers for ambulatory care have been divided into ambulatory care situated in the hospitals, standalone ambulatory care clinic, nursing homes, private TCM centers and other facilities.

The survey showed that the OOP health expenditure for ambulatory care was highest in private hospitals, followed by private TCM centers and private clinics with a mean of RM 60.36, RM 34.53 and RM 27.92 respectively. OOP health expenditure was the least at public hospitals with a mean of RM 12.83, RM 7.37 at nursing homes and RM 4.96 at public clinics. The range of OOP was between RM 0 (did not pay at all) to the maximum of RM 1,690. (Figure 5.9)

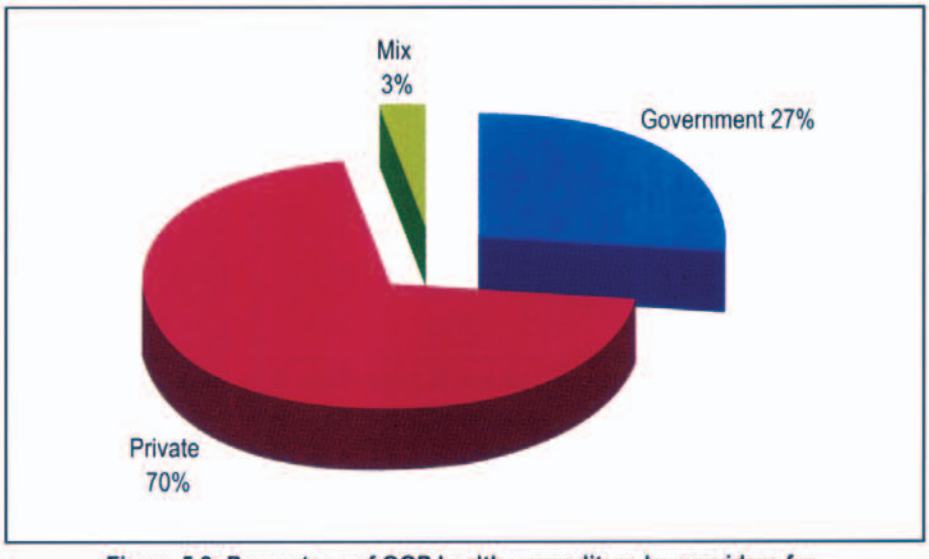

Figure 5.9: Percentage of OOP health expenditure by providers for ambulatory care

5.4.2 Self care

In terms of functions of health services, RM 32,055,949 (0.9%) was paid for self-care and this entire amount was spent only at private facilities. The range of OOP was between RM 0 (did not pay at all) to the maximum of RM 300.

5.4.3 Health promotion

Breakdown by functions of health services showed that RM 2,970,457,643 (79.1%) was paid for health promotion. Of these, RM 87,795,297 (3%) was spent at public facilities, RM 2,552,508,293 (93%) at private facilities and the remaining RM 97,004,341 (4%) was a mix, at both sectors.

The providers for health promotion have been divided into health promotion services situated in the hospitals, standalone ambulatory care clinic, nursing homes, private TCM centers and other facilities.

According to the survey, OOP health expenditure for health promotion was highest in private nursing homes with a mean of RM 95.88 and followed by private ambulatory care with RM 85.11. The least amount was spent at public hospitals and public ambulatory care with RM 41.94 and RM 56.56 respectively. The range of OOP was between RM 0 (did not pay at all) to the maximum of RM 2,000. (Figure 5.10)

