



MINISTRY OF HEALTH  
MALAYSIA

# MALAYSIA NATIONAL HEALTH ACCOUNTS

## HEALTH EXPENDITURE REPORT 1997- 2017



ANALISA

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# **MALAYSIA**

## **NATIONAL HEALTH ACCOUNTS**

### **Health Expenditure Report**

### **1997-2017**

MALAYSIA NATIONAL HEALTH ACCOUNTS SECTION  
PLANNING DIVISION  
MINISTRY OF HEALTH  
MALAYSIA  
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## MESSAGE FROM THE SECRETARY-GENERAL MINISTRY OF HEALTH, MALAYSIA

Healthcare system in the country has evolved in response to changing disease patterns, rising prevalence of non-communicable diseases, rapid technology advancements, increasing health care cost and use of much more complex and expensive modalities, to name a few factors. There are increasing demands by analysts and policy makers for health expenditure information for health planning and management to improve the health sector's growth and provide an effective healthcare system.

The Malaysia National Health Accounts (MNHA) report is important as it provides reliable, accurate and relevant macro-level financial information for effective health care planning by assisting policy makers to arrive at evidence-based decisions with confidence. The MNHA report identifies and measures the overall national health care expenditure covering both public and private sectors.

Various public and private agencies were involved in providing the related information and data which is then analysed to produce this report. I would like to take this opportunity to thank the multiple agencies and data sources for their contributions and I hope that they will continue to work closely together to support future MNHA work.

My gratitude also extends to all members of the MNHA Steering Committee for their persistent participation and contributions. I also applaud the MNHA Section for producing regular national level expenditure data that provide excellent reference on the health expenditure trend of the country over a time period. This shall contribute to the national efforts in moving forward towards efficient healthcare system to achieve the ultimate goal of a developed nation.

Thank you.

A handwritten signature in black ink, appearing to read 'Dato' Seri Dr. Chen Chaw Min'. The signature is fluid and cursive.

**Dato' Seri Dr. Chen Chaw Min**  
Secretary-General  
Ministry of Health, Malaysia



## MESSAGE FROM THE DIRECTOR-GENERAL OF HEALTH MALAYSIA

National progress and productivity is very much dependent on the country's healthcare system. The Ministry of Health (MOH) in conjunction with multiple stakeholders play vital roles in ensuring the implementation of health-related policies in order to improve the nation's health system. Malaysia National Health Accounts (MNHA) produces annual national health expenditure reports, where macro-level health expenditure data is obtained from various sources of public and private sectors. These reports assist in evidence-based decisions by health policy-makers to ensure affordable, equitable and accessible health care system.

As in previous reports, comparable time series expenditure data is produced using internationally accepted standardized methodology. In 2017, Malaysia reports Total Expenditure on Health (TEH) as 4.24 percent of GDP based on national MNHA framework and reports Current Health Expenditure (CHE) in 2016 as 3.8 percent of GDP internationally based on System of Health Accounts (SHA) framework.

I would like to take this opportunity to highlight a new chapter in this year's MNHA report about expenditure on Primary Care (PC) and Primary Health Care (PHC). PHC is the thrust of Malaysian healthcare system, and hence PHC and PC expenditure both have the potential to boost investment on primary health care and motivate related policy solution.

I look forward for continuous production of annual Malaysia National Health Expenditure report, to provide detailed national health expenditure with the ultimate goal of re-engineering the healthcare system to be even better for future generations.

Thank you.

**Datuk Dr. Noor Hisham bin Abdullah**  
Director-General of Health Malaysia



## ACKNOWLEDGEMENT

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It is our pleasure, the team of MNHA to express our utmost gratitude to YBrs. Dr. Hj. Nordin bin Saleh, the Director of Planning Division, YBhg Datuk Dr. Hj. Rohaizat bin Hj. Yon, our ex-Director of Planning Division and YBrs. Dr. Rozita Halina binti Tun Hussein, Senior Deputy-Director of Planning Division (Health Financing, Informatics and Accounts Planning Branch), for their timely advice and overwhelming support provided in making this Malaysia National Health Accounts Health Expenditure Report 1997-2017 a success.

We genuinely thank the members of the MNHA Technical Advisory Committee and newly appointed External Editors on their dedication and keen interest which contributed in betterment of MNHA reporting format and the contents. Special thanks also to all members of the MNHA Steering Committee chaired by the Director-General of Health Malaysia and Secretary-General, Ministry of Health for their guidance and endorsement of MNHA data for this report.

Successful annual publication of MNHA reports has all this while been possible through continuous assistance and co-operation from both public sector and private sector data suppliers. The MNHA team would like to express our appreciation to all our data providers, and we look forward to future communication and collaboration to further enhance the quality and contents of the MNHA reports.

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# ABBREVIATIONS

<b>AADK</b>	<i>Agensi Anti Dadah Kebangsaan</i> (National Anti-Drug Agency)
<b>AGD</b>	Accountant General's Department of Malaysia
<b>APM</b>	<i>Angkatan Pertahanan Awam Malaysia</i> (Malaysia Civil Defence Force)
<b>BNM</b>	<i>Bank Negara Malaysia</i> (Central Bank of Malaysia)
<b>CHE</b>	Current Health Expenditure
<b>CKAPS</b>	<i>Cawangan Kawalan Amalan Perubatan Swasta, Bahagian Amalan Perubatan</i> (Private Medical Practice Control Section, Medical Practice Division)
<b>COICOPS</b>	Classification of Individual Consumption by Purpose
<b>CORPS</b>	Corporations
<b>DC</b>	Day care
<b>DOSH</b>	Department of Occupational Safety and Health
<b>DOSM</b>	Department of Statistics Malaysia
<b>DSWM</b>	Department of Social Welfare Malaysia
<b>EPF</b>	Employees Provident Fund
<b>EMRS</b>	Emergency Medical Rescue Services
<b>EPU</b>	Economic Planning Unit
<b>FOMCA</b>	Federation of Malaysia Consumers Association
<b>FOMEMA</b>	Foreign Worker's Medical Examination Monitoring Agency
<b>FT</b>	Federal Territory
<b>GDP</b>	Gross Domestic Product
<b>GGE</b>	General Government Expenditure
<b>GGHE</b>	General Government Health Expenditure / Public Sector Health Expenditure
<b>GHED</b>	Global Health Expenditure Database
<b>HC</b>	ICHA code for function of health services
<b>HC.R</b>	ICHA code for health-related services
<b>HES</b>	Household Expenditure Survey
<b>HIES</b>	Household Income and Expenditure Survey
<b>HF</b>	ICHA code for sources of financing for health services
<b>HH</b>	Household consumption
<b>HP</b>	ICHA code for providers of health services



<b>HQ</b>	Headquarters
<b>ICHA</b>	International Classification for Health Accounts
<b>IJN</b>	<i>Institut Jantung Negara</i> (National Heart Institute)
<b>IMF</b>	International Monetary Fund
<b>IP</b>	In-patient
<b>ISN</b>	<i>Institut Sukan Negara</i> (National Sports Institute)
<b>JBA</b>	<i>Jabatan Bekalan Air</i> (Water Supply Department)
<b>JAKOA</b>	<i>Jabatan Kemajuan Orang Asli</i> (Department of Orang Asli Development)
<b>JKM</b>	<i>Jabatan Kebajikan Masyarakat</i> (Social Welfare Department)
<b>JPA</b>	<i>Jabatan Perkhidmatan Awam</i> (Public Service Department)
<b>KL</b>	Kuala Lumpur
<b>KN</b>	<i>Kerajaan Negeri</i> (State Government)
<b>KWAP</b>	<i>Kumpulan Wang Persaraan</i>
<b>KWSP</b>	<i>Kumpulan Wang Simpanan Pekerja</i> (Employees Provident Fund)
<b>LA</b>	Local Authorities
<b>LPPKN</b>	<i>Lembaga Penduduk dan Pembangunan Keluarga Negara</i> (National Population and Family Development Board)
<b>LTH</b>	<i>Lembaga Tabung Haji</i> (Pilgrims Fund Board)
<b>MAIN</b>	<i>Majlis Agama Islam Negeri</i> (Zakat Collection Centre)
<b>MCO</b>	Managed Care Organization
<b>MF</b>	MNHA code for functions of health care
<b>MNHA</b>	Malaysia National Health Accounts
<b>MOD</b>	Ministry of Defence
<b>MOF</b>	Ministry of Finance
<b>MOH</b>	Ministry of Health
<b>MOE</b>	Ministry of Education
<b>MOSTI</b>	Ministry of Science Technology and Innovation
<b>MP</b>	MNHA code for providers of health care
<b>MR</b>	MNHA code for health-related functions
<b>MS</b>	MNHA code for sources of financing
<b>NCU</b>	National Currency Unit
<b>NGO</b>	Non-Government Organization
<b>NHA</b>	National Health Accounts
<b>NHMS</b>	National Health Morbidity Survey





<b>NIOSH</b>	National Institute of Occupational Safety and Health
<b>NRI</b>	Non-residual items
<b>OECD</b>	Organization for Economic Co-operation and Development
<b>OFA</b>	Other Federal Agencies
<b>OOP</b>	Out-of-Pocket
<b>OP</b>	Out-patient
<b>OTC</b>	Over the counter
<b>PBT</b>	<i>Pihak Berkuasa Tempatan</i> (Local Authorities)
<b>PC</b>	Primary Care
<b>PEMANDU</b>	Performance Management and Delivery Unit
<b>PHC</b>	Primary Health Care
<b>PNI</b>	Professional and Industrial Survey
<b>PPP</b>	Purchasing Power Parity
<b>PSD</b>	Public Service Department
<b>RI</b>	Residual items
<b>RM</b>	<i>Ringgit Malaysia</i> (Malaysia Currency)
<b>ROW</b>	Rest of the world
<b>SHA</b>	System of Health Accounts
<b>SHA 1.0</b>	A System of Health Accounts, Version 1.0 (published in 2000)
<b>SHA 2011</b>	A System of Health Accounts, 2011 Edition
<b>SOCISO</b>	Social Security Organization
<b>SODO</b>	Specific object and detailed object code
<b>SSB</b>	State Statutory Body
<b>SSM</b>	<i>Suruhanjaya Syarikat Malaysia</i> (Company Commission of Malaysia)
<b>TCM</b>	Traditional and Complementary Medicine
<b>TEH</b>	Total Expenditure on Health
<b>UK</b>	United Kingdom
<b>UKAS</b>	<i>Unit Kerjasama Awam Swasta</i> (Public Private Partnership Unit)
<b>UN</b>	United Nations
<b>UNDP</b>	United Nations Development Programme
<b>USA</b>	United States of America
<b>USD</b>	US Dollar
<b>vs</b>	Versus
<b>WHO</b>	World Health Organization
<b>WB</b>	World Bank



# EXECUTIVE SUMMARY

The MNHA team was established in September 2005 under the Planning and Development Division, Ministry of Health. Throughout the last fourteen years MNHA has produced multiple reports which contain macro level health expenditure information. These data has been useful for policy makers, researchers and related stakeholders.

The data in this report comprises health expenditure data of twenty one years (1997-2017) which was extracted from our national health expenditure database. As a reminder to all NHA report users, due to the methodology used during the NHA data production; it is advisable to use the latest available report as the most current data replaces all previous annual data.

The MNHA Framework is based on the SHA 1.0 classifications with some minor modifications to suit local policy. Similar to the SHA 1.0 classifications, the MNHA classifies all expenditures into three main entities: (1) Sources of financing (MS); (2) Providers of health care (MP); and (3) Functions of health care (MF). The method of data collection and analysis used in this report conforms to the method used in the previous cycle whereby detailed definitions of what constitutes health expenditure, institutional entities and types of disaggregation were drawn up based on inputs from several documents, committee meetings, and consultative advice from sources within and outside the MOH. Both primary and secondary data were used in this analysis as well as from the public and private health sectors. These data were obtained through multiple MNHA surveys and other surveys, data extraction during previous state visits, data extraction from other datasets and through discussions and meetings. The secondary health expenditure data

were retrieved through various data sources, reports, bulletins and other documents. The response rate from all data sources in 2017 was 85%.

In 2017, Malaysia reports Total Expenditure on Health (TEH) at RM57,361 million which is 4.24 percent of GDP based on MNHA framework. Per capita expenditure on health in nominal value reported as RM1,790. Selangor, a state with the largest population of about 6 million people had the highest expenditure on health of RM10,020 million. In terms of public and private expenditure, the public and private sectors health expenditure were 51% and 49% respectively. The Public Sector Health Expenditure (GGHE) as percentage of General Government Expenditure (GGE), increased from RM4,360 million in 1997 to RM29,338 million in 2017 which is equivalent to an increase from 4.84 to 7.34 percent over the 21-years' time period

Using the MNHA Framework in 2017, a total amount of RM24,715 million or 43% of TEH has been spent by MOH. In relation to GDP, MOH health expenditure takes up 1.83 percent of the national GDP in the same year. OOP health expenditure amounts to RM21,573 million, which is equivalent to 38% of the Total Expenditure on Health and 77% share of the private sector health expenditure and at 1.59 percent of GDP.

Analysis of providers of health care shows that all hospitals consumed RM31,595 million or 55% of TEH in 2017 followed by providers of ambulatory health care at RM11,901 million or 21%. Primary Care (PC) expenditure is reported as RM10,880 million or 19% of the TEH in 2017 while Primary Health Care (PHC) shows higher value which was RM12,516 million or 22% of the TEH.



In 2017, a total of RM40,166 million or 70% of TEH is for services of curative care. The source of financing for services of curative care is RM20,713 million (52%) from the public sector and the remaining RM19,453 million or 48% from the private sector. In the public sector 84% and in the private sector 70% of the services of curative care expenditure were spent at hospitals and the remaining in both sectors were spent at non-hospital services of curative care providers.

MNHA also managed to migrate towards new SHA 2011 framework by end of 2018. Instead of TEH, CHE

has been used by WHO for international comparison. In 2016, based on WHO GHED database, CHE of Malaysia was 3.8 percent GDP which was lower than neighbouring countries such as Singapore, Philippines, China, Sri Lanka and Korea but higher than other regional countries such as Thailand, Indonesia and Bangladesh. Health expenditures in developed countries like Australia, UK, Japan, France and Germany were between 9 to 11 percent GDP with USA at 17% GDP. Likewise the per capita health expenditure of developed countries ranged from two to four times of Malaysia with USA as the outlier.



# REPORT INFORMATION

This publication on the Malaysia National Health Accounts (MNHA) contains twenty one years of national health expenditure data from 1997 to 2017, estimated using standardised and internationally acceptable National Health Accounts (NHA) methodology.

The reporting format follows closely the MNHA Framework and is kept almost similar to previous reporting format with the addition of a few editorial improvements for ease of reading and new sections. The "Malaysia National Health Accounts: Health Expenditure Report 1997-2017" has a total of ten chapters.

Chapter 1 provides background of the report followed by Chapter 2 on the summary of the MNHA Framework and Chapter 3 on the methodology used. Chapters 4 to 7 provide details of health expenditure based on the MNHA Framework. Chapter 8 shows MOH health expenditure, Chapter 9 provides household out-of-pocket health expenditure and Chapter 10 contains international health data comparisons.

Most of the data for 2017 are exhibited in either diagrams or tables, followed by figures of the 1997-2017 time series data. All data are in nominal values and reported in *Ringgit Malaysia* (RM) unless stated otherwise. However, it should be noted that the best method for annual comparisons is based on data that have been adjusted for inflation, preferably using GDP deflators. MNHA derived GDP deflators were used to estimate health expenditures in constant values that can be seen in some tables and figures in Chapters 4 and 5.

Chapter 4 contains the Total Expenditure on Health (TEH) trends from year 1997 to 2017, as percentage of Gross Domestic Products (GDP), the per capita health expenditures for the same period, and state disaggregation of health expenditure. Chapter 5 contains data on the major categories of the sources of financing, namely the public and private sectors. It also contains expenditures of the various agencies under these two sectors. Both sectors' data are then separately cross-tabulated with the dimensions of providers and functions of health care. Every set of data is also accompanied by similar time-series data. The Public Sector Health Expenditure is equivalent to the General Government Health Expenditure (GGHE) as the term internationally used, which include all public sector sources of financing as stipulated in the MNHA Framework under MS1 codes, and GGHE as percentage of General Government Expenditure (GGE) is under this chapter.

Chapter 6 and 7 provide data on the Total Expenditure on Health by providers and functions of health care. In addition, Chapter 6 also shows data on separate cross-tabulations between hospital and ambulatory care expenditure with sources of financing. Under Chapter 6, a new section regarding Primary Care (PC) and Primary Health Care (PHC) Expenditure has been added. Chapter 7 provides data on separate cross-tabulations of curative care function, expenditures for public health programmes (including health promotion and prevention), and expenditures for health education and training by sources of financing. Chapter 8 shows Ministry of Health's (MOH) expenditure as share of TEH and the national GDP. It also contains data on separate cross-tabulations between MOH hospital expenditure with sources of financing and functions of health care.



Chapter 9 shows Out-of-Pocket (OOP) health expenditure, OOP share of total and private sector expenditure as percentage of GDP, OOP as share of national GDP, as well as OOP by providers and functions of health care. Chapter 10 contains some international comparisons of MNHA data with NHA data from neighbouring and regional countries as well as some developed countries.

The appendix tables at the end of the report list the data sources from public and private sectors and tables related to Chapter 10.

It is important to note that the data shown in this report is based on the methodology stated under Chapter 3. Tables and figures are used to display the NHA data. Some of the figures on proportions have been adjusted

to total up to 100%. **Components on tables may not add to total of 100% due to rounding up.**

We would like to enlighten the readers regarding the **colour scheme** used in the charts of this report. All **public sectors were highlighted in blue colour while private sectors were in red colour. Purple colour was used for combination of both private and public sectors.**

As is the case in all reported NHA data from any country, refinements in internationally accepted methodology and inputs from new additional data source may lead to annual changes in the figures. **Therefore, it is advisable to refer to the most recent MNHA data and publication for policy decisions and research purposes.**





# CHAPTER 1

## BACKGROUND

The Malaysia National Health Accounts (MNHA) data provides a wealth of useful macro-level health expenditure information for policy makers, researchers and relevant stakeholders. The importance of these data is emphasised with the renewed need and interest in health financing reform for the country. Some knowledge on the background of this data will assist to better understand MNHA. MNHA started as a project by the Ministry of Health (MOH) with strong support from the Economic Planning Unit (EPU) of the Prime Minister's Department. This Malaysia National Health Accounts Project (2001-2005) was funded mainly by the United Nations Development Programme (UNDP) and resulted in the production of the *Malaysia National Health Accounts Project, Report on The MNHA Classification System (MNHA Framework)* and the first MNHA report, *Malaysia National Health Accounts Project, Health Expenditure Report (1997-2002)*. The outputs of this project were instrumental in the establishment of the Malaysia National Health Accounts (MNHA) Unit under the Planning & Development Division of MOH. Subsequently the MNHA Unit produced two other reports, *MNHA Health Expenditure Report (1997-2006)* and *MNHA Health Expenditure Report (2007 & 2008)*.

By 2009 the country had produced three different reports containing national health expenditure data spanning over a 12 year period (1997 to 2008). These data were produced in several cycles of MNHA estimations with some variations in data sources and methodology. However, acceptable annual data comparison requires standardized methods of estimations for every year. This means ideally the method of analysis for 2008 should be applicable to 1997 analysis. This requirement resulted in the revision of previous MNHA estimations while proceeding to do the subsequent year analysis. After some challenging experiences and under close guidance

from international consultant, the *MNHA Health Expenditure Report Revised Time Series (1997-2008)* and *MNHA Health Expenditure Report 2009* was produced. This contained comparable annual NHA data using internationally acceptable standardized method of analysis. Subsequently a second report under the application of the new standardized method was published as the *MNHA Health Expenditure Report (1997-2011)*. This report was later replaced by the *MNHA Health Expenditure Report 1997-2011 Revision* due to some error during the final analysis stage. Following this, the third time series report (1997-2012), fourth time series report (1997-2013), fifth time-series report (1997-2014), sixth time series report (1997-2015) and seventh time series (1997-2016) were later published annually. The latest report *MNHA Health Expenditure Report 1997-2017* is also available on the Ministry of Health's website.

In 2018, MNHA has progressed to produce the eighth comparable annual time series data spanning over a 21-year period by using similar methodology and reporting format with further refinements. The chapters in this publication covers some general expenditure overviews followed by expenditure reports using the standard NHA framework, which are expenditures by sources of financing, expenditures by providers of health care, and expenditures by functions of health care. The health expenditure disaggregation by states was also carried out and reported in this publication. Tables and figures are used to display the NHA data. Some of the figures on proportions have been adjusted to total up to 100%. **Components on tables may not add to total of 100% due to rounding up.** For those who require references to trends over time periods, whenever possible, the revised 1997 to 2017 time series data is inserted between the detailed 2017 cross-sectional data. It is reminded that most of the data are in nominal *Ringgit Malaysia* (RM) values unless indicated otherwise.

It is important to remind the users of any NHA report that due to the methodology in which NHA data are produced, the data in the most current report replaces all annual data stated in previous publications.



## CHAPTER 2

### MALAYSIA NATIONAL HEALTH ACCOUNTS (MNHA): SUMMARY OF FRAMEWORK

National Health Accounts are basically standard sets of tables containing comprehensive, consistent, comparable, compatible and timely national health expenditure over a specified period. "A System of Health Accounts, Version 1.0" (SHA 1.0) manual published by the Organization for Economic Co-operation and Development (OECD) in year 2000 has been adopted by the World Health Organization (WHO) as a basis for international data collection and comparison. It proposes an integrated system of comprehensive and international comparable accounts and provides a uniform framework of basic accounting rules and a set of tables for reporting health expenditures data. It also provides a more complete picture of the performance of the nation's health system and the needs of government, private sector analysts and policy makers for health planning purposes.

The SHA 1.0 also proposes an International Classification for Health Accounts (ICHA) in three dimensions, namely health care sources of financing including public and private sectors, health care service providers and health care functions. The MNHA Framework is based on the SHA 1.0 classification with some modifications to meet local policy needs.

#### 2.1. OVERVIEW OF TOTAL EXPENDITURE ON HEALTH

The SHA 1.0 defines the concept of total expenditure on health (TEH) as a standardized definition of which areas of health expenditure in a given year are to be measured and reported in national totals. In SHA 1.0 manual, TEH includes expenditures of 'health care services and goods by function' (core functions) and one component of 'health-related function' namely

'gross capital formation', but excludes expenditure of all other 'health-related functions'. Core function components in SHA are classified under the codes HC.1-HC.7 and 'health-related functions' under the codes HC.R.1-HC.R.7. The 'health-related functions' codes are for 'gross capital formation', 'education and training of health care personnel', 'research and development in health', 'food hygiene and drinking water control', 'environmental health', 'administration and provision of social services in kind to assist living with disease and impairment' and 'administration and provision of health-related cash benefits' expenditures. The expenditures under codes HC.R.2-HC.R.7 are excluded from TEH in SHA 1.0.

In the MNHA Framework, TEH comprises expenditures from both public and private sectors, which consist of both 'health expenditures' and all 'health-related expenditures' components. This is different from SHA 1.0 that excludes 'health-related expenditures' (codes HC.R.2-HC.R.7) from TEH. 'Health expenditures' as defined in the MNHA Framework, consists of all expenditures or outlays of medical care, prevention, promotion, rehabilitation, community health activities, health administration and regulation, and capital formation with the predominant objective of improving health, and these are reflected by core function classifications under the codes MF1-MF7. 'Health-related expenditures' classification under the codes MR1, 2, 3 and 9 include expenditures of 'capital formation of health care provider institutions', 'education and training of health personnel', 'research and development in health' and 'all other health-related expenditures'. For easier understanding, components that make up TEH according to SHA 1.0 and MNHA are as illustrated in Figure 2.1.



**FIGURE 2.1: Comparison of Total Expenditure on Health in SHA 1.0 and MNHA Framework with Current Health Expenditure in SHA 2011**

TEH according to SHA 1.0		SHA 1.0	SHA 2011
Code	Core Functions		
HC.1	Services of curative care	Total Expenditure on Health	Current Health Expenditure
HC.2	Services of rehabilitative care		
HC.3	Services of long-term nursing care		
HC.4	Ancillary services to health care		
HC.5	Medical goods dispensed to out-patients		
HC.6	Prevention and public health services		
HC.7	Health administration and health insurance		
Code	Health-Related Functions		
HC.R.1	Gross capital formation		
HC.R.2	Education and training of health personnel		
HC.R.3	Research and development in health		
HC.R.4	Food hygiene and drinking water control		
HC.R.5	Environmental health		
HC.R.6	Administration and provision of social services in kind to assist living with diseases and impairment		
HC.R.7	Administration and provision of health related cash-benefits		

TEH according to MNHA Framework		MNHA	SHA 2011
Code	Core Functions		
MF1	Services of curative care	Total Expenditure on Health	Current Health Expenditure
MF2	Services of rehabilitative care		
MF3	Services of long-term nursing care		
MF4	Ancillary services to health care		
MF5	Medical goods dispensed to out-patients		
MF6	Prevention and public health services		
MF7	Health program administration and health insurance		
Code	Health-Related Functions		
MR1	Capital formation of health care provider institutions		
MR2	Education and training of health personnel		
MR3	Research and development in health		
MR9	All other health-related expenditures		





It should also be noted that from year 2017 onwards, both OECD and WHO countries use Current Health Expenditure (CHE) for international reporting and inter-country comparisons of national health expenditures.

## 2.2 THE MNHA CLASSIFICATION

The SHA 1.0 classifies all health system expenditure using a tri-axial-system, known as the International Classification for Health Accounts (ICHA), which categorizes health expenditure by:

- Sources of financing (HF)
- Providers of health care (HP)
- Functions of health care (HC)

The MNHA Framework is based on the SHA 1.0 classifications with some minor modifications to suit local policy needs (Appendix Tables A2.1, A2.2, and A2.3). Similar to the SHA 1.0 classifications, the MNHA classifies all expenditures into three main entities:

- Sources of financing (MS)
- Providers of health care (MP)
- Functions of health care (MF)

**Sources of financing** are defined as entities that directly incur the expenditure and hence control and finance the amount of such expenditure. It includes the public sector expenditure inclusive of the federal government, state government, local authorities, and social security funds, and the private sector

consisting of private health insurance, managed care organizations, out-of-pocket expenditure, non-profit institutions and corporations.

**Providers of health care** are defined as entities that produce and provide health care goods and services. It is categorized as hospitals, nursing and residential care facility providers, ambulatory health care providers, retail sale and medical goods providers, public health programme providers and general health administration.

**Functions of health care** include core functions of health care (e.g. services of curative care, rehabilitative care, long term nursing care, ancillary services, out-patient medical goods, public health services, health administration and health insurance) and health-related functions (e.g. capital formation, education and training of health personnel, research and development in health).

## 2.3 THE SHA CLASSIFICATION

Although the MNHA classification is based on the SHA classification (SHA 1.0), there are some changes in the two sets. Chapter 10 on International NHA Data which is based on SHA 2011 briefly explains the salient differences. However, the rest of the data in various chapters are based strictly on the MNHA Framework.





# CHAPTER 3

## METHODOLOGY OF DATA COLLECTION AND ANALYSIS

### 3.1 GENERAL METHODOLOGY

A general understanding of the methodology in NHA estimation provides better appreciation of the data. The previous report produced a set of MNHA data from 1997- 2016 and this report contains data from 1997-2017. However, the data in this report over the same time period of 1997-2017 may show some variations compared to the previous report. This is mainly due to variations in responses from multiple data sources at each cycle of estimation. These variations are an acceptable phenomenon under NHA because estimations have to be carried out using standard NHA methodology for agencies that do not provide the requested data and therefore would otherwise have resulted in underestimation of health expenditure. Sometimes agencies are requested to provide their total spending for health-related activities and at other times their data are used to derive at the disaggregation of health expenditure by dimensions of provider or function of health care services and products. Complete lists of the sources of data are documented at every cycle of analysis (Appendix Table A1.1, A1.2). It is difficult to obtain near 100% response rate from all data sources. Any improvements in data responses will minimize estimations of non-responders and reflects a better true data.

### 3.2 DATA COLLECTION AND ANALYSIS

The method of data collection and analysis used in this report conforms to the method used in the previous cycle whereby detailed definitions of what constitute health expenditure, institutional entities and types of disaggregation were drawn up based on inputs from several documents, committee meetings, and consultative advice from the internal and external MOH sources. The expertise gained through the previous international consultancy is extremely helpful in setting guidelines to ensure that estimation methods are acceptable and reliable under NHA methodology.

Both primary and secondary data were used in this analysis (Appendix Table A1.1 and A1.2). Several agencies both from the public and private sectors provide primary data in several formats. These data were obtained through multiple MNHA surveys and other surveys, data extraction during previous state visits, data extraction from other datasets and even through discussions. The secondary health expenditure data were retrieved through various data sources, reports, bulletins and other documents. All these data were analysed separately by each group of agency. The primary data were entered into various agency master dummy spreadsheets containing unprocessed data from 1997 onwards to the current year. The verification of primary data is important as this affects the several stages of analysis and the quality of final outputs. The main objective of NHA analysis is to conduct data classification and fill in any data gap. The data sets from each source or agency were processed differently depending on the availability and completeness of data. Data classification for each agency was carried out based on the tri-axial MNHA entities of sources, providers and functions. The MNHA Framework enables health expenditure disaggregates to the lowest possible level under the three entities of sources, providers and functions. Any data gaps in each of these disaggregated data from each agency were then subjected to imputation methods used by NHA experts to fill the data gaps. Even these imputation methods vary from agency to agency. As in the past, the final analysis data of each agency were dual coded according to the MNHA classification as well as the SHA 1.0 classification (Appendix Tables A2.1, A2.2, and A2.3). State codes were also assigned to every set of analysis. Data from each agency were then collated before producing the final NHA data. Some of the important data with potential policy implications were then extracted and cross-tabulated to produce various tables and figures that are easily understood by policy makers and other stakeholders. All of these stages of analyses are highly technical and involving several methods that differ under each agency.



Besides a good understanding of NHA framework, personnel involved in NHA production also need to acquire knowledge on the use of specific software. The processes of data entry and analysis were carried out using Microsoft Excel program and statistical software Stata (Version 13). The initial MNHA data preparation, analysis, and coding were done in Microsoft Excel spreadsheets and the final output data files of each agency were uploaded into a final database in Stata. After writing several Stata programs various tables and figures are produced.

As in the previous round of analysis, improvements in quality of NHA data is enhanced by reporting all expenditures incurred for laboratories & radiological investigations as one total for curative care expenditure whenever they are delivered as part of curative care service package. However if expenditures incurred for laboratories and radiological investigations were provided separately, then they are reported under another function code. This is strictly in-keeping to definitions of functions codes under MNHA Framework for curative care services and standalone ambulatory health care centers.

Some unique verification processes of final data outputs for various data sources were also implemented. This involves validation of total estimates for each data source or agency prior to merging for the production of final database. This database is then subjected to a couple more verification measures prior to NHA data extraction to populate the various tables and figures. This report only highlights some selected findings, which may be of use for health policy development and health planning for the country. Further detailed data extractions with cross-tabulations can produce much more data as requested by policy makers and stakeholders.

### **3.2.1 Standardization of Hospital Expenditure Reporting**

Hospital care as defined in NHA, embodies all services provided by a hospital to patients. This means costs incurred for ancillary services such as pharmacy charges (drugs and non-durable products), surgical costs, laboratory tests, radiological investigations and rehabilitation services are included as part of curative care expenditure.

In older reports, the functional classification, categorised expenditure provided by public MOH hospitals as inpatient, outpatient and day-care; whereas services provided at public non-MOH hospitals (Ministry of Education, Ministry of Defence, National Heart Institute) and private hospitals in addition to in-patient, out-patient and day care were also disaggregated to show ancillary services expenditure separately whenever available.

Under the refined analysis all public and private hospitals services were disaggregated only into three categories as in-patient, out-patient and day-care. This reported curative care services expenditures for public and private hospitals include all ancillary charges as well. This revision provides a more standardized estimation of curative care services spending by both public and private sector hospitals.

### **3.2.2 Addressing Double Counting**

MNHA data sources have grown over the years. Explanation on various data sources and how the health expenditure data is obtained from these sources is briefly explained in the earlier sections of this chapter. Over the years there have been increases and changes in the healthcare benefits provided by public and private employers. In addition to providing private health insurance benefits, several employers also allow their employees to claim some of their medical expenses. These claims can be for services of curative care at public MOH and public non-MOH hospitals or clinics. Estimation of expenditure along a two-dimension matrix where one dimension is sources of funds and the other dimension is types of providers, the prevalence of such claims increased the likelihood of double counting the expenditure at public MOH and public non-MOH hospitals.

In the Malaysian context estimated health expenditure for all public hospitals are obtained from the respective data sources who are also providers of health care services (Ministry of Health – budget line data, MNHA yearly survey data from Ministry of Education, Ministry of Defence and National Heart Institute). Data captured through the surveys and secondary budget data provided the total expenses for the services rendered at public MOH and non-MOH hospitals and clinics. This included expenses incurred for services provided





to public and private employees. All patient revenues collected at these public facilities are channelled to a consolidated fund managed by the treasury. Some of these revenues are payments by employees which can be reimbursed by their employers. Surveys done on these employers also reported spending at various public hospitals which in the previous analysis was also taken into consideration. This would have inflated the actual spending at the public hospitals.

The refined methodology is a downward revision to health care provider's expenditures, resulting from removal of various agencies reimbursements when it involves claims for treatment received at public MOH and non-MOH hospitals and clinic.

Addressing this double counting is a major focus of the previous revision and accounted for some changes in the total expenditures. This approach in analysis to address double counting is carried out in this round of analysis which is similar to the previous report.

### **3.2.3 Review of claims from agencies for Health Care Services**

The data on claims refers to various financiers mainly government agencies which, based on their respective policy, allow their employee and eligible dependents to obtain services at public and private hospitals, clinics or standalone ancillary care centers which can sometimes be reimbursed back to the employee. As explained in paragraph 3.2.1, the previous NHA series addressed standardization of curative care services reporting at hospitals which includes review of the claims data collected from various agencies and ancillary care boundaries.

## **3.3 DATA PROCESSING OF VARIOUS AGENCIES**

The methods used for data processing varied according to the availability, completion and source of data as follows:

### **3.3.1 Public Sector**

#### **3.3.1.1 Ministry of Health (MOH)**

Health expenditure data of the MOH (1997-2017) were obtained from the Accountant-

General's Department of Malaysia (AGD), under the Ministry of Finance (MOF). The AG raw database for the MOH is the primary source of data whereby expenditure data is entered as line item. All health expenditures are disaggregated into the tri-axial coding system under the dimensions of sources of financing, providers and functions of health care based on the MNHA Framework, omitting double counting. Some assumptions are made using budgetary allocations for respective years.


#### **3.3.1.2 Ministry of Education (MOE)**

The functions of the university hospitals under the MOE include provision of health care services, health related training and research. Health expenditures of these institutions were mainly for curative care services. Other than these institutions, data (1997-2017) on the cost of training health professionals were obtained from various training colleges, Public Service Department (PSD) and other agencies.

#### **3.3.1.3 Other Federal Agencies (including Statutory Bodies)**

The agencies under "Other Federal Agencies" currently consists of seventeen public agencies which include the National Anti-Drug Agency, Prison Department, Malaysia Civil Defence Force, Pension Department of Public Service Department (KWAP), National Heart Institute of Malaysia, Social Welfare Department of Malaysia, Department of Orang Asli Development, National Population and Family Development Board Malaysia, National Institute of Occupational Safety and Health Malaysia (NIOSH), Department of Occupational Safety and Health Malaysia (DOSH), National Sports Institute of Malaysia, Ministry of Science, Technology and Innovation (MOSTI), Federal Statutory Bodies, Institutes, Pilgrims Fund Board and Emergency Medical Rescue Services (EMRS).

The expenditure on health of other Federal Agencies (including Statutory Bodies) was captured from these sources through special MNHA surveys questionnaires which also



assist to estimate the proportions of this expenditure for disaggregation to providers and functions of health care. Other Federal Agencies (including Statutory Bodies) expenditures are mainly for curative care services, retail sales and medical goods, and research.

#### **3.3.1.4 Local Authorities**

Health expenditure data of the Local Authorities were collected from 155 agencies of locals/ municipal governments in Malaysia. Most local authorities provide preventive care services such as disease control and food quality control.

#### **3.3.1.5 (General) State Government**

This consists of health expenditure by all thirteen state governments and three Federal Territories which include Kuala Lumpur, Putrajaya and Labuan. Most of the state expenditure is mainly for curative care services, ancillary services and environmental health, such as for water treatment.

#### **3.3.1.6 Ministry of Defence (MOD)**

The Ministry of Defence provides health services through its Army Hospitals and Armed Forces Medical and Dental Centres (*Rumah Sakit Angkatan Tentera dan Pusat Pergigian Angkatan Tentera*). The expenditure on health of this ministry (1997-2017) is captured from these sources, together with MNHA survey to estimate the proportions of this expenditure for disaggregation to providers and functions of health care. The MOD expenditure is mainly for curative care services.

#### **3.3.1.7 Social Security Funds**

There are two major organizations providing social security funds; the Employees Provident Fund (EPF) and the Social Security Organization (SOCSO), both of which are mandated by the government. In both, samplings of the medical bill claims were done to obtain health expenditures disaggregation by states to providers and functions and health care services.

#### **3.3.1.8 Other State Agencies (including statutory bodies)**

Other state agencies consist of statutory bodies and Zakat Collection Centre (MAIN). The data (1997-2017) on the number of employees and the health expenditure for state statutory bodies were collected from various sources. In addition, the MNHA Survey of state agencies including the statutory bodies provided data on per capita spending as well as expenditure disaggregation to provider and function of health care services.

### **3.3.2 Private Sector**

#### **3.3.2.1 Household Out-of-Pocket (OOP) Health Expenditure**

Internationally, there are several methods to estimate household out-of-pocket (OOP) health expenditure. MNHA uses Integrative approach to estimate OOP expenditure. The integrative approach involves examining expenditure flows from the perspective of all agents in the system. This approach comprises of several different health expenditure flows in the system from different perspectives: (i) from the source of financing or consumption (example: Household Expenditure Survey or Household Income and Expenditure Survey (HES/HIES) and (ii) from the provider side (example: private hospital and clinic survey). This combination approach is the best method and highly recommended by NHA international standards.

Although HES/HIES are conducted to collect data on all items of household expenditure, MNHA does not use their estimated OOP. This is because that value provides lower estimates of health spending than specialised health surveys, which focus only on healthcare use. Some of the limitations of HES/HIES survey are sampling error, biases arising from non-sampling errors and significant recall loss (inpatient: 12 months associated with 30-50% loss of recall and outpatient: > 2-3 days associated with 20% loss of recall).



### 3.3.2.1.1 Integrative Approach

In the integrative approach, the gross of direct spending from the consumption, provision and financing perspective is estimated after deduction of the third-party source of financing payer reimbursements. This deduction is done to avoid double counting and over estimation of the OOP expenditure. The integrative approach under the MNHA Framework uses the formula below to derive at the estimated OOP expenditure:

$$\text{OOP Health Expenditure} = (\text{Gross OOP Health Expenditure} - \text{Third Party Payer Reimbursement}) + \text{OOP Expenditure for Health Education \& Training}$$

### 3.3.2.1.2 Data Source Compilation

#### (a) Gross OOP Expenditure

The gross OOP expenditure is the net reconciliation of various datasets using the consumption and provider approaches. It consists of two groups, namely Residual Items (RI) and Non Residual Items (NRI) which includes the following sources:

- (i) Non Residual Items (NRI)
  - Ministry of Health User Charges
  - University Hospitals User Charges
  - National Heart Institute User Charges
  - Private Hospitals Gross Revenues
  - Private Clinics Gross Revenues
  - Private Dentists Gross Revenues
  - Private Pharmacy Sales
  - Medical Supplies
- (ii) Residual Items (RI)
  - Medical durables / prosthesis / equipment
  - Medical Supplies
  - Ancillary Services
  - Traditional and Complementary Medicine (TCM)
  - Traditional Treatment Provider

#### (b) Third Party Payer Reimbursement

The third party payer re-imbursements are the finances claimed from the various agencies by the OOP payee after the OOP payment is made and includes the following sources:

- Private Insurance Enterprise
- Private Corporations
- Employees Provident Fund (EPF)
- Social Security Organization (SOCSO)
- Federal and State Statutory agencies

Each item in the gross spending and third party payer data can be obtained from several data sources (Appendix Table A1.1 and A1.2).