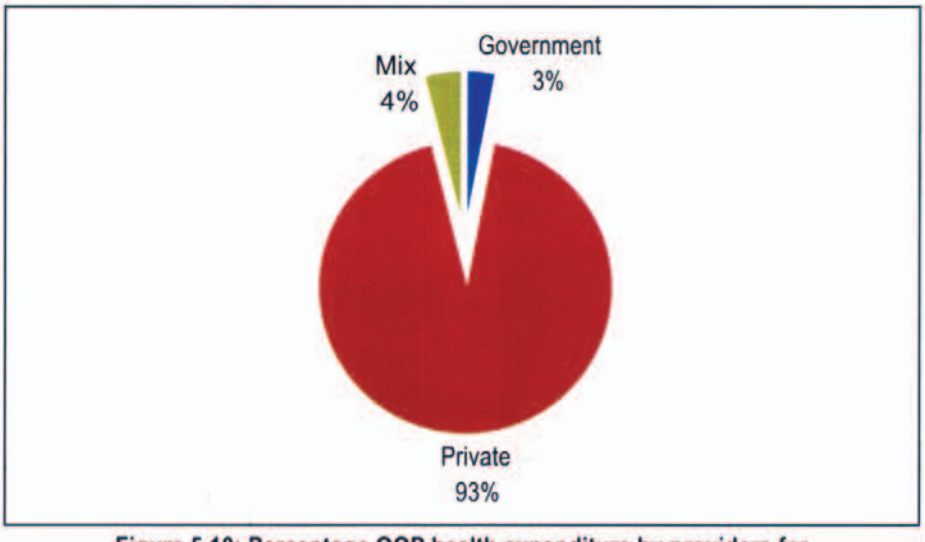

Figure 5.10: Percentage OOP health expenditure by providers for health promotion

5.4.4 Training

As for breakdown of functions of health services, RM 43,569,984 (1.2%) was spent for training. From this amount, RM 17,046,052 (43%) was spent at public facilities, RM 20,238,794 (51%) at private facilities and the remaining RM 2,496,823 (6%) was a mix, at both sectors.

The providers for training have been divided into training and education situated in the hospitals, standalone ambulatory care clinic, nursing homes, private TCM centers and other facilities.

The survey showed that the highest amount paid for training was for training at private nursing facilities with a mean of RM 44.78, followed by training at other private facilities (RM 41.43) and training at public nursing facilities (RM 28.20). The least amount was paid for training at private TCM centers (RM 8.09), followed by training at public hospitals (RM 10.07) and at other public facilities (RM 12.07). The range of OOP was between RM 0 (did not pay at all) to the maximum of RM 500. (Figure 5.11)

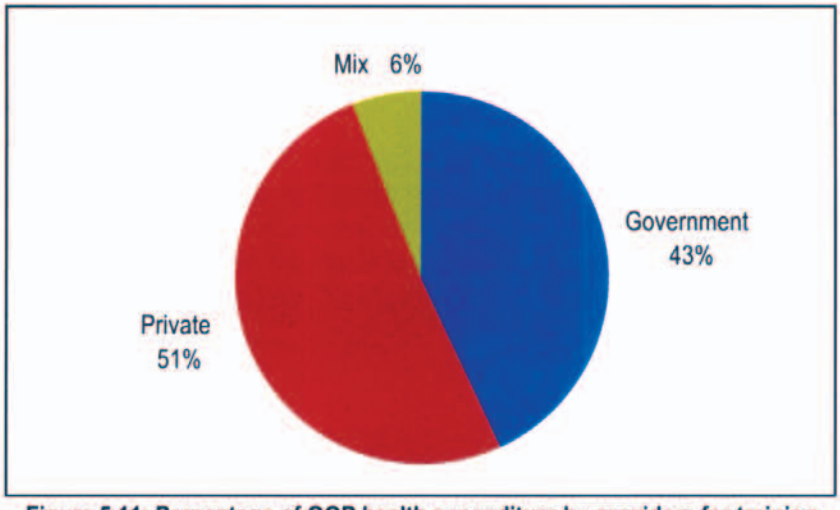

Figure 5.11: Percentage of OOP health expenditure by providers for training

5.4.5 Hospitalization

For functions of health services, RM 170,256,388 (4.5%) was paid for hospitalization. Of these RM 51,181,521 (36%) was spent at public facilities, RM 89,657,999 (62%) at private facilities and the remaining RM 3,587,580 (2%) was a mix, at both sectors.

The questionnaire classified hospitalization based on admission for the last one month and also admission for the past 12 months excluding the last one month.

For hospitalization, OOP health expenditure was incurred highest at the private facilities. Of the private providers, the highest OOP spending was at private hospital RM 1.28 million followed by private nursing facilities RM 0.83 million. For the public sector, RM 0.07 million was spent at public hospitals and RM 721 thousand were spent at public nursing homes. The range of OOP was between RM 0 (did not pay at all) to the maximum of RM 9,000. (Figure 5.12)

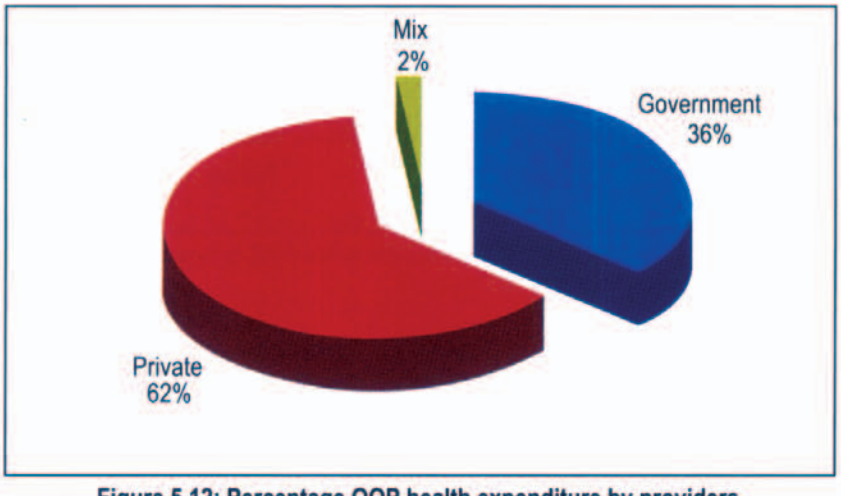

Figure 5.12: Percentage OOP health expenditure by providers for hospitalization

5.5 Private Insurance

5.5.1 Total insurance premium

As clarified earlier, the information on insurance is only related to insurance purchased by individual and not by premium paid by third party (e.g. employers). The survey found that only 18.8% of the Malaysian population aged 18 and above had private insurance coverage either for (i) medical and health, (ii) life insurance (LI) and/or (iii) other types of insurance related to health. The total premium (weighted for the total population aged 18 and above) was estimated at RM 2.99 billion for the year 2006.

5.5.2 Insurance premium by gender

Premium contribution was higher among males at RM 1.64 billion (54.7%) compared to females at RM 1.36 billion (45.3%). The mean insurance premium was RM 1,227. The mean for males was RM 1,237 (CI: RM 1,235 – RM 1,240) and females was RM 1,215 (CI: RM 1,213 – RM 1,218). The mean insurance premium according to gender is as shown in Figure 5.13.

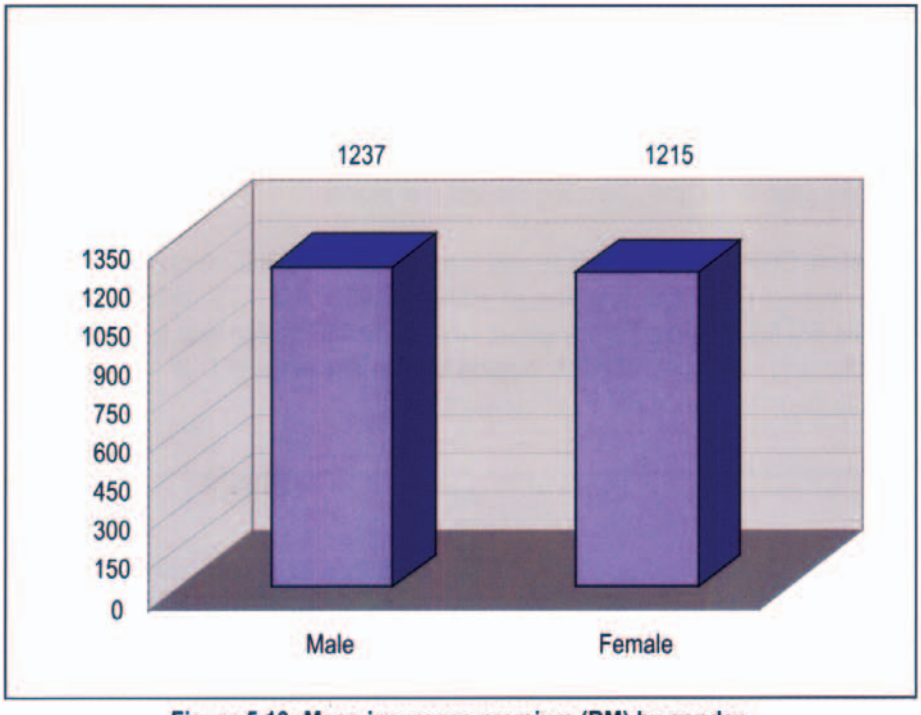

Figure 5.13: Mean insurance premium (RM) by gender

5.5.3 Insurance premium by age group

The highest mean premium was among the age group 50-65 years at RM 1,350 (CI: RM 1,346 – RM 1,355) followed by the age group 25-49 years at RM 1,250 (CI: RM 1,248 – RM 1,252). The lowest mean premium was among the age group 66 years and above at RM 796 (CI: RM 788 – RM 804) (Figure 5.14).