### 3.3.2.1.3 Residual Items Estimation

Residual Items (RI) consists of gross direct spending for medical durables, medical supplies, ancillary services, TCM and traditional treatment provider. The RI data source is from Household Expenditure (HES) or Household Income and Expenditure Survey (HIES) reported by Department of Statistics Malaysia (DOSM). There are several steps in estimating of RI as follows:

#### (a) Code and Grouping of HES/HIES

The first step is to study similarities and differences in Classification of Individual Consumption by Purpose (COICOP) of group 5 or 6 items (health services and medical goods) codes for different 5 series HES/HIES surveys (1993/1994, 1997/1998, 2004/2005, 2009/2010 and 2014/2015). This step follows mapping every item of group 5 or 6 based on definitions used in DOSM survey for all HES/HIES survey series.



### **(b) Additional Data or Surveys**

Additional data used for expenditure adjustment in analysis from MNHA surveys by other agencies (example: Accountant General (AG), IMS) and data from others agencies surveys (example: Gross Domestic Product (GDP), Household Consumption, National Health Morbidity Survey (NHMS).

### **(c) Analysis of RI Expenditure**

Re-group all items of group 5 or 6 items codes for different 5 series HES/HIES surveys based on COICOP with weighted expenditures in all series into 18 categories based on the following list:

- (i) Pharmaceutical - Prescription
- (ii) Pharmaceutical - Over the counter (OTC)
- (iii) Pharmaceutical - Supplement
- (iv) Pharmaceutical - TCM
- (v) Other medical products - Medical supply
- (vi) Therapeutic appliances- Medical durable
- (vii) Medical OP - Government
- (viii) Medical OP - Private
- (ix) Medical OP - Government Corporation
- (x) Dental OP - Government
- (xi) Dental OP - Private
- (xii) Dental OP - Government Corporation
- (xiii) Ancillary Services
- (xiv) Ancillary Services-TCM
- (xv) Ancillary Services-TCM Provider
- (xvi) Hospital IP-Government
- (xvii) Hospital IP-Private
- (xviii) Hospital IP- Government Corporation

Compare IMS pharmaceutical items with COICOP residual items. Identify items in 3 categories (Pharmaceuticals, Supplies and TCM) which are captured in IMS data. Regroup the items as 'IMS Grouping'. Reassign 18 groups into 10 categories identified in Gross OOP Spending estimation list:

- (i) Government Facility User Charges
- (ii) Private Hospitals Gross Revenues
- (iii) Private Clinics Gross Revenues

- (iv) Private Dentists Gross Revenues
- (v) Pharmacy Purchases
- (vi) Medical durables / prosthesis / equipment
- (vii) Medical Supplies
- (viii) Ancillary Services
- (ix) TCM
- (x) Traditional Treatment Provider

Next is the use of various analytical techniques (smoothing/ straight line imputation / interpolation/ extrapolation) to address data noise, fill data gaps, sampling issues and sampling errors, etc. This is followed by estimations to derive at various proportions for adjustment of HES/HIES data to multiple available studies (Professional and Industrial Survey (PNI) and Household Consumption (HH).

A new spreadsheet with five series of HES/ HIES expenditure is created based on above 10 categories by direct method of expenditure for all categories. This spreadsheet allows all categories expenditure analysis by indirect method using Household Consumption. This adjusted value is then estimated as a share of GDP to generate the five residual items expenditure. For non-survey years data gaps are filled using linear interpolation technique.

### **(d) Coding of RI Expenditure to State, Provider and Function Codes**

The first step is selecting relevant COICOP codes from each HES/HIES which are RI (exclude NRI and IMS data). For each year of RI re-align/map codes in various HES/HIES surveys to have the same representation for all 5 series HES/HIES surveys. Assign MNHA MP, MF codes and state codes for each COICOP code. Finally, the individual COICOP code is grouped into 10 different combinations of MNHA MP and MF codes.





#### **3.3.2.1.4 Non-Residual Items Estimation**

##### **(a) Government Facility User Charges**

Government facilities collect revenues from patients in the form of official user charges. Data sources of government user charges consist of:

- AG data - MOH user charges
- MNHA MOE survey
- MNHA IJN survey

MOH user charges extracted from AG data by SODO Codes for OP, IP and DC are selected and assigned MNHA Provider (MP) and Function (MF) codes. Data from MOE and IJN MNHA Survey are used to assign MP, MF and state codes.

##### **(b) Private Facilities Gross Revenue**

This consists of three facility revenue at private hospital, medical clinics and dental clinics. The data source is from Professional and Industrial Survey (PNI) produced by DOSM and MNHA Private Hospital Survey. PNI are rolling surveys which has data gaps and require processing using linear interpolation and GDP values. MNHA Survey data is used to assign MP, MF and state codes. This requires hospital grouping by bed numbers based on Medical Practice Division, MOH list.

##### **(c) Private Pharmacy Purchases**

Pharmaceutical data on pharmacy channel from IMS is used for OOP estimation which includes product groups as ethical/prescription, pharmacy and over the counter (OTC). Since IMS data is warehouse price, some estimation is done to get retail price. Each of the three product groups is assign MNHA MP and MF codes. Assignment of state coding is based on number of private stand-alone pharmacies in each state (data from MOH Pharmacy Division).

##### **(d) Private Haemodialysis**

Private Haemodialysis data source is from MNHA Private Haemodialysis Survey based on Medical Practice Division, MOH (CKAPS) list. Data from each respondent are assigned MNHA MP, MF & state codes. Currently reported MNHA value is an underestimation as the response rate can be further improved.

#### **3.3.2.1.5 Deduction of Third Party Payers**

The summation of all gross revenues is considered as OOP and non-OOP health expenditure. The non-OOP health expenditure has to be deducted as the refundable payments (private insurance, private corporations, SOCSO, EPF and statutory bodies) to estimate the net OOP expenditure. This deduction is done to avoid double counting and over estimation of the OOP expenditure. Also, under the MNHA Framework, unlike the SHA 1.0 framework, the OOP spending is inclusive of expenditure for health-related education and training.

#### **3.3.2.1.6 Training Expenditure Estimation**

The source of data came from public and private universities and training institutions conducting training in the field of health at post-secondary and tertiary levels. Data on health personnel in-service training expenditure is currently not available, in part due to the resource intensiveness in the manner of capturing or extracting this type of expenditure which is embedded in other expenditures, such as expenditure for administration at each hospitals and health departments. Data from each respondent are assigned MNHA MP, MF and state codes. Data gaps are filled up using linear interpolation.





### 3.3.2.2 Private Corporations / Private Companies

More than 90% of the total labour force works in the private sector and gain medical benefits through the private employer medical benefit scheme. The average per capita health expenditure is calculated based on the survey conducted by Department of Statistic Malaysia (DOSM) on various types of industries. The proportions of providers and functions were estimated based on analysis and via MNHA questionnaires sent to the selected private companies. This expenditure excludes group insurance purchases by large companies for their employees for health purposes as this is captured under private health insurance expenditure.

### 3.3.2.3 Private Health Insurance

The health expenditure of private health insurance is calculated based on the Medical Health Insurance data from the Central Bank of Malaysia. The data includes individual and grouped insurances data. The proportions for providers and functions of health care are obtained via the MNHA survey of sampled insurance companies.

### 3.3.2.4 Non-Government Organizations (NGOs)

Besides social activities, the non-government organizations (NGOs) are also involved in health related activities. Health expenditure incurred by the NGOs is obtained through the MNHA survey of these organizations which enables the expenditure disaggregation to providers and functions of health care. The process of obtaining a full list of NGOs and achieving good response rate for this type of source of financing has always been a challenge.

### 3.3.2.5 Managed Care Organizations (MCO)

Under the provisions of the existing law, only insurance companies are allowed to undertake 'health risk'. In Malaysia, most of the organizations considered as MCOs are third

party payers. The data obtained from these third party payers were data mainly related to health administration of health insurance.

## 3.4 MNHA ESTIMATION OF CONSTANT VALUE

Current or Nominal value of health expenditure refers to expenditures reported for a particular year, unadjusted for inflation. Constant value estimates indicate what expenditure would have been when anchored to a particular year value, such as 2016 values applied to all years. As a result, expenditures in different years can be compared on a *Ringgit-for-Ringgit* basis, using this as a measure of changes in the volume of health goods and services. Constant expenditure adjusts current or nominal values which aim to remove the effects of inflation. Hence, when making health expenditure comparisons over a time series it is more meaningful to use constant values rather than current or nominal values.

$$\text{GDP Deflator} = \frac{\text{GDP Current}}{\text{GDP Constant}} \times 100$$

In health expenditure estimations under NHA usually the constant value is estimated using GDP deflator. The GDP deflator is a measure of the level of prices of all new, domestically produced, final goods and services in an economy. It is a price index that measures price inflation or deflation. GDP deflator can be calculated using above formula for every series in different base year for GDP current and constant values. GDP current and GDP constant time series data is published every year by Department of Statistics Malaysia (DOSM).

The constant value estimation requires a two-step method whereby the first step involves estimation of a set of GDP deflators. Based on advice from NHA experts the splicing method on series in different base year from 2000 to 2010 can be used to get a series of GDP deflator as shown in Table 3.4a. The second step involves application of this estimated GDP deflator to nominal values for estimation of constant values.





**TABLE 3.4a: Example of Splicing Method with Different Base Year**

Year	2005	2006	2007	2008	2009	2010	2011
<b>Deflators Base Year 2005</b>	100	104	109	120	113	118	
<b>Deflators Base Year 2010</b>						100	105
<b>GDP Deflator Base Year 2010 (Splicing Method)</b>	<b>85</b>	<b>88</b>	<b>92</b>	<b>102</b>	<b>96</b>	<b>100</b>	<b>105</b>

Note: Derived values in italics

Example of splicing method using base year 2010 to derive at new GDP deflator for year 2009:

$$= (100/118) \times 113$$

$$= 96$$

For year 2008:

$$= (100/118) \times 120$$

$$= 102$$

Constant value estimates can be obtained by calculating GDP deflator base year 2016 from the

derived values of GDP deflator base year 2010 which then can be applied to the nominal value of health expenditure. As a result, nominal value increases when expressed in constant value at a particular base year.

This estimation can be demonstrated using 2016 base year and a set of GDP deflator values as shown in Table 3.4b.

**TABLE 3.4b: Example of Calculating Total Expenditure on Health in Constant Value Base Year 2016**

	2009	2010	2011	2012	2013	2014	2015	2016
<b>GDP Deflator Base Year 2010 (Splicing Method)</b>	96	100	105	106	107	108	109	111
<b>TEH Nominal (RM Million)</b>		32,000	35,000	39,000	41,000	46,000	49,000	51,000
<b>TEH Constant (RM Million)</b>		<b>35,520</b>	<b>37,000</b>	<b>40,840</b>	<b>42,533</b>	<b>47,278</b>	<b>49,899</b>	<b>51,000</b>

Monetary values expressed in current values can be converted to constant values base year 2016 using the formula:-

$$V_{cox} = V_{curx} * (D_i / D_x)$$

Where:-

- $V_{cox}$  is the value expressed in constant values for the year for which constant prices are to be calculated (Year x)
- $V_{curx}$  is the value expressed in the current values applying in Year x
- D refers to the GDP deflator applying in Years x and i, with i being the base year

For example, using the above formula to calculate TEH 2015 in constant value:-

- $V_{curx} = \text{RM}49,000$
- $D_i = 111$
- $D_x = 109$

Then:

$$V_{cox} = \text{RM}49,000 \times (111/109)$$

$$= \text{RM}49,899$$

Thus the value to be used, expressed as constant values at the base year 2016, is RM49,899 rather than the current value of RM49,000.

# CHAPTER 4

## 4.1 TOTAL EXPENDITURE ON HEALTH

The Total Expenditure on Health (TEH) for Malaysia between 1997 to 2017 is as illustrated in Table 4.1 and Figure 4.1. There is a gradually increasing pattern of the TEH. Meanwhile, TEH as a share of Gross Domestic Product (GDP) for the same period ranged from 3.03 percent to 4.24 percent of GDP.

**TABLE 4.1: Total Expenditure on Health, 1997-2017 (RM Million & Percent GDP)**

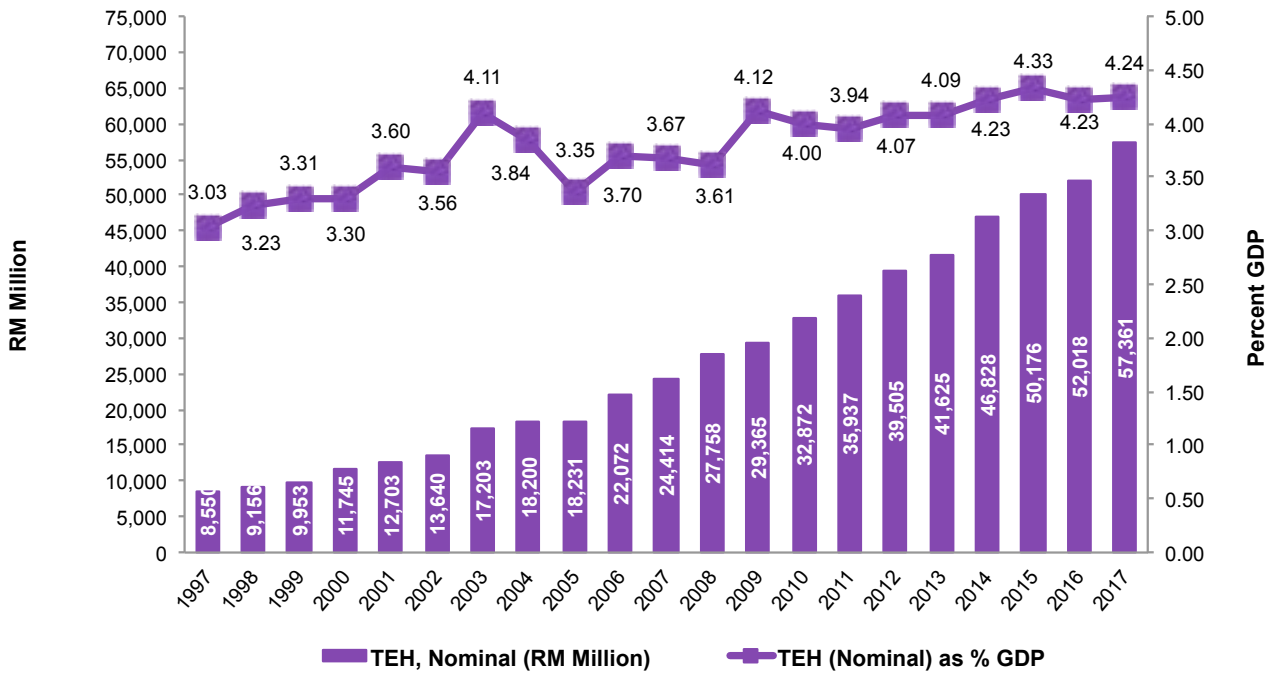
Year	Expenditure	TEH, Nominal (RM Million)	TEH, Constant (RM Million)*	Total GDP, Nominal (RM Million)**	MNHA Derived GDP Deflator*	TEH (Nominal) as % GDP
1997		8,550	15,374	281,795	64	3.03
1998		9,156	15,189	283,243	69	3.23
1999		9,953	16,512	300,764	69	3.31
2000		11,745	18,528	356,401	73	3.30
2001		12,703	20,448	352,579	72	3.60
2002		13,640	21,305	383,213	74	3.56
2003		17,203	25,846	418,769	77	4.11
2004		18,200	25,866	474,048	81	3.84
2005		18,231	24,793	543,578	85	3.35
2006		22,072	28,862	596,784	88	3.70
2007		24,414	30,461	665,340	92	3.67
2008		27,758	31,458	769,949	102	3.61
2009		29,365	35,341	712,857	96	4.12
2010		32,872	37,885	821,434	100	4.00
2011		35,937	39,291	911,733	105	3.94
2012		39,505	42,764	971,252	106	4.07
2013		41,625	44,980	1,018,614	107	4.09
2014		46,828	49,385	1,106,443	109	4.23
2015		50,176	53,110	1,158,513	109	4.33
2016		52,018	54,004	1,231,020	111	4.23
2017		57,361	57,361	1,353,380	115	4.24

Note: \*Constant values estimated using MNHA derived GDP deflators (splicing method with 2010 base year)

Source: \*\*Department of Statistics Malaysia (DOSM), published in May 2018



**FIGURE 4.1: Trend for Total Expenditure on Health, 1997-2017 (RM Million & Percent GDP)**





## 4.2 PER CAPITA HEALTH EXPENDITURE

Per capita expenditure on health in nominal value ranged from RM393 in 1997 to RM1,790 in 2017. In constant values, per capita health expenditure ranged from RM706 in 1997 to RM1,790 in 2017 (Table 4.2 and Figure 4.2).

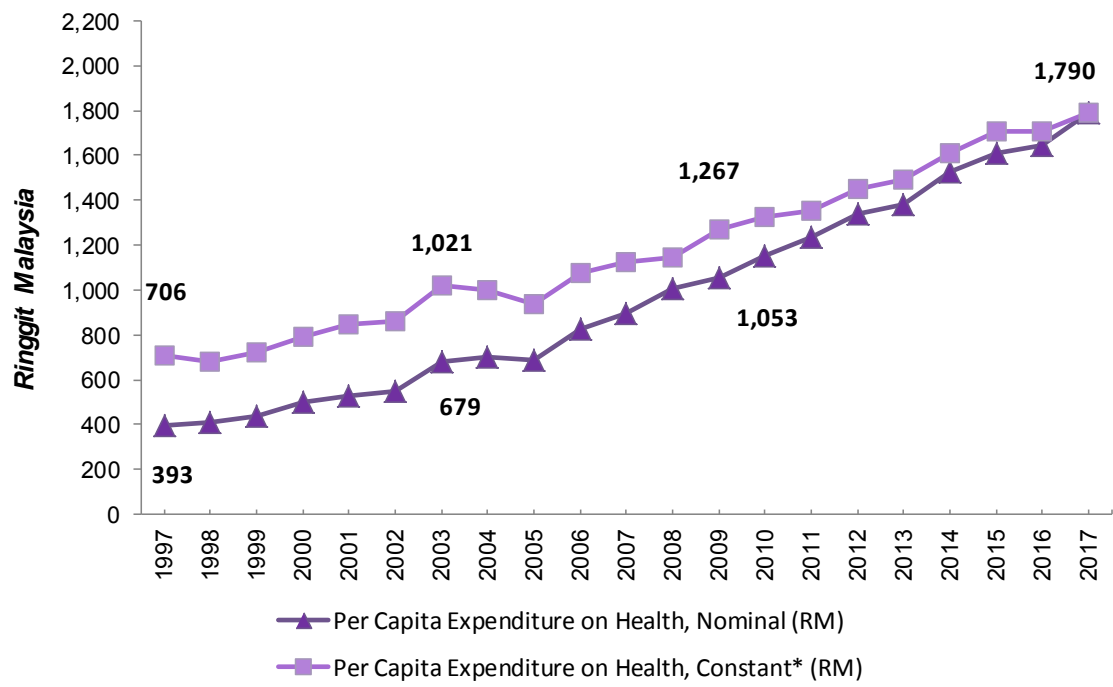
Year	Expenditure / Population	TEH, Nominal (RM Million)	TEH, Constant (RM Million)*	Per Capita Expenditure on Health, Nominal (RM)	Per Capita Expenditure on Health, Constant* (RM)	Total Population**
1997		8,550	15,374	393	706	21,769,200
1998		9,156	15,189	410	680	22,333,500
1999		9,953	16,512	434	721	22,909,400
2000		11,745	18,528	500	789	23,494,900
2001		12,703	20,448	527	848	24,123,400
2002		13,640	21,305	552	862	24,727,100
2003		17,203	25,846	679	1,021	25,320,100
2004		18,200	25,866	703	998	25,905,100
2005		18,231	24,793	689	936	26,477,100
2006		22,072	28,862	823	1,076	26,831,400
2007		24,414	30,461	898	1,120	27,186,000
2008		27,758	31,458	1,008	1,142	27,540,300
2009		29,365	35,341	1,053	1,267	27,895,100
2010		32,872	37,885	1,150	1,325	28,588,800
2011		35,937	39,291	1,237	1,352	29,062,100
2012		39,505	42,764	1,339	1,449	29,509,900
2013		41,625	44,980	1,378	1,489	30,213,800
2014		46,828	49,385	1,525	1,608	30,708,600
2015		50,176	53,110	1,609	1,703	31,186,100
2016		52,018	54,004	1,644	1,707	31,633,400
2017		57,361	57,361	1,790	1,790	32,049,900

Note: \*Constant values estimated using MNHA derived GDP deflators (splicing method with 2010 base year)  
 Source: \*\* Department of Statistics Malaysia (Population Quick Info, accessed on 21<sup>st</sup> May 2018)





**FIGURE 4.2: Per Capita Expenditure on Health, 1997-2017 (Nominal & Constant, RM)**



Note: \*Constant values estimated using MNHA derived GDP deflators (splicing method with 2010 base year)



### 4.3 HEALTH EXPENDITURE BY STATES

Under beneficiary group of MNHA classification, state disaggregation of health expenditure is still a new set of analysis and reporting. All state allocation is assigned based on the facility where the financial resources were used to purchase the various types of healthcare services and products. In the event it is not possible, it will be allocated based on the location of the agency which represented. The arrangement of states in the figures and tables below are based on the state population size in the year 2017 as the reference year.

There are a thirteen states and three Federal Territories, namely Kuala Lumpur, Labuan and Putrajaya. The state population census is reported by the Department of Statistics Malaysia. In 2017, Selangor had both the largest population of about 6 million people and highest expenditure on health of RM10,020 million as shown in Table 4.3 and Figure 4.3.

**TABLE 4.3: State Population and Health Expenditure, 2017**

State	Population *	Expenditure (RM Million)
Selangor	6,380,800	10,020
FT KL	1,791,300	8,653
Johore	3,700,500	4,531
Penang	1,746,300	4,096
Perak	2,496,400	3,450
Sarawak	2,767,600	3,277
Sabah	3,866,800	3,232
Kedah	2,146,200	2,374
Pahang	1,648,000	2,144
Kelantan	1,829,700	1,935
Malacca	914,700	1,708
N. Sembilan	1,117,100	1,796
Terengganu	1,207,700	1,270
FT Putrajaya	97,700	490
Perlis	252,200	368
FT Labuan	86,900	111
National**		7,907
<b>Total</b>	<b>32,049,900</b>	<b>57,361</b>

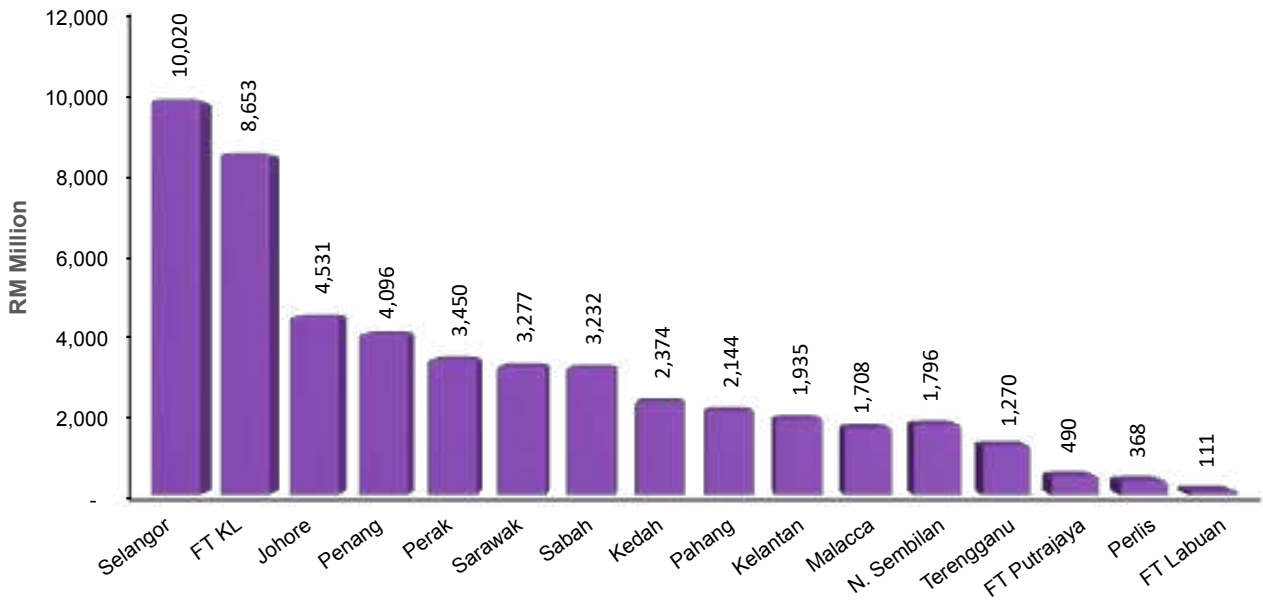
Source: \*Population Quick Info. of Department of Statistics Malaysia website, accessed 21st May 2018

Note: \*\*Unable to allocate by states





**FIGURE 4.3: Health Expenditure by States, 2017 (RM Million)**







# CHAPTER 5

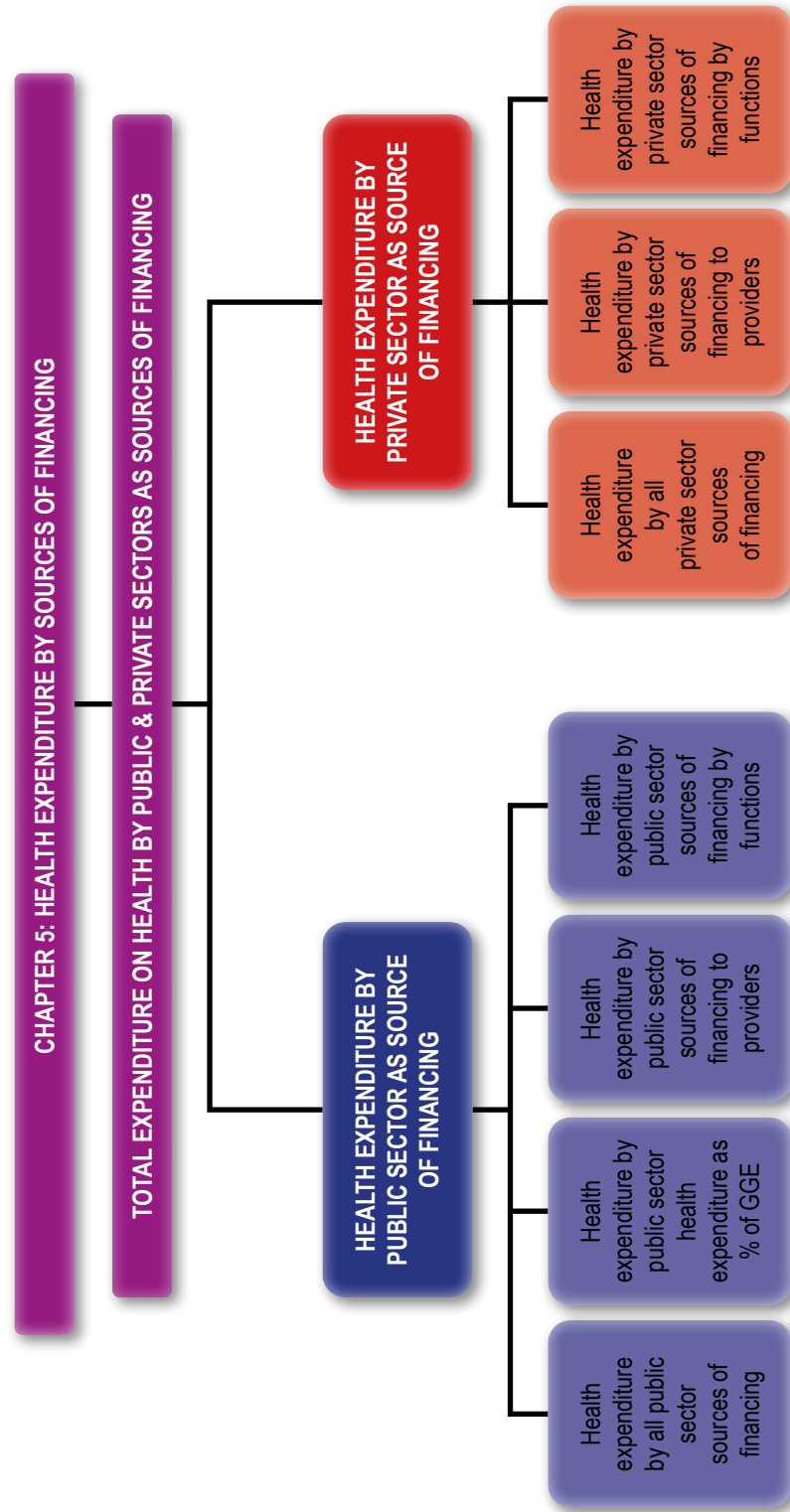
## HEALTH EXPENDITURE BY SOURCES OF FINANCING

Sources of financing for health care services and products include multiple public and private sector agencies. The public sector sources of financing are federal government, state government, local authorities and social security funds. As for the private sector, sources of financing include private insurance enterprises, managed care organizations (MCO), private household out-of-pocket (OOP), non-profit institutions, private corporations and rest of the

world (Appendix Table A2.1). The share of both sectors to the TEH can be identified for each year in the time series. This chapter contains three main sections, namely health expenditure by all sources of financing and specific public sector and private sector health expenditures are separated as section 5.2 and section 5.3 respectively. An overview of health expenditure by sources of financing is shown in Figure 5.0



**FIGURE 5.0: Organogram of Health Expenditure by Sources of Financing**





## 5.1 Health Expenditure by Public and Private Sector Sources of Financing

Among the various sources of financing, the Ministry of Health (MOH) has the highest expenditure amounting to RM24,715 million or 43% share of TEH (Table 5.1a and Figure 5.1a) in 2017. This is followed by private household out-of-pocket (OOP) spending (RM 21,573 million or 38%), private insurance (RM4,085 million or 7 percent) and other federal agencies including federal statutory bodies (RM2,178 million or 4 percent). The Ministry of Education (MOE) spent RM1,283 million or 2 percent, whereas all corporations (other than health insurance) spent RM1,313 million contributing to about 2 percent of the share of TEH.

The time series data trend also shows that there are changes of trend in sources of financing from 2003

onwards. Private insurance expenditure was the third highest source of financing until 2017. In 2004, other federal agencies (including statutory bodies) replaced all corporation (other than health insurance) (Table 5.1b and Table 5.1c).

In 2017, the public and private sectors health expenditure are RM29,338 million (51%) and RM28,023 million (49%) respectively (Table 5.1d and Figure 5.1b). A similar pattern is noted throughout the time series from 1997 to 2017 with the public sector share of health expenditure remained higher than the private sector share. Both public and private sectors spending generally showed an increasing trend throughout the time-series.

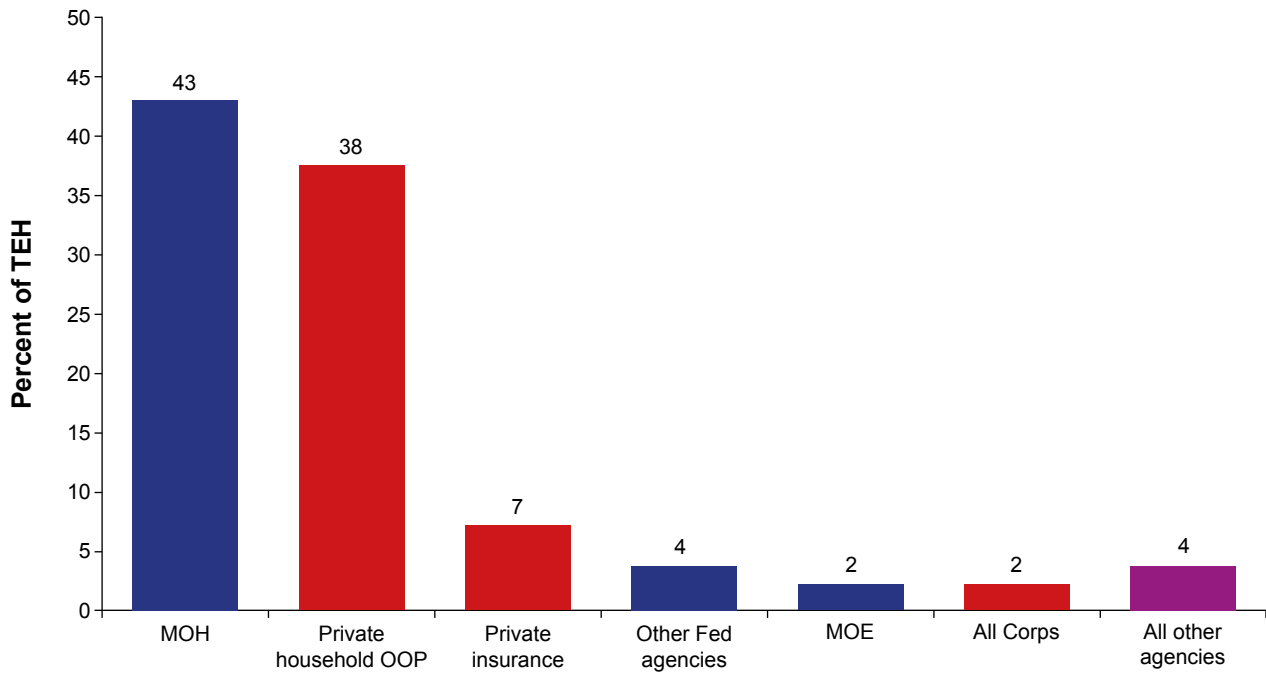
**TABLE 5.1a: Total Expenditure on Health by Sources of Financing, 2017**

MNHA Code	Sources of Financing	RM Million	Percent
MS1.1.1	Ministry of Health (MOH)	24,715	43.09
MS2.4	Private household out-of-pocket expenditures (OOP)	21,573	37.61
MS2.2	Private insurance enterprises (other than social insurance)	4,085	7.12
MS1.1.9	Other federal agencies (including statutory bodies)	2,178	3.80
MS2.6	All corporations (other than health insurance)	1,313	2.29
MS1.1.2	Ministry of Education (MOE)	1,283	2.24
MS2.3	Private MCOs and other similar entities	984	1.72
MS1.1.2.2	Other state agencies (including statutory bodies)	405	0.71
MS1.2.2	Social Security Organization (SOCSO)	329	0.57
MS1.1.3	Local authorities (LA)	139	0.24
MS1.1.1.3	Ministry of Defence (MOD)	132	0.23
MS1.1.2.1	(General) State government	99	0.17
MS2.5	Non-profit institutions serving households (NGO)	63	0.11
MS1.2.1	Employees Provident Fund (EPF)	58	0.10
MS9	Rest of the world (ROW)	5	0.01
<b>Total</b>		<b>57,361</b>	<b>100.00</b>





**FIGURE 5.1a: Total Expenditure on Health by Sources of Financing, 2017**





**TABLE 5.1b: Total Expenditure on Health by Sources of Financing, 1997-2017 (RM Million)**

MNHA Code	Sources of Financing	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MS11.11	Ministry of Health (MOH)	3616	3,943	4,358	5,266	6,141	6,545	8,876	8,761	7,893	10,655	11,036	12,813	14,431	15,945	16,496	18,239	19,038	21,782	22,671	22,225	24,715
MS11.12	Ministry of Education (MOE)	322	324	366	408	501	555	593	638	658	707	844	982	1,022	1,224	1,227	1,292	1,240	1,355	1,322	1,294	1,283
MS11.13	Ministry of Defence (MOD)	42	46	48	54	62	68	79	74	81	96	109	136	133	127	140	172	175	186	169	154	132
MS11.19	Other federal agencies (including statutory bodies)	241	278	297	337	425	473	563	755	737	819	1,049	1,405	1,541	1,536	1,809	1,750	1,681	1,877	1,895	2,027	2,178
MS11.21	(General) State government	36	41	41	42	41	46	68	90	67	77	90	96	86	93	94	110	80	88	90	98	99
MS11.22	Other state agencies (including statutory bodies)	31	32	33	38	39	43	50	56	67	71	75	86	90	111	129	137	189	212	346	385	405
MS11.3	Local authorities (LA)	15	16	17	18	19	22	27	35	45	42	419	113	238	108	142	150	188	164	178	126	139
MS1.21	Employees Provident Fund (EPF)	7	15	20	24	32	36	43	56	61	46	51	49	38	34	39	38	42	46	52	56	58
MS1.22	Social Security Organization (SOCSSO)	50	50	53	60	63	67	74	83	96	105	117	88	102	136	157	176	219	264	261	310	329
MS2.2	Private insurance enterprises (other than social insurance)	295	365	421	516	599	718	964	1,062	1,084	1,246	1,413	1,709	1,991	2,273	2,614	2,774	2,916	3,203	3,623	3,840	4,085
MS2.3	Private MCOs and other similar entities	50	68	73	78	84	92	106	113	123	138	151	167	179	201	243	302	287	437	750	897	984
MS2.4	Private household out-of-pocket expenditures (OOP)	3,166	3,266	3,497	4,175	3,882	4,127	4,941	5,664	6,382	7,145	7,921	9,084	8,478	9,916	11,669	12,994	14,462	16,128	17,602	19,316	21,573
MS2.5	Non-profit institutions serving households (NGO)	64	70	71	87	93	104	118	131	148	160	186	214	234	269	312	363	78	40	69	87	63
MS2.6	All corporations (other than health insurance)	616	642	658	637	722	744	701	680	787	785	951	816	801	899	863	1,005	1,026	1,043	1,163	1,197	1,313
MS9	Rest of the world (ROW)	0	0	0	5	0	0	0	0	0	0	1	1	2	1	3	2	3	4	5	4	5
	<b>Total</b>	<b>8,550</b>	<b>9,156</b>	<b>9,953</b>	<b>11,745</b>	<b>12,703</b>	<b>13,640</b>	<b>17,203</b>	<b>18,200</b>	<b>18,231</b>	<b>22,072</b>	<b>24,414</b>	<b>27,758</b>	<b>29,365</b>	<b>32,872</b>	<b>35,937</b>	<b>39,505</b>	<b>41,625</b>	<b>46,828</b>	<b>50,176</b>	<b>52,018</b>	<b>57,361</b>





**TABLE 5.1c: Total Expenditure on Health by Sources of Financing, 1997-2017 (Percent, %)**

MNHA Code	Sources of Financing	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MS11.11	Ministry of Health (MOH)	42.29	43.07	43.78	44.84	48.85	47.98	51.59	48.14	43.30	48.27	45.20	46.16	49.14	48.51	45.90	46.17	45.74	46.51	45.18	42.73	43.09
MS11.12	Ministry of Education (MOE)	3.77	3.54	3.68	3.47	3.94	4.07	3.45	3.51	3.61	3.20	3.46	3.54	3.48	3.72	3.42	3.27	2.98	2.89	2.64	2.49	2.24
MS11.13	Ministry of Defence (MOD)	0.50	0.50	0.48	0.46	0.48	0.50	0.46	0.41	0.45	0.44	0.45	0.49	0.45	0.39	0.39	0.44	0.42	0.40	0.34	0.30	0.23
MS11.19	Other federal agencies (including statutory bodies)	2.82	3.04	2.99	2.87	3.35	3.46	3.27	4.15	4.04	3.71	4.30	5.06	5.25	4.67	5.03	4.43	4.04	4.01	3.78	3.90	3.80
MS11.21	(General) State government	0.42	0.45	0.42	0.36	0.33	0.34	0.40	0.50	0.37	0.35	0.37	0.35	0.29	0.28	0.26	0.28	0.19	0.19	0.18	0.19	0.17
MS11.22	Other state agencies (including statutory bodies)	0.36	0.35	0.33	0.33	0.31	0.31	0.29	0.31	0.37	0.32	0.31	0.31	0.31	0.34	0.36	0.35	0.45	0.45	0.69	0.74	0.71
MS11.3	Local authorities (LA)	0.18	0.17	0.17	0.15	0.15	0.16	0.16	0.19	0.25	0.19	1.72	0.41	0.81	0.33	0.39	0.38	0.45	0.35	0.36	0.24	0.24
MS12.1	Employees Provident Fund (EPF)	0.08	0.17	0.20	0.20	0.25	0.27	0.25	0.31	0.33	0.21	0.21	0.18	0.13	0.10	0.11	0.10	0.10	0.10	0.10	0.11	0.10
MS12.2	Social Security Organization (SOCSSO)	0.58	0.54	0.63	0.51	0.49	0.49	0.43	0.46	0.52	0.48	0.48	0.32	0.35	0.41	0.44	0.45	0.53	0.56	0.52	0.60	0.57
MS2.2	Private insurance enterprises (other than social insurance)	3.44	3.99	4.23	4.39	4.71	5.27	5.60	5.84	5.95	5.65	5.79	6.16	6.78	6.91	7.27	7.02	7.00	6.84	7.22	7.38	7.12
MS2.3	Private MCCOs and other similar entities	0.58	0.75	0.73	0.67	0.66	0.68	0.62	0.62	0.67	0.63	0.62	0.60	0.61	0.61	0.68	0.76	0.69	0.93	1.45	1.72	1.72
MS2.4	Private household out-of-pocket expenditures (OOP)	3703	3567	3514	3555	3056	3026	2872	3112	3501	3237	3244	3273	2887	3017	3247	3289	3474	3444	3508	3713	3761
MS2.5	Non-profit institutions serving households (NGO)	0.75	0.76	0.72	0.74	0.73	0.77	0.69	0.72	0.81	0.73	0.76	0.77	0.80	0.82	0.87	0.92	0.19	0.08	0.14	0.17	0.11
MS2.6	All corporations (other than health insurance)	7.21	7.01	6.61	5.42	5.68	5.45	4.08	3.74	4.32	3.46	3.89	2.94	2.73	2.74	2.40	2.54	2.46	2.23	2.32	2.30	2.29
MS9	Rest of the world (ROW)	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>