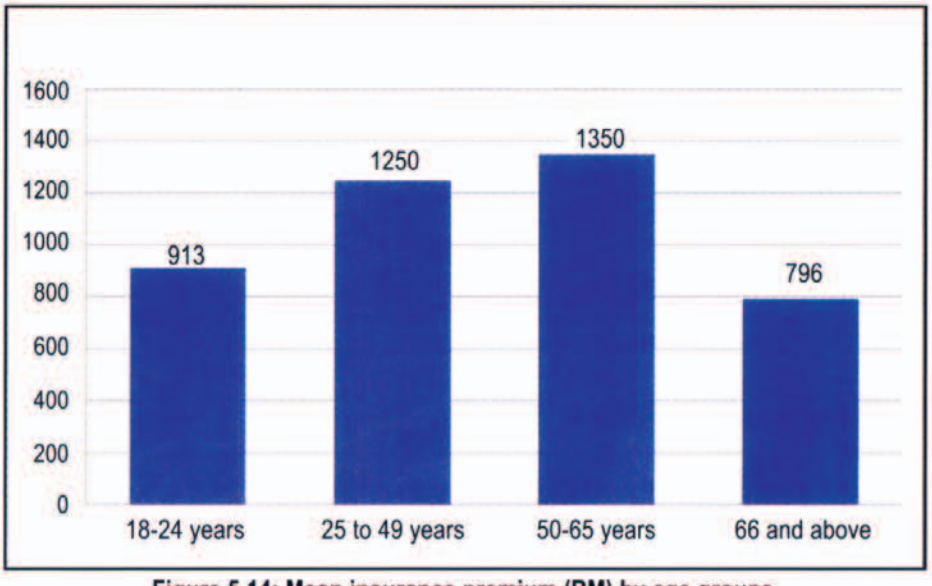

Figure 5.14: Mean insurance premium (RM) by age groups

a) Insurance premium by ethnic group

Although 18.8% of population aged 18 and above had insurance, the study showed when compared among the ethnic group, 35.6% of Chinese had insurance, followed by Indians (26.9%), Malays (13.6%), Other Bumiputras (9%) and other ethnic groups (7.4%).

Total insurance premium paid according to ethnic group was highest among the Chinese followed by Malays, Indians and Other Bumiputras.

Mean premium contribution was highest among Chinese at RM 1,548 (CI: RM 1,545 – RM 1,551) followed by Indians at RM 1,317 (CI: RM 1,312 – RM 1,322), Other Bumiputras at RM 950 (CI: RM 944 – RM 956), Malays at RM 919 (CI: RM 917 – RM 921), and other ethnic groups at RM 808 (CI: RM 797 – RM 818). The mean insurance premium contribution according to ethnic group is as shown in Figure 5.15.

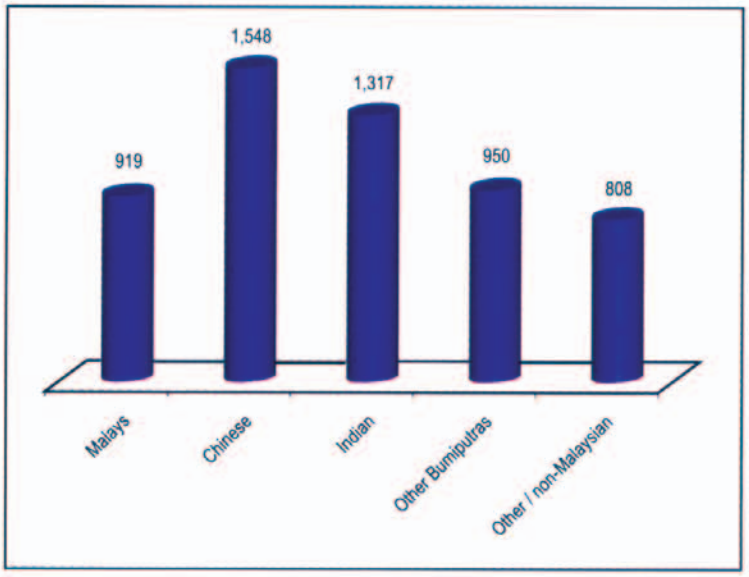

Figure 5.15: Mean insurance premium (RM) by ethnic groups

5.5.4 Insurance premium by household income

The study showed when compared among the income group, 44.3% of those having income RM 5,000 and above had insurance, followed by those with RM 4,000-RM 4,999 (39.5%), with the least among those earning less than RM 400 (3.0%).

Generally, the mean insurance premium increased proportionately to the mean household income. The mean insurance premium by household income category is as shown in Figure 5.16.