**TABLE 5.1d: Total Expenditure on Health by Public & Private Sectors Sources of Financing, 1997-2017**

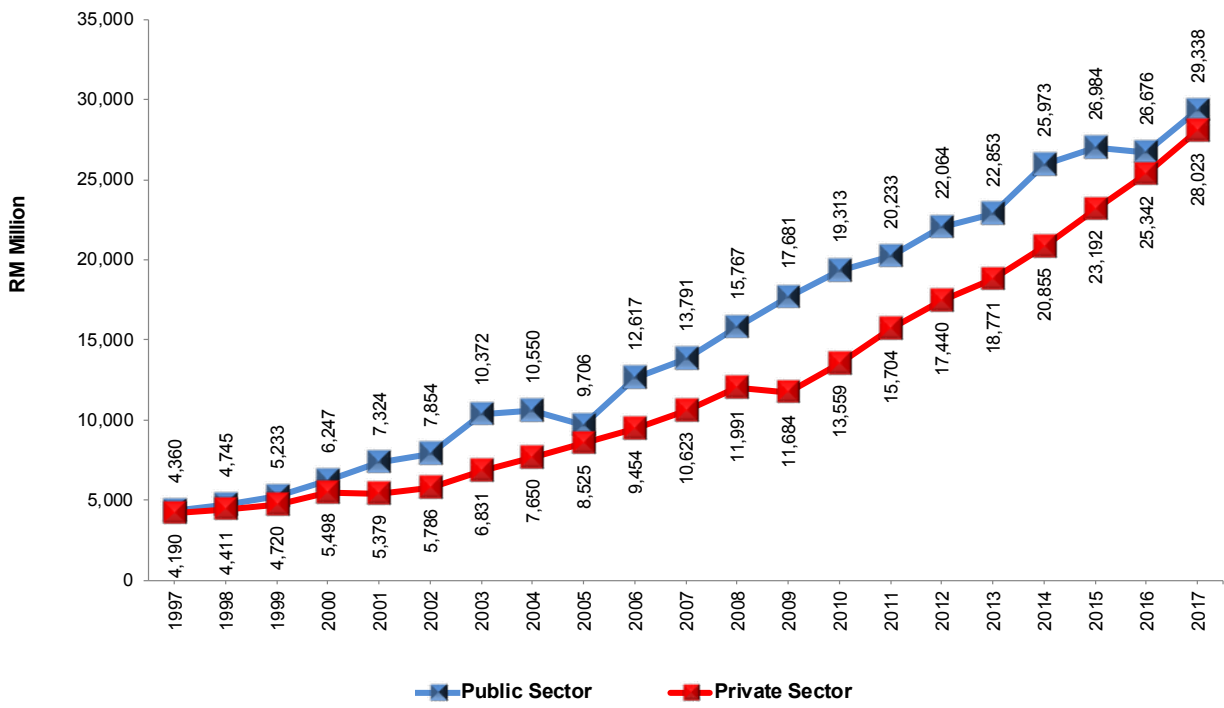
Year	Public Sector			Private Sector			TEH (Nominal RM Million)
	Health Expenditure (Nominal, RM Million)	Health Expenditure (Constant*, RM Million)	Health Expenditure as Percentage of TEH (%)	Health Expenditure (Nominal, RM Million)	Health Expenditure (Constant*, RM Million)	Health Expenditure as Percentage of TEH (%)	
1997	4,360	7,839	50.99	4,190	7,534	49.01	8,550
1998	4,745	7,872	51.83	4,411	7,317	48.17	9,156
1999	5,233	8,681	52.58	4,720	7,830	47.42	9,953
2000	6,247	9,855	53.19	5,498	8,672	46.81	11,745
2001	7,324	11,789	57.65	5,379	8,658	42.35	12,703
2002	7,854	12,267	57.58	5,786	9,036	42.42	13,640
2003	10,372	15,582	60.29	6,831	10,263	39.71	17,203
2004	10,550	14,993	57.97	7,650	10,872	42.03	18,200
2005	9,706	13,199	53.24	8,525	11,592	46.76	18,231
2006	12,617	16,498	57.17	9,454	12,362	42.83	22,072
2007	13,791	17,205	56.49	10,623	13,254	43.51	24,414
2008	15,767	17,868	56.80	11,991	13,588	43.20	27,758
2009	17,681	21,278	60.21	11,684	14,061	39.79	29,365
2010	19,313	22,257	58.75	13,559	15,626	41.25	32,872
2011	20,233	22,120	56.30	15,704	17,169	43.70	35,937
2012	22,064	23,883	55.85	17,440	18,878	44.15	39,505
2013	22,853	24,694	54.90	18,771	20,284	45.10	41,625
2014	25,973	27,390	55.46	20,855	21,992	44.54	46,828
2015	26,984	28,563	53.78	23,192	24,549	46.22	50,176
2016	26,676	27,696	51.28	25,342	26,311	48.72	52,018
2017	29,338	29,338	51.15	28,023	28,023	48.85	57,361

Note: \*Constant values estimated using MNHA derived GDP deflators (splicing method with 2010 base year)





**FIGURE 5.1b: Total Expenditure on Health by Sources of Financing (Public vs. Private), 1997-2017**







## 5.2 HEALTH EXPENDITURE BY PUBLIC SECTOR SOURCES OF FINANCING

This section describes health expenditure by public sector sources of financing, it describe public sector health expenditure according to MNHA classification of sources of financing for year 2017, followed by time series data of 1997-2017 in RM Million and percentage.

### 5.2.1 Health Expenditure by All Public Sector Sources of Financing

In 2017, analysis of the public sector sources of financing showed that MOH spent RM24,715 million (84%), making it the largest financier in this sector. This is followed by other federal agencies (including statutory bodies) RM 2,178 million (7 percent), MOE RM1,283 million (4 percent), other state agencies

(including statutory bodies) RM405 million (1 percent), SOCSO RM329 million (1 percent), and other public sector agencies with each agency spending less than RM140 million but in total amounting to RM427 million (1 percent) (Table 5.2.1a and Figure 5.2.1).

The time series expenditure data shows that MOH as the largest financier in public sector has progressively increased its spending from RM3,616 million in 1997 to RM24,715 million in 2017 (Table 5.2.1b). This MOH expenditure attributes between 81 to 85% share of public sector expenditure (Table 5.2.1c). This is followed by MOE, other federal agencies (including statutory bodies), SOCSO and other state agencies (including state statutory bodies). These sources of financing altogether contributed to a share of less than 7 percent of the total public sector expenditure per year.

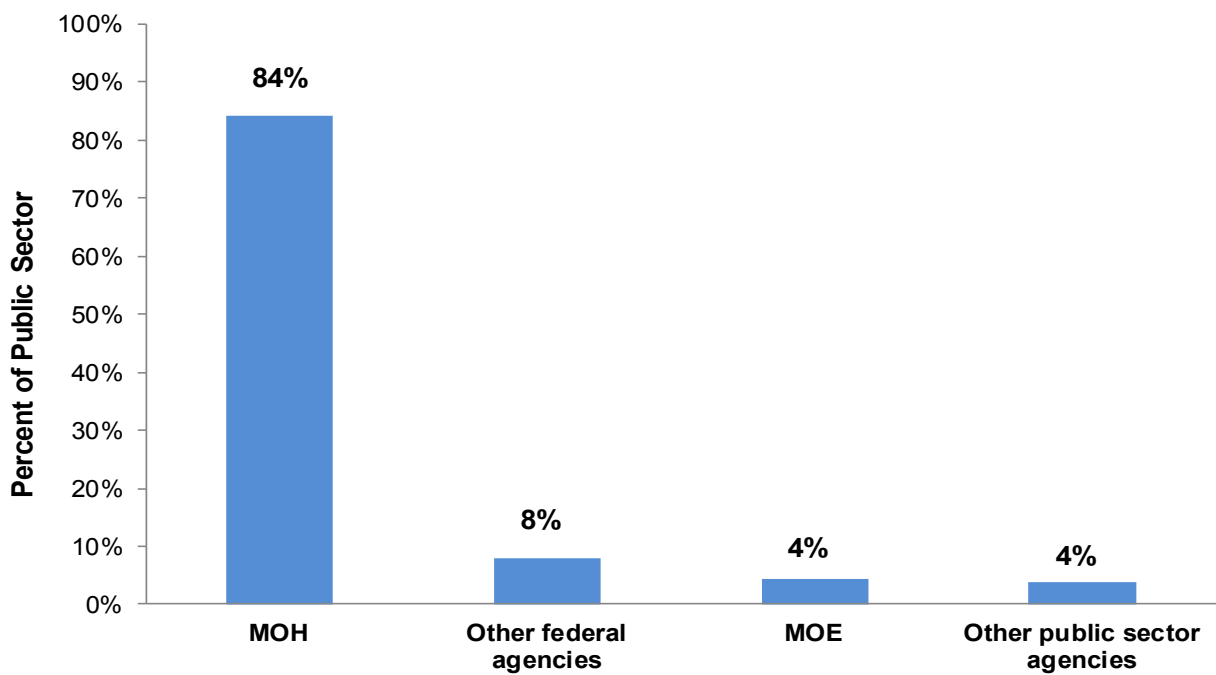
**TABLE 5.2.1a: Health Expenditure by Public Sector Sources of Financing, 2017**

MNHA Code	Sources of Financing	RM Million	Percent
MS1.1.1	Ministry of Health (MOH)	24,715	84.20
MS1.1.9	Other federal agencies (including statutory bodies)	2,178	8.00
MS1.1.2	Ministry of Education (MOE)	1,283	4.40
MS1.1.2.2	Other state agencies (including statutory bodies)	405	1.40
MS1.2.2	Social Security Organization (SOCSO)	329	1.10
MS1.1.3	Local authorities (LA)	139	0.50
MS1.1.1.3	Ministry of Defence (MOD)	132	0.40
MS1.1.2.1	(General) State government	99	0.30
MS1.2.1	Employees Provident Fund (EPF)	58	0.20
<b>Total</b>		<b>29,338</b>	<b>100.00</b>





**FIGURE 5.2.1: Health Expenditure by Public Sector Sources of Financing, 2017**





**TABLE 5.2.1b: Health Expenditure by Public Sector Sources of Financing, 1997-2017 (RM Million)**

MNHA Code	Sources of Financing	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MS11.11	Ministry of Health (MOH)	3,616	3,943	4,358	5,266	6,141	6,545	8,876	8,761	7,893	10,655	11,036	12,813	14,431	15,945	16,496	18,239	19,038	21,782	22,671	22,225	24,715
MS11.12	Ministry of Education (MOE)	322	324	366	408	501	555	593	638	658	707	844	982	1,022	1,224	1,227	1,292	1,240	1,355	1,322	1,294	1,283
MS11.13	Ministry of Defence (MOD)	42	46	48	54	62	68	79	74	81	96	109	136	133	127	140	172	175	186	169	154	132
MS11.19	Other federal agencies (including statutory bodies)	241	278	297	337	425	473	563	755	737	819	1,049	1,405	1,541	1,536	1,809	1,750	1,681	1,877	1,895	2,027	2,178
MS11.21	(General) State government	36	41	41	42	41	46	68	90	67	77	90	96	86	93	94	110	80	88	90	98	99
MS11.22	Other state agencies (including statutory bodies)	31	32	33	38	39	43	50	56	67	71	75	86	90	111	129	137	189	212	346	385	405
MS11.3	Local authorities (LA)	15	16	17	18	19	22	27	35	45	42	419	113	238	108	142	150	188	164	178	126	139
MS1.21	Employee Provident Funds (EPF)	7	15	20	24	32	36	43	56	61	46	51	49	38	34	39	38	42	46	52	56	58
MS1.22	Social Security Organization (SOCSO)	50	50	53	60	63	67	74	83	96	105	117	88	102	136	157	176	219	264	261	310	329
	<b>Total</b>	<b>4,360</b>	<b>4,745</b>	<b>5,233</b>	<b>6,247</b>	<b>7,324</b>	<b>7,854</b>	<b>10,372</b>	<b>10,550</b>	<b>9,706</b>	<b>12,617</b>	<b>13,791</b>	<b>15,767</b>	<b>17,681</b>	<b>19,313</b>	<b>20,233</b>	<b>22,064</b>	<b>22,853</b>	<b>25,973</b>	<b>26,984</b>	<b>26,676</b>	<b>29,338</b>

**TABLE 5.2.1c: Health Expenditure by Public Sector Sources of Financing, 1997-2017 (Percent, %)**

MNHA Code	Sources of Financing	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MS11.11	Ministry of Health (MOH)	82.94	83.10	83.27	84.30	83.86	83.33	85.57	83.05	81.32	84.44	80.02	81.26	81.62	82.56	81.53	82.66	83.31	83.86	84.01	83.32	84.24
MS11.12	Ministry of Education (MOE)	7.39	6.84	7.00	6.53	6.84	7.06	5.72	6.05	6.78	5.60	6.12	6.23	5.78	6.34	6.07	5.86	5.43	5.22	4.90	4.85	4.37
MS11.13	Ministry of Defence (MOD)	0.97	0.96	0.92	0.87	0.84	0.86	0.76	0.70	0.84	0.76	0.79	0.86	0.75	0.66	0.69	0.78	0.77	0.71	0.63	0.58	0.45
MS11.19	Other federal agencies (including statutory bodies)	5.53	5.86	5.68	5.39	5.80	6.02	5.43	7.15	7.60	6.49	7.61	8.91	8.72	7.95	8.94	7.93	7.36	7.23	7.02	7.60	7.42
MS11.21	(General) State government	0.82	0.86	0.79	0.67	0.56	0.58	0.66	0.86	0.69	0.61	0.65	0.61	0.49	0.48	0.46	0.50	0.35	0.34	0.33	0.37	0.34
MS11.22	Other state agencies (including statutory bodies)	0.70	0.67	0.64	0.61	0.54	0.54	0.48	0.53	0.69	0.57	0.55	0.55	0.51	0.57	0.64	0.62	0.83	0.82	1.28	1.44	1.38
MS11.3	Local authorities (LA)	0.35	0.34	0.32	0.28	0.27	0.28	0.26	0.34	0.47	0.34	3.04	0.72	1.34	0.56	0.70	0.68	0.82	0.63	0.66	0.47	0.47
MS1.21	Employee Provident Funds (EPF)	0.16	0.32	0.38	0.38	0.44	0.46	0.41	0.53	0.63	0.36	0.37	0.31	0.21	0.18	0.19	0.17	0.18	0.18	0.19	0.21	0.20
MS1.22	Social Security Organization (SOCSO)	1.14	1.05	1.01	0.97	0.86	0.86	0.71	0.79	0.98	0.83	0.85	0.56	0.58	0.70	0.78	0.80	0.96	1.02	0.97	1.16	1.12
	<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>



## 5.2.2 Public Sector Health Expenditure as Percentage of General Government Expenditure

Public Sector Health Expenditure or internationally known as General Government Health Expenditure (GGHE) includes expenditure by all public sector

sources of financing namely federal government, state government, local authorities and social security funds. GGHE as percentage of General Government Expenditure (GGE), has increased from RM4,360 million (4.84 percent) in 1997 to RM29,338 million (7.34 percent) in 2017 (Table 5.2.2 and Figure 5.2.2).

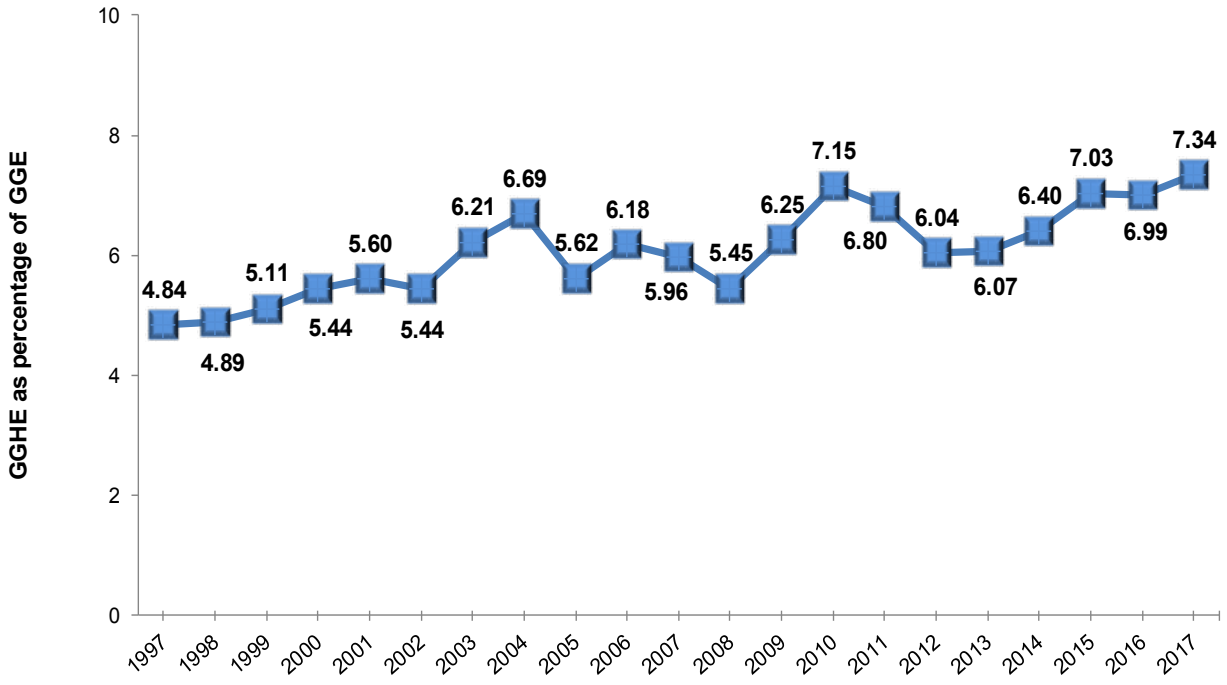
Year	Public Sector Health Expenditure (GGHE) (RM Million)	General Government Expenditure (GGE)* (RM Million)	GGHE as % GGE
1997	4,360	90,131	4.84
1998	4,745	97,040	4.89
1999	5,233	102,320	5.11
2000	6,247	114,884	5.44
2001	7,324	130,690	5.60
2002	7,854	144,278	5.44
2003	10,372	166,948	6.21
2004	10,550	157,742	6.69
2005	9,706	172,681	5.62
2006	12,617	204,255	6.18
2007	13,791	231,359	5.96
2008	15,767	289,394	5.45
2009	17,681	282,794	6.25
2010	19,313	270,171	7.15
2011	20,233	297,382	6.80
2012	22,064	365,600	6.04
2013	22,853	376,374	6.07
2014	25,973	405,788	6.40
2015	26,984	383,727	7.03
2016	26,676	381,366	6.99
2017	29,338	399,699	7.34

Source: \*Treasury Malaysia website Economy Report 2017/2018 dated 25th May 2018





**FIGURE 5.2.2: Trend for Public Sector Health Expenditure (GGHE) as Percentage of General Government Expenditure (GGE), 1997-2017**





### 5.2.3 Health Expenditure by Public Sector Sources of Financing to Providers

Cross-tabulations of public sector sources of financing and providers of health care services and products respond to the question as to where this public source of fund is spent or who provides the services and products.

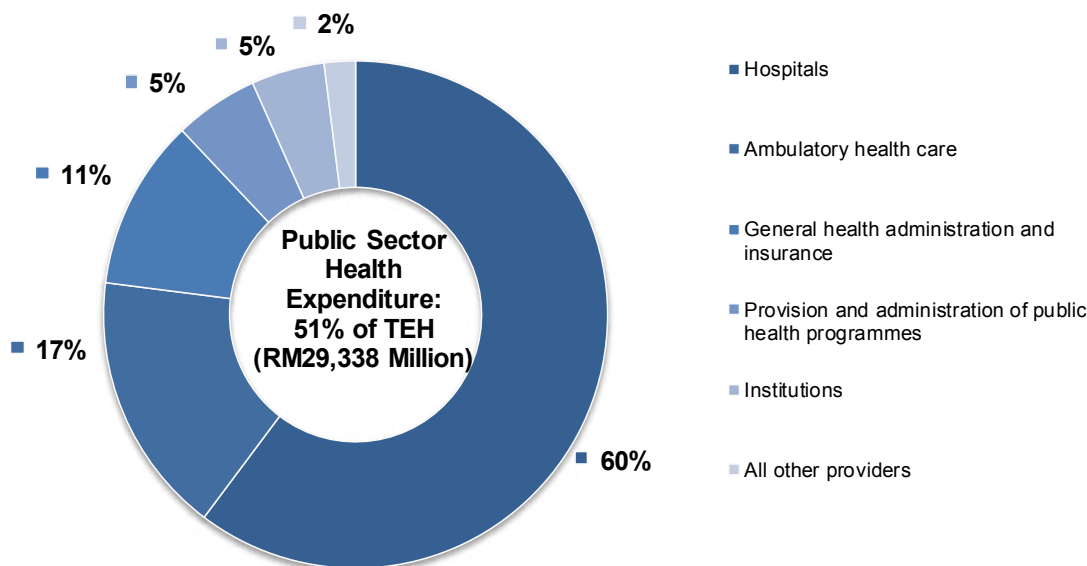
In 2017, all hospitals (inclusive of general hospitals, psychiatric hospitals and specialty hospitals) consumed RM17,702 million (60%), followed by providers of ambulatory healthcare at RM4,930 million (17%) and general health administration and insurance at RM3,212 million (11%) (Table 5.2.3a and Figure

5.2.3). A significant share of expenditure for provision and administration of public health programmes is contributed by MOH expenditure.

The 1997 to 2017 time series shows a similar pattern in the share of various providers that consumed public sector source of financing. All providers showed steady increase in expenditure over the time period (Table 5.2.3b and Table 5.2.3c). Over the last seventeen years (2000-2017), expenditure by all hospitals and providers of ambulatory health care which were among the higher spending groups, exhibited steeper increase in spending compared to other providers.

MNHA Code	Providers of Health Care	RM Million	Percent
MP1	All hospitals	17,702	60.34
MP3	Providers of ambulatory health care	4,930	16.80
MP6	General health administration and insurance	3,212	10.95
MP5	Provision and administration of public health programmes	1,580	5.39
MP8	Institutions providing health-related services	1,376	4.69
MP4	Retail sale and other providers of medical goods	384	1.31
MP7	Other industries (rest of the Malaysian economy)	152	0.52
MP9	Rest of world (ROW)	1	<0.1
MP2	Nursing and residential care facilities	1	<0.1
<b>Total</b>		<b>29,338</b>	<b>100.00</b>

FIGURE 5.2.3: Public Sector Health Expenditure to Providers of Health Care, 2017





**TABLE 5.2.3b: Public Sector Health Expenditure to Providers of Health Care, 1997-2017 (RM Million)**

MNHA Code	Providers of Health Care	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MP1	All hospitals	2645	2781	3024	3366	3867	4050	4798	5245	5482	7180	7706	8992	9249	10278	11331	13303	13689	15745	16388	16587	17702
MP2	Nursing and residential care facilities	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1
MP3	Providers of ambulatory health care	421	454	524	620	741	836	1101	1226	1331	1805	1912	2194	2169	2488	2749	3301	3518	4143	4404	4538	4930
MP4	Retail sale and other providers of medical goods	27	30	33	32	39	45	52	56	59	70	86	94	128	134	135	159	239	330	306	355	384
MP5	Provision and administration of public health programmes	384	359	395	433	525	624	588	598	592	761	1163	946	1221	1001	1148	1478	1232	1499	1488	1645	1580
MP6	General health administration and insurance	663	880	973	1473	1713	1797	3200	2694	1539	1928	1907	2287	3419	3965	3184	2303	2684	2621	2825	1912	3212
MP7	Other industries (rest of the Malaysian economy)	41	46	46	48	47	52	79	102	84	95	106	107	106	124	122	142	273	199	138	159	152
MP8	Institutions providing health-related services	178	194	238	273	389	449	553	626	615	776	908	1143	1384	1322	1561	1376	1215	1434	1429	1476	1376
MP9	Rest of the world (ROW)	1	1	1	1	1	1	1	1	1	1	1	4	3	1	1	1	1	1	4	2	1
	Total	4,360	4,745	5,233	6,247	7,324	7,854	10,372	10,550	9,706	12,817	13,791	15,767	17,681	19,313	20,233	22,064	22,853	25,973	26,984	26,676	29,338

**TABLE 5.2.3c: Public Sector Health Expenditure to Providers of Health Care, 1997-2017 (Percent, %)**

MNHA Code	Providers of Health Care	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MP1	All Hospitals	60.68	58.60	57.77	53.89	52.81	51.56	46.26	49.72	56.48	56.90	55.88	57.03	52.31	53.22	56.00	60.29	59.90	60.62	60.73	62.18	60.34
MP2	Nursing and residential care facilities	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
MP3	Providers of ambulatory health care	9.65	9.57	10.01	9.93	10.12	10.64	10.61	11.62	13.71	14.31	13.86	13.92	12.27	12.88	13.59	14.96	15.39	15.95	16.32	17.01	16.80
MP4	Retail sale and other providers of medical goods	0.62	0.63	0.63	0.51	0.53	0.57	0.50	0.53	0.61	0.56	0.62	0.59	0.73	0.69	0.67	0.72	1.05	1.27	1.14	1.33	1.31
MP5	Provision and administration of public health programmes	8.80	7.57	7.55	6.94	7.17	7.95	5.67	5.67	6.10	6.04	8.43	6.00	6.90	5.18	5.68	6.70	5.39	5.77	5.51	6.17	5.39
MP6	General health administration and insurance	15.21	18.54	18.59	23.58	23.39	22.88	30.85	25.53	15.86	15.28	13.83	14.50	19.34	20.53	15.74	10.44	11.75	10.09	10.47	7.17	10.95
MP7	Other industries (rest of the Malaysian economy)	0.93	0.97	0.88	0.76	0.65	0.66	0.76	0.97	0.87	0.75	0.77	0.68	0.60	0.64	0.60	0.64	1.19	0.77	0.51	0.60	0.52
MP8	Institutions providing health-related services	4.07	4.09	4.54	4.37	5.31	5.72	5.33	5.93	6.34	6.15	6.59	7.25	7.83	6.84	7.72	6.23	5.32	5.52	5.30	5.53	4.69
MP9	Rest of the world (ROW)	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.02	0.02	0.00	0.00	0.00	0.01	0.00	0.02	0.01	0.00
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00



#### **5.2.4 Health Expenditure by Public Sector Sources of Financing by Functions**

In this section, the type of services and products spent by public sector source of financing is cross tabulated with functions of healthcare.

In 2017, the public sector source of financing spent most for curative care, consuming RM20,713 million (71%), followed by health programme administration and health insurance at RM3,076 million (10%) and public health services (including prevention and health promotion at RM2,157 million (7 percent). The total spending by the public sector for education and training of health personnel was RM1,371 million (5 percent), and RM1,352 million (5 percent) for capital formation. The total expenditure for all other functions

of health care services and products is RM669 or 2 percent (Table 5.2.4a and Figure 5.2.4).

The 1997-2017 time series showed services of curative care, and health programme administration and health insurance occupying the top two highest share of public sector expenditure by function. This was followed by capital formation but then overtaken by public health services (including health promotion and prevention) from year 2013 onwards. Ancillary services to health care showed the highest growth with an increase by 200-fold, from RM1 million in 1997 to RM284 million in 2017. The expenditure for education and training of health personnel had also increased by about 10-fold over the same time period (Table 5.2.4b and Table 5.2.4c).



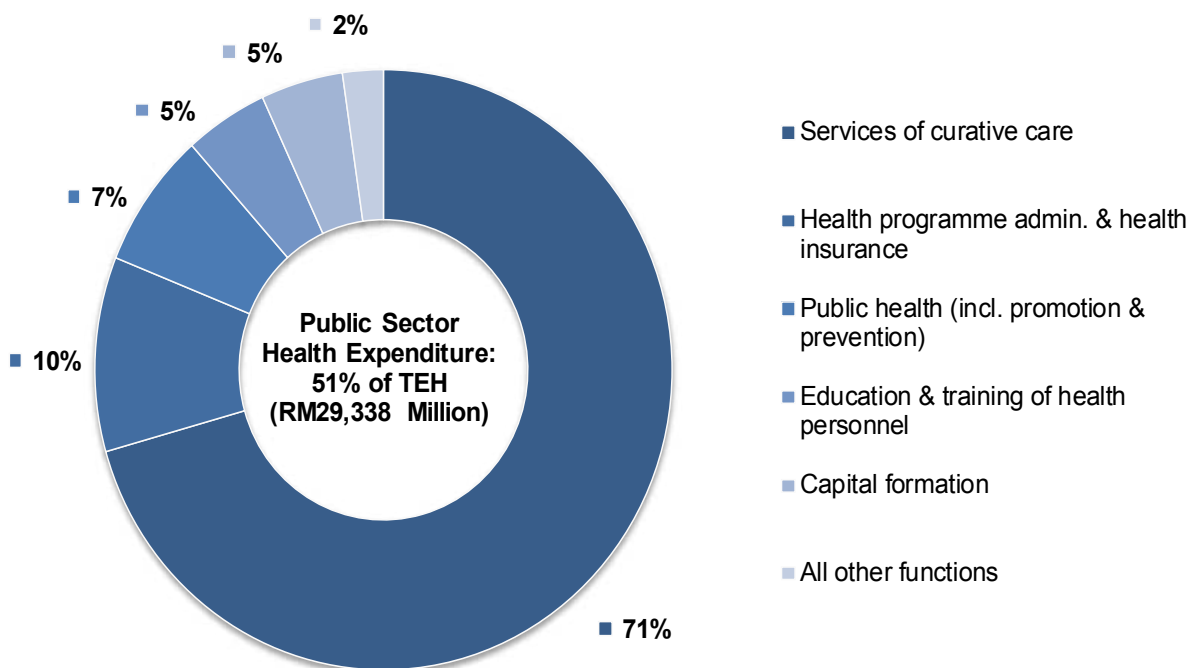




**TABLE 5.2.4a: Public Sector Health Expenditure by Functions of Health Care, 2017**

MNHA Code	Functions of Health Care	RM Million	Percent
MF1	Services of curative care	20,713	70.60
MF7	Health programme administration and health insurance	3,076	10.49
MF6	Public health services (including health promotion and prevention)	2,157	7.35
MR2	Education and training of health personnel	1,371	4.67
MR1	Capital formation of health care provider institutions	1,352	4.61
MF5	Medical goods dispensed to out-patients	333	1.13
MF4	Ancillary services to health care	284	0.97
MR3	Research and development in health	52	0.18
MF3	Services of long-term nursing care	0	0.00
<b>Total</b>		<b>29,338</b>	<b>100.00</b>

**FIGURE 5.2.4: Public Sector Health Expenditure by Functions of Health Care, 2017**



**TABLE 5.2.4b: Public Sector Health Expenditure by Functions of Health Care, 1997-2017 (RM Million)**

MNHA Code	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MF1	2,902	3,009	3,269	3,697	4,190	4,521	5,360	5,903	6,184	8,225	8,737	10,291	10,544	11,026	12,951	15,185	14,985	17,692	18,710	19,054	20,713
MF3	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	1	1	1	0
MF4	1	1	1	8	39	47	71	98	95	164	139	191	192	206	224	228	310	268	276	259	284
MF5	24	24	26	29	33	35	40	47	51	58	72	80	98	114	113	129	207	293	263	303	333
MF6	194	197	226	230	263	275	414	480	495	635	919	803	904	876	999	1,205	1,963	1,841	1,928	2,025	2,157
MF7	556	533	560	657	742	914	1,177	1,167	1,142	1,537	1,589	1,791	1,929	1,906	2,166	1,918	2,244	2,938	2,905	2,108	3,076
MR1	496	778	908	1,350	1,665	1,610	2,765	2,274	1,212	1,308	1,510	1,561	2,699	3,814	2,152	1,989	1,793	1,457	1,417	1,401	1,352
MR2	127	149	195	238	317	374	471	519	555	658	772	999	1,265	1,326	1,580	1,404	1,284	1,426	1,425	1,474	1,371
MR3	61	53	48	38	74	78	74	61	21	34	53	52	49	44	46	56	67	58	59	51	52
Total	4,360	4,745	5,233	6,247	7,324	7,854	10,372	10,550	9,706	12,817	13,791	15,767	17,681	19,313	20,233	22,064	22,853	25,973	26,984	26,676	29,338

**TABLE 5.2.4c: Public Sector Health Expenditure by Functions of Health Care, 1997-2017 (Percent, %)**

MNHA Code	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MF1	66.56	63.42	62.47	59.18	57.22	57.56	51.68	55.96	63.20	65.18	63.95	65.27	59.63	57.09	64.01	68.59	65.57	68.11	69.34	71.43	70.60
MF3	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
MF4	0.03	0.03	0.03	0.13	0.54	0.60	0.88	0.93	0.98	1.30	1.01	1.21	1.08	1.07	1.11	1.03	1.35	1.03	1.02	0.97	0.97
MF5	0.54	0.51	0.49	0.46	0.45	0.45	0.38	0.44	0.53	0.46	0.52	0.51	0.56	0.59	0.56	0.58	0.90	1.13	0.98	1.14	1.13
MF6	4.45	4.15	4.32	3.68	3.59	3.51	3.99	4.55	5.10	5.03	6.66	5.09	5.11	4.54	4.94	5.46	8.59	7.09	7.15	7.59	7.35
MF7	12.75	11.23	10.70	10.52	10.13	11.63	11.34	11.06	11.76	12.18	11.52	11.36	10.91	9.87	10.71	8.69	9.82	11.31	10.77	7.90	10.49
MR1	11.37	16.40	17.34	21.60	22.73	20.50	26.66	21.56	12.49	10.36	10.95	9.90	15.27	19.75	10.64	9.01	7.84	5.61	5.25	5.25	4.61
MR2	2.90	3.14	3.73	3.81	4.33	4.76	4.54	4.92	5.72	5.21	5.60	6.34	7.15	6.87	7.81	6.36	5.62	5.49	5.28	5.52	4.67
MR3	1.40	1.12	0.91	0.61	1.02	0.99	0.71	0.58	0.22	0.27	0.38	0.33	0.28	0.23	0.23	0.26	0.29	0.22	0.22	0.19	0.18
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00





### 5.3 HEALTH EXPENDITURE BY PRIVATE SECTOR SOURCES OF FINANCING

This section describes health expenditure by private sector sources of financing, starting with description of private sector health expenditure according to MNHA classification of sources of financing for year 2017, followed by times series data of 1997-2017 in RM Million and percentage.

#### 5.3.1 Health Expenditure by All Private Sector Sources of Financing

In 2017, analysis of health expenditure data showed that the highest source of financing in the private sector is private household OOP expenditure amounting to RM21,573 million (77%) of this sector's health expenditure (Table 5.3.1a and Figure 5.3.1). The next highest spending is by private insurance enterprises (other than social insurance) which is inclusive of personal, family and company insurance policies at RM4,085 million (15%). All corporations contributed to RM1,313 million (5 percent) of private sector health

expenditure. This expenditure by all corporations is exclusive of group or company purchases of employee insurances which are reported under private insurance enterprises expenditure. The remaining agencies under private sector contributed to RM1,052 million (3 percent) of health expenditure in this sector.

The private sector expenditure data for 1997-2017 time series showed private household OOP expenditure gradually increased from RM3,166 million in 1997 to RM21,573 million in 2017, which remained the largest share of private sector health expenditure (71% to 78%) (Table 5.3.1b and Table 5.3.1c). Expenditure by private insurance enterprises also increased from 7 to 15 percent share of private sector health expenditure. Meanwhile, all corporations' share decreased from 15 to 5 percent from 1997 to 2017. In terms of RM value, the expenditure on health by all corporations had increased two-fold, whereas private insurance enterprises expenditure increased by thirteen-fold over the twenty one years' period (1997-2017).

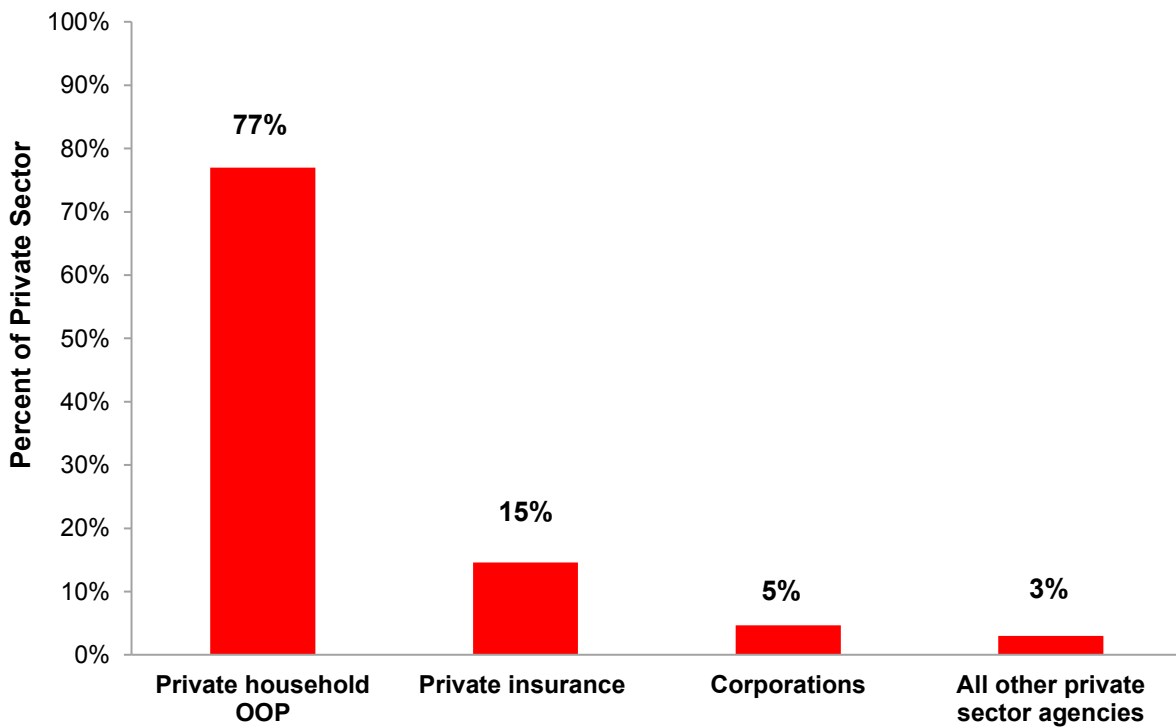




**TABLE 5.3.1a: Health Expenditure by Private Sector Sources of Financing, 2017**

MNHA Code	Sources of Financing	RM Million	Percent
MS2.4	Private household out-of-pocket expenditure (OOP)	21,573	76.98
MS2.2	Private insurance enterprises (other than social insurance)	4,085	14.58
MS2.6	All corporations (other than health insurance)	1,313	4.69
MS2.3	Private MCOs and other similar entities	984	3.51
MS2.5	Non-profit institutions serving households (NGO)	63	0.23
MS9	Rest of the world (ROW)	5	0.02
<b>Total</b>		<b>28,023</b>	<b>100.00</b>

**FIGURE 5.3.1: Health Expenditure by Private Sector Sources of Financing, 2017**



**TABLE 5.3.1b: Health Expenditure by Private Sector Sources of Financing, 1997-2017 (RM Million)**

MNHA Code	Sources of Financing	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MS22	Private insurance enterprises (other than social insurance)	295	365	421	516	599	718	964	1062	1084	1246	1413	1709	1991	2,273	2,614	2,774	2,916	3,203	3,623	3,840	4,085
MS23	Private MCOs and other similar entities	50	68	73	78	84	92	106	113	123	138	151	167	179	201	243	302	287	437	790	897	984
MS24	Private household out-of-pocket expenditure (OOP)	3,166	3,266	3,497	4,175	3,882	4,127	4,941	5,664	6,382	7,145	7,921	9,084	8,478	9,916	11,669	12,994	14,462	16,128	17,602	19,316	21,573
MS25	Non-profit institutions serving households (NGO)	64	70	71	87	93	104	118	131	148	160	186	214	234	269	312	363	78	40	69	87	63
MS26	All corporations (other than health insurance)	616	642	658	637	722	744	701	680	787	765	951	816	801	899	863	1,005	1,026	1,043	1,163	1,197	1,313
MS9	Rest of the world (ROW)	0	0	0	5	0	0	0	0	0	0	1	1	2	1	3	2	3	4	5	4	5
	<b>Total</b>	<b>4,190</b>	<b>4,411</b>	<b>4,720</b>	<b>5,498</b>	<b>5,379</b>	<b>5,786</b>	<b>6,831</b>	<b>7,650</b>	<b>8,525</b>	<b>9,454</b>	<b>10,623</b>	<b>11,991</b>	<b>11,684</b>	<b>13,559</b>	<b>15,704</b>	<b>17,440</b>	<b>18,771</b>	<b>20,855</b>	<b>23,192</b>	<b>25,342</b>	<b>28,023</b>

**TABLE 5.3.1c: Health Expenditure by Private Sector Sources of Financing, 1997-2017 (Percent, %)**

MNHA Code	Sources of Financing	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MS22	Private insurance enterprises (other than social insurance)	7.03	8.27	8.92	9.38	11.13	12.42	14.11	13.89	12.72	13.18	13.30	14.25	17.04	16.76	16.65	15.91	15.53	15.36	15.62	15.15	14.58
MS23	Private MCOs and other similar entities	1.19	1.55	1.54	1.43	1.57	1.59	1.56	1.48	1.44	1.46	1.42	1.39	1.53	1.48	1.55	1.73	1.53	2.10	3.15	3.54	3.51
MS24	Private household out-of-pocket expenditure (OOP)	75.55	74.04	74.10	75.94	72.16	71.33	72.33	74.04	74.87	75.58	74.56	75.76	72.56	73.13	74.31	74.51	77.04	77.33	75.90	76.22	76.98
MS25	Non-profit institutions serving households (NGO)	1.53	1.58	1.51	1.59	1.72	1.81	1.73	1.71	1.74	1.70	1.76	1.78	2.00	1.98	1.99	2.08	0.41	0.19	0.30	0.34	0.23
MS26	All corporations (other than health insurance)	14.70	14.56	13.93	11.58	13.41	12.85	10.27	8.89	9.23	8.09	8.95	6.80	6.85	6.63	5.49	5.76	5.46	5.00	5.02	4.73	4.69
MS9	Rest of the world (ROW)	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.01	0.02	0.01	0.02	0.02	0.02	0.02	0.02
	<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>



### 5.3.2 Health Expenditure by Private Sector Sources of Financing to Providers

The cross-tabulations of private sector sources of financing with providers of health care services and products, respond to the question as to where the private source of fund is spent or who provides services and products.