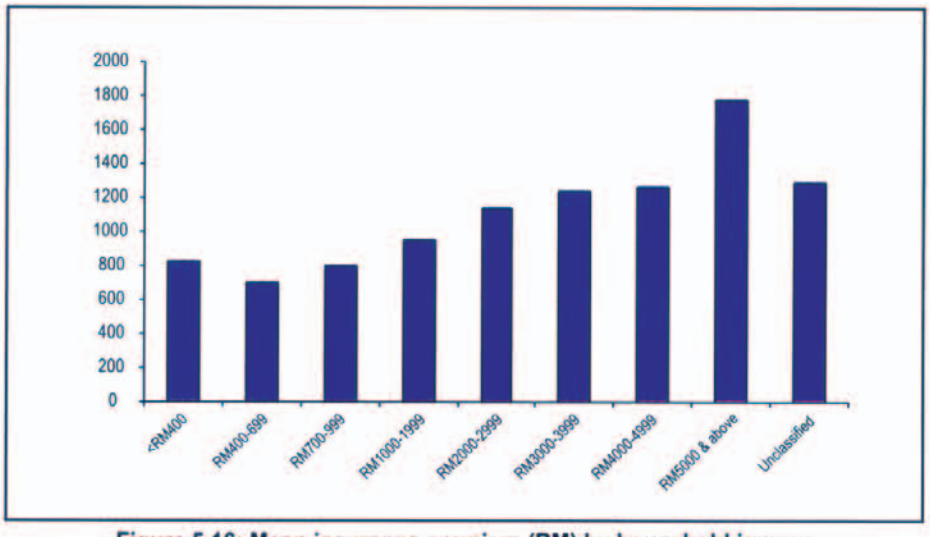

Figure 5.16: Mean insurance premium (RM) by household income

5.5.5 Insurance coverage and premium by location

In terms of coverage, 23.3% of the urban population had insurance compared to only 10.5% of the rural population.

The urban group paid higher total insurance premium and mean insurance with a total premium of RM 2,553,966,896 billion, mean of RM 1,304 (CI: RM 1,302 – RM 1,306) and median of RM 1,000, while the rural group paid RM 441,976,937 million, mean of RM 915 (CI: RM 912 – RM 918) and median of RM 600.

5.5.6 Insurance premium by occupation

The study showed that the group which possessed insurance was highest amongst senior officers and managers (50%), followed by professionals (46.8%) and technical and associate (40.4%) and the least were among the unemployed (4.3%), skilled agriculture and fishery (7.0%) and housewife (8.1%).

Among those who had private insurance, senior officers and managers paid the highest mean premium at RM 2,132 (CI: RM 2,120 – RM 2,145) followed by the professionals at mean RM 1,438 (CI: RM 1,433 – RM 1,442). The mean premium contribution was lowest among those involved in craft and related trade workers at mean of RM 853 (CI: RM 848 – RM 858) (Figure 5.17).

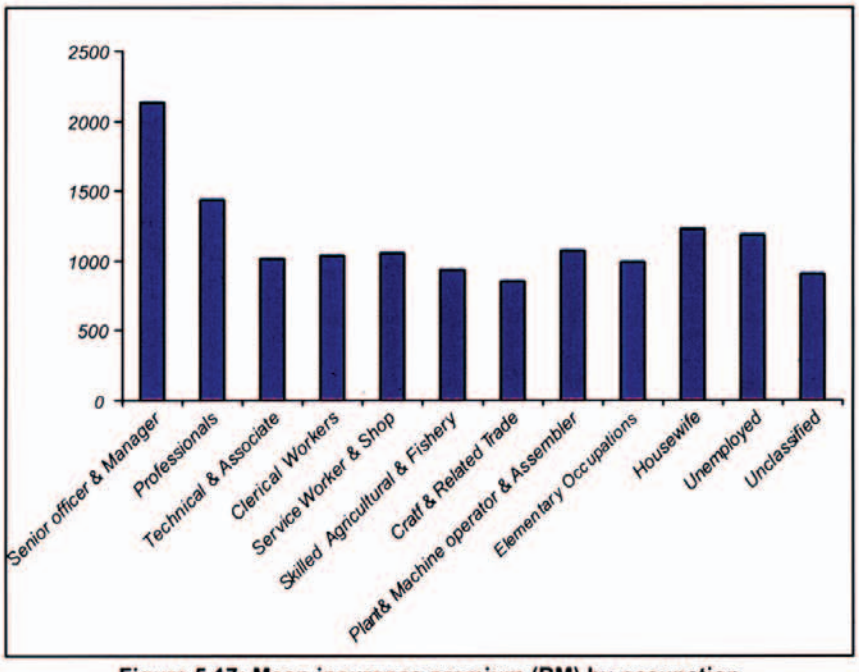

Figure 5.17: Mean insurance premium (RM) by occupation

5.5.7 Insurance premium by state

The mean premium was highest for the state of Labuan at RM 1,531 (CI: RM 1,508 – RM 1,555) followed by Penang at RM 1,515 (CI: RM 1,509 – RM 1,522) and Selangor at RM 1,439 (CI: RM 1,435 – RM 1,442). The lowest mean premium was among respondents from Perlis at RM 649 (CI: RM 635 – RM 663) (Figure 5.18).

The state with the highest percentage of the people who possessed insurance was highest in Kuala Lumpur (32.3%), followed by Negeri Sembilan (24.2%), Selangor (23.9%) and Malacca (22.9%).

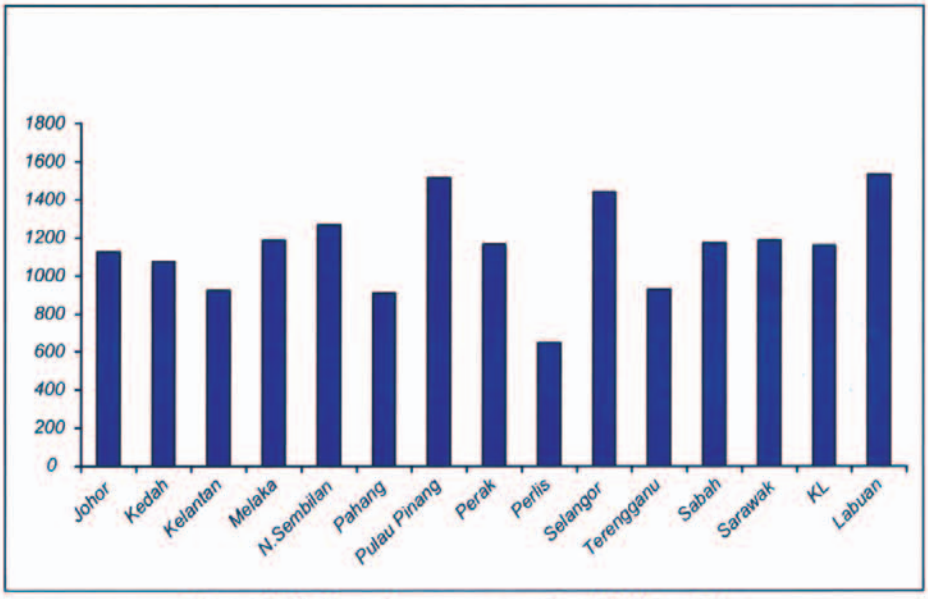

Figure 5.18: Mean insurance premium (RM) by state

5.5.8 Types of insurance and premium paid

The total private insurance premium paid by the population was RM 2.99 billion of which it was estimated that RM 1.21 billion was paid specifically for the medical and health component.

The highest mean premium paid was for Medical and Life Insurance only at RM 1,570 followed by Medical and Life and other insurance only at RM 1,475 and Life and other insurance only RM 1,128. (Figure 5.19)