In 2017, all hospitals consumed RM13,892 million (50%) of the private sources of funds, followed by providers of ambulatory health care at RM6,972 million (25%) and providers of retail sales and other providers of medical goods at RM3,504 million (13%). The remaining private sector sources of financing amounting to RM3,655 million (13%) was spent to other providers of healthcare (Table 5.3.2a and Figure 5.3.2).

The 1997 to 2017 time series data showed that all hospitals and providers of ambulatory health care spent an average of 74% of the private sector source of financing (Table 5.3.2b and Table 5.3.2c). The expenditure by all hospitals increased from RM1,486 million in 1997 to RM13,892 million in 2017 and expenditure by providers of ambulatory health care increased from RM1,696 million in 1997 to RM6,972 million in 2017. The data also shows that health expenditure at institutions providing health-related services which mainly comprises of teaching and training institutions in relation to health, remained below 9 percent. However, in terms of RM value this expenditure has increased by 18-fold from RM81 million in 1997 to RM1,483 million in 2017.

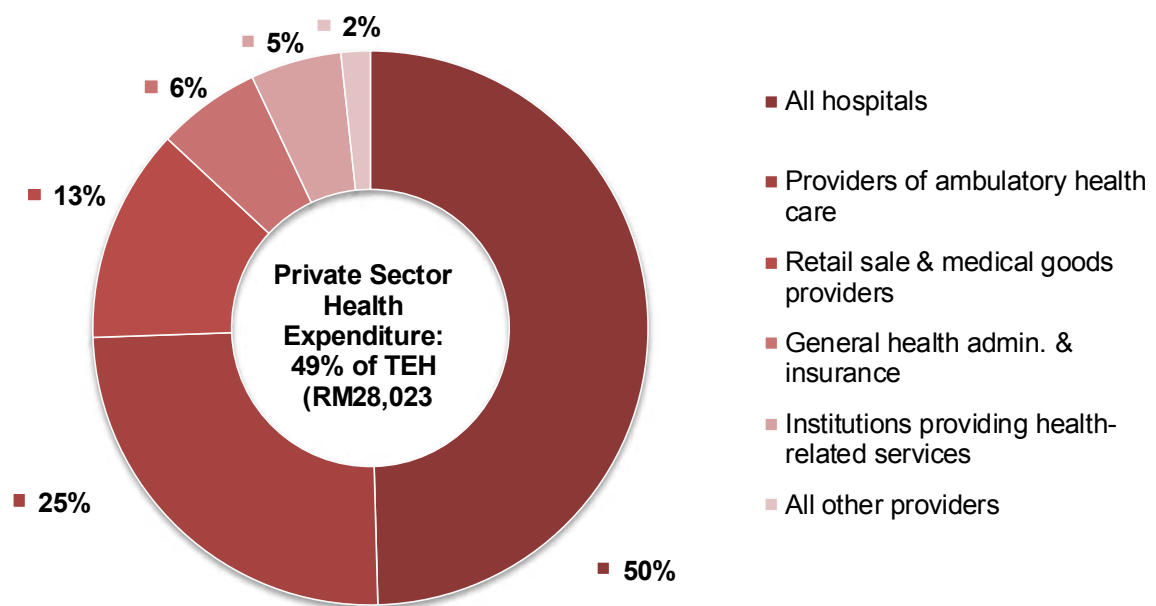




**TABLE 5.3.2a: Private Sector Health Expenditure to Providers of Health Care, 2017**

MNHA Code	Providers of Health Care	RM Million	Percent
MP1	All hospitals	13,892	49.57
MP3	Providers of ambulatory health care	6,972	24.88
MP4	Retail sale and other providers of medical goods	3,504	12.50
MP6	General health administration and insurance	1,693	6.04
MP8	Institutions providing health-related services	1,483	5.29
MP7	Other industries (rest of the Malaysian economy)	466	1.66
MP9	Rest of the world (ROW)	10	0.03
MP5	Provision and administration of public health programmes	2	0.01
MP2	Nursing and residential care facilities	1	<0.01
<b>Total</b>		<b>28,023</b>	<b>100.00</b>

**FIGURE 5.3.2: Private Sector Health Expenditure to Providers of Health Care, 2017**





**TABLE 5.3.2b: Private Sector Health Expenditure to Providers of Health Care, 1997-2017 (RM Million)**

MNHA Code	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Providers of Health Care																					
MP1	1,486	1,556	1,715	2,068	2,097	2,328	2,841	3,191	3,560	4,006	4,510	5,722	5,856	6,565	7,307	7,748	8,269	9,039	10,411	11,887	13,882
MP2	1	1	2	2	3	5	9	10	11	11	14	4	5	12	14	18	1	1	1	4	1
MP3	1,696	1,704	1,747	1,971	1,833	1,885	2,068	2,369	2,831	3,156	3,517	3,456	2,590	3,133	3,897	4,562	5,229	6,179	6,300	6,509	6,972
MP4	490	544	586	661	625	660	741	888	916	985	1,143	1,255	1,375	1,486	1,774	1,961	2,172	2,703	3,060	3,287	3,504
MP5	5	6	5	5	6	6	6	6	9	7	12	17	7	8	11	17	3	3	23	30	2
MP6	363	427	452	527	542	580	760	787	799	852	909	1,011	1,088	1,256	1,450	1,600	1,297	1,246	1,547	1,656	1,693
MP7	63	64	76	76	82	84	95	102	105	110	148	157	170	203	269	293	338	358	408	443	466
MP8	81	106	133	179	186	229	301	286	281	313	353	361	590	822	880	1,158	1,459	1,319	1,430	1,517	1,483
MP9	4	3	5	6	6	9	9	11	12	15	19	8	4	75	101	84	5	8	11	9	10
Total	4,190	4,411	4,720	5,498	5,379	5,786	6,831	7,650	8,525	9,454	10,623	11,991	11,684	13,559	15,704	17,440	18,771	20,855	23,192	25,342	28,023

**TABLE 5.3.2c: Private Sector Health Expenditure to Providers of Health Care, 1997-2017 (Percent, %)**

MNHA Code	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Providers of Health Care																					
MP1	35.47	35.28	36.33	37.62	38.99	40.24	41.59	41.71	41.77	42.37	42.45	47.72	50.12	48.42	46.53	44.42	44.05	43.34	44.89	46.91	49.57
MP2	0.03	0.03	0.04	0.04	0.05	0.09	0.14	0.13	0.13	0.12	0.13	0.04	0.04	0.09	0.09	0.10	0.00	0.00	0.00	0.01	0.00
MP3	40.48	38.64	37.01	35.86	34.08	32.57	30.28	30.96	33.21	33.38	33.10	28.82	22.16	23.10	24.82	26.16	27.86	29.63	27.16	25.68	24.88
MP4	11.70	12.34	12.42	12.03	11.62	11.41	10.84	11.61	10.75	10.41	10.76	10.47	11.77	10.96	11.30	11.24	11.57	12.96	13.20	12.97	12.50
MP5	0.13	0.13	0.11	0.10	0.11	0.10	0.09	0.08	0.10	0.07	0.11	0.14	0.06	0.06	0.07	0.10	0.01	0.01	0.10	0.12	0.01
MP6	8.67	9.67	9.57	9.59	10.07	10.02	11.12	10.29	9.37	9.01	8.55	8.43	9.31	9.26	9.23	9.17	6.91	5.98	6.67	6.53	6.04
MP7	1.50	1.45	1.60	1.38	1.52	1.46	1.40	1.33	1.23	1.16	1.39	1.31	1.46	1.50	1.72	1.68	1.80	1.72	1.76	1.75	1.66
MP8	1.93	2.39	2.81	3.26	3.45	3.96	4.40	3.74	3.30	3.31	3.32	3.01	5.05	6.06	5.60	6.64	7.77	6.32	6.17	5.98	5.29
MP9	0.09	0.08	0.12	0.11	0.11	0.15	0.14	0.15	0.14	0.16	0.18	0.07	0.03	0.55	0.64	0.48	0.02	0.04	0.05	0.04	0.03
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00





### 5.3.3 Health Expenditure by Private Sector Sources of Financing by Functions

Cross-tabulations of private sector sources of financing and functions of health care respond to the question as to what is purchased or the type of services and products consumed with this source of financing.

In 2017, the private sector source of financing spent the most for services of curative care, amounting RM19,453 million (70%), followed by medical goods dispensed to out-patients at RM4,218 million (15%). health programme administration and health insurance expenditure was at RM1,693 million (6 percent) and

education and training of health personnel at RM1,494 million (5 percent). The remaining functions of health-care constitute only 4 percent of health expenditure by private sector sources of financing (Table 5.3.3a and Figure 5.3.3).

The time series 1997-2017 data showed a similar pattern with expenditures for services of curative care and medical goods dispensed to out-patient totalling 80 to 84% (Table 5.3.3b and Table 5.3.3c). Although expenditure for education and training over this time period has remained below 8 percent share of this spending, it has increased by 18-fold from RM79 million in 1997 to RM1,494 million in 2017.

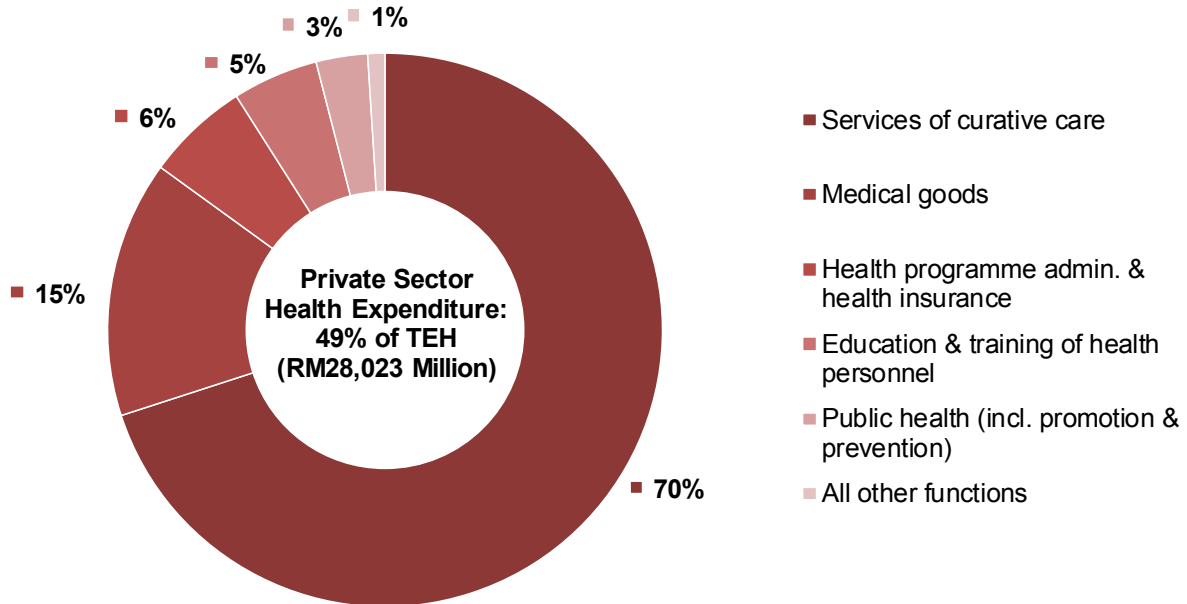




**TABLE 5.3.3a: Private Sector Health Expenditure by Functions of Health Care, 2017**

MNHA Code	Functions of Health Care	RM Million	Percent
MF1	Services of curative care	19,453	69.42
MF5	Medical goods dispensed to out-patients	4,218	15.05
MF7	Health programme administration and health insurance	1,693	6.04
MR2	Education and training of health personnel	1,494	5.33
MF6	Public health services (including health promotion and prevention)	804	2.87
MR3	Research and development in health	286	1.02
MF4	Ancillary services to health care	46	0.17
MR1	Capital formation of health care provider institutions	27	0.10
MF3	Services of long-term nursing care	1	<0.1
MR9	All other health-related expenditures	0	<0.1
<b>Total</b>		<b>28,023</b>	<b>100.00</b>

**FIGURE 5.3.3: Private Sector Health Expenditure by Functions of Health Care, 2017**





**TABLE 5.3.3b: Private Sector Health Expenditure by Functions of Health Care, 1997-2017 (RM Million)**

MINHA Code	Functions of Health Care	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
MF1	Services of curative care	2,584	2,644	2,860	3,436	3,355	3,668	4,427	5,132	5,882	6,638	7,416	8,551	7,852	9,094	10,627	11,620	12,541	14,228	15,567	17,151	19,453	
MF2	Services of rehabilitative care	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0
MF3	Services of long-term nursing care	1	1	2	2	3	5	9	10	11	11	14	4	5	12	14	18	1	1	1	1	4	1
MF4	Ancillary services to health care	101	110	100	98	78	63	47	29	33	37	42	48	43	58	72	86	97	112	77	40	46	46
MF5	Medical goods dispensed to out-patients	773	826	853	939	861	875	929	1,050	1,111	1,201	1,387	1,556	1,666	1,818	2,196	2,339	2,561	3,117	3,610	3,933	4,218	4,218
MF6	Public health services (including health promotion and prevention)	281	292	315	309	348	357	350	347	398	390	488	441	413	474	498	580	620	618	719	768	804	804
MF7	Health programme administration and health insurance	363	427	452	527	542	580	760	787	799	852	909	1,011	1,088	1,256	1,450	1,600	1,297	1,246	1,547	1,656	1,693	1,693
MR1	Capital formation of health care provider institutions	6	6	7	7	5	7	8	9	9	10	11	13	15	18	20	23	17	16	19	21	21	27
MR2	Education and training of health personnel	79	104	131	174	187	229	299	284	280	312	355	364	598	827	884	1,157	1,464	1,327	1,440	1,528	1,494	1,494
MR3	Research and development in health	1	1	1	6	1	1	1	1	1	2	2	3	2	2	2	17	175	188	211	241	286	286
MR9	All other health-related expenditures	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	<b>Total</b>	<b>4,190</b>	<b>4,411</b>	<b>4,720</b>	<b>5,498</b>	<b>5,379</b>	<b>5,786</b>	<b>6,831</b>	<b>7,650</b>	<b>8,525</b>	<b>9,454</b>	<b>10,623</b>	<b>11,991</b>	<b>11,684</b>	<b>13,559</b>	<b>15,704</b>	<b>17,440</b>	<b>18,771</b>	<b>20,855</b>	<b>23,192</b>	<b>25,342</b>	<b>28,023</b>	<b>28,023</b>

**TABLE 5.3.3c: Private Sector Health Expenditure by Functions of Health Care, 1997-2017 (Percent, %)**

MINHA Code	Functions of Health Care	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
MF1	Services of curative care	61.68	59.94	60.58	62.49	62.38	63.39	64.81	67.08	69.00	70.22	69.81	71.31	67.21	67.07	67.67	66.63	66.81	68.22	67.12	67.68	69.42	69.42
MF2	Services of rehabilitative care	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MF3	Services of long-term nursing care	0.03	0.03	0.04	0.04	0.05	0.09	0.14	0.13	0.13	0.12	0.13	0.04	0.04	0.09	0.09	0.10	0.00	0.00	0.00	0.01	0.01	0.00
MF4	Ancillary services to health care	2.41	2.50	2.12	1.79	1.44	1.10	0.69	0.38	0.39	0.39	0.39	0.40	0.37	0.42	0.46	0.49	0.52	0.54	0.33	0.16	0.17	0.17
MF5	Medical goods dispensed to out-patients	18.45	18.73	18.08	17.08	16.01	15.13	13.60	13.73	13.03	12.70	13.05	12.97	14.26	13.41	13.60	13.41	13.64	14.95	15.57	15.52	15.05	15.05
MF6	Public health services (including health promotion and prevention)	6.72	6.62	6.68	5.61	6.46	6.17	5.12	4.54	4.67	4.13	4.60	3.68	3.54	3.50	3.17	3.33	3.30	2.96	3.10	3.03	2.87	2.87
MF7	Health programme administration and health insurance	8.67	9.67	9.57	9.59	10.07	10.02	11.12	10.29	9.37	9.01	8.56	8.43	9.31	9.26	9.24	9.17	6.91	5.98	6.67	6.53	6.04	6.04
MR1	Capital formation of health care provider institutions	0.14	0.14	0.15	0.13	0.09	0.12	0.12	0.12	0.11	0.10	0.11	0.11	0.11	0.13	0.13	0.13	0.09	0.08	0.08	0.08	0.10	0.10
MR2	Education and training of health personnel	1.89	2.35	2.77	3.16	3.48	3.96	4.38	3.71	3.29	3.31	3.34	3.04	5.12	6.10	5.63	6.64	7.80	6.36	6.21	6.03	5.33	5.33
MR3	Research and development in health	0.03	0.02	0.02	0.10	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.10	0.93	0.90	0.91	0.95	1.02	1.02
MR9	All other health-related expenditures	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>



## CHAPTER 6

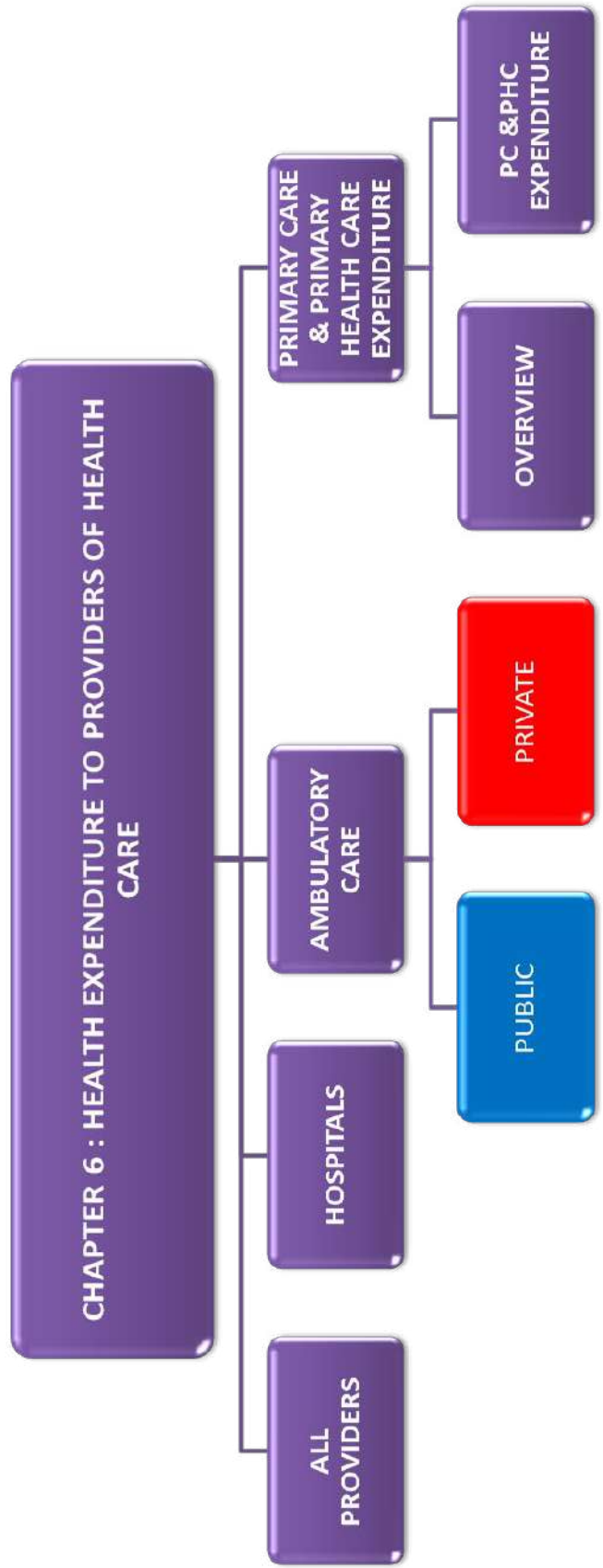
### HEALTH EXPENDITURE TO PROVIDERS OF HEALTH CARE

The providers of health care services and products include all hospitals (i.e. health care facilities under MP1 code of MNHA Framework which include general hospitals, psychiatric hospitals and speciality hospitals), nursing and residential care facility providers, providers of ambulatory health care, retail sale and other providers of medical goods, and provision and administration of public health programme providers (Appendix Table A2.2).

This chapter contains four sections. Section 6.1 describes health expenditure to all providers of health care as classified in MNHA Framework. All hospitals and providers of ambulatory care services are reported in the sections (6.2 and 6.3 respectively). A new sub-chapter section 6.4 is added explains further regarding Primary Care (PC) and Primary Health Care (PHC) expenditure. The overview of health expenditure to providers of health care is as shown in Figure 6.0.



**FIGURE 6.0: Organogram of Health Expenditure to Providers of Health Care**





## 6.1 HEALTH EXPENDITURE TO ALL PROVIDERS OF HEALTH CARE

In 2017, analysis of providers of health care shows that all hospitals consumed RM31,595 million or 55% of TEH (Table 6.1a and Figure 6.1). This is followed by providers of ambulatory health care at RM11,901 million (21%), general health administration and insurance providers at RM4,905 million (8 percent), and retail sale and other providers of medical goods at RM3,888 million (7 percent). The remaining providers of health care services and products amounted to RM5,072 million (9 percent) of the TEH.

The 1997 to 2017 time series data also showed a similar pattern with the same top two providers (all hospitals and providers of ambulatory health care)

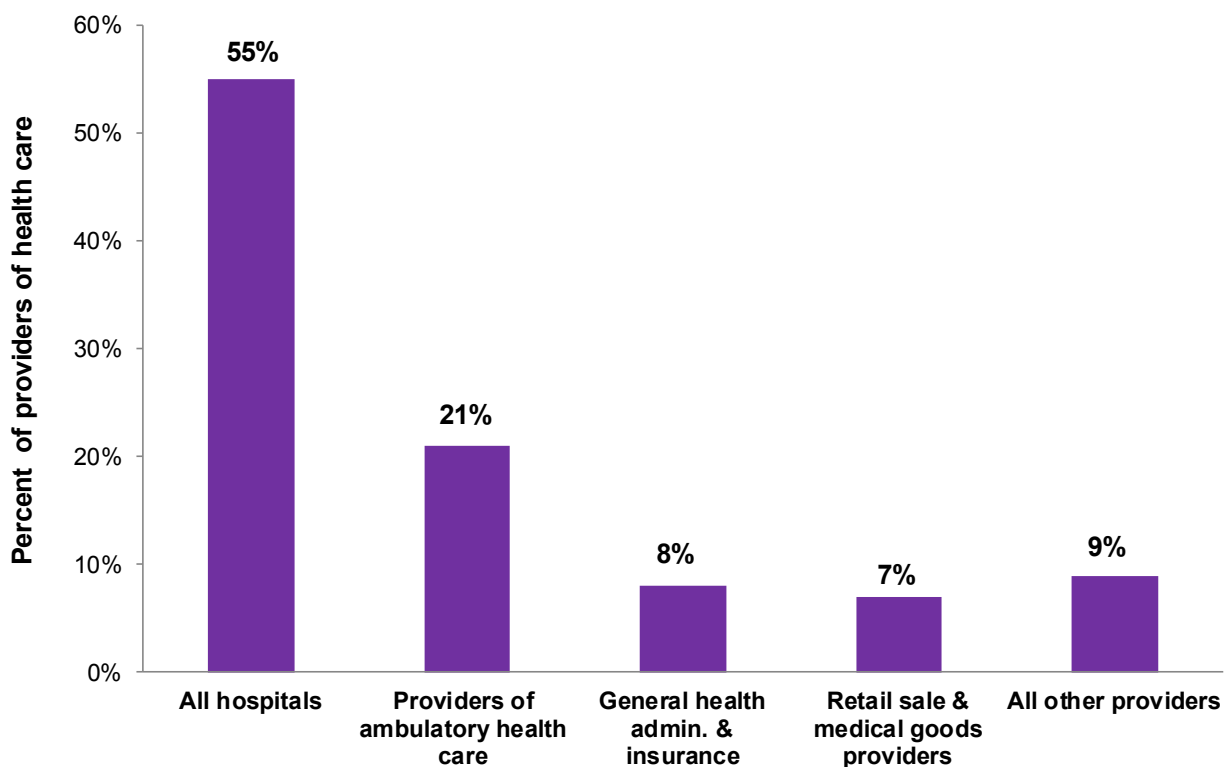
contributing to an average of 76% share of TEH throughout the time period. Third highest expenditure from 1997 to 2017 was contributed by expenditure to general health administration and insurance providers, however in 2016 third highest expenditure was to retail sale and other providers of medical goods as shown in (Table 6.1b and Table 6.1c). The expenditures of the top two providers increased in absolute *Ringgit Malaysia* (RM) value by 7-fold over the same time period, whereas spending at retail sale and other providers of medical goods showed increase in absolute RM value by 8-fold. Providers of institutions providing health-related services showed even a higher increase which is by 11-fold.



**TABLE 6.1a: Total Expenditure on Health to Providers of Health Care, 2017**

MNHA Code	Providers of Health Care	RM Million	Percent
MP1	All hospitals	31,595	55.08
MP3	Providers of ambulatory health care	11,901	20.75
MP6	General health administration and insurance	4,905	8.55
MP4	Retail sale and other providers of medical goods	3,888	6.78
MP8	Institutions providing health-related services	2,859	4.98
MP5	Provision and administration of public health programmes	1,582	2.76
MP7	Other industries (rest of the Malaysian economy)	618	1.08
MP9	Rest of the world (ROW)	11	0.02
MP2	Nursing and residential care facilities	2	0.00
<b>Total</b>		<b>57,361</b>	<b>100.00</b>

**FIGURE 6.1: Total Expenditure on Health to Providers of Health Care, 2017**



**TABLE 6.1b: Total Expenditure on Health to Providers of Health Care, 1997-2017 (RM Million)**

MNHA Code	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Providers of Health Care																					
MP1	4,132	4,337	4,738	5,435	5,964	6,378	7,639	8,436	9,043	11,186	12,216	14,714	15,106	16,844	18,638	21,050	21,958	24,784	26,799	28,474	31,595
MP2	2	2	2	3	3	6	10	11	12	12	15	6	6	13	16	20	2	2	1	5	2
MP3	2,117	2,158	2,270	2,591	2,574	2,720	3,169	3,594	4,162	4,961	5,428	5,651	4,759	5,620	6,646	7,863	8,747	10,322	10,704	11,047	11,901
MP4	517	574	619	694	664	705	793	944	976	1,055	1,229	1,349	1,504	1,621	1,909	2,120	2,411	3,033	3,367	3,643	3,888
MP5	389	365	400	439	531	630	594	604	601	769	1,175	963	1,227	1,009	1,160	1,495	1,235	1,501	1,512	1,676	1,582
MP6	1,026	1,306	1,425	2,000	2,255	2,376	3,960	3,481	2,338	2,780	2,816	3,297	4,507	5,220	4,634	3,902	3,981	3,867	4,373	3,568	4,905
MP7	104	110	122	124	129	136	175	204	189	205	254	264	276	326	391	435	611	557	547	602	618
MP8	258	300	370	452	575	678	854	912	896	1,089	1,261	1,504	1,974	2,144	2,441	2,534	2,674	2,753	2,859	2,993	2,859
MP9	4	4	6	7	7	10	11	13	14	17	20	12	6	75	102	85	6	9	15	11	11
Total	8,550	9,156	9,953	11,745	12,703	13,640	17,203	18,200	18,231	22,072	24,414	27,758	29,365	32,872	35,937	39,505	41,625	46,828	50,176	52,018	57,361

**TABLE 6.1c: Total Expenditure on Health to Providers of Health Care, 1997-2017 (Percent, %)**

MNHA Code	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Providers of Health Care																					
MP1	48.32	47.36	47.60	46.27	46.95	46.76	44.40	46.35	49.60	50.68	50.04	53.01	51.44	51.24	51.86	53.29	52.75	52.93	53.41	54.74	55.08
MP2	0.02	0.02	0.02	0.03	0.03	0.04	0.06	0.06	0.07	0.06	0.06	0.02	0.02	0.04	0.04	0.05	0.00	0.00	0.00	0.01	0.00
MP3	24.76	23.57	22.81	22.06	20.26	19.94	18.42	19.75	22.83	22.48	22.23	20.36	16.21	17.10	18.49	19.90	21.01	22.04	21.33	21.24	20.75
MP4	6.05	6.27	6.22	5.91	5.23	5.17	4.61	5.19	5.35	4.78	5.03	4.86	5.12	4.93	5.31	5.37	5.79	6.48	6.71	7.00	6.78
MP5	4.55	3.99	4.02	3.74	4.18	4.62	3.45	3.32	3.29	3.48	4.81	3.47	4.18	3.07	3.23	3.79	2.97	3.21	3.01	3.22	2.76
MP6	12.00	14.27	14.31	17.03	17.75	17.42	23.02	19.13	12.83	12.59	11.53	11.88	15.35	15.88	12.89	9.88	9.56	8.26	8.71	6.86	8.55
MP7	1.21	1.20	1.22	1.05	1.02	1.00	1.01	1.12	1.04	0.93	1.04	0.95	0.94	0.99	1.09	1.10	1.47	1.19	1.09	1.16	1.08
MP8	3.02	3.27	3.72	3.85	4.52	4.97	4.96	5.01	4.92	4.93	5.17	5.42	6.72	6.52	6.79	6.41	6.42	5.88	5.70	5.75	4.98
MP9	0.05	0.04	0.06	0.06	0.06	0.07	0.06	0.07	0.07	0.08	0.08	0.04	0.02	0.23	0.28	0.21	0.01	0.02	0.03	0.02	0.02
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00







## 6.2 HEALTH EXPENDITURE TO PROVIDERS OF HEALTH CARE - HOSPITALS

The cross-tabulations of expenditure at all hospitals and sources of financing responds to the question as to who or which agencies finance for health care services provided at all hospitals in the country.

In 2017, of the RM31,595 million spent at all hospitals, MOH incurred the highest spending at RM15,377 million (49%) followed by private household OOP at RM10,405 million (33%), private insurance enterprises (other than social insurance) at RM3,307 million (10%), Ministry of Education (MOE) at RM1,277 million (4 percent) and other federal agencies (including

statutory bodies) at RM605 million (2 percent) (Table 6.2a and Figure 6.2). The remaining expenditure from various sources at all hospitals amounted to RM623 million (2 percent).

The 1997 to 2017 time-series expenditure by the top two sources of financing at all hospitals, which are MOH and private household OOP amounted to an average of 82% as shown in (Table 6.2b and Table 6.2c). Average of 18% was spent by the remaining sources of financing.

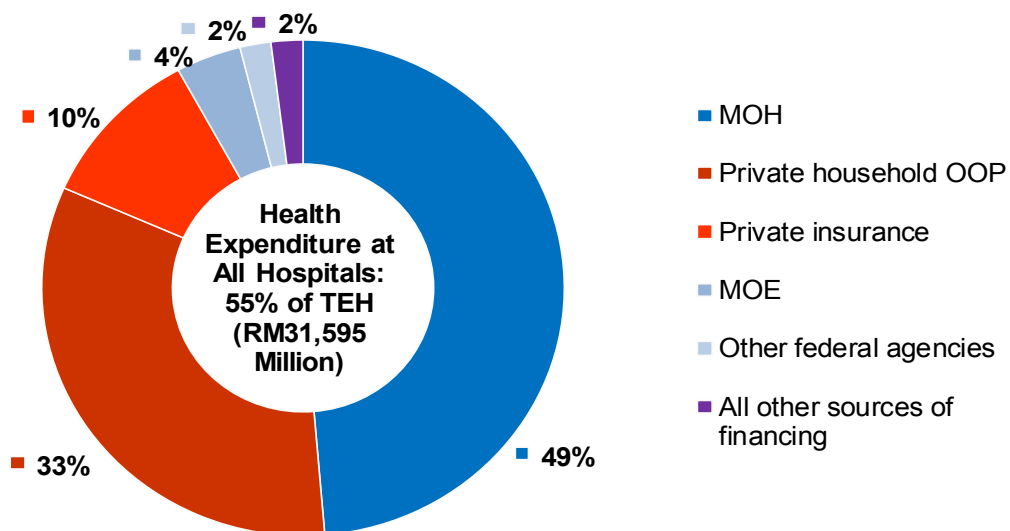




**TABLE 6.2a: Health Expenditure at All Hospitals by Sources of Financing, 2017**

MNHA Code	Sources of Financing	RM Million	Percent
MS1.1.1	Ministry of Health (MOH)	15,377	48.67
MS2.4	Private household out-of-pocket expenditures (OOP)	10,405	32.93
MS2.2	Private insurance enterprises (other than social insurance)	3,307	10.47
MS1.1.2	Ministry of Education (MOE)	1,277	4.04
MS1.1.9	Other federal agencies (including statutory bodies)	605	1.91
MS2.6	All corporations (other than health insurance)	179	0.57
MS1.1.2.2	Other state agencies (including statutory bodies)	150	0.48
MS1.2.2	Social Security Organization (SOCSO)	125	0.40
MS1.1.3	Ministry of Defence (MOD)	84	0.26
MS1.2.1	Employees Provident Fund (EPF)	48	0.15
MS1.1.3	Local authorities (LA)	20	0.06
MS1.1.2.1	(General) State government	16	0.05
MS2.5	Non-profit institutions serving households (NGO)	1	<0.01
<b>Total</b>		<b>31,595</b>	<b>100.00</b>

**FIGURE 6.2: Health Expenditure at All Hospitals by Sources of Financing, 2017**





**TABLE 6.2b: Health Expenditure at All Hospitals by Sources of Financing, 1997-2017 (RM Million)**

MNHA Code	Sources of Financing	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MS1.111	Ministry of Health (MOH)	2,166	2,282	2,470	2,740	3,120	3,214	3,875	4,173	4,401	6,028	6,357	7,343	7,664	8,441	9,436	11,281	11,668	13,591	14,183	14,274	15,377
MS1.112	Ministry of Education (MOE)	321	324	365	407	500	553	591	637	656	705	842	978	1,019	1,220	1,223	1,288	1,236	1,350	1,317	1,289	1,277
MS1.113	Ministry of Defence (MOD)	22	24	25	28	32	35	41	39	42	50	57	71	79	76	83	102	105	110	115	104	84
MS1.119	Other federal agencies (including statutory bodies)	99	107	113	133	149	175	198	300	275	287	337	499	363	394	418	449	484	505	555	580	605
MS1.121	(General) State government	5	5	6	6	7	7	8	8	9	10	13	12	12	13	15	19	18	21	17	19	16
MS1.122	Other state agencies (including statutory bodies)	3	3	3	4	4	4	5	4	5	5	7	7	8	10	10	13	10	12	36	138	150
MS1.13	Local authorities (LA)	0	0	0	0	0	1	1	1	2	3	5	6	15	19	20	16	13	21	20	18	20
MS1.2.1	Employees Provident Fund (EPF)	6	13	16	19	26	30	35	46	50	38	42	40	31	28	32	31	35	38	43	47	48
MS1.2.2	Social Security Organization (SOCSSO)	23	23	24	28	29	31	43	37	42	54	46	35	57	79	93	104	120	98	100	117	125
MS2.2	Private insurance enterprises (other than social insurance)	64	92	127	164	247	333	409	492	529	657	800	996	1,228	1,322	1,474	1,583	1,878	2,373	2,761	3,019	3,307
MS2.4	Private household out-of-pocket expenditures (OOP)	1,295	1,310	1,415	1,731	1,635	1,766	2,288	2,565	2,865	3,187	3,520	4,575	4,473	5,080	5,690	5,993	6,200	6,518	7,484	8,710	10,405
MS2.5	Non-profit institutions serving households (NGO)	1	1	1	1	1	1	8	6	7	8	9	19	39	27	29	31	44	12	13	1	1
MS2.6	All corporations (other than health insurance)	126	154	173	172	214	221	138	128	160	154	180	132	117	138	114	141	147	136	153	157	179
	<b>Total</b>	<b>4,132</b>	<b>4,337</b>	<b>4,738</b>	<b>5,435</b>	<b>5,964</b>	<b>6,378</b>	<b>7,639</b>	<b>8,436</b>	<b>9,043</b>	<b>11,186</b>	<b>12,216</b>	<b>14,714</b>	<b>15,106</b>	<b>16,844</b>	<b>18,638</b>	<b>21,050</b>	<b>21,958</b>	<b>24,784</b>	<b>26,799</b>	<b>28,474</b>	<b>31,595</b>

**TABLE 6.2c: Health Expenditure at All Hospitals by Sources of Financing, 1997-2017 (Percent, %)**

MNHA Code	Sources of Financing	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MS1.111	Ministry of Health (MOH)	52.42	52.62	52.13	50.43	52.31	50.39	50.73	49.47	48.67	53.89	52.04	49.91	50.74	50.11	50.63	53.59	53.14	54.84	52.92	50.13	48.67
MS1.112	Ministry of Education (MOE)	7.78	7.47	7.71	7.49	8.39	8.67	7.74	7.55	7.26	6.30	6.89	6.65	6.75	7.24	6.56	6.12	5.63	5.45	4.92	4.53	4.04
MS1.113	Ministry of Defence (MOD)	0.53	0.55	0.53	0.52	0.54	0.55	0.53	0.46	0.47	0.45	0.46	0.48	0.52	0.45	0.45	0.49	0.48	0.44	0.43	0.37	0.26
MS1.119	Other federal agencies (including statutory bodies)	2.41	2.48	2.39	2.45	2.49	2.74	2.60	3.56	3.04	2.57	2.76	3.39	2.40	2.34	2.24	2.13	2.20	2.04	2.07	2.04	1.91
MS1.121	(General) State government	0.12	0.12	0.12	0.11	0.11	0.12	0.10	0.09	0.10	0.09	0.11	0.08	0.08	0.08	0.08	0.09	0.08	0.08	0.06	0.07	0.05
MS1.122	Other state agencies (including statutory bodies)	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.05	0.06	0.05	0.06	0.05	0.06	0.06	0.05	0.06	0.05	0.05	0.13	0.49	0.48
MS1.13	Local authorities (LA)	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.02	0.03	0.04	0.04	0.10	0.11	0.11	0.08	0.06	0.09	0.08	0.06	0.06
MS1.2.1	Employees Provident Fund (EPF)	0.14	0.29	0.35	0.36	0.44	0.47	0.46	0.55	0.56	0.34	0.35	0.27	0.21	0.17	0.17	0.15	0.16	0.15	0.16	0.16	0.15
MS1.2.2	Social Security Organization (SOCSSO)	0.55	0.53	0.51	0.51	0.48	0.48	0.57	0.44	0.46	0.49	0.38	0.24	0.38	0.47	0.50	0.49	0.54	0.40	0.37	0.41	0.40
MS2.2	Private insurance enterprises (other than social insurance)	1.55	2.11	2.68	3.02	4.14	5.23	5.36	5.83	5.84	5.87	6.55	6.77	8.13	7.85	7.91	7.52	8.55	9.58	10.30	10.60	10.47
MS2.4	Private household out-of-pocket expenditures (OOP)	31.34	30.21	29.86	31.85	27.41	27.69	29.96	30.40	31.68	28.49	28.81	31.09	29.61	30.16	30.53	28.47	28.24	26.30	27.93	30.59	32.93
MS2.5	Non-profit institutions serving households (NGO)	0.03	0.01	0.01	0.02	0.02	0.12	0.07	0.07	0.08	0.07	0.08	0.13	0.26	0.16	0.15	0.15	0.20	0.05	0.05	0.00	0.00
MS2.6	All corporations (other than health insurance)	3.06	3.55	3.64	3.17	3.59	3.47	1.80	1.51	1.77	1.38	1.48	0.90	0.77	0.82	0.61	0.67	0.67	0.55	0.57	0.55	0.57
	<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>



### 6.3 HEALTH EXPENDITURE TO PROVIDERS OF HEALTH CARE – PROVIDERS OF AMBULATORY HEALTH CARE

Providers of ambulatory health care services is the next largest provider of health care after all hospitals. Ambulatory healthcare comprises a wide range of providers such as providers of medical clinics, dental clinics, family planning centres, substance abuse centres, dialysis centres, medical and diagnostic centres, ambulance providers and many other outpatient providers who do provide inpatient services. The MNHA Framework and SHA 1.0 also includes providers of Traditional and Complementary Medicine under this category.