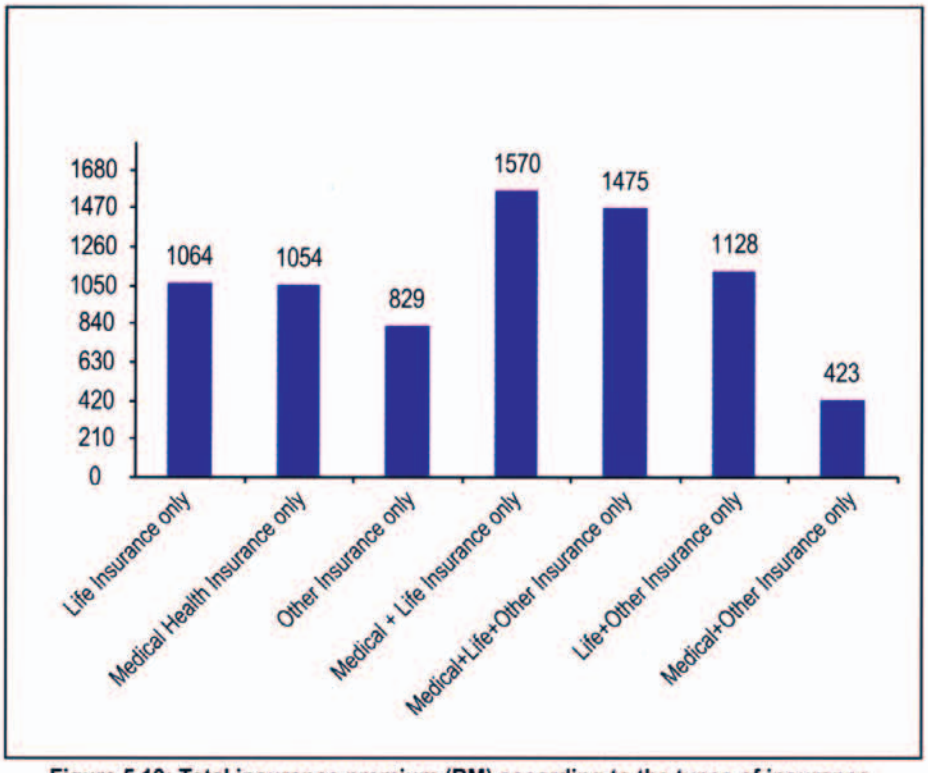

Figure 5.19: Total insurance premium (RM) according to the types of insurance

6. DISCUSSION

6.1 Out-Of-Pocket Health Expenditure for Ages 18 and Above

The study has shown that the higher income group, the more people pay for OOP. Whereas in many other countries, (e.g. Korea), the lower income groups pay more for OOP due to high co-payment and co-insurance. In Malaysia, the public health care has been continuously subsidized by the government hence the lower income groups are not burdened by the high health care cost. This has been observed in the continuous rising of the allocation for health care ranging from RM 3.6 billion in 1996 to RM 9.9 billion in 2006.

It was also noted in this study that the older age groups especially those aged 50 and above pay more for OOP compared to the younger age groups. This is because they are more likely to suffer from chronic and degenerative diseases which require long term treatment and follow-up resulting in higher cost.

OOP payment was highest among the Chinese as compared to other ethnic groups probably due to their better economic status and they reside more in the urban area.

6.1.1 Overall OOP health expenditure

The total OOP health expenditure for ages 18 and above was found to be RM 3.76 billion which is translated to 0.7% of the Gross Domestic Product (GDP). In NHMS II (Public Health Institute 1996), the total out-of-pocket health expenditure for the whole population was estimated at RM 3.82 billion which was 1.3% of GDP. The per capita OOP health expenditure for NHMS II (1996) and NHMS III (2006) were RM 180 and RM 179 respectively. These figures are not comparable as NMHS III did not include the cost for transportation, dental expenditures and also the expenditures for those below 18 years. The total OOP health expenditure for 2006 could be much higher if these components had been included. Another contributing factor is the increasing trend of insurance ownership among the population over the years.

The Malaysia National Health Accounts estimates reported that the per capita OOP health expenditure ranged from RM 152 in 1997 to RM 191 in 2002. According to the report, OOP was the second biggest contributor next only to government contribution. At RM 4.44 billion it was 33% of the total expenditure in 2002 (Planning and Development Division 2006).

6.1.2 OOP health expenditure by providers

From the survey it was found that by providers the highest amount was spent at the private facilities (87%). The MNHA report in 2002 also quoted that, at 74%, the private facilities was the largest provider for OOP health expenditure spending (Planning and Development Division 2006). This is expected because user charges in MOH facilities are low which amounted to about 2% of its operating budget. The NHMS II study quoted a lower amount for private spending through OOP (62%) (Public Health Institute 1999).

6.1.3 OOP health expenditure by functions

a) Ambulatory care

This study showed that the amount spent from OOP for ambulatory care was RM 0.54 billion (14.4%) of the overall function of health services. For ambulatory care, 70% of the OOP health expenditure was spent at private facilities. This is expected as ambulatory services are still affordable at private clinics. The ambulatory care at the private hospitals (RM 60.36) was four times more than that of public hospitals (RM 12.83) due to the lower user charger fees at public hospitals.

b) Health promotion

By functions of health service health promotion contributed to the highest spending (79.1%) followed by ambulatory care (14.4%), hospitalization (4.5%), training (1.2%) and the least was self care (0.9%).

These findings might not be consistent with other findings on the profile of OOP health expenditure by functions of services. This is expected because of the wide interpretation of the meaning of "health promotion". In the context of this study, health promotion has been defined as all activities that the respondents viewed as promoting and enhancing health, that include purchase of medical equipments, food supplements and health education services and products. Further it covered OOP health expenditure incurred by both sick and healthy individuals to improve and enhance their health status.

c) Training

OOP payment was more at private facilities especially at private nursing schools as compared to public nursing schools where the training is free and the trainees received subsistence allowances. As of 2006, there are 19 registered private nursing schools in Malaysia. According to the MNHA report in 2002, the source of funding for health training in private institutions came from OOP (RM 66 million), corporations (RM 12 million) and government (RM 7 million).

d) Hospitalization

Hospitalization contributed to only 4.5% of the overall functions of health services. Of those who paid from OOP, the highest was still spent at the private hospitals (62%). The OOP for hospitalization is low because of the highly subsidized public hospitals for inpatient care and increasing number of those with health insurance seeking treatment in the private hospitals.

6.2 Private Insurance for Population Aged 18 and Above

As clarified earlier, the data on insurance in this study was only insurance purchased by individual and did not include the premium paid by third party (e.g. employers).