In 2017, providers of ambulatory health care consumed RM11,901 million (21%) of TEH. Of this amount, RM6,972 million (59%) is funded by private sector source of financing and the remaining RM4,930 million (41%) by public sector source of financing (Table 6.3a and Figure 6.3).

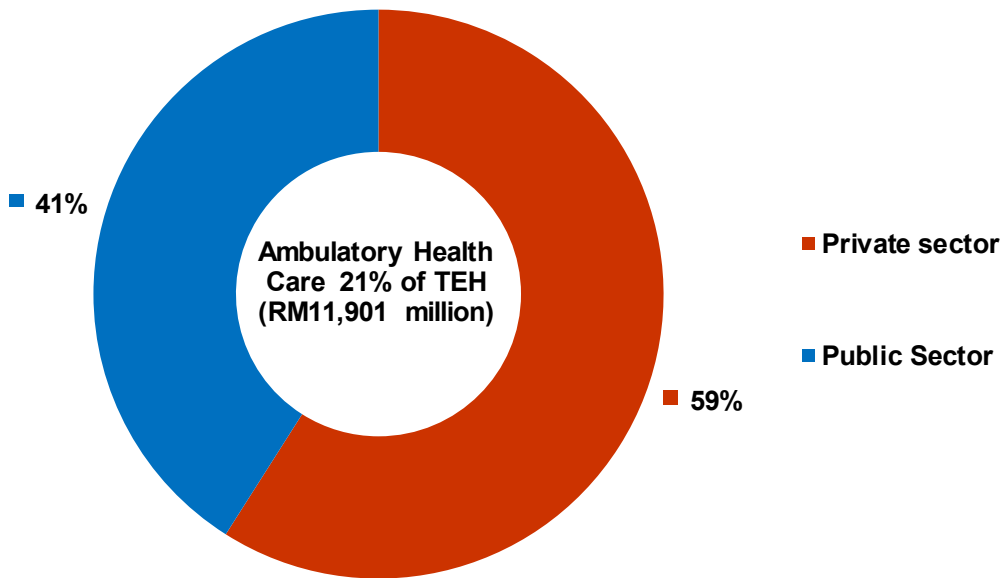
The 1997 to 2017 time-series data shows that the expenditure in absolute *Ringgit Malaysia* (RM) value for ambulatory care services increased by 4-fold in private sector and 11-fold in public sector (Table 6.3b and Table 6.3c). The private sector spending was higher than public sector spending over the time period, with the rate of increase in private sector spending in absolute RM value from 2010 onwards showed rapid rise compared to public sector expenditure. One of the possible contributing factors for this finding is that there was increased demand for services delivered by standalone private providers of ambulatory health care and most of these services are delivered as part of public hospital services at subsidised cost.



**TABLE 6.3a: Health Expenditure to Providers of Ambulatory Health Care by Sources of Financing, 2017**

MNHA Code	Sources of Financing	RM Million	Percent
MS2	Private sector	6,972	58.58
MS1	Public sector	4,930	41.42
<b>Total</b>		<b>11,901</b>	<b>100.00</b>

**FIGURE 6.3: Health Expenditure to Providers of Ambulatory Health Care (non-hospital setting) by Sources of Financing, 2017**



**TABLE 6.3b: Health Expenditure to Providers of Ambulatory Health Care by Sources of Financing, 1997-2017 (RM Million)**

MNHA Code	Sources of Financing	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MS1	Public sector	421	454	524	620	741	836	1,101	1,226	1,331	1,805	1,912	2,194	2,169	2,488	2,749	3,301	3,518	4,143	4,404	4,538	4,930
MS2	Private sector	1,696	1,704	1,747	1,971	1,833	1,885	2,068	2,369	2,881	3,156	3,517	3,456	2,590	3,133	3,897	4,562	5,229	6,179	6,300	6,509	6,972
	<b>Total</b>	<b>2,117</b>	<b>2,158</b>	<b>2,270</b>	<b>2,591</b>	<b>2,574</b>	<b>2,720</b>	<b>3,169</b>	<b>3,594</b>	<b>4,162</b>	<b>4,961</b>	<b>5,428</b>	<b>5,651</b>	<b>4,759</b>	<b>5,620</b>	<b>6,646</b>	<b>7,863</b>	<b>8,747</b>	<b>10,322</b>	<b>10,704</b>	<b>11,047</b>	<b>11,901</b>

**TABLE 6.3c: Health Expenditure to Providers of Ambulatory Health Care by Sources of Financing, 1997-2017 (Percent, %)**

MNHA Code	Sources of Financing	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MS1	Public sector	19.87	21.05	23.07	23.93	28.78	30.72	34.73	34.10	31.97	36.39	35.22	38.83	45.58	44.26	41.36	41.98	40.22	40.14	41.14	41.08	41.42
MS2	Private sector	80.13	78.95	76.93	76.07	71.22	69.28	65.27	65.90	68.03	63.61	64.78	61.17	54.42	55.74	58.64	58.02	59.78	59.86	58.86	58.92	58.58
	<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>



## 6.4 PRIMARY CARE (PC) AND PRIMARY HEALTH CARE (PHC) EXPENDITURE

### 6.4.1 Overview of Primary Care and Primary Health Care

Primary care (PC) is often regarded as the gate keeper and a key provider process in the health-care system. It is the first point of contact, easily accessible at the time of need, providing continued, comprehensive and coordinated care. Primary care services offers as a set of basic care provided by a team of healthcare personnel and is a subset of Primary Health Care (PHC).

The WHO defines PHC as an essential health care based on methods and technology made universally accessible to individuals, families and communities through their active participation and at an affordable cost. PHC is an integral part of a country's health system. It is the first level of contact for individuals, families and communities and enabling health care to be delivered as close as possible to where people live and work.

The System of Health Accounts (SHA 2011) does not propose a readymade classification for PHC. Rather, the components of PHC are included under different SHA 2011 classifications. To date, there exists no easily measurable operational definition of PHC. The Astana

declaration states that PHC is about health services that are high quality, safe, comprehensive, integrated, accessible, available and affordable for everyone and everywhere and are provided with compassion, respect and dignity by health professionals who are well trained, skilled, motivated and committed.

Based on the WHO consultation with the PHC experts, it was suggested that PHC expenditure monitoring using SHA 2011 functional classification (HC) which includes the following services:

- General and dental outpatient curative care
- Home-based curative care
- Outpatient and home-based long-term care
- Preventive care
- Non-durable medical goods purchased directly by patients
- Glasses and hearing aids

Based on this definition, the Family Health Development Division, Ministry of Health collaborated with MNHA to generate PHC expenditure using MNHA database for Primary Health Care Performance Initiative (PHCPI) as one of the indicator for Malaysia's Primary Health Care Vital Sign Profile. The data is extracted based on the codes in Table 6.4a.

SHA Function Code	Health care function
HC.1.3.1	General outpatient curative care
HC.1.3.2	Dental outpatient curative care
HC.1.4	Home-based curative care
HC.3.3	Outpatient long-term care (health)
HC.3.4	Home-based long term care (health)
HC.5.1	Pharmaceuticals and other medical non-durable goods
HC.5.2.1	Glasses and other vision products
HC.5.2.2	Hearing aids
HC.6.1	Information, education and counselling programmes
HC.6.2	Immunisation programmes
HC.6.3	Early disease detection programmes
HC.6.4	Healthy condition monitoring programmes
HC.6.5	Epidemiological surveillance and risk and disease control programmes





For Malaysia, PC and PHC expenditure was estimated by extracting data on expenditures from the Functions of Health Services (MF) codes cross tabulation with the Providers of Health care (MP) codes in the MNHA framework. Several discussions and meetings with relevant stakeholders were held to identify these codes involving the National Health Financing Section, Planning Division, and Family Health Development Division, Ministry of Health. Subsequently, the

consensus on the PHC definitions and boundaries was brought into the MNHA Technical Advisory Committee Meetings and it was decided that PC and PHC expenditure to be separated. The PC definitions was based on the concept of first point of contact of services while PHC includes all the expenditure of health promotion and prevention activities (MF6) (Table 6.4b).

**TABLE 6.4b: PC and PHC based on MNHA codes.**

PROVIDER		FUNCTION			
MNHA Code	Description	MNHA Code	Description		
MP1.1a	Hospitals (MOH)	MF1.3.1	Basic medical and diagnostic services	Primary Health Care (PHC)	Primary Care (PC)
MP1.1b	Hospitals (Public non-MOH)	MF1.3.1	Basic medical and diagnostic services		
MP3.1	Medical practitioner clinics	MF1.3.1	Basic medical and diagnostic services		
		MF1.4	Services of curative home care		
		MF6.1	Maternal and child health, family planning and counselling		
		MF6.2.1	Medical school health services		
MP1 & MP3	Hospitals & Ambulatory Care	MF1.3.2	Dental outpatient curative care		
MP3.2	Dentist clinics	MF6.2.2	Dental school health services		
MP	All Providers	MF6	Prevention and public health services		

### 6.4.2 Primary Care and Primary Health Care Expenditure

In 2017, the PC expenditure was RM10,880 million (19%) of the TEH (Figure 6.4a) while for PHC showed higher value at RM12,516 million (22%) of the TEH as a result of adding in the expenditure of the remaining health promotion and prevention activities (MF6) (Figure 6.4b).

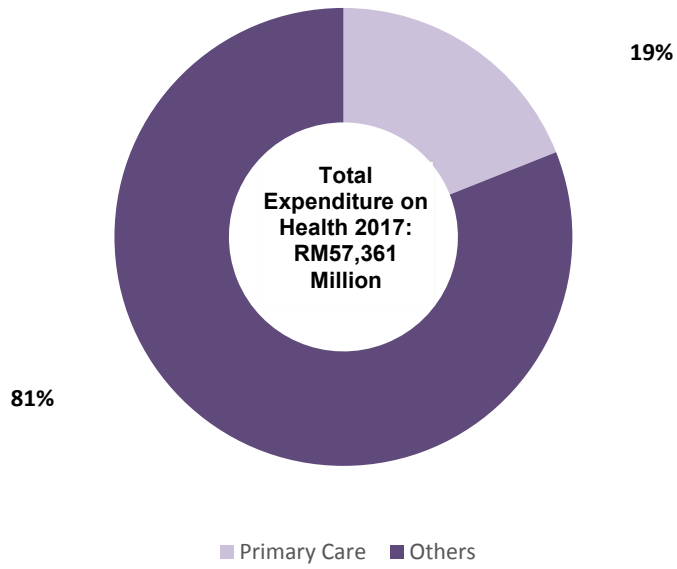
Based on the SHA 2011 framework, a total of RM18,301 million (35%) of CHE was spent for PHC (Figure 6.4c). Of this amount, RM6,207 million (34%) is funded by Domestic General Government and the remaining RM12,095 million (66%) by other sources (Figure 6.4d).



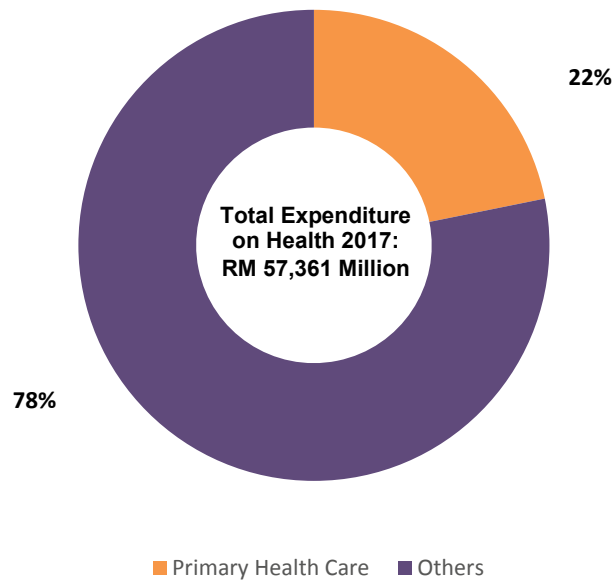




**FIGURE 6.4a: Primary Care Expenditure as Percentage of Total Expenditure on Health, 2017**

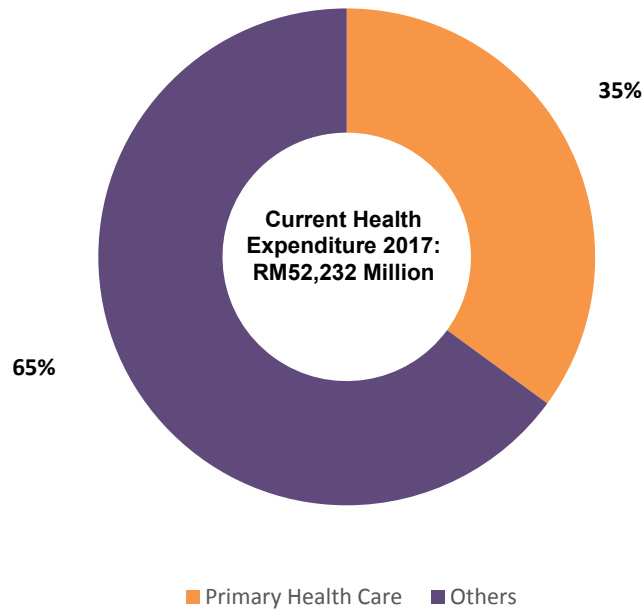


**FIGURE 6.4b: Primary Health Care Expenditure as Percentage of Total Expenditure on Health, 2017**

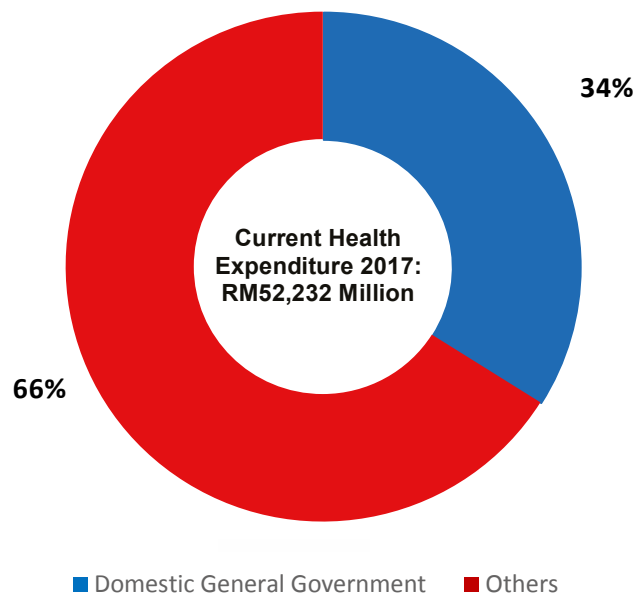




**FIGURE 6.4c: Primary Health Care Expenditure as Percentage of Current Health Expenditure, 2017**



**FIGURE 6.4d: Source of Financing of Primary Health Care Spending, 2017**





## CHAPTER 7

### HEALTH EXPENDITURE BY FUNCTIONS OF HEALTH CARE

This chapter describes the type of services purchased with the financial resources. Health expenditure by functions of health care is categorised into two, namely the 'core functions of health care' (MF) and 'health-related functions' (MR).

This chapter has four sections. Section 7.1 describes health expenditure according to MNHA classification of all functions of health care for year 2017, followed by time series data of 1997-2017 in RM Million and percentage. Section 7.2 explains about services of curative care expenditure, section 7.3 is regarding public health services (including health promotion and prevention) expenditure and section 7.4 describes expenditure for health education and training.

#### 7.1 HEALTH EXPENDITURE BY ALL FUNCTIONS OF HEALTH CARE

In 2017, the expenditure for services of curative care amounted to RM40,166 million (70%) of TEH (Table 7.1a and Figure 7.1). This is followed by expenditure of health programme administration and health insurance at

RM4,770 million (8 percent), medical goods dispensed to out-patient at RM4,551 million (8 percent) and RM2,961 million (5 percent) for public health services (including health promotion and prevention). A total of RM2,865 million (5 percent) was spent for education and training of health personnel, RM1,379 million (2 percent) for capital formation of health care provider institutions with the remaining RM668 million (2 percent) was spent on all remaining.

The 1997 to 2017 time series data showed an average of 90% of the total expenditure was spent for the top five functions as illustrated in Table 7.1b and Table 7.1c. Between 1997 and 2009, the top four functions were services of curative care, medical goods dispensed to outpatients, health programme administration and health insurance and capital formation. A change in pattern started in year 2010 and from 2011 onwards, education and training of health personnel took over the place of capital formation in the top four health expenditure by functions. It is important to also note that services of curative care expenditure trend showed increasing pattern throughout the time period.

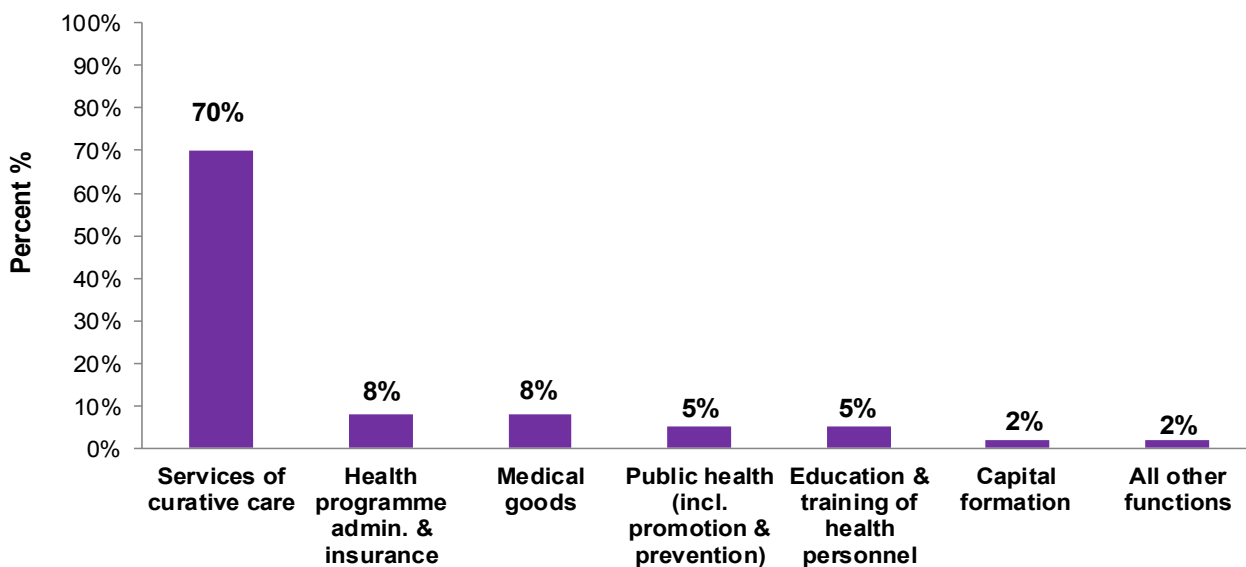




**TABLE 7.1a: Total Expenditure on Health by Functions of Health Care, 2017**

MNHA Code	Functions of Health Care	RM Million	Percent
MF1	Services of curative care	40,166	70.02
MF7	Health programme administration and health insurance	4,770	8.32
MF5	Medical goods dispensed to out-patients	4,551	7.93
MF6	Public health services, including health promotion and prevention	2,961	5.16
MR2	Education and training of health personnel	2,865	5.00
MR1	Capital formation of health care provider institutions	1,379	2.40
MR3	Research and development in health	338	0.59
MF4	Ancillary services to health care	330	0.58
MF3	Services of long-term nursing care	1	<0.01
MR9	All other health-related expenditures	0	<0.01
<b>Total</b>		<b>57,361</b>	<b>100.00</b>

**FIGURE 7.1: Total Expenditure on Health by Functions of Health Care, 2017**





**TABLE 7.1b: Total Expenditure on Health by Functions of Health Care, 1997-2017 (RM Million)**

MNHA Code	Functions of Health Care	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
MF1	Services of curative care	5,486	5,653	6,129	7,133	7,546	8,189	9,787	11,035	12,016	14,863	16,153	18,842	18,396	20,120	23,577	26,755	27,525	31,920	34,277	36,204	40,166	
MF2	Services of rehabilitative care	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0
MF3	Services of long-term nursing care	1	2	2	3	3	6	10	10	11	12	14	5	5	12	15	19	1	2	1	4	1	
MF4	Ancillary services to health care	102	111	101	106	117	110	118	126	128	201	180	238	235	264	296	314	407	380	353	299	330	
MF5	Medical goods dispensed to out-patients	796	850	879	968	894	910	969	1,097	1,162	1,259	1,458	1,636	1,765	1,932	2,248	2,468	2,767	3,410	3,873	4,236	4,551	
MF6	Public health services (including health promotion and prevention)	476	489	541	539	611	632	764	827	893	1,025	1,407	1,244	1,318	1,350	1,497	1,785	2,583	2,459	2,648	2,794	2,961	
MF7	Health programme administration and health insurance	919	960	1,011	1,184	1,283	1,493	1,936	1,954	1,941	2,389	2,498	2,802	3,017	3,162	3,617	3,517	3,541	4,184	4,452	3,764	4,770	
MR1	Capital formation of health care provider institutions	501	784	915	1,357	1,669	1,617	2,774	2,284	1,221	1,317	1,521	1,574	2,714	3,832	2,172	2,012	18,10	1,474	1,436	1,422	1,379	
MR2	Education and training of health personnel	206	253	326	412	504	604	770	803	835	970	1,127	1,363	1,863	2,154	2,464	2,561	2,748	2,753	2,866	3,002	2,865	
MR3	Research and development in health	62	54	49	43	75	79	75	62	22	36	55	55	51	46	48	73	242	247	270	292	338	
MR9	All other health-related expenditures	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	<b>Total</b>	<b>8,550</b>	<b>9,156</b>	<b>9,953</b>	<b>11,745</b>	<b>12,703</b>	<b>13,640</b>	<b>17,203</b>	<b>18,200</b>	<b>18,281</b>	<b>22,072</b>	<b>24,414</b>	<b>27,758</b>	<b>29,365</b>	<b>32,872</b>	<b>35,987</b>	<b>39,505</b>	<b>41,625</b>	<b>46,828</b>	<b>50,176</b>	<b>52,018</b>	<b>57,361</b>	

**TABLE 7.1c: Total Expenditure on Health by Functions of Health Care, 1997-2017 (Percent, %)**

MNHA Code	Functions of Health Care	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MF1	Services of curative care	64.17	61.74	61.58	60.73	59.40	60.04	56.89	60.63	65.91	67.34	66.16	67.88	62.65	61.21	65.61	67.73	66.13	68.16	68.31	69.60	70.02
MF2	Services of rehabilitative care	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MF3	Services of long-term nursing care	0.02	0.02	0.02	0.02	0.02	0.04	0.06	0.06	0.06	0.05	0.06	0.02	0.02	0.04	0.04	0.05	0.00	0.00	0.00	0.01	0.00
MF4	Ancillary services to health care	1.20	1.22	1.02	0.90	0.92	0.81	0.69	0.69	0.70	0.91	0.74	0.86	0.80	0.80	0.82	0.79	0.98	0.81	0.70	0.58	0.58
MF5	Medical goods dispensed to out-patients	9.32	9.29	8.83	8.24	7.04	6.67	5.63	6.03	6.37	5.70	5.97	5.89	6.01	5.88	6.26	6.25	6.65	7.28	7.72	8.14	7.93
MF6	Public health services (including health promotion and prevention)	5.56	5.34	5.44	4.59	4.81	4.64	4.44	4.55	4.90	4.65	5.76	4.48	4.49	4.11	4.17	4.52	6.20	5.25	5.28	5.37	5.16
MF7	Health programme administration and health insurance	10.75	10.48	10.16	10.08	10.10	10.95	11.26	10.74	10.65	10.82	10.23	10.09	10.27	9.62	10.06	8.90	8.51	8.94	8.87	7.24	8.32
MR1	Capital formation of health care provider institutions	5.87	8.57	9.19	11.55	13.14	11.85	16.12	12.55	6.70	5.97	6.23	5.67	9.24	11.66	6.04	5.09	4.35	3.15	2.86	2.73	2.40
MR2	Education and training of health personnel	2.41	2.76	3.28	3.50	3.97	4.42	4.48	4.41	4.58	4.40	4.62	4.91	6.34	6.55	6.86	6.48	6.60	5.88	5.71	5.77	5.00
MR3	Research and development in health	0.72	0.59	0.49	0.37	0.59	0.58	0.43	0.34	0.12	0.16	0.22	0.20	0.18	0.14	0.13	0.19	0.58	0.53	0.54	0.56	0.59
MR9	All other health-related expenditures	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>



## 7.2 HEALTH EXPENDITURE BY FUNCTIONS OF HEALTH CARE - CURATIVE CARE BY SOURCES OF FINANCING

Services of curative care include medical, paramedical and allied health services which could be either allopathic or TCM services and is inclusive of dental care services. It could be provided either in hospital or non-hospital setting. The non-hospital setting includes medical or dental clinics.

In 2017, a total of RM40,166 million (70%) of TEH is for services of curative care as shown in Table 7.2a and Figure 7.2. The source of financing for services of curative care is RM20,713 million (52%) from the public sector and the remaining RM19,453 million or

48 percent from the private sector. For the services of curative care expenditure the public sector spent 84% and the private sector 70% for hospitals. The remaining expenditure was for non-hospital services. Noted that there is an increasing trend on curative care spending at private sector hospitals.

The 1997 to 2017 time-series data shows a similar pattern in absolute *Ringgit Malaysia* (RM) value and percentage (Table 7.2b and 7.2c). The public sector share is higher than the private sector source of financing over the time period.

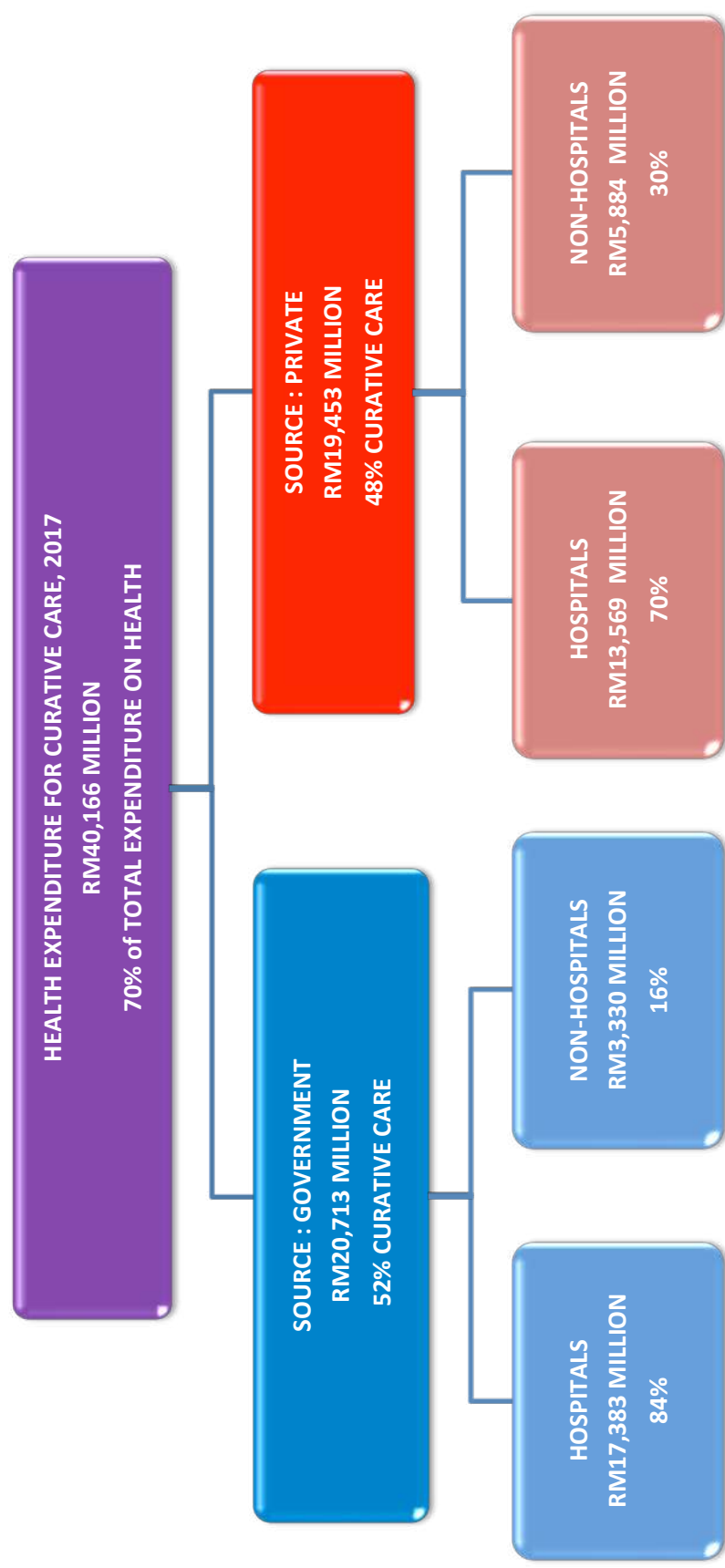
**TABLE 7.2a: Health Expenditure for Curative Care by Sources of Financing, 2017**

Source	Provider	RM Million	Percent
Public Sector	Hospital	17,384	83.93
	Non-Hospital	3,330	16.07
	<b>Sub-Total</b>	<b>20,713</b>	<b>51.57</b>
Private Sector	Hospital	13,569	69.75
	Non-Hospital	5,884	30.25
	<b>Sub-Total</b>	<b>19,453</b>	<b>48.43</b>
	<b>Total</b>	<b>40,166</b>	<b>100.00</b>





**FIGURE 7.2: Health Expenditure for Curative Care by Sources of Financing, 2017**



**TABLE 7.2b: Health Expenditure for Curative Care by Sources of Financing, 1997-2017 (RM Million)**

Source	Provider	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Public Sector	Hospital	2,556	2,654	2,862	3,222	3,634	3,872	4,593	5,035	5,205	6,973	7,425	8,764	8,921	9,236	10,877	12,656	13,021	15,257	15,858	16,037	17,384
	Non-Hospital	346	356	408	475	556	649	767	869	929	1,252	1,312	1,527	1,623	1,790	2,074	2,479	1,964	2,435	2,852	3,016	3,330
	<b>Sub-Total</b>	<b>2,902</b>	<b>3,009</b>	<b>3,269</b>	<b>3,697</b>	<b>4,190</b>	<b>4,521</b>	<b>5,360</b>	<b>5,903</b>	<b>6,134</b>	<b>8,225</b>	<b>8,737</b>	<b>10,291</b>	<b>10,544</b>	<b>11,026</b>	<b>12,951</b>	<b>15,135</b>	<b>14,985</b>	<b>17,692</b>	<b>18,710</b>	<b>19,054</b>	<b>20,713</b>
Private Sector	Hospital	1,481	1,551	1,709	2,061	2,090	2,320	2,833	3,182	3,551	3,995	4,494	5,702	5,831	6,540	7,282	7,710	8,073	8,827	10,173	11,615	13,569
	Non-Hospital	1,103	1,093	1,151	1,375	1,265	1,348	1,594	1,950	2,331	2,643	2,922	2,848	2,021	2,554	3,345	3,910	4,467	5,401	5,394	5,536	5,884
	<b>Sub-Total</b>	<b>2,584</b>	<b>2,644</b>	<b>2,860</b>	<b>3,436</b>	<b>3,355</b>	<b>3,668</b>	<b>4,427</b>	<b>5,132</b>	<b>5,882</b>	<b>6,638</b>	<b>7,416</b>	<b>8,551</b>	<b>7,852</b>	<b>9,094</b>	<b>10,627</b>	<b>11,620</b>	<b>12,541</b>	<b>14,228</b>	<b>15,567</b>	<b>17,151</b>	<b>19,453</b>
<b>Total</b>		<b>5,486</b>	<b>5,653</b>	<b>6,129</b>	<b>7,133</b>	<b>7,546</b>	<b>8,189</b>	<b>9,787</b>	<b>11,035</b>	<b>12,016</b>	<b>14,863</b>	<b>16,153</b>	<b>18,842</b>	<b>18,396</b>	<b>20,120</b>	<b>23,577</b>	<b>26,755</b>	<b>27,525</b>	<b>31,920</b>	<b>34,277</b>	<b>36,204</b>	<b>40,166</b>

**TABLE 7.2c: Health Expenditure for Curative Care by Sources of Financing, 1997-2017 (Percent, %)**

Source	Provider	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Public Sector	Hospital	88.09	88.18	87.53	87.15	86.73	85.65	85.70	85.29	84.86	84.78	84.98	85.17	84.61	83.76	83.98	83.62	86.90	86.24	84.76	84.17	83.93
	Non-Hospital	11.91	11.82	12.47	12.85	13.27	14.35	14.30	14.71	15.14	15.22	15.02	14.83	15.39	16.24	16.02	16.38	13.10	13.76	15.24	15.83	16.07
	<b>Sub-Total</b>	<b>52.89</b>	<b>53.23</b>	<b>53.34</b>	<b>51.84</b>	<b>55.53</b>	<b>55.21</b>	<b>54.77</b>	<b>53.50</b>	<b>51.05</b>	<b>55.34</b>	<b>54.09</b>	<b>54.62</b>	<b>57.32</b>	<b>54.80</b>	<b>54.93</b>	<b>56.57</b>	<b>54.44</b>	<b>55.43</b>	<b>54.58</b>	<b>52.63</b>	<b>51.57</b>
Private Sector	Hospital	57.31	58.66	59.76	59.99	62.29	63.25	64.00	62.01	60.38	60.18	60.60	66.69	74.26	71.92	68.52	66.35	64.38	62.04	65.35	67.72	69.75
	Non-Hospital	42.69	41.34	40.24	40.01	37.71	36.75	36.00	37.99	39.62	39.82	39.40	33.31	25.74	28.08	31.48	33.65	35.62	37.96	34.65	32.28	30.25
	<b>Sub-Total</b>	<b>47.11</b>	<b>46.77</b>	<b>46.66</b>	<b>48.16</b>	<b>44.47</b>	<b>44.79</b>	<b>45.23</b>	<b>46.50</b>	<b>48.95</b>	<b>44.66</b>	<b>45.91</b>	<b>45.38</b>	<b>42.68</b>	<b>45.20</b>	<b>45.07</b>	<b>43.43</b>	<b>45.56</b>	<b>44.57</b>	<b>45.42</b>	<b>47.37</b>	<b>48.43</b>
<b>Total</b>		<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	







### 7.3 HEALTH EXPENDITURE BY FUNCTIONS OF HEALTH CARE – PUBLIC HEALTH SERVICES (INCLUDING HEALTH PROMOTION AND PREVENTION) BY SOURCES OF FINANCING

This section refers to expenditure for services designed to enhance the health status of the population in the form of structured public health services including promotive and preventive programmes. This excludes the expenditure of similar services delivered on individual basis which is captured as part of services of curative care.

In 2017, a total of RM2,961 million (5 percent) of TEH is spent on public health programmes. From this, RM2,157 million (73%) is by the public sector sources of financing. MOH is the highest financier of public health services with the expenditure of RM1,902 million (64%) of the total expenditure on public health services (Table 7.3a). About 88% of public sector health

expenditure on public health services is by MOH as shown in Figure 7.3. The second highest financier for public health services is all corporations (other than health insurance) that spent RM797 million (27%) followed by other federal agencies (including statutory bodies) amounted to RM140 million (5%).

The 1997 to 2017 time series data also showed MOH as the largest source of financing for this function of health care service with a 13-fold increase in absolute *Ringgit Malaysia* (RM) value over the time period. However, other state agencies (including statutory bodies) showed an even higher increase in absolute RM value of 16-fold over the same time period (Table 7.3b and 7.3c).

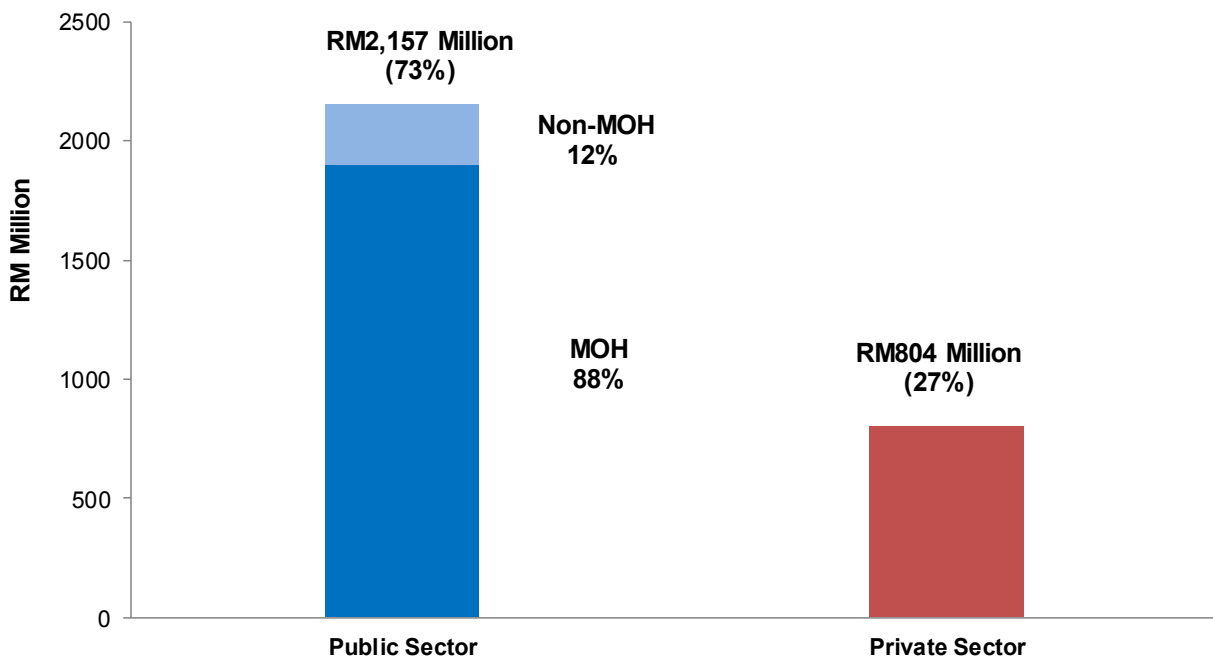




**TABLE 7.3a: Health Expenditure for Public Health Services (Including Health Promotion and Prevention) by Sources of Financing, 2017**

MNHA Code	Sources of Financing	RM Million	Percent
MS1.1.1.1	Ministry of Health (MOH)	1,902	64.24
MS2.6	All corporations (other than health insurance)	797	26.92
MS1.1.1.9	Other federal agencies (including statutory bodies)	140	4.73
MS1.1.2.2	Other state agencies (including statutory bodies)	50	1.68
MS1.1.2.1	(General) State government	31	1.03
MS1.1.3	Local authorities (LA)	26	0.87
MS1.2.2	Social Security Organization (SOCSO)	8	0.28
MS2.4	Private household out-of-pocket expenditures (OOP)	6	0.19
MS2.5	Non-profit institutions serving households (NGO)	1	0.03
MS9	Rest of the world (ROW)	< 1	0.00
<b>Total</b>		<b>2,961</b>	<b>100.00</b>

**FIGURE 7.3: Health Expenditure for Public Health Services (Including Health Promotion and Prevention) by Sources of Financing, 2017**





**TABLE 7.3b: Health Expenditure for Public Health Services (including Health Promotion and Prevention) by Sources of Financing, 1997-2017 (RM Million)**

MNHA Code	Sources of Financing	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MS1.111	Ministry of Health (MOH)	146	139	166	167	197	201	307	341	364	496	495	603	628	673	752	898	1634	1541	1653	1777	1902
MS1.119	Other federal agencies (including statutory bodies)	13	17	19	22	25	28	32	37	42	48	55	56	67	74	94	118	128	121	140	128	140
MS1.121	(General) State government	24	29	29	28	27	30	52	73	49	56	67	71	58	63	57	68	27	33	31	35	31
MS1.122	Other state agencies (including statutory bodies)	3	3	3	3	3	3	6	6	10	9	6	6	6	13	30	34	66	78	43	52	50
MS1.113	Local authorities (LA)	6	6	7	7	8	10	13	19	26	21	291	65	138	40	62	83	73	45	53	23	26
MS1.2.2	Social Security Organization (SOCSO)	2	2	2	3	3	3	3	4	4	5	5	1	1	2	4	5	35	23	9	11	8
MS2.4	Private household out-of-pocket expenditures (OOP)	5	5	5	5	5	5	5	6	9	11	10	10	10	8	8	10	10	8	6	6	6
MS2.5	Non-profit institutions serving households (NGO)	5	6	5	5	6	6	6	6	9	7	11	16	6	7	10	16	1	1	21	28	1
MS2.6	All corporations (other than health insurance)	271	281	305	298	337	346	338	335	381	373	467	415	399	458	480	554	609	609	692	734	797
MS9	Rest of the world (ROW)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	<b>Total</b>	<b>476</b>	<b>489</b>	<b>541</b>	<b>539</b>	<b>611</b>	<b>632</b>	<b>764</b>	<b>827</b>	<b>893</b>	<b>1,025</b>	<b>1,407</b>	<b>1,244</b>	<b>1,318</b>	<b>1,350</b>	<b>1,497</b>	<b>1,785</b>	<b>2,583</b>	<b>2,459</b>	<b>2,648</b>	<b>2,794</b>	<b>2,961</b>

**TABLE 7.3c: Health Expenditure for Public Health Services (including Health Promotion and Prevention) by Sources of Financing, 1997-2017 (Percent, %)**

MNHA Code	Sources of Financing	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MS1.111	Ministry of Health (MOH)	30.71	28.51	30.68	31.05	32.29	31.80	40.23	41.24	40.81	48.39	35.15	48.49	47.64	49.83	50.25	50.32	63.26	62.66	62.44	63.59	64.23
MS1.119	Other federal agencies (including statutory bodies)	2.64	3.43	3.52	4.03	4.04	4.45	4.20	4.43	4.69	4.67	3.90	4.51	5.07	5.46	6.27	6.59	4.97	4.93	5.28	4.57	4.73
MS1.121	(General) State government	5.14	5.93	5.33	5.27	4.38	4.76	6.80	8.86	5.45	5.45	4.74	5.72	4.38	4.64	3.82	3.80	1.04	1.34	1.16	1.26	1.03
MS1.122	Other state agencies (including statutory bodies)	0.58	0.68	0.51	0.48	0.52	0.51	0.84	0.76	1.11	0.91	0.42	0.49	0.98	1.90	1.99	1.89	2.55	3.17	1.62	1.84	1.68
MS1.113	Local authorities (LA)	1.26	1.29	1.25	1.37	1.36	1.53	1.67	2.30	2.87	2.03	2.08	5.23	10.49	2.97	4.11	4.63	2.81	1.83	1.99	0.84	0.87
MS1.2.2	Social Security Organization (SOCSO)	0.49	0.47	0.46	0.52	0.48	0.50	0.45	0.47	0.50	0.48	0.39	0.09	0.08	0.12	0.28	0.29	1.37	0.94	0.93	0.40	0.28
MS2.4	Private household out-of-pocket expenditures (OOP)	1.10	1.07	0.97	0.98	0.86	0.84	0.69	0.77	0.99	1.04	0.71	0.78	0.62	0.64	0.53	0.56	0.38	0.31	0.24	0.21	0.19
MS2.5	Non-profit institutions serving households (NGO)	1.14	1.14	0.98	1.02	0.94	0.92	0.83	0.70	0.97	0.69	0.80	1.31	0.46	0.55	0.69	0.87	0.05	0.05	0.81	1.02	0.03
MS2.6	All corporations (other than health insurance)	56.94	57.47	56.31	55.29	55.13	54.69	44.29	40.47	42.62	36.33	33.16	33.35	30.29	33.91	32.06	31.05	23.57	24.77	26.12	26.28	26.92
MS9	Rest of the world (ROW)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>



## 7.4 HEALTH EXPENDITURE BY FUNCTIONS OF HEALTH CARE - HEALTH EDUCATION AND TRAINING BY SOURCES OF FINANCING

This section describes expenditure for all health and health-related education and training of personnel. Although MNHA Framework includes this expenditure under the TEH, the SHA 1.0 framework excludes this because of the shortfall in the assumptions and difficulties in the capture of this expenditure. Furthermore, personnel who undergo health and health-related education and training may not continue to provide services in the health sector.

In 2017, a total of RM2,865 million or about 5 percent of TEH was spent on health education and training of health personnel. A total of RM1,371 million (48%) of this amount is funded by public sector source of financing (Table 4.1a). The MOH spent about 18% of public sector health expenditure on health education and training as shown in Figure 7.4.

The 1997 to 2017 time series data shows that both the public sector and private sector sources of financing has an increasing trend in expenditure for this function. The public sector expenditure remains almost two times of private sector in absolute *Ringgit Malaysia* (RM) value between year 1997 and 2011. From year 2012 onwards, public sector sources showed slower increase compared to private sector sources. In years 2015-2017, private sector source of financing has overtaken public sector in this expenditure by 4 percent difference (Table 7.4b and Table 7.4c). In the public sources of financing alone, the non-MOH spent about 4-fold of MOH expenditure for health education and training throughout the years.

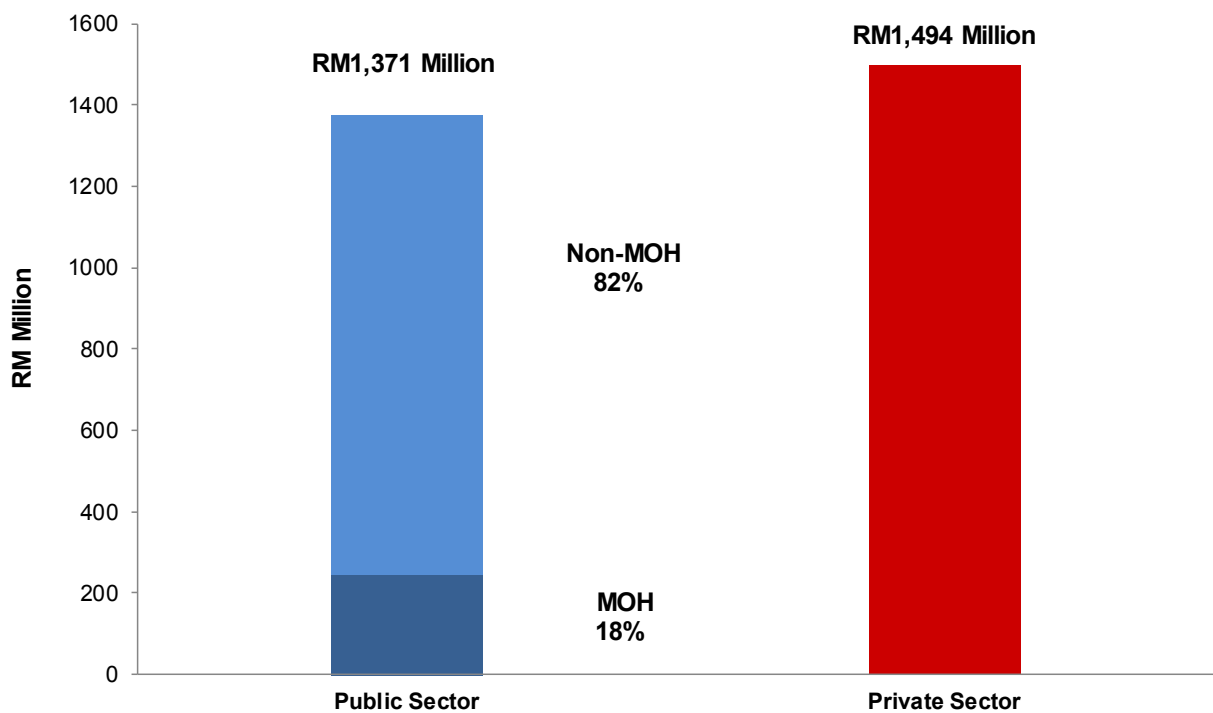


**TABLE 7.4a: Health Expenditure for Health Education and Training by Sources of Financing, 2017**

MNHA Code	Sources of Financing	RM Million	Percent
MS11.1.1	Public sector (MOH)	243	8.48
MS1 (others)	Public sector (Non-MOH)	1,128	39.36
MS2 + MS9	Private sector*	1,494	52.15
<b>Total</b>		<b>2,865</b>	<b>100.00</b>

Note: \*Data includes expenditure under 'Rest of the world'

**FIGURE 7.4: Health Expenditure for Health Education and Training by Sources of Financing, 2017**



**TABLE 7.4b: Health Expenditure for Health Education and Training by Sources of Financing, 1997-2017 (RM Million)**

MNHA Code	Sources of Financing	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MS11.11	Public sector (MOH)	35	33	68	96	147	186	231	222	218	270	275	310	325	340	380	377	407	438	446	428	243
MS1 (others)	Public sector (Non-MOH)	92	116	128	142	170	188	240	297	337	387	497	689	940	986	1200	1026	877	987	979	1,046	1,128
MS2 + MS9	Private sector*	79	104	131	174	187	229	299	284	280	312	355	364	598	827	884	1,157	1,464	1,327	1,440	1,528	1,494
	Total	206	253	326	412	504	604	770	803	835	970	1,127	1,363	1,863	2,154	2,484	2,561	2,748	2,753	2,866	3,002	2,865

Note: \*Data includes expenditure under 'Rest of the world'

**TABLE 7.4c: Health Expenditure for Health Education and Training by Sources of Financing, 1997-2017 (Percent, %)**

MNHA Code	Sources of Financing	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MS11.11	Public Sector (MOH)	16.96	13.07	20.81	23.40	29.18	30.79	30.05	27.60	26.13	27.86	24.39	22.76	17.44	15.80	15.43	14.73	14.82	15.92	15.57	14.25	8.48
MS1 (others)	Public Sector (Non - MOH)	44.55	45.88	39.13	34.43	33.76	31.21	31.12	37.02	40.31	39.93	44.13	50.54	50.46	45.78	48.71	40.08	31.91	35.87	34.16	34.84	39.36
MS2 + MS9	Private sector*	38.49	41.05	40.07	42.17	37.07	38.00	38.84	35.38	33.56	32.21	31.48	26.70	32.10	38.42	35.86	45.19	53.27	48.21	50.27	50.91	52.15
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Note: \*Data includes expenditure under 'Rest of the world'





# CHAPTER 8

## MOH HEALTH EXPENDITURE

There has been much interest among policy makers to further explore the Ministry of Health (MOH). There are differences in reporting MOH expenditures using MNHA Framework and government treasury accounting system used by MOH Accounts Division (AG database). This chapter aims to provide some information on MOH expenditure as share of total expenditure on health and national GDP, as well as to enlighten the differences in expenditure reporting of MOH hospitals as the provider of health care services and MOH source of financing at MOH hospitals using MNHA Framework.

The first section in this chapter describes the proportion of MOH expenditure from TEH, and MOH health expenditure as percentage of national GDP using MNHA Framework. The second section aims to explain some differences in NHA reporting of expenditure at hospitals based on the two dimensions of MNHA Framework sources of financing and functions of health care.

### 8.1 MOH HEALTH EXPENDITURE – MOH SHARE OF TOTAL EXPENDITURE ON HEALTH AND NATIONAL GDP

MOH health expenditure reported in this section describes what MOH as a ‘source of financing’ spends on health care. Expenditure of MOH as ‘source of financing’ differs from what is reported in the

government treasury accounting system based on AG data as total MOH expenditure, which is inclusive of operating and development expenditures) for a particular year. The NHA framework allows tracking of reimbursements by various agencies (e.g. EPF, SOCSO, private health insurance, state government (including statutory bodies), etc.) which are then deducted from total MOH expenditure to reflect the actual MOH expenditure at health care providers level, thus leaving MOH expenditure as ‘source of financing’ to be of slightly lower value under the MNHA Framework. (This is due to the effect of ‘addressing double counting’ as explained in Chapter 3).

Using the MNHA Framework in 2017, a total amount of RM24,715 million (43%) of TEH has been spent by MOH. In relation to GDP, MOH health expenditure takes up 1.83 percent of the national GDP in the same year. The 1997-2017 time-series MOH expenditure data in general shows an increasing pattern of expenditure except for 2016. MOH expenditure throughout the same period dominates the TEH, ranging between 42 and 52% of the TEH. In 1997, MOH spent RM3,616 million (42%) of TEH while in year 2017, RM24,715 million (43%) of TEH was spent by MOH. In relation to GDP, MOH expenditure in 1997 is equivalent to 1.28 percent of national GDP while in 2017, MOH expenditure was 1.83 percent of the national GDP (Table 8.1 and Figure 8.1).





**TABLE 8.1: MOH Share of Total Expenditure on Health and Percent GDP, 1997-2017**

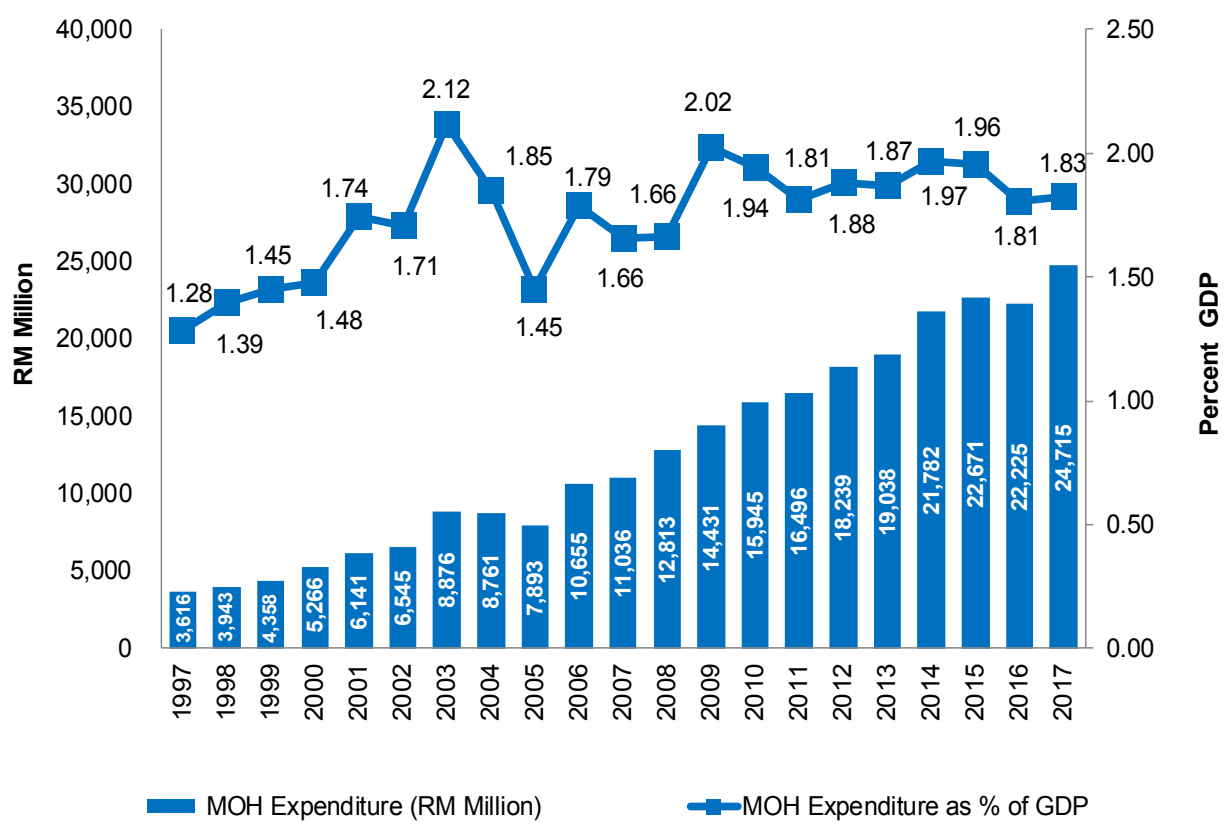
Year	MOH Expenditure	TEH, Nominal (RM Million)	MOH Expenditure (RM Million)	MOH Expenditure as % TEH	TEH (Nominal) as % GDP	MOH Expenditure as % of GDP
1997		8,550	3,616	42	3.03	1.28
1998		9,156	3,943	43	3.23	1.39
1999		9,953	4,358	44	3.31	1.45
2000		11,745	5,266	45	3.30	1.48
2001		12,703	6,141	48	3.60	1.74
2002		13,640	6,545	48	3.56	1.71
2003		17,203	8,876	52	4.11	2.12
2004		18,200	8,761	48	3.84	1.85
2005		18,231	7,893	43	3.35	1.45
2006		22,072	10,655	48	3.70	1.79
2007		24,414	11,036	45	3.67	1.66
2008		27,758	12,813	46	3.61	1.66
2009		29,365	14,431	49	4.12	2.02
2010		32,872	15,945	49	4.00	1.94
2011		35,937	16,496	46	3.94	1.81
2012		39,505	18,239	46	4.07	1.88
2013		41,625	19,038	46	4.09	1.87
2014		46,828	21,782	47	4.23	1.97
2015		50,176	22,671	45	4.33	1.96
2016		52,018	22,225	43	4.23	1.81
2017		57,361	24,715	43	4.24	1.83







**FIGURE 8.1: MOH Share of Total Health Expenditure and Percent GDP, 1997-2017**



## 8.2 MOH HEALTH EXPENDITURE - MOH HOSPITAL

All programs, projects and services under the purview of MOH inclusive of healthcare services provided at all MOH hospitals comes from federal government consolidated funds. MOH hospitals as provider of health care services takes up the largest percentage of the total MOH allocated funds. All development budgets spent at MOH hospital is assigned as non-curative care expenditure mainly for hospital

facility development and renovation. Using MNHA Framework, the operating budget spent at MOH hospitals is assigned as curative care expenditure for patient care services disaggregated based on functional classification and categorised as in-patient, out-patient and day care and this is described under paragraph 3.2.1 of this report.





### 8.2.1 MOH Health Expenditure - MOH Hospital, Sources of Financing

In 2017, both the public sectors and the private sectors sources of financing at MOH hospitals totaled RM15,827 million. Various financiers were tracked through MOH hospitals accounting systems and sources of financing codes were assigned for payments made through private household out-of-pocket, private health insurance and other types of sources of financing. As a result, of the RM15,827 million spent, only RM 15,377 million or 97 % is assigned as MOH source of financing. A small amount of RM450 million (3 percent) were accounted by other financiers such as private household OOP (RM300

million), other state agencies (including statutory bodies) (RM70 million), private insurance enterprises (other than social insurance) (RM47 million), Social Security Organization or SOCSO (RM26 million) and the remaining non-MOH expenditure at RM7 million (Table 8.2.1a).

The 1997 to 2017 time-series expenditure on sources of financing show similar trend with MOH as the highest financier followed by non-MOH (Table 8.2.1b and Figure 8.2.1). The time-series data on MOH as source of financing shows that the expenditure has increased by 7-fold in absolute RM value. The same time-series indicate an average of 97% (Table 8.2.1c).

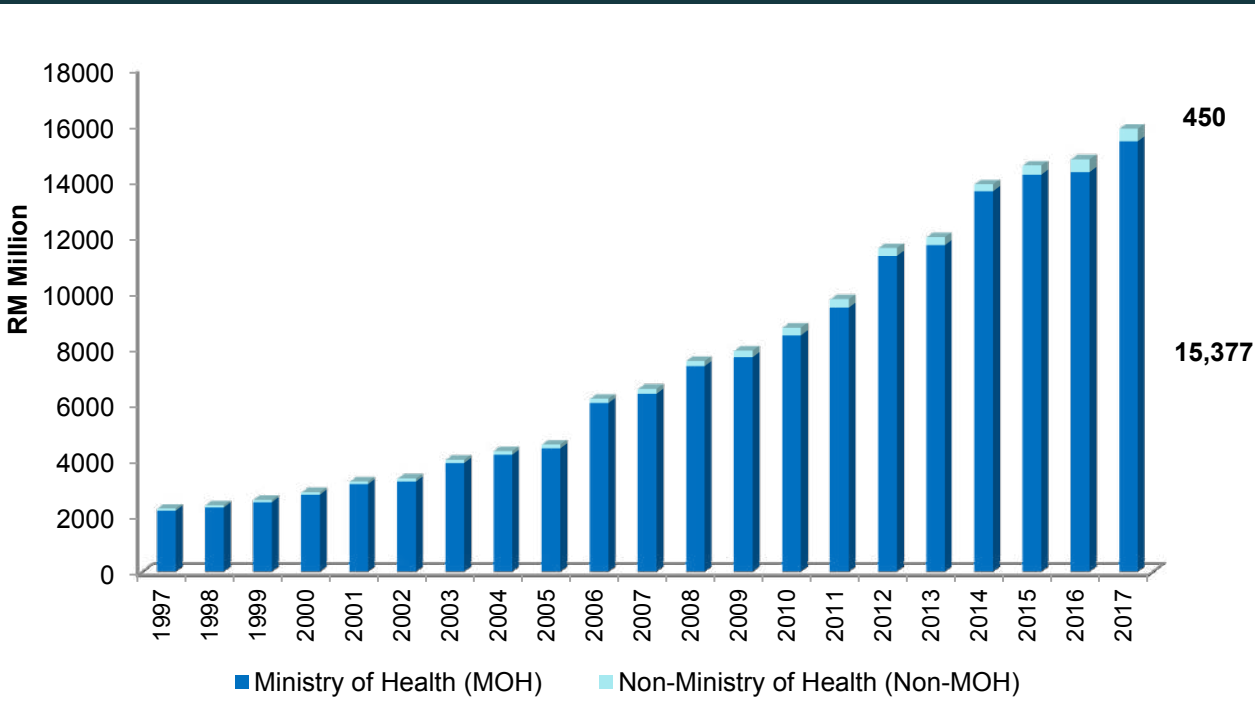


**TABLE 8.2.1a: Health Expenditure at MOH Hospitals by Sources of Financing, 2017\***

	MNHA code	Sources of Financing	RM Million	Percent
Ministry of Health (MOH)	<b>MS1.1.1</b>	<b>Ministry of Health (MOH)</b>	<b>15,377</b>	<b>97.16</b>
	MS2.4	Private household out-of-pocket expenditures (OOP)	300	1.89
Non-Ministry of Health (Non-MOH)	MS1.1.2.2	Other state agencies (including statutory bodies)	70	0.44
	MS2.2	Private insurance enterprises (other than social insurance)	47	0.30
	MS1.2.2	Social Security Organization (SOCSO)	26	0.16
	MS2.6	All corporations (other than health insurance)	5	0.03
	MS1.2.1	Employees Provident Fund (EPF)	1	0.01
	MS2.5	Non-profit institutions serving households (NGO)	1	0.01
	MS1.1.1.9	Other federal agencies (including statutory bodies)	0	0.00
	MS1.1.3	Local authorities (LA)	0	0.00
	MS1.1.2.1	(General) State government	0	0.00
		<b>Non-MOH Sub-total</b>	<b>450</b>	<b>2.84</b>
	<b>Total</b>			<b>15,827</b>

Note: \*MOH Hospital Provider codes include MP1.1a, MP1.2a and MP1.3a

**FIGURE 8.2.1: Health Expenditure at MOH Hospitals by Sources of Financing, 1997-2017**



**TABLE 8.2.1b: Health Expenditure at MOH Hospitals by Sources of Financing, 1997-2017\* (RM Million)**

Sources of Financing	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Ministry of Health (MOH)	2,166	2,282	2,470	2,740	3,120	3,214	3,875	4,173	4,401	6,028	6,357	7,343	7,664	8,441	9,436	11,281	11,668	13,591	14,183	14,274	15,377
Non-Ministry of Health (Non-MOH)	82	79	82	89	96	109	118	133	142	156	175	188	238	275	303	286	288	253	336	459	450
<b>Total</b>	<b>2,248</b>	<b>2,361</b>	<b>2,552</b>	<b>2,829</b>	<b>3,216</b>	<b>3,323</b>	<b>3,993</b>	<b>4,306</b>	<b>4,542</b>	<b>6,184</b>	<b>6,532</b>	<b>7,531</b>	<b>7,903</b>	<b>8,715</b>	<b>9,739</b>	<b>11,567</b>	<b>11,956</b>	<b>13,845</b>	<b>14,519</b>	<b>14,732</b>	<b>15,827</b>

Note: \*MOH Hospital Provider codes include MP1.1a, MP1.2a and MP1.3a

**TABLE 8.2.1c: Health Expenditure at MOH Hospitals by Sources of Financing, 1997-2017\* (Percent, %)**

Sources of Financing	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Ministry of Health (MOH)	96.37	96.64	96.79	96.86	97.01	96.71	97.04	96.91	96.88	97.48	97.32	97.51	96.98	96.85	96.89	97.53	97.59	98.17	97.69	96.89	97.16
Non-Ministry of Health (Non-MOH)	3.63	3.36	3.21	3.14	2.99	3.29	2.96	3.09	3.12	2.52	2.68	2.49	3.02	3.15	3.11	2.47	2.41	1.83	2.31	3.11	2.84
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

Note: \*MOH Hospital Provider codes include MP1.1a, MP1.2a and MP1.3a





## 8.2.2 MOH Health Expenditure - MOH Hospital, Function of Curative Care

This section provides further information on patient care services at MOH hospitals. Function of curative care services provided in MOH hospital is further categorised as in-patient curative care, out-patient curative care and day cases of curative care. Under the MNHA Framework, these types of services were inclusive of allopathic as well as some traditional and complementary health care services.

In 2017, RM15,827 million is spent at MOH hospitals. From this amount, RM15,716 million (99%) is for

curative care services (Table 8.2.2a). In the same year, the expenditure for curative care services at MOH hospitals showed that RM9,941 million (63%) was spent for in-patient curative care services. This is followed by RM4,641 million (30%) for out-patient curative care services and RM1,133 million (7%) for day cases of curative care services (Figure 8.2.2).

The 1997 to 2017 time-series data shows that in absolute RM value the curative care services expenditure has increased by 7-fold (Table 8.2.2b). The curative care services expenditure in time-series shows an average of 99% spending at the MOH hospitals (Table 8.2.2c).



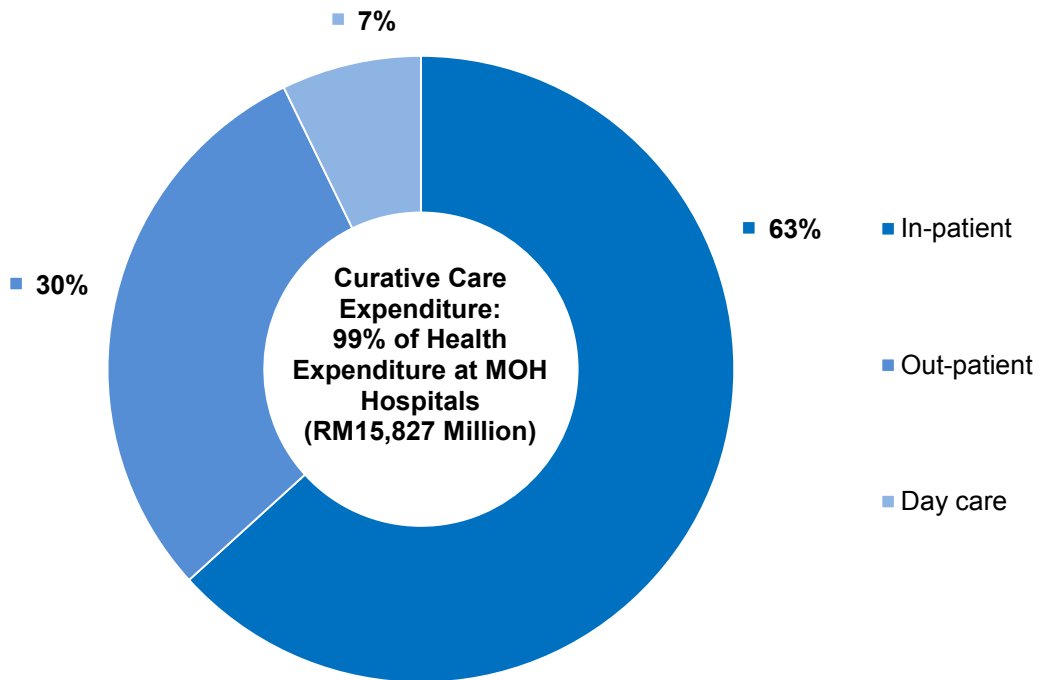


**TABLE 8.2.2a: Health Expenditure at MOH Hospitals by Functions of Health Care, 2017**

	MNHA Code	Functions of Health Care	RM Million	Percent
Curative Care	MF1.1	In-patient curative care	9,941	63.26
	MF1.3*	Out-patient curative care	4,641	29.53
	MF1.2	Day cases of curative care	1,133	7.21
Non-Curative Care	<b>Sub-total (curative care)</b>		<b>15,716</b>	<b>99.30</b>
	MR1	Capital formation of health care provider institutions	111	0.70
<b>Total</b>			<b>15,827</b>	<b>100.00</b>

Note: \*Data includes home care

**FIGURE 8.2.2: Health Expenditure at MOH Hospitals by Curative Care Function of Health Care, 2017**





**TABLE 8.2.2b: Health Expenditure at MOH Hospitals by Functions of Health Care, 1997-2017\*\* (RM Million)**

Functions of Health Care	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Curative Care*	2,215	2,308	2,474	2,766	3,086	3,255	3,872	4,151	4,295	6,008	6,318	7,427	7,781	8,097	9,643	11,302	11,590	13,576	14,228	14,417	15,716
Non-Curative Care	32	53	78	63	130	68	121	155	247	176	214	103	122	618	96	265	366	269	291	315	111
<b>Total</b>	<b>2,248</b>	<b>2,361</b>	<b>2,552</b>	<b>2,829</b>	<b>3,216</b>	<b>3,323</b>	<b>3,993</b>	<b>4,306</b>	<b>4,542</b>	<b>6,184</b>	<b>6,532</b>	<b>7,531</b>	<b>7,903</b>	<b>8,715</b>	<b>9,739</b>	<b>11,567</b>	<b>11,956</b>	<b>13,845</b>	<b>14,519</b>	<b>14,732</b>	<b>15,827</b>

Note: \* Data includes home care

**TABLE 8.2.2c: Health Expenditure at MOH Hospitals by Functions of Health Care, 1997-2017\*\* (Percent, %)**

Functions of Health Care	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Curative Care*	98.57	97.74	96.94	97.77	95.95	97.96	96.97	96.40	94.56	97.15	96.73	98.63	98.45	92.91	99.02	97.71	96.94	98.06	97.99	97.86	99.30
Non-Curative Care	1.43	2.26	3.06	2.23	4.05	2.04	3.03	3.60	5.44	2.85	3.27	1.37	1.55	7.09	0.98	2.29	3.06	1.94	2.01	2.14	0.70
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

Note: \* Data includes home care





## CHAPTER 9

### OUT-OF-POCKET HEALTH EXPENDITURE

Most often, many countries attain household out-of-pocket (OOP) health expenditures through community surveys. However, the best approach for this health expenditure estimation as used in this report, is through a complex method called the integrative method whereby the gross level of direct health spending from consumption, provision and financing perspectives are collated followed by a deduction of third party financial reimbursements by various agencies to avoid double counting.

The data shown in this chapter includes OOP spending for TCM as well as OOP spending for health-related education and training. OOP health expenditure estimation through integrative method is explained in Chapter 3. In brief, OOP health expenditure estimation uses the formula as follows:

$$\text{OOP Health Expenditure} = (\text{Gross OOP Health Expenditure} - \text{Third Party Payer Reimbursement}) + \text{OOP Expenditure for Health Education \& Training}$$





## 9.1 OUT-OF-POCKET HEALTH EXPENDITURE – OOP SHARE OF TOTAL EXPENDITURE ON HEALTH AND NATIONAL GDP

In 2017, the OOP health expenditure amounts to RM21,573 million, which is equivalent to 38% of the TEH and 77% share of the private sector health expenditure (Table 9.1a). The 1997-2017 time series data shows that the household OOP health expenditure is between 29% and 38% of TEH. Throughout the years, it remains the largest single source of financing

in the private sector amounting to an average of 77% of this sector spending (Figure 9.1a, Figure 9.1b). The OOP health expenditure from 1997 to 2017 has increased from RM3,166 million to RM21,573 million which is an increase from 1 percent GDP to 2 percent GDP (Table 9.1b and Figure 9.1c).

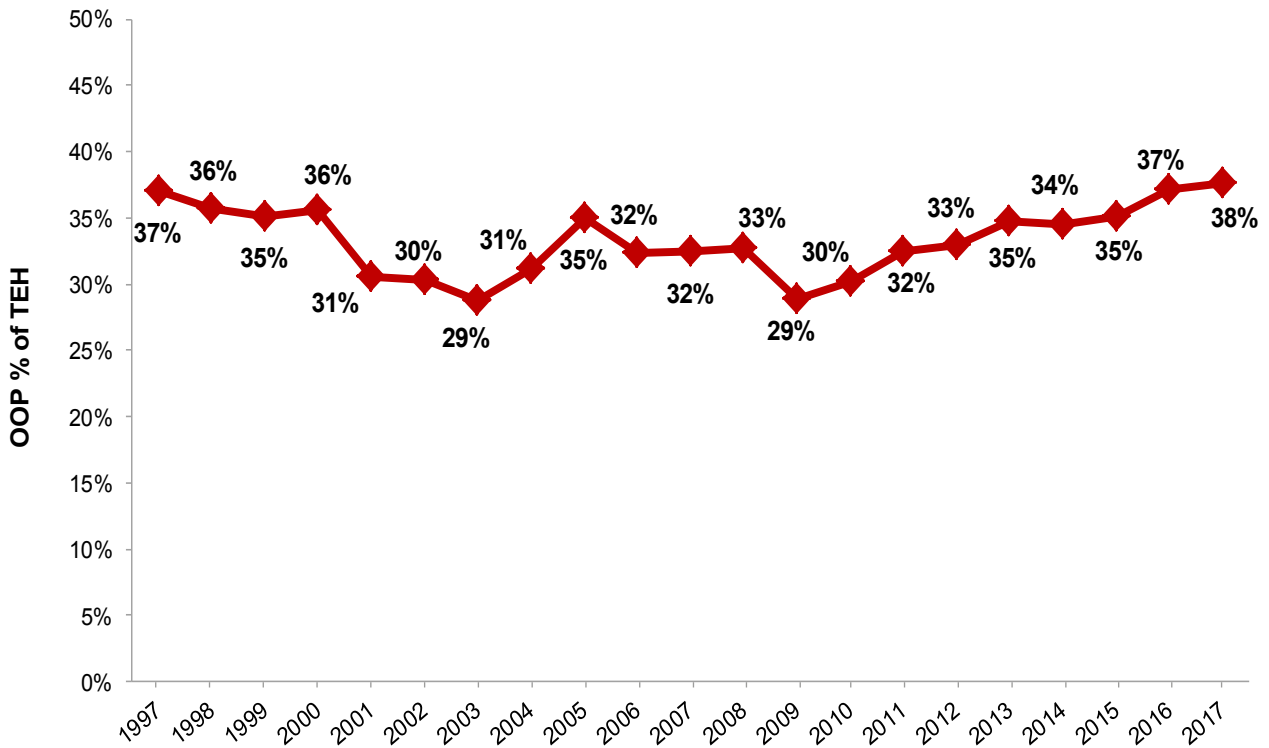
**TABLE 9.1a: OOP Share of Total Expenditure on Health and Private Sector Health Expenditure, 1997-2017**

Year	Private Sector Health Expenditure (RM Million)	Total Expenditure on Health (RM Million)	OOP Health Expenditure (RM million)	OOP Share of Total Expenditure on Health (%)	OOP Share of Private Sector Health Expenditure (%)
1997	4,190	8,550	3,166	37.03	75.55
1998	4,411	9,156	3,266	35.67	74.04
1999	4,720	9,953	3,497	35.14	74.10
2000	5,498	11,745	4,175	35.55	75.94
2001	5,379	12,703	3,882	30.56	72.16
2002	5,786	13,640	4,127	30.26	71.33
2003	6,831	17,203	4,941	28.72	72.33
2004	7,650	18,200	5,664	31.12	74.04
2005	8,525	18,231	6,382	35.01	74.87
2006	9,454	22,072	7,145	32.37	75.58
2007	10,623	24,414	7,921	32.44	74.56
2008	11,991	27,758	9,084	32.73	75.76
2009	11,684	29,365	8,478	28.87	72.56
2010	13,559	32,872	9,916	30.17	73.13
2011	15,704	35,937	11,669	32.47	74.31
2012	17,440	39,505	12,994	32.89	74.51
2013	18,771	41,625	14,462	34.74	77.04
2014	20,855	46,828	16,128	34.44	77.33
2015	23,192	50,176	17,602	35.08	75.90
2016	25,342	52,018	19,316	37.13	76.22
2017	28,023	57,361	21,573	37.61	76.98

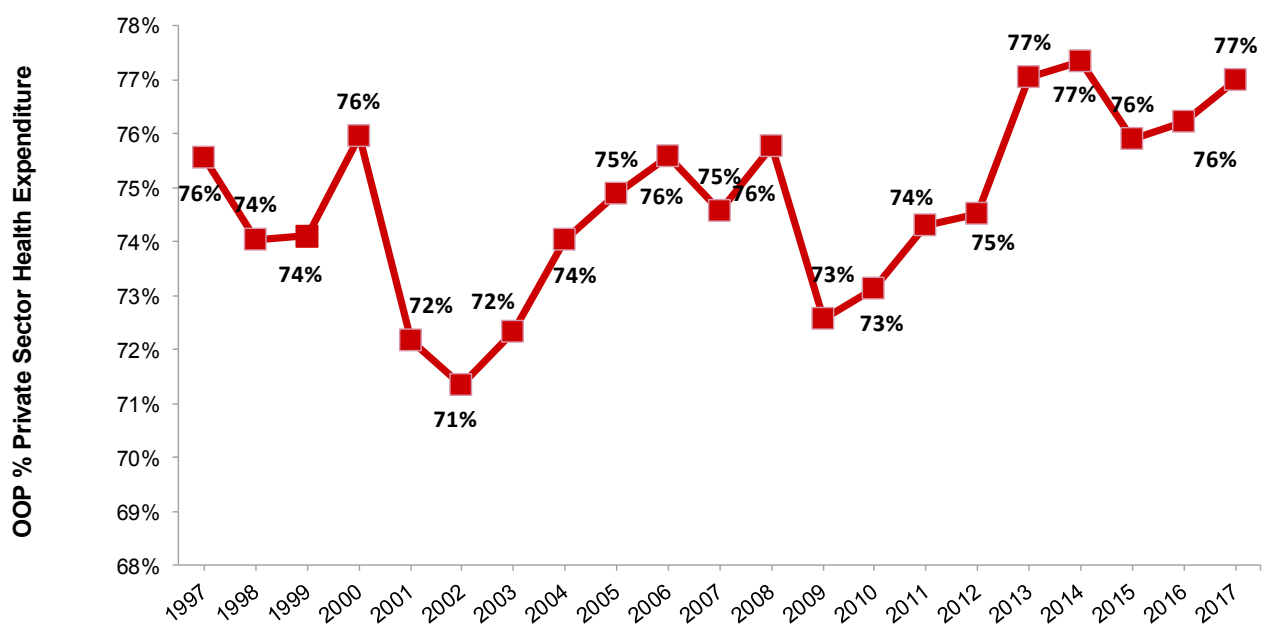




**FIGURE 9.1a: OOP Share of Total Health Expenditure, 1997-2017 (Percent, %)**



**FIGURE 9.1b: OOP Share of Private Sector Health Expenditure, 1997-2017 (Percent, %)**





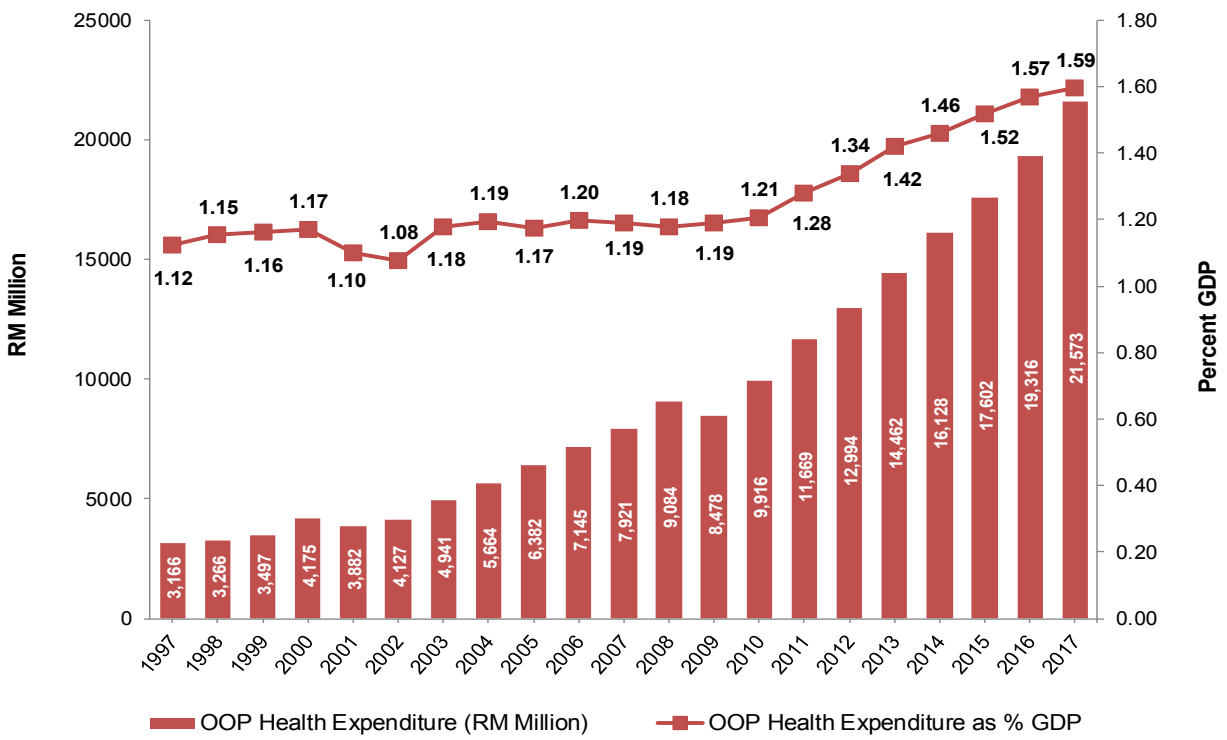
**TABLE 9.1b : OOP Health Expenditure and as GDP percentage, 1997-2017**

Year	OOP Health Expenditure (RM Million)	OOP Health Expenditure as % GDP
1997	3,166	1.12
1998	3,266	1.15
1999	3,497	1.16
2000	4,175	1.17
2001	3,882	1.10
2002	4,127	1.08
2003	4,941	1.18
2004	5,664	1.19
2005	6,382	1.17
2006	7,145	1.20
2007	7,921	1.19
2008	9,084	1.18
2009	8,478	1.19
2010	9,916	1.21
2011	11,669	1.28
2012	12,994	1.34
2013	14,462	1.42
2014	16,128	1.46
2015	17,602	1.52
2016	19,316	1.57
2017	21,573	1.59





**FIGURE 9.1c: OOP Health Expenditure and as GDP percentage, 1997-2017 (RM Million, Percent, %)**





## 9.2 OUT-OF-POCKET HEALTH EXPENDITURE TO PROVIDERS

This section cross tabulates OOP health expenditure with providers of health care. Health providers are defined as entities that produce and provide health care goods and services, which benefit individuals or population groups. These providers could be either public or private providers of health care. The bulk of public sector health care services for patients in this country have always been heavily subsidized by the government, even if the government outsources any of the services to private providers of health care. However, under the provision of public sector services there are some components of healthcare services and several products like most prostheses, which are purchased by patients from private providers of health care. When patients seek private sector services they are often at liberty to purchase these services or products separately or as part of the services. The private providers of health care include several categories of standalone private facilities such as private hospitals, private medical clinics, providers of medical appliances, TCM providers, private dental clinic, private pharmacies and private laboratories. OOP is the mode of payment for services either in public sector or private sector. Furthermore, the final amount reported under OOP health expenditure includes expenditure reported by this mode for health education and training.