The percentage of Malaysian population aged 18 and above having any form of insurance was only 18.8% and hence, there is still potential for growth in the insurance market. As more highly educated people working as senior officers, managers and professionals have insurance, encouraging education among the public may increase the number of people buying insurance. Hence, much effort has to be done such as education to promote the public to buy insurance. Urbanization may have a positive effect on the number of people possessing insurance as was seen in Labuan, Penang and Selangor. The outcome of this study is quite similar to the study conducted in 1998-1999 (Syed et al. 2000) which showed that more urban population (18.2%) had insurance compared to the rural population (11.9%). The study by Syed et al. (2000) also found that more people in the higher income group had insurance compared to the lower income group which is similar to this NHMS III. The total amount of premium paid by the Malays was second after Chinese. This illustrated that religious views were not an obstacle to buy insurance particularly with the emergence of several Islamic insurance schemes.

Taking note of the various combination of the private insurance schemes purchased by the public and availability of the medical and health component in the life and other form of insurance, it was estimated that total premium for the private health insurance in 2006 was RM 1.21 billion. The BNM report (2006) stated that the total MHI premium paid in 2006 was RM 2.09 billion, of which some RM 1.74 billion were used to pay medical health insurance. The estimated MHI premium from BNM was higher than the finding of this study. However, this figure showed an increase in the premium paid by the public for 2006 compared with estimation for 2002 which was at RM 770 million (Planning and Development Division 2006).

The MNHA study estimated that private insurance accounted for 6% of Malaysian health expenditure in 2002 amounting to RM 769 million (Planning and Development Division 2006). This NHMS III estimated that private insurance premium paid by the public was RM 2,995 billion of which RM 1,208

billion was for medical and health component. This shows that the trend in premium payment by the public is increasing.

6.3 Limitations

The followings are the limitations of data collected for OOP health expenditure:

i. This study did not include the data on OOP health expenditure for below 18 due to some technical difficulties, therefore to have the whole population OOP health expenditure other approaches to estimating this need to be used.
ii. Some of the questions regarding expenditure could have been misinterpreted resulting in the duplication of the expenditure data.
iii. In Malaysia, there are 3 types of private insurance which provide some form of medical and health coverage. Respondents can answer more than one combination of options and hence it was difficult to estimate data on exact premium paid for medical and health insurance only.
iv. Group insurance premium (or third party payer) contributed by big corporations for their employees' health benefits was not captured.
v. This study only captured data from those aged 18 years old and above. It was assumed that that those aged below 18 will be paid by the family.
vi. The previous NHMS II study did not include the insurance component and hence, comparison could not be done.

7. CONCLUSION

This survey has met its objectives to obtain information on health expenditure and pattern of spending in the country. Most of the findings were consistent with other related studies conducted earlier such as MNHA Project Study in 2002 and other individual researches. The OOP payment was low compared to the previous studies and to other international studies and it is mostly spent at private providers and interestingly for the country; a huge portion of OOP was spent on individual health promotion. Since OOP payment is low, the likelihood of the population being impoverished due to catastrophic illness is relatively low.

This survey also indicated 18.8% of Malaysian population aged 18 and above had some form of private insurance and both the premium and the population covered had increased compared to 2002 data. The increasing number of insurance ownership indicates awareness and acceptability of the population on insurance coverage including medical and health insurance. Introduction of National Health Insurance in Malaysia may be well accepted by the population.

8. RECOMMENDATIONS

As the study showed that the OOP payment towards hospitalization and ambulatory care was low, further studies should be carried out to determine the willingness to pay for health care which can be used as input to the development of proposed National Health Financing Mechanism. This study has clearly showed that the OOP payment for lower income groups was low, thus financial protection for this group should be seriously considered when developing any financial scheme.

The contribution of OOP health expenditure for health promotion was considerably higher than what was spent on hospitalization and ambulatory care. Therefore there is the need to educate the public so that they are able to make informed decisions towards purchasing of products and services in promoting and maintaining health.

For future studies, to ensure the comprehensiveness of information regarding private insurance, it is recommended that specific data for each type of private insurance policies, premium paid by third party (e.g. employer) and insurance coverage for the population group aged below 18 years are captured. It is also recommended that studies should be conducted to identify the flow of health insurance funds in terms of providers and functions of health services and this data be compared with data from General Insurance Association of Malaysia (PIAM) and Life Insurance Association of Malaysia (LIAM).

As the percentage of the population aged 18 and above with private insurance is only 18.8%, effort needs to be made to create awareness among the public on the importance of insurance particularly medical and health insurance to complement and supplement the services provided by the government.

As a mean of social marketing for the National Healthcare Financing Mechanism (NHFM) in Malaysia, the government will have to educate the public on the importance of health insurance. The initial target group may be the urban area and the professional group as they may be more receptive to contribute to the health insurance fund. This coverage may be expanded gradually to the whole population.

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