Throughout the 1997-2017 time series, OOP health expenditure generally shows an increasing pattern, with a slight reduction in year 2009, followed by a progressive increase from then onwards (Table 9.2a and

Figure 9.2a). In 2017, of the total RM20,372 million of OOP health expenditure to private providers of health care, private hospitals consumed the largest share at RM9,958 million (49%) followed by private medical clinics at RM4,542 million (22%), private pharmacies at RM2,923 million (14%), private dental clinics at RM825 million (4 percent), TCM providers at RM684 million (3 percent), retail sale and other suppliers of medical goods and appliances at RM575 million (3 percent), private medical and diagnostic laboratories at RM37 (<1 percent) and the balance, RM 829 million (4%) comprise of other private providers of health care (Table 9.2b and Figure 9.2b).

The 1997 to 2017 time series data shows an average of 94% OOP health expenditure occurred at private providers of health care, with increasing expenditure pattern at all the various private providers. The highest increase in absolute amount is seen at private hospitals from RM1,159 million in 1997 to RM9,958 million in 2017, a difference of RM8,799 million. However, there is an 8-fold increase in spending at private pharmacies from RM325 million in 1997 to RM2,923 million in 2017. The OOP health expenditure at private medical clinics showed a steady increase from RM815 million in 1997 to RM2,315 million in 2007 but declined from 2008 to 2010 and increasing back from 2011 onwards to RM4,542 in 2017. The time series data also showed an increasing pattern of OOP health expenditure at public providers with an average of 7 percent throughout the years (Table 9.2c and Table 9.2d).

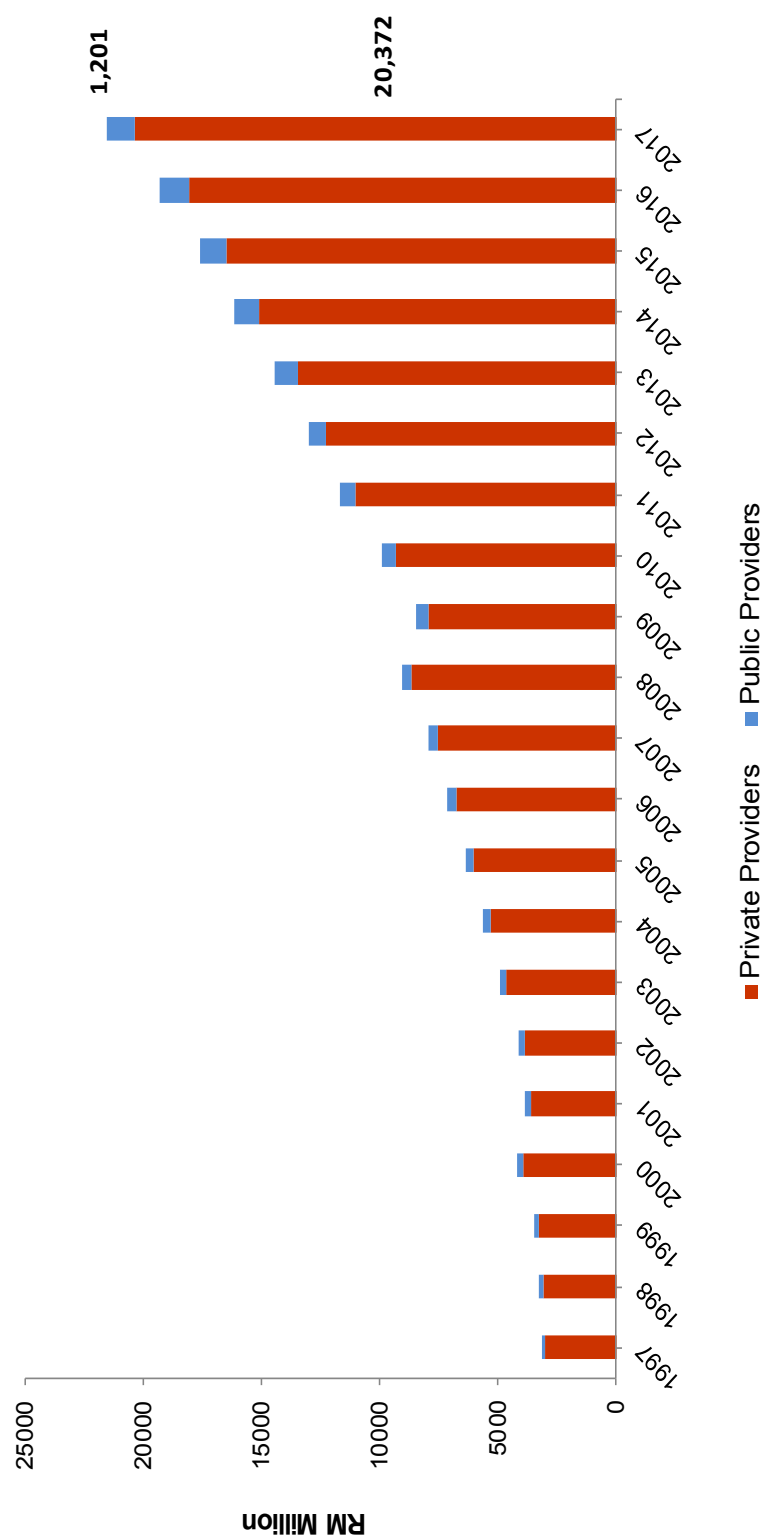


**TABLE 9.2a: OOP Health Expenditure to Public and Private Providers of Health Care, 1997-2017 (RM Million)**

Provider name	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Public Providers	167	195	215	223	247	265	283	328	328	358	386	450	556	588	633	703	1,027	989	1,091	1,252	1,201
Private Providers	2,998	3,071	3,283	3,952	3,635	3,862	4,658	5,336	6,055	6,787	7,535	8,635	7,921	9,329	11,036	12,292	13,435	15,138	16,511	18,064	20,372
Total	3,166	3,266	3,497	4,175	3,882	4,127	4,941	5,664	6,382	7,145	7,921	9,084	8,478	9,916	11,669	12,994	14,462	16,128	17,602	19,316	21,573



**FIGURE 9.2a: OOP Health Expenditure to Public and Private Providers of Health Care, 1997-2017 (RM Million)**

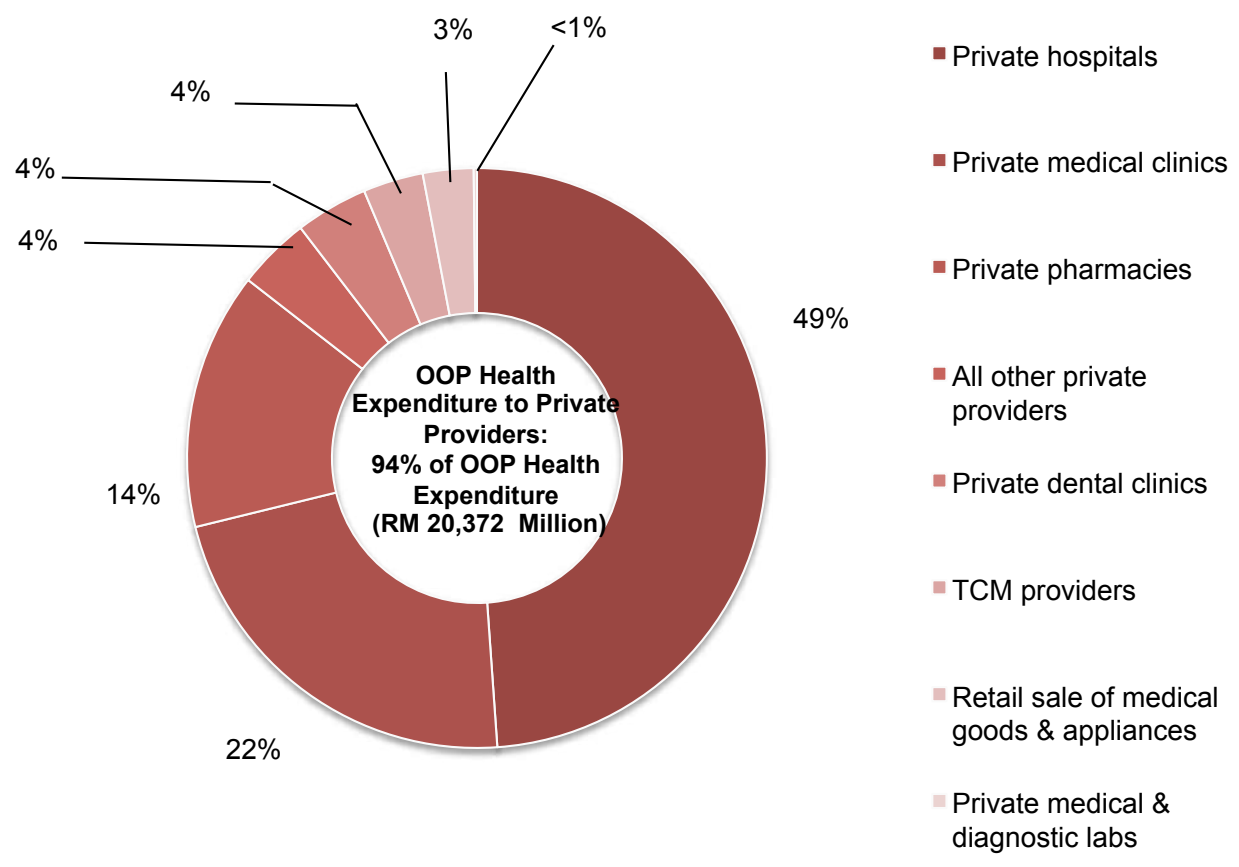




**TABLE 9.2b: OOP Health Expenditure to Private Providers of Health Care, 2017**

Provider name	RM (Million)	Percent
Private hospitals	9,958	48.88
Private medical clinics	4,542	22.29
Private pharmacies	2,923	14.35
All other private sector providers of health care	829	4.07
Private dental clinics	825	4.05
Traditional and Complementary Medicine (TCM) providers	684	3.36
Retail sale and other suppliers of medical goods & appliances	575	2.82
Private medical and diagnostic laboratories	37	0.18
<b>Total</b>	<b>20,372</b>	<b>100.00</b>

**FIGURE 9.2b: OOP Health Expenditure to Private Providers of Health Care, 2017 (RM Million, Percent %)**







**TABLE 9.2c: OOP Health Expenditure to Providers of Health Care, 1997-2017 (RM Million)**

Provider Name	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Private hospitals	1,159	1,166	1,257	1,573	1,467	1,592	2,109	2,360	2,663	2,964	3,290	4,319	4,230	4,814	5,404	5,688	5,849	6,211	7,116	8,230	9,958
Private medical clinics	815	816	863	1,065	951	1,013	1,149	1,481	1,810	2,096	2,315	2,152	1,374	1,724	2,422	2,912	3,455	4,345	4,292	4,941	4,542
Private pharmacies	325	363	408	464	448	479	572	718	712	755	871	943	1,075	1,144	1,407	1,580	1,843	2,363	2,629	2,751	2,923
Private dental clinics	135	140	152	183	182	200	227	249	277	288	296	371	364	451	513	562	595	651	692	742	825
Traditional and Complementary Medicine (TCM) providers	294	292	277	289	247	227	202	176	210	240	277	333	319	361	394	412	424	452	529	622	684
Retail sale and other suppliers of medical goods & appliances	150	161	158	173	156	154	151	151	181	208	239	287	275	303	321	326	325	334	421	523	575
Private medical and diagnostic laboratories	25	26	25	26	21	18	14	9	11	12	14	18	17	29	43	59	78	108	71	33	37
All other private sector providers of health care	96	107	144	179	162	180	236	192	191	225	264	213	266	502	532	753	866	675	761	821	829
<b>Sub-Total (Private Providers)</b>	<b>2,998</b>	<b>3,071</b>	<b>3,283</b>	<b>3,952</b>	<b>3,635</b>	<b>3,862</b>	<b>4,658</b>	<b>5,336</b>	<b>6,055</b>	<b>6,787</b>	<b>7,535</b>	<b>8,635</b>	<b>7,921</b>	<b>9,329</b>	<b>11,036</b>	<b>12,292</b>	<b>13,435</b>	<b>15,138</b>	<b>16,511</b>	<b>18,064</b>	<b>20,372</b>
Public hospitals	136	143	158	158	167	174	180	205	202	223	230	255	242	266	286	305	351	307	368	480	448
Public medical clinics	10	10	11	11	13	16	19	23	25	27	32	35	26	31	23	10	42	44	54	57	72
Public institutions providing health-related services	22	42	46	54	66	75	84	100	101	108	124	159	288	291	324	388	634	638	669	716	681
<b>Sub-Total (Public Providers)</b>	<b>167</b>	<b>195</b>	<b>215</b>	<b>223</b>	<b>247</b>	<b>265</b>	<b>283</b>	<b>328</b>	<b>328</b>	<b>358</b>	<b>386</b>	<b>450</b>	<b>556</b>	<b>588</b>	<b>633</b>	<b>703</b>	<b>1,027</b>	<b>989</b>	<b>1,091</b>	<b>1,252</b>	<b>1,201</b>
<b>Total</b>	<b>3,166</b>	<b>3,266</b>	<b>3,497</b>	<b>4,175</b>	<b>3,882</b>	<b>4,127</b>	<b>4,941</b>	<b>5,664</b>	<b>6,382</b>	<b>7,145</b>	<b>7,921</b>	<b>9,084</b>	<b>8,478</b>	<b>9,916</b>	<b>11,669</b>	<b>12,994</b>	<b>14,462</b>	<b>16,128</b>	<b>17,602</b>	<b>19,316</b>	<b>21,573</b>

**TABLE 9.2d: OOP Health Expenditure to Providers of Health Care, 1997-2017 (Percent, %)**

Provider Name	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Private hospitals	36.60	35.72	35.94	37.68	37.80	38.57	42.68	41.66	41.73	41.48	41.53	47.55	49.90	48.55	46.31	43.77	40.44	38.51	40.43	42.61	46.16
Private medical clinics	25.74	24.98	24.67	25.50	24.50	24.54	23.25	26.14	28.36	29.33	29.22	23.69	16.21	17.39	20.75	22.41	23.89	26.94	24.38	22.48	21.05
Private pharmacies	10.26	11.11	11.65	11.11	11.54	11.60	11.57	12.67	11.15	10.57	10.99	10.38	12.68	11.54	12.06	12.16	12.74	14.65	14.94	14.24	13.55
Private dental clinics	4.26	4.29	4.34	4.38	4.68	4.85	4.58	4.40	4.33	4.03	3.73	4.08	4.30	4.55	4.40	4.33	4.11	4.04	3.93	3.84	3.82
Traditional and Complementary Medicine (TCM) providers	9.28	8.95	7.93	6.93	6.37	5.49	4.08	3.11	3.29	3.35	3.50	3.66	3.76	3.64	3.37	3.17	2.93	2.80	3.01	3.22	3.17
Retail sale and other suppliers of medical goods & appliances	4.73	4.92	4.52	4.15	4.02	3.73	3.07	2.67	2.84	2.91	3.02	3.16	3.24	3.06	2.75	2.51	2.25	2.07	2.39	2.71	2.67
Private medical and diagnostic laboratories	0.80	0.79	0.70	0.61	0.55	0.45	0.29	0.16	0.17	0.17	0.18	0.20	0.20	0.29	0.37	0.46	0.54	0.67	0.40	0.17	0.17
All other private sector providers of health care	3.04	3.27	4.11	4.29	4.18	4.35	4.77	3.38	2.99	3.14	2.95	2.34	3.14	5.06	4.56	5.79	5.99	4.18	4.32	4.25	3.84
<b>Sub-Total (Private Providers)</b>	<b>94.71</b>	<b>94.03</b>	<b>93.86</b>	<b>94.65</b>	<b>93.65</b>	<b>93.58</b>	<b>94.28</b>	<b>94.21</b>	<b>94.87</b>	<b>94.99</b>	<b>95.13</b>	<b>95.05</b>	<b>93.44</b>	<b>94.08</b>	<b>94.57</b>	<b>94.59</b>	<b>92.90</b>	<b>93.86</b>	<b>93.80</b>	<b>93.52</b>	<b>94.43</b>
Public hospitals	4.30	4.39	4.51	3.77	4.31	4.22	3.63	3.62	3.16	3.12	2.90	2.81	2.86	2.68	2.45	2.35	2.43	1.90	2.09	2.48	2.07
Public medical clinics	0.30	0.31	0.30	0.27	0.33	0.38	0.39	0.40	0.38	0.38	0.40	0.39	0.30	0.31	0.19	0.07	0.29	0.27	0.31	0.29	0.33
Public institutions providing health-related services	0.69	1.27	1.32	1.30	1.71	1.82	1.70	1.77	1.59	1.51	1.57	1.75	3.40	2.94	2.78	2.99	4.39	3.96	3.80	3.71	3.16
<b>Sub-Total (Public Providers)</b>	<b>5.29</b>	<b>5.97</b>	<b>6.14</b>	<b>5.35</b>	<b>6.35</b>	<b>6.42</b>	<b>5.72</b>	<b>5.79</b>	<b>5.13</b>	<b>5.01</b>	<b>4.87</b>	<b>4.95</b>	<b>6.56</b>	<b>5.92</b>	<b>5.43</b>	<b>5.41</b>	<b>7.10</b>	<b>6.14</b>	<b>6.20</b>	<b>6.48</b>	<b>5.57</b>
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>



### 9.3 OUT-OF-POCKET HEALTH EXPENDITURE BY FUNCTIONS

The data under this section responds to the question on the type of health care services and products that are purchased with the OOP spending. This includes expenditures for core functions of health care such as for services of curative care, ancillary services, medical goods & appliances and others, as well as health-related functions such as capital asset purchases, education & training, research & development and others.

In 2017 the largest proportion of OOP health expenditure is RM9,904 million (46%) for out-patient care services (Figure 9.3a). This would include out-patient care services provided both in standalone medical clinics as well as in hospital facilities. In the same year in-patient care services is RM5,090 million (24%) of OOP health spending. This would include spending at both public and private hospitals with greater proportion at private hospitals. The OOP health spending for pharmaceuticals including over-the-counter and prescription drugs is RM2,923 million (13%), health education and training is RM1,443 million (7 percent), medical appliances and non-durable goods

is RM749 million (3 percent), day-care services at RM564 million (3 percent), TCM is RM541 million (2 percent) and the remaining RM358 million (2 percent) is for other functions.

The 1997 to 2017 time series data although shows general increase in the level of OOP health spending for various functions, the proportions show some variations. Over this 21-year time period, the OOP health spending for out-patient services has increased from RM1,450 million in 1997 to RM9,904 million in 2017, the proportion of out-patient services has actually remains the same, around 46% (Figure 9.3b). This time period has also seen a rise in in-patient services from RM745 million in 1997 to RM5,090 million in 2017 with the proportion of this function remains around 18 to 25% over this time. There is nearly 52-fold increase in OOP health spending for health education and training from RM28 million in 1997 to RM1,443 million in 2017 and 8-fold increase in OOP health expenditure for pharmaceuticals from RM325 million in 1997 to RM2,923 million in 2017 (Table 9.3a and Table 9.3b).





**TABLE 9.3a: OOP Health Expenditure by Functions of Health Care, 1997-2017 (RM Million)**

Function Name	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Out-patient services*	1,450	1,502	1,616	1,980	1,858	2,019	2,407	2,883	3,357	3,841	4,263	4,604	3,824	4,532	5,510	6,201	6,870	8,035	8,328	8,902	9,904
In-patient services	745	713	756	925	838	878	1,163	1,303	1,468	1,597	1,717	2,239	2,154	2,462	2,800	2,926	2,952	3,036	3,556	4,257	5,090
Pharmaceuticals	325	363	408	464	448	479	572	718	712	755	871	943	1,075	1,144	1,407	1,580	1,843	2,363	2,629	2,751	2,923
Health education & training	28	49	100	146	158	197	274	262	257	286	312	321	513	744	794	1,070	1,426	1,243	1,364	1,471	1,443
Medical appliances & non-durable goods	168	180	179	197	180	181	180	183	220	244	273	334	322	360	384	394	398	414	567	679	749
Day care services	77	78	84	102	101	112	128	145	165	189	217	323	284	325	387	393	364	381	442	460	564
Traditional and Complementary Medicine [TCM]	264	263	247	253	212	188	160	130	156	180	209	253	244	275	298	310	317	335	404	489	541
All other functions	109	118	108	107	87	73	57	40	48	54	58	67	62	75	89	120	293	322	311	306	358
<b>Total</b>	<b>3,166</b>	<b>3,266</b>	<b>3,497</b>	<b>4,175</b>	<b>3,882</b>	<b>4,127</b>	<b>4,941</b>	<b>5,664</b>	<b>6,382</b>	<b>7,145</b>	<b>7,921</b>	<b>9,084</b>	<b>8,478</b>	<b>9,916</b>	<b>11,669</b>	<b>12,994</b>	<b>14,462</b>	<b>16,128</b>	<b>17,602</b>	<b>19,316</b>	<b>21,573</b>

Note: \* Data include home care

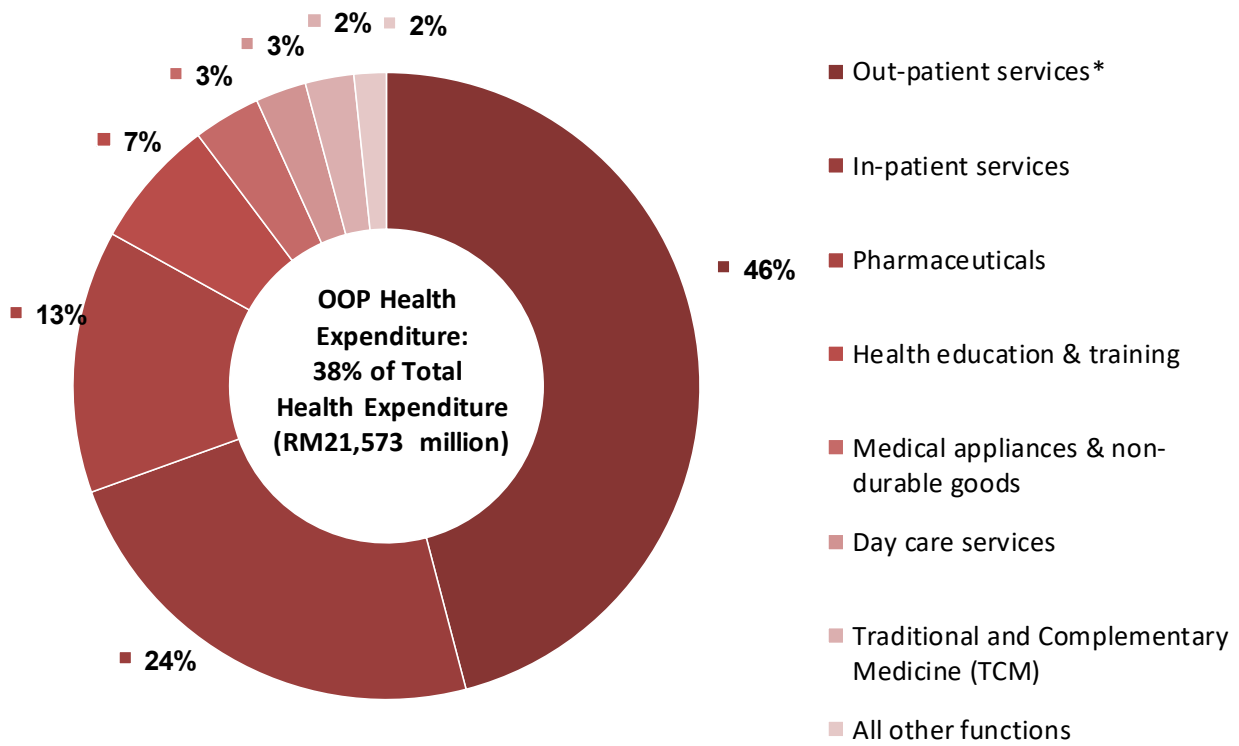
**TABLE 9.3b: OOP Health Expenditure by Functions of Health Care, 1997-2017 (Percent, %)**

Function Name	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Out-patient services*	45.79	46.00	46.21	47.43	47.86	48.93	48.72	50.90	52.59	53.75	53.82	50.68	45.11	45.70	47.22	47.72	47.51	49.82	47.31	46.09	45.91
In-patient services	23.54	21.84	21.61	22.17	21.59	21.29	23.54	23.01	23.00	22.35	21.68	24.65	25.41	24.83	24.00	22.52	20.41	18.82	20.20	22.04	23.60
Pharmaceuticals	10.26	11.11	11.65	11.11	11.54	11.60	11.57	12.67	11.15	10.57	10.99	10.38	12.68	11.54	12.06	12.16	12.74	14.65	14.94	14.24	13.55
Health education & training	0.87	1.49	2.87	3.49	4.08	4.76	5.54	4.62	4.03	4.00	3.94	3.54	6.05	7.50	6.81	8.24	9.86	7.71	7.75	7.61	6.69
Medical appliances & non-durable goods	5.31	5.50	5.11	4.73	4.65	4.38	3.64	3.24	3.44	3.42	3.45	3.68	3.79	3.63	3.29	3.03	2.75	2.56	3.22	3.52	3.47
Day care services	2.43	2.38	2.40	2.44	2.60	2.70	2.60	2.56	2.59	2.65	2.74	3.56	3.35	3.27	3.32	3.02	2.51	2.36	2.51	2.38	2.62
Traditional and Complementary Medicine [TCM]	8.35	8.06	7.05	6.07	5.46	4.57	3.24	2.29	2.44	2.51	2.64	2.79	2.88	2.77	2.55	2.38	2.19	2.08	2.30	2.53	2.51
All other functions	3.45	3.62	3.09	2.57	2.23	1.76	1.15	0.71	0.75	0.75	0.73	0.74	0.73	0.76	0.76	0.92	2.02	2.00	1.77	1.58	1.66
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

Note: \* Data include home care



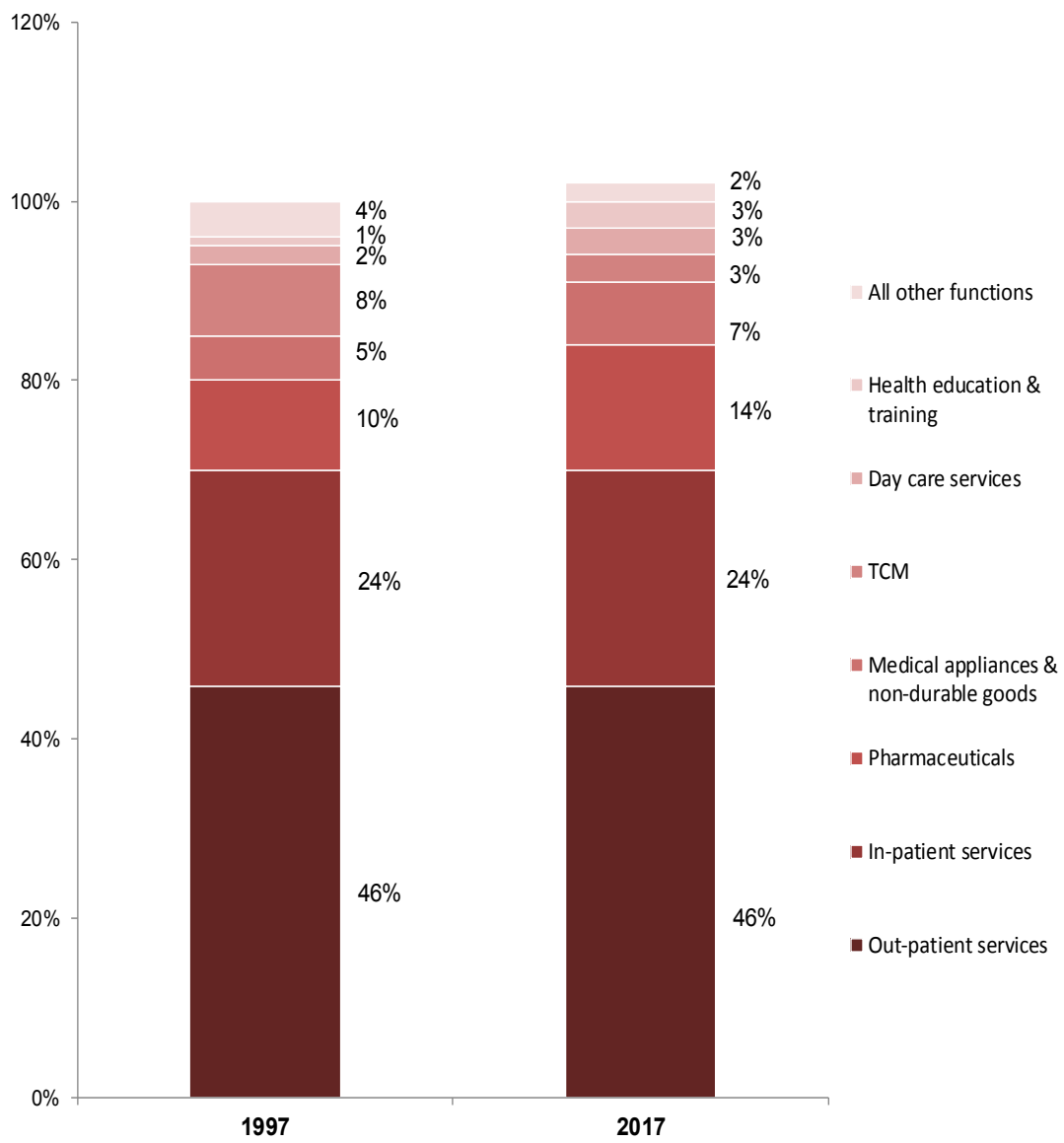
**FIGURE 9.3a: OOP Health Expenditure by Functions of Health Care, 2017 (Percent, %)**



Note: \*Data includes home care



**FIGURE 9.3b: OOP Health Expenditure by Functional Proportion, 1997 & 2017 (Percent %)**





## CHAPTER 10

### INTERNATIONAL NHA DATA

Global Health Expenditure Database (GHED) is the main data source for international level data on national health expenditure for more than 190 World Health Organization (WHO) member states. This is freely accessible via the related website. On an annual basis every member country is obliged to submit their national health expenditure data according to WHO request formats. However WHO carries out their own country level analysis based on System of Health Accounts (SHA) framework for several reasons. It could be that data submitted by various countries could either be estimated in SHA framework or a different framework. Furthermore some countries are unable to produce timely annual NHA data. However available country specific data form the basis of WHO analysis. In addition to the submitted country specific NHA data, WHO also uses country specific macro level data from various sources such as United Nations (UN), World Bank (WB), International Monetary Fund (IMF) and other sources for their NHA analysis.

The outputs of WHO analysis are then uploaded onto GHED database as the international health expenditure data for member countries. These WHO estimations for member countries allow standardization in NHA reporting and ensure better cross-country comparability. However it is important to recognize that every member country, like Malaysia, may produce their own NHA reporting based on local needs. As such MNHA Framework with slightly different boundaries of definitions is more important in the Malaysian context especially for policy makers, health planners, researchers and other interested parties.

SHA is an internationally accepted methodology for summarizing, describing, and analyzing financial flow in health systems of various countries. It was first published in 2000 by Organization for Economic Cooperation and Development (OECD) and then adapted by WHO to inform health policy and measure health system performance. This first version of the SHA is referred to as SHA 1.0. Over time, more than 100 developing countries have completed their NHA estimations based on SHA 1.0. After ten

years, following an intensive exercise involving large numbers of people and working closely with country counterparts for more than a year, the related international organizations of OECD, Eurostat, and WHO produced an updated version called SHA 2011.

In keeping with this new development, December 2017 saw the challenging transformation of GHED under WHO website to accommodate NHA data reporting based on the latest SHA 2011 framework. It was decided that for countries which are yet to migrate to this new format of NHA reporting, WHO would carry out their own analysis based on whatever available data, either in SHA 1.0 or SHA 2011 formats. For the time being, Malaysia NHA data from 2000 to 2017 was submitted using the previous SHA 1.0 format.

Navigation of GHED website faces few changes however remains as 4 main headings of "Data explorer", "Visualisations", "Documentation Centre" and "Help", Visualisations is previously known as Quick reports. However each heading comprise different contents. Each one of these 4 main headings can further be expanded to obtain more information. As such the section on "Data explorer" is further divided into another 3 sections namely "Indicators", "Health expenditure data" and "Macro data" whereby various NHA related data is available under the first two sections. Tables 10.1 contain headers of the 3 sections which have further disaggregated data as listed in Appendix Table A4.1 and A4.2. Some selected data for country comparison will be highlighted further in this chapter.

A total of 16 developing and developed countries with potential policy relevance to Malaysia are selected from WHO GHED database. Comparisons are made based on the year 2016 as the latest available year at the time of this report is produced. The countries include Australia, Bangladesh, China, France, Germany, India, Indonesia, Japan, Malaysia, Philippines, Republic of Korea, Singapore, Sri Lanka, Thailand, United Kingdom and United States of America.



As mentioned earlier, all Malaysia NHA estimations use MNHA Framework & SHA 1.0 Framework. Therefore, as stated earlier international data for Malaysia is estimated by WHO Geneva experts using the SHA 1.0 data. Appendix Tables A2.1-A2.3 contains all the recent international data submitted to WHO using WHO prepared templates. However, the following comparisons below are based on WHO estimations which were extracted from GHED database to ensure better country comparability.

As clarified earlier in section 2.1, CHE instead of TEH has been used by WHO for international comparison. In 2016 based on WHO GHED database, CHE of Malaysia was 3.8 percent GDP which is lower than neighbouring countries such as Singapore, Philippines, China, Sri Lanka and Korea but higher than other regional countries such as Thailand, Indonesia and Bangladesh (Figure 10.1). Health expenditures in developed countries like Australia, UK, Japan, France and Germany were between 9 to 11 percent GDP with USA at 17% GDP. Likewise the per capita health expenditure of developed countries ranged from twice to four times of Malaysia with USA as the outlier (Figure 10.2). However this reported value of per capita is not based on actual utilization of healthcare services and is a very gross comparison.

Even though SHA 2011 does not use the terms “public” or “private” sources of financing, GHED database maintains this terminology under the list of indicators under “domestic general government” and “domestic private” health expenditure (Appendix Table A4.1). Most developed countries including China, Thailand and Malaysia have a higher domestic government health expenditure compared to domestic private health expenditure (Figure 10.3). International Comparison of Out-of-pocket Health Financing Scheme as Percent of Current Health Expenditure, lists Malaysia on fifth rank after Bangladesh, India, Philippines and Sri Lanka in 2016 (Figure 10.4). Amongst the selected country comparison, those with some form of Social Health Insurance include Japan, France, Germany, Republic of Korea, China, USA, Philippines, Indonesia, Thailand, India, Singapore, Malaysia and Sri Lanka. SHA 2011 identifies classification of government and compulsory financing schemes which includes social health insurance (SHI) schemes. The proportion of SHI of all government and compulsory health financing schemes varies from 1 to 95 percent in countries with SHI (Figure 10.5). Although the SOCSO health expenditure is a very small proportion of all Current Health Expenditure in Malaysia, it is considered as a form of SHI.

**Table 10.1: Available Data in GHED under Various Headers**

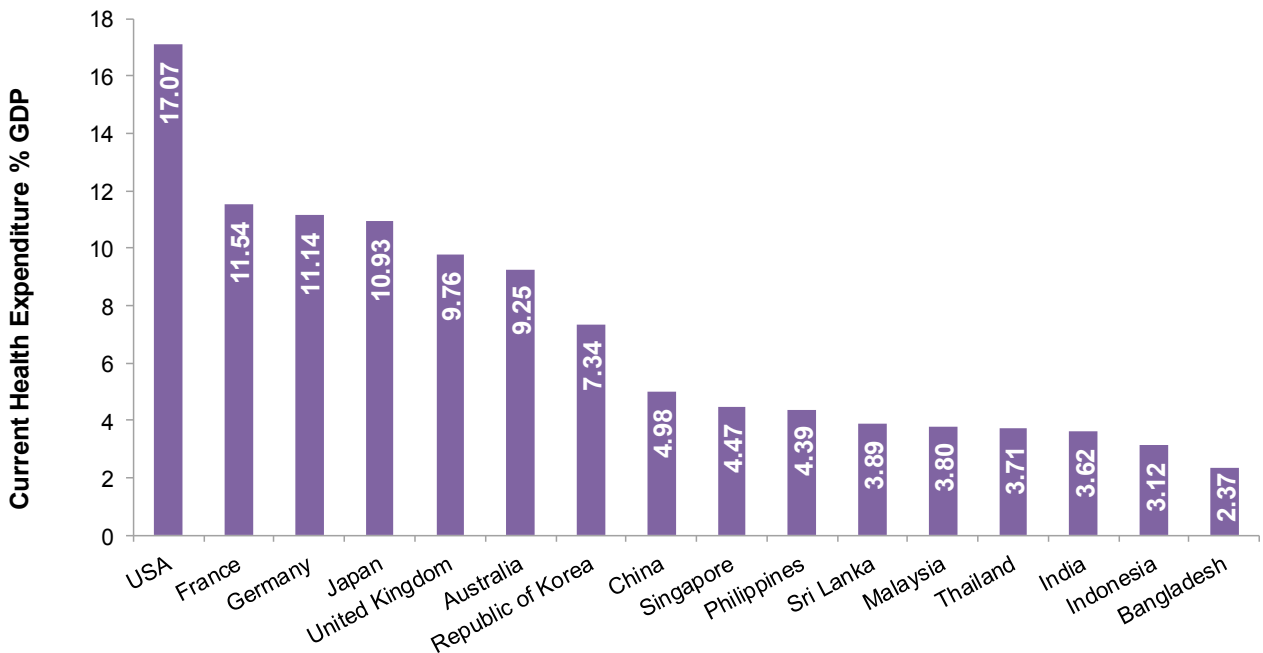
	Main Header		Sub-Header
1	Indicators	1.1	Aggregates
		1.2	Financing Sources
		1.3	Financing Schemes
		1.4	Primary Health Care (Preliminary Data)
		1.5	Cross classifications
		1.6	Macro
2	Health Expenditure Data	2.1	Revenues
		2.2	Financing Schemes
		2.3	Health Care Function (Preliminary Data)
		2.4	Disease and Conditions
		2.5	Age
		2.6	Capital Expenditure
3	Macro Data	3.1	Consumption
		3.2	Exchanges Rates
		3.3	Price Index
		3.4	Population

Source: Global Health Expenditure Database (GHED) WHO NHA on 29th March 2019



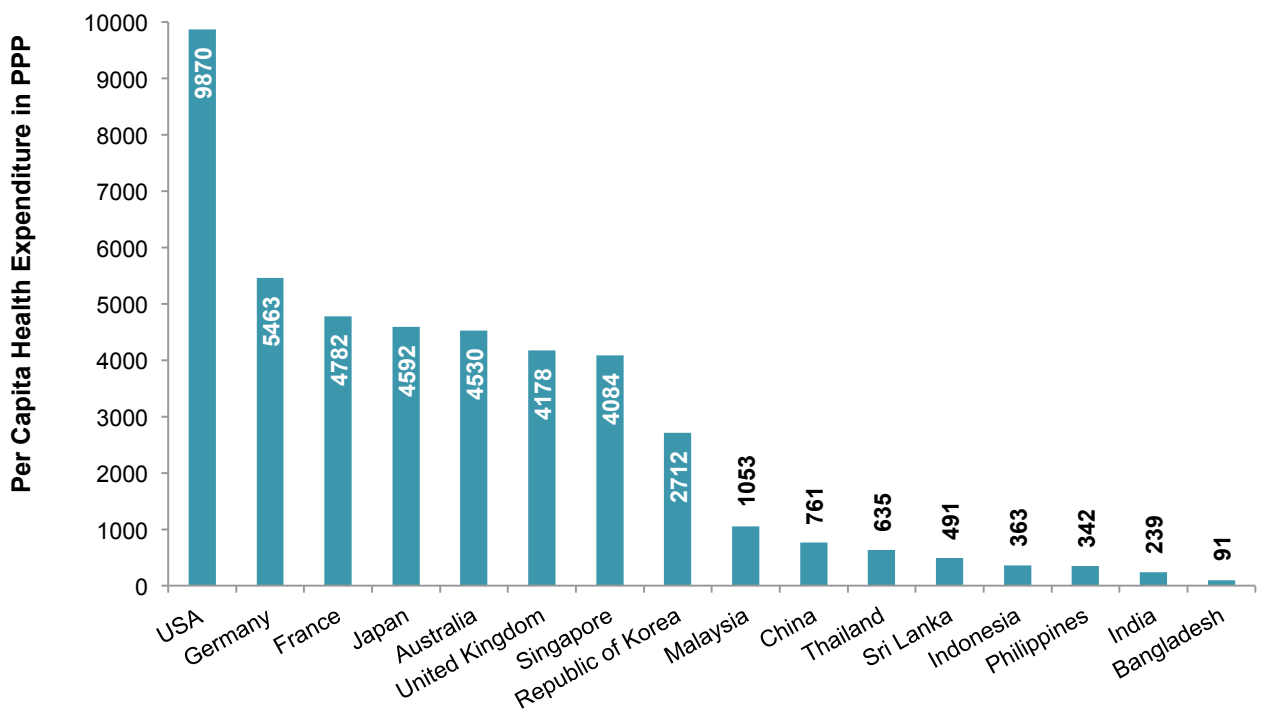


**Figure 10.1: International Comparison of Current Health Expenditure as Percent GDP, 2016**



Source: Global Health Expenditure Database (GHED) WHO NHA on 29th March 2019

**Figure 10.2: International Comparison of Per Capita Health Expenditure, 2016**

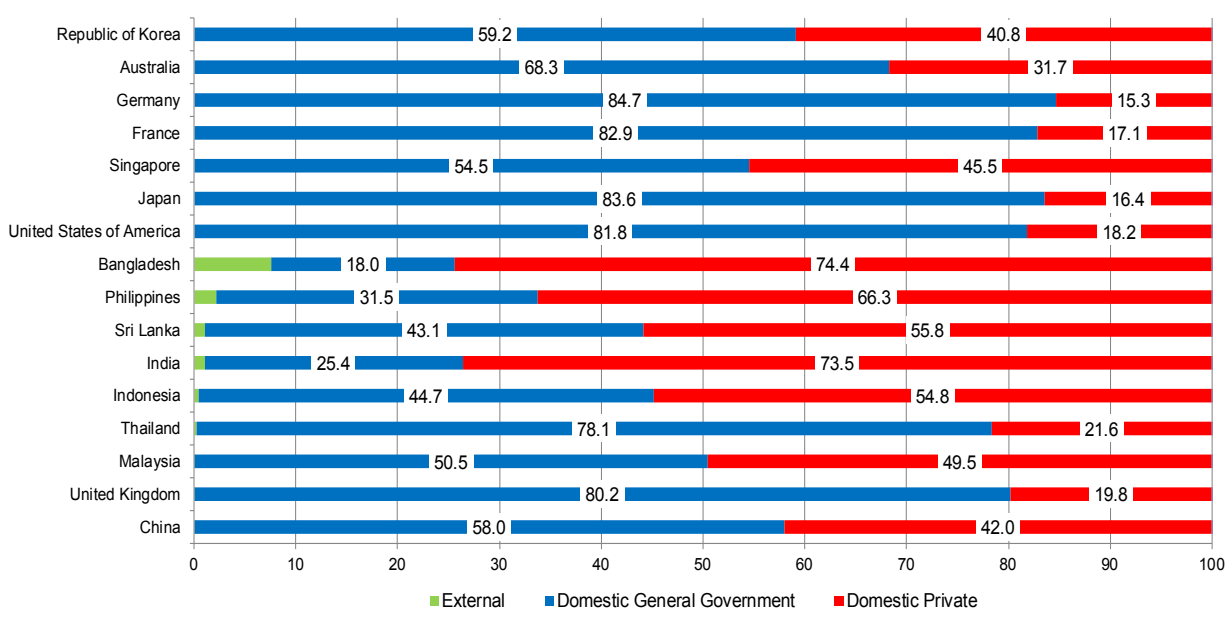


Source: Global Health Expenditure Database (GHED) WHO NHA on 29th March 2019



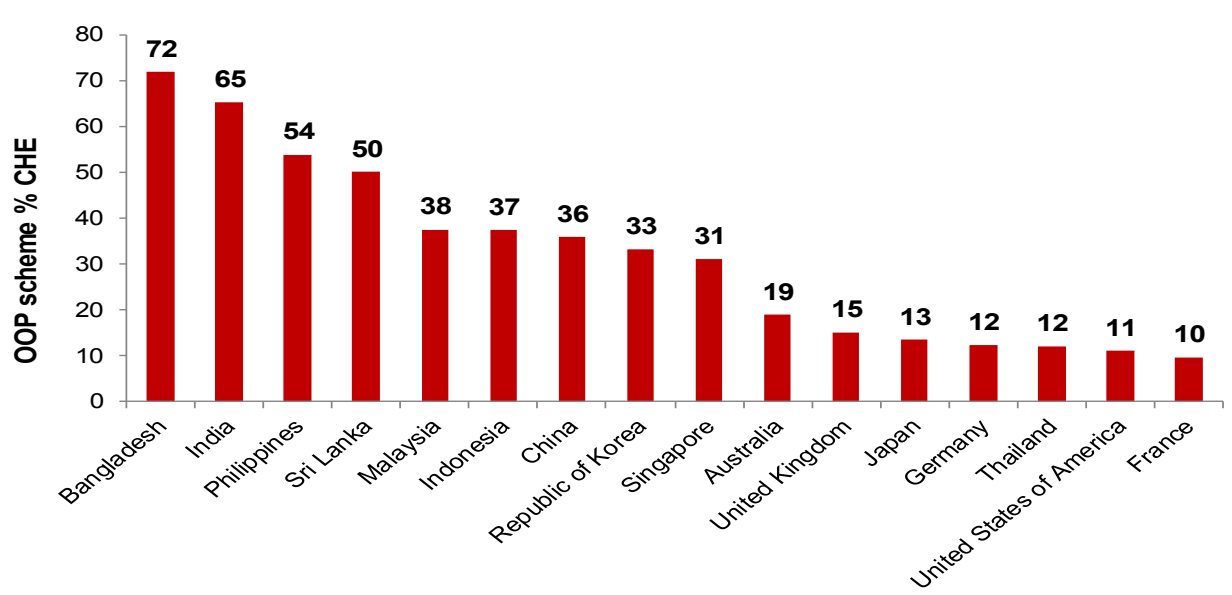


**Figure 10.3: International Comparison of Domestic Government and Private Health Expenditure, 2016**



Source: Global Health Expenditure Database (GHED) WHO NHA on 29th March 2019

**Figure 10.4: International Comparison of Out-of-pocket Health Financing Scheme as Percent of Current Health Expenditure, 2016**

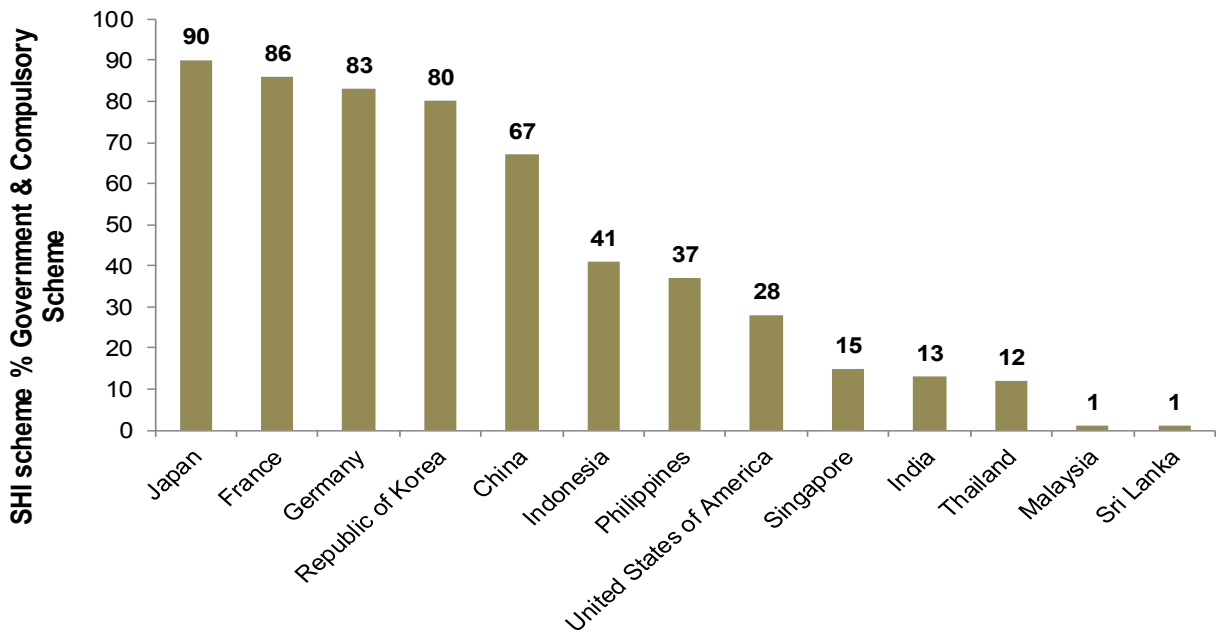


Source: Global Health Expenditure Database (GHED) WHO NHA on 29th March 2019





**Figure 10.5: International Comparison of Social Health Insurance as Percent Government and Compulsory Health Financing Schemes, 2016**



Source: Global Health Expenditure Database (GHED) WHO NHA on 29th March 2019





## APPENDIX TABLES

TABLE A1.1 : Source of Data			
Data Sources for Public Sector Estimation			
PUBLIC SECTOR			
	Main Agencies	Specific Organisation	Source of Data
1	Ministry of Health (MOH)	Accountant-General's Department	MOH - AG DATA (expenditure)
		District Health Office	MNHA survey
		District Health Office - Vaccine	MNHA survey
		District Health Office – Sarawak Pharmaceutical Office	MNHA survey
2	Other Ministries	Ministry of Education	MNHA survey - MOE
		Ministry of Education – Collaboration MOE and MOH	MNHA survey - KPT - KKM
		University Health Center	MNHA survey - MOHE - PKU
		Ministry of Defence	MNHA survey - MOD
3	Other Federal Agencies	National Population and Family Development Board	MNHA survey - LPPKN
		Department of Orang Asli Development	MNHA survey - JAKOA
		Public Service Department-Pension	MNHA survey - JPA
		Civil Defence Department	MNHA survey - JPAM
		Prison Department of Malaysia	MNHA survey - PENJARA
		Social Welfare Department	MNHA survey - JKM
		Occupational Safety And Health Department	MNHA survey - DOSH
		National Institute of Occupational Safety & Health Malaysia	MNHA survey - NIOSH
		National Anti-Drug Agency	MNHA survey - AADK
		Pilgrims Fund Board	MNHA survey - LTH
		National Heart Institute	MNHA survey - IJN
		Federal Statutory Bodies	MNHA survey - BERKANUN (Fed)
		Public Water Supply Department (Federal)	MNHA survey - JBA (OFA)
		National Sports Institute of Malaysia	MNHA survey - ISN
		Employee Provident Fund - HQ	MNHA survey - KWSP (0001)
		Employee Provident Fund - state	MNHA survey - KWSP (0002)
		Emergency Medical Rescue Services (EMRS)	MNHA survey - EMRS
		Social Security Organization - HQ	MNHA survey - PERKESO (0001)
		Social Security Organization - state	MNHA survey - PERKESO (0002)
		Ministry of Science Technology and Innovation	MNHA survey - MOSTI
Public Higher Education Institutions	MNHA survey - TRAINING (OFA-Pu)		
Private Higher Education Institutions	MNHA survey - TRAINING (OFA-Pr)		
4	State Agencies	State Government (General)	MNHA survey - KN
		Public Water Supply Department (State)	MNHA survey - JBA (state)
		State Statutory Body (SSB)	MNHA survey - BERKANUN (state)
		Public Water Supply Department (State Statutory Body)	MNHA survey - JBA (SSB)
		State Islamic Religious Council / Zakat Collection Centre	MNHA survey - MAIN
5	Local Authorities	Local Authority - Health care Services	MNHA survey - PBT (Perkhid)
		Local Authority - Staff	MNHA survey - PBT (Ktgn)





**TABLE A1.2 : Source of Data**

**Data Sources for Private Sector Estimation**

PRIVATE SECTOR			
	Main Agencies	Specific Organisation	Source of Data
1	Private Insurance	Central Bank of Malaysia	MNHA survey - BNM
		Insurance Agencies	MNHA survey - INSURAN
2	Managed Care Organization	MCO Agencies	MNHA Survey - MCO
3	Out of Pocket (Gross Spending)	MOH user charges	MOH - AG DATA (Revenue)
		IJN user charges	MNHA Survey - IJN
		MOHE user charges	MNHA Survey - KPT
		Private Hospital (MNHA)	MNHA Survey - PRIVATE HOSPITAL
		Private Hospital (DOSM)	DOSM Survey - PRIVATE HOSPITAL
		Private Clinic (Medical), DOSM	DOSM Survey - PRIVATE MEDICAL CLINIC
		Private Clinic (Dental), DOSM	DOSM Survey - PRIVATE DENTAL CLINIC
		Private Haemodialysis Centre (MNHA)	MNHA Survey - PRIVATE HEMO (0001)
		Pharmacy Division, MOH	MNHA Survey - FARMASI (0001)
		IMS	MNHA Survey - FARMASI (0002)
		Medical supplies HIES, DOSM	DOSM Survey - HES DATA
		Medical durables / prostheses / equipments HIES, DOSM	DOSM Survey - HES DATA
		Ancillary services HIES, DOSM	DOSM Survey - HES DATA
		Private TCM HIES, DOSM	DOSM Survey - HES DATA
		Public Higher Education Institutions	MNHA survey - TRAINING (OOP-Pu)
		Private Higher Education Institutions	MNHA survey - TRAINING (OOP-Pr)
4	Out-of Pocket (Third Party Deductions)	Insurance Agencies	MNHA Survey - INSURAN
		Central Bank of Malaysia	MNHA survey - BNM
		Private Corporations	MNHA Survey - PRIVATE CORPORATION
		Employees Provident Fund	MNHA Survey - KWSP
		Social Security Organization	MNHA Survey - PERKESO
		Federal Statutory Bodies	MNHA Survey - BERKANUN (Fed)
		State Statutory Body	MNHA Survey - BERKANUN (state)
		FOMEMA/UNITAB MEDIC - OOP data	MNHA Survey - UNITABMEDIC
		GROWARISAN - OOP data	MNHA Survey - GROWARISAN
5	Non-Government Organization	Non-Governmental Organizations	MNHA survey - NGO
6	Corporations	Limited and Private Limited Corporations	MNHA Survey - PRIVATE CORPORATION
		Corps - Labour Force Survey	DOSM Survey - CORPS_DOS (0002)
		Industrial Survey & Manufacturing, DOSM	DOSM Survey - CORPS_DOS (0001-non med)
		Private Hospital staff, DOSM	DOSM Survey - CORPS_DOS (0001-hosp)
		Private Clinic Medical, DOSM	DOSM Survey - CORPS_DOS (0001-clinic)
		Private Clinic Dental, DOSM	DOSM Survey - CORPS_DOS (0001-dental)
		Private Water Supply Department	MNHA survey - JBA (corp)
		FOMEMA/UNITAB MEDIC	MNHA Survey - UNITABMEDIC
		GROWARISAN	MNHA Survey - GROWARISAN
		Public Higher Education Institutions	MNHA survey - TRAINING (Corp-Pu)
		Private Higher Education Institutions	MNHA survey - TRAINING (Corp-Pr)
		7	Rest of the world
8	Other National Surveys	DOSM-Population survey	General-DOS General_DOS (0001)
		DOSM-GDP & GDP Deflator	General-DOS General_DOS (0002)
		DOSM-Household Consumption	General-DOS General_DOS (0003)



## TABLE A2: Comparison of MNHA Framework to SHA 1.0 with SHA Tables

The data in this document is reported using the MNHA Framework. However, the revised data analysis is produced under dual coding and a set of tables showing the comparison of MNHA codes mapped

to ICHA codes are shown for reference (Appendix Table A2.1 to A2.3). This is followed by six SHA Tables (Appendix Table A3 to A4).

TABLE A2.1 : Classification of Total Expenditure on Health by Sources of Financing			
MNHA Code	ICHA Code	Sources of Financing	Description
MS1	HF.1	Public Sector	Refers to MS1.1 and MS1.2 classifications
MS1.1	HF.1.1	Public sector excluding social security funds	Refers to Federal Government, state government & local authorities
MS1.2	HF.1.2	Social security funds	SOCSO & EPF
MS2	HF.2	Private sector	Refers to MS2 classification
MS2.1	HF.2.1	Private social insurance	Currently does not exist in Malaysia
MS2.2	HF.2.2	Private insurance enterprises (other than social insurance)	Private health insurance
MS2.3	HF.2.2	Private MCOs and other similar entities	Registered MCO other than private health insurance
MS2.4	HF.2.3	Private household out-of-pocket expenditures	Individual OOP spending on health
MS2.5	HF.2.4	Non-profit institutions serving households	Health - related NGOs
MS2.6	HF.2.5	All corporations (other than health insurance)	Private employers
MS9	HF.3	Rest of the world	Rest of the world





**TABLE A2.2 : Classification of Total Expenditure on Health by Providers of Health Care**

MNHA Code	ICHA Code	Providers of Health Care	Description
MP1	HP.1	All hospitals	Public & private hospitals
MP2	HP.2	Nursing and residential care facilities	Nursing care facilities including psychiatric care facilities, residential facilities for mental health, etc
MP3	HP.3	Providers of ambulatory health care	Establishments providing ambulatory health care services directly to non-hospital setting, e.g. medical practitioner clinics, dental clinics, etc
MP4	HP.4	Retail sale and other providers of medical goods	Pharmacies & retail sale/suppliers of vision products, hearing aids, medical appliances
MP5	HP.5	Provision and administration of public health programmes	Providers of public health programmes including health prevention & promotion services (public & private)
MP6	HP.6	General health administration and insurance	Overall administration of health care (public & private) and health insurance administration. (note: For MOH it includes administration of HQ excluding public health programmes), state health dept., admin. cost for hospitals management
MP7	HP.7	Other industries (rest of the Malaysian economy)	Private occupational health care & home care, etc.
MP8	HP.7.9	Institutions providing health-related services	Health training institutions (public & private)
MP9	HP.9	Rest of the world	non - resident providers providing health care for the final use of residents of Malaysia



**TABLE A2.3 : Classification of Total Expenditure on Health by Functions of Health Care**

MNHA Code	ICHA Code	Functions of Health Care	Description
MF1	HC.1	Services of curative care	Curative care provider at inpatient, outpatient, daycare & homecare services
MF2	HC.2	Services of rehabilitative care	Rehabilitative care provider at inpatient, outpatient, daycare & homecare services
MF3	HC.3	Services of long-term nursing care	Long term nursing care provider at inpatient, outpatient, daycare & homecare services
MF4	HC.4	Ancillary services to health care	Stand-alone laboratory, diagnostic imaging, transport & emergency rescue, etc.
MF5	HC.5	Medical goods dispensed to out-patients	Pharmaceuticals, appliances, western medicines, TCM, etc.
MF6	HC.6	Public health services, including health promotion and prevention	Health promotion, prevention, family planning, school health services, etc.
MF7	HC.7	Health program administration and health insurance	Administration at HQ, State health dept, local authorities, SOCSO, EPF, private insurance, etc.
MR1	HC.R.1	Capital formation of health care provider institutions	Administration at HQ, State health dept, local authorities, SOCSO, EPF, private insurance, etc.
MR2	HC.R.2	Education and training of health personnel	Government & private provision of education and training of health personnel, including admin., etc.
MR3	HC.R.3	Research and development in health	Research and development in relation to health care
MR9	HC.R.6	All other health-related expenditures	Category to capture all other expenditures that not classified elsewhere in MNHA



**TABLE A3.1 : GLOBAL HEALTH EXPENDITURE DATABASE (GHED), WHO INDICATORS AND DATA - MALAYSIAN HEALTH EXPENDITURE, 2000-2016**

Indicators	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Current Health Expenditure (CHE) as % Gross Domestic Product (GDP)	2.56	2.73	2.72	2.98	2.92	2.84	3.17	3.12	3.08	3.32	3.23	3.39	3.55	3.57	3.77	3.90	3.80
Health Capital Expenditure (HK) % Gross Domestic Product (GDP)	0.36	0.45	0.40	0.63	0.46	0.23	0.22	0.22	0.22	0.37	0.47	0.24	0.21	0.18	0.14	0.12	0.12
Current Health Expenditure (CHE) per Capita in US\$	111.42	114.71	121.91	143.00	155.26	164.34	203.85	234.36	270.95	251.41	292.89	352.59	382.29	388.70	421.97	376.06	361.52
Current Health Expenditure (CHE) per Capita in PPP	356.07	380.97	398.64	461.70	485.87	485.95	578.76	628.30	641.69	667.34	667.71	799.37	815.93	858.45	961.65	1037.66	1052.55
Domestic Health Expenditure (DOM) as % of Current Health Expenditure (CHE)	99.79	99.59	99.73	99.97	99.93	99.97	99.98	99.98	99.98	99.99	99.99	100.00	99.98	99.97	99.95	99.97	99.98
Domestic General Government Health Expenditure (GGHE-D) as % Current Health Expenditure (CHE)	46.67	50.59	51.26	52.09	51.17	49.09	53.84	52.87	53.26	55.44	52.82	52.96	53.68	53.86	54.79	53.09	50.47
Domestic Private Health Expenditure (PVT-D) as % Current Health Expenditure (CHE)	53.12	49.00	48.47	47.88	48.77	50.88	46.14	47.11	46.72	44.55	47.17	47.04	46.30	46.12	45.15	46.87	49.51
Voluntary Health Insurance (VHI) as % of Current Health Expenditure (CHE)	6.05	6.61	7.23	7.98	7.91	7.56	7.08	7.29	7.65	8.87	9.34	9.29	8.93	8.80	8.47	9.65	10.13
Out-of-pocket (OOPS) as % of Current Health Expenditure (CHE)	41.00	36.00	35.01	34.74	36.33	38.31	35.05	35.43	35.72	32.51	34.53	35.14	34.54	35.33	35.15	35.48	37.60
Other Private Health Expenditure (OTHER) as % Current Health Expenditure (CHE)	6.06	6.39	6.22	5.15	4.53	5.01	4.01	4.39	3.35	3.17	3.30	2.61	2.83	1.99	1.53	1.75	1.78
External Health Expenditure (EXT) as % of Current Health Expenditure (CHE)	0.21	0.41	0.27	0.03	0.07	0.03	0.02	0.02	0.02	0.01	0.01	0.00	0.02	0.03	0.05	0.03	0.02
Domestic General Government Health Expenditure (GGHE-D) as % General Government Expenditure (GGE)	4.60	4.82	5.07	5.46	5.69	5.61	6.58	6.29	6.01	5.88	6.32	6.53	6.61	6.83	7.85	8.24	8.23
Domestic General Government Health Expenditure (GGHE-D) as % Gross Domestic Product (GDP)	1.20	1.38	1.40	1.55	1.49	1.40	1.71	1.65	1.64	1.84	1.71	1.79	1.90	1.92	2.07	2.07	1.92
Domestic General Government Health Expenditure (GGHE-D) per Capita in US\$	52.00	58.03	62.49	74.49	79.44	80.68	109.75	123.90	144.30	139.37	154.70	186.73	205.21	209.35	231.21	199.66	182.47
Domestic General Government Health Expenditure (GGHE-D) per Capita in PPP Int\$	166.18	192.73	204.34	240.51	248.60	238.57	311.59	332.18	341.75	369.95	352.68	391.57	437.99	462.35	526.93	550.91	531.24
Domestic Private Health Expenditure (PVT-D) per Capita in US\$	59.18	56.21	59.09	68.46	75.72	83.62	94.06	110.41	126.60	112.00	138.16	165.85	176.99	179.25	190.53	176.27	178.98
Domestic Private Health Expenditure (PVT-D) per Capita in PPP Int\$	189.13	186.68	193.22	221.04	236.95	247.25	267.04	296.00	299.83	297.30	314.97	347.77	377.74	395.89	434.22	486.39	521.09
External Health Expenditure (EXT) per Capita in US\$	0.24	0.47	0.33	0.05	0.10	0.04	0.05	0.04	0.05	0.03	0.02	0.01	0.09	0.10	0.22	0.13	0.07
External Health Expenditure (EXT) per Capita in PPP Int\$	0.76	1.56	1.09	0.15	0.32	0.12	0.13	0.12	0.11	0.08	0.05	0.03	0.19	0.22	0.50	0.35	0.22
Out-of-Pocket Expenditure (OOPS) per Capita in US\$	45.68	41.29	42.69	49.69	56.41	62.96	71.45	83.03	96.77	81.73	101.14	123.89	132.03	137.32	148.34	133.42	135.92

Note: \*WHO estimation based on MNHA submission of SHA 2011 compatible MNHA data (MNHA database 1997-2016)







**TABLE A3.2 : GLOBAL HEALTH EXPENDITURE DATABASE (GHED), WHO INDICATORS AND DATA - MALAYSIAN HEALTH EXPENDITURE, 2000-2016**

Indicators	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Compulsory Financing Arrangements (CFA) as % of Current Health Expenditure (CHE)	46.67	50.59	51.26	52.09	51.17	49.10	53.86	52.88	53.26	55.45	52.83	52.96	53.69	53.87	54.84	53.21	50.59
Government Financing Arrangements (GFA) as % of Current Health Expenditure (CHE)	45.82	49.67	50.33	51.23	50.23	48.12	53.09	52.10	52.70	54.88	52.19	52.33	53.07	53.16	54.10	52.52	49.81
Compulsory Health Insurance (CHI) as % of Current Health Expenditure (CHE)	0.86	0.92	0.92	0.87	0.94	0.98	0.77	0.78	0.56	0.57	0.64	0.63	0.62	0.72	0.74	0.58	0.66
Social Health Insurance (SHI) as % of Current Health Expenditure (CHE)	0.86	0.92	0.92	0.87	0.94	0.98	0.77	0.78	0.56	0.57	0.64	0.63	0.62	0.72	0.74	0.58	0.66
Voluntary Financing Arrangements (VFA) as % of Current Health Expenditure (CHE)	53.33	49.41	48.74	47.91	48.83	50.90	46.14	47.12	46.74	44.55	47.17	47.04	46.31	46.13	45.16	46.79	49.41
General Government Expenditure (GGE) as % Gross Domestic Product (GDP)	26.00	28.62	27.53	28.47	26.25	24.89	25.94	26.26	27.30	31.33	26.98	27.47	28.80	28.17	26.33	25.12	23.33
Gross Domestic Product (GDP) per Capita in US\$	4,344.02	4,204.36	4,475.23	4,793.43	5,321.58	5,777.19	6,427.00	7,507.50	8,792.59	7,566.87	9,071.40	10,405.11	10,779.49	10,882.26	11,183.86	9,648.55	9,508.24
Gross Domestic Product (GDP) per Capita in PPP Int\$	13,882.81	13,963.57	14,633.54	15,476.00	16,652.84	17,082.94	18,246.84	20,127.18	20,823.74	20,085.68	20,680.32	21,818.88	23,006.90	24,033.97	25,487.59	26,623.33	27,682.63
Current health expenditure by revenues of health care financing schemes	9,816.30	10,330.14	11,210.61	13,416.09	14,852.89	15,969.57	19,549.46	21,450.30	24,503.76	24,460.63	26,521.88	30,895.50	34,444.92	36,383.25	41,746.30	45,122.85	46,771.60
Transfers from government domestic revenue (allocated to health purposes)	4,497.38	5,131.46	5,642.74	6,872.54	7,460.33	7,683.61	10,374.29	11,172.34	12,913.34	13,420.52	13,839.25	16,166.45	18,275.80	19,334.74	22,564.65	23,696.04	23,296.15
Internal transfers and grants	4,497.38	5,131.46	5,642.74	6,872.54	7,460.33	7,683.61	10,374.29	11,172.34	12,913.34	13,420.52	13,839.25	16,166.45	18,275.80	19,334.74	22,564.65	23,696.04	23,296.15
Transfers distributed by government from foreign origin	0.00	0.00	0.00	0.00	0.00	0.25	3.79	2.68	0.12	2.44	1.78	0.70	4.79	4.98	18.55	1.11	0.81
Social insurance contributions	83.94	94.53	103.66	116.17	139.22	156.54	150.64	168.35	136.95	139.77	169.53	195.68	214.32	260.80	309.86	260.62	310.20
Voluntary prepayment	594.00	683.00	810.70	1,070.30	1,175.30	1,207.10	1,384.10	1,584.20	1,875.70	2,169.40	2,477.90	2,869.10	3,076.10	3,202.50	3,535.60	4,352.79	4,737.51
Other domestic revenues n.e.c.	4,619.94	4,378.89	4,622.90	5,352.72	6,068.18	6,918.24	7,635.92	8,541.37	9,573.57	8,727.98	10,033.06	11,662.97	12,870.63	13,576.09	15,314.34	16,798.15	18,418.07
Other revenues from households n.e.c.	4,024.70	3,718.83	3,925.27	4,661.40	5,395.91	6,118.38	6,851.70	7,599.80	8,751.73	7,951.96	9,158.81	10,855.25	11,896.41	12,853.49	14,675.23	16,009.40	17,584.18
Other revenues from corporations n.e.c.	534.01	611.88	627.65	581.83	557.10	660.25	629.57	762.54	617.61	547.85	615.55	508.18	629.06	653.40	604.93	683.83	702.16
Other revenues from NPISH n.e.c.	61.23	48.18	69.98	109.49	115.17	139.62	154.65	179.03	204.23	228.17	258.70	299.54	345.16	69.20	34.18	53.08	75.43
Unspecified other domestic revenues (n.e.c.)																51.84	56.30

Note: \*WHO estimation based on MNHA submission of SHA 2011 compatible MNHA data (MNHA database 1997-2016)

**TABLE A3.3 : GLOBAL HEALTH EXPENDITURE DATABASE (GHED), WHO INDICATORS AND DATA - MALAYSIAN HEALTH EXPENDITURE, 2000-2016**

Indicators	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Direct foreign transfers	2105	4225	3061	436	985	382	073	137	408	053	036	059	329	415	331	1414	886
Current health expenditure by financing schemes	9,816.30	10,330.14	11,210.61	13,416.09	14,852.89	15,969.57	19,549.46	21,450.30	24,503.76	24,460.63	26,521.88	30,895.50	34,444.92	36,383.25	41,746.30	45,122.86	46,771.60
Government schemes and compulsory contributory health care financing schemes	4,581.31	5,226.00	5,746.41	6,988.71	7,599.56	7,840.40	10,528.72	11,343.37	13,050.41	13,562.72	14,010.55	16,362.83	18,494.90	19,600.51	22,893.05	24,009.61	23,663.45
Government schemes	4,497.38	5,131.46	5,642.74	6,872.54	7,460.33	7,683.86	10,378.08	11,175.02	12,913.46	13,422.95	13,841.02	16,167.15	18,280.58	19,339.72	22,583.20	23,697.14	23,296.95
Compulsory contributory health insurance schemes	83.94	94.53	103.66	116.17	139.22	156.54	150.64	168.35	136.95	139.77	169.53	195.68	214.32	260.80	309.86	260.62	310.20
Social health insurance schemes	83.94	94.53	103.66	116.17	139.22	156.54	150.64	168.35	136.95	139.77	169.53	195.68	214.32	260.80	309.86	260.62	310.20
Compulsory Medical Saving Accounts (CMSA)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.84	56.30
Voluntary health care payment schemes	1,210.29	1,385.32	1,538.93	1,765.98	1,857.42	2,010.79	2,169.04	2,507.13	2,701.62	2,945.95	3,352.51	3,677.41	4,053.61	3,929.25	4,178.02	5,103.85	5,523.97
Voluntary health insurance schemes	594.00	683.00	810.70	1,070.30	1,175.30	1,207.10	1,384.10	1,564.20	1,875.70	2,169.40	2,477.90	2,869.10	3,076.10	3,202.50	3,535.60	4,352.79	4,737.51
NPISH financing schemes (including development agencies)	82.28	90.43	100.59	113.85	125.02	143.44	155.37	180.39	208.31	228.70	259.06	300.13	348.45	73.35	37.49	67.22	84.30
Enterprise financing schemes	534.01	611.88	627.65	581.83	557.10	660.25	629.57	762.54	617.61	547.85	615.55	508.18	629.06	653.40	604.93	688.83	702.16
Household out-of-pocket payment	4,024.70	3,718.83	3,925.27	4,661.40	5,395.91	6,118.38	6,851.70	7,599.80	8,751.73	7,951.96	9,158.81	10,855.25	11,896.41	12,853.49	14,675.23	16,009.40	17,584.18
Capital health expenditure	1,376.00	1,692.00	1,642.00	2,815.00	2,330.00	1,270.00	1,366.00	1,542.00	1,735.00	2,759.00	3,865.00	2,195.00	2,057.00	1,831.00	1,502.00	1,435.80	1,422.45
Gross Domestic Product	382,731.00	378,627.00	411,522.00	449,706.00	509,071.00	561,395.00	616,344.00	687,148.00	795,184.00	786,221.00	821,435.00	911,733.00	971,251.00	1,018,614.00	1,106,442.00	1,157,723.00	1,230,121.00
Final consumption expenditure of Households and profit institutions serving households	166,925.00	174,072.00	184,634.00	199,822.00	223,264.00	250,734.00	276,203.00	313,609.00	359,330.00	363,457.00	395,245.00	437,340.00	482,237.00	527,749.00	579,985.00	626,267.00	674,838.00
General government expenditure	99,496.00	108,379.00	113,290.00	128,022.00	133,642.00	139,711.00	159,865.00	180,421.00	217,105.00	230,643.00	221,643.00	250,477.00	279,700.00	286,992.00	291,279.00	290,800.00	286,940.00
Purchasing Power Parity (NCU per Int\$)	1.19	1.14	1.16	1.18	1.21	1.28	1.29	1.28	1.41	1.33	1.41	1.46	1.45	1.43	1.44	1.42	1.42
Exchange Rate (NCU per US\$)	3.80	3.80	3.80	3.80	3.80	3.79	3.67	3.44	3.34	3.52	3.22	3.06	3.09	3.15	3.27	3.91	4.15
Gross domestic product - Price index	72.93	71.78	74.02	76.47	81.06	85.16	88.55	92.87	102.52	96.37	100.00	105.41	106.47	106.65	109.28	108.88	111.00
Population (in thousands)	23,185.61	23,698.91	24,198.81	24,688.70	25,174.11	25,659.39	26,143.57	26,625.85	27,111.07	27,605.38	28,112.29	28,635.13	29,170.46	29,706.72	30,228.02	30,723.16	31,187.27
Population <5 - UN	2,684.24	2,688.56	2,664.49	2,622.02	2,576.08	2,536.61	2,479.85	2,444.74	2,428.95	2,425.94	2,429.27	2,423.77	2,447.04	2,488.40	2,533.59	2,569.35	2,569.35
Female Population 15-49	8,570.35	8,734.61	8,899.00	9,061.73	9,221.29	9,377.55	9,550.55	9,711.05	9,861.72	10,008.17	10,155.55	10,304.19	10,446.72	10,582.64	10,711.05	10,839.24	10,839.24

Note: \*WHO estimation based on MNHA submission of SHA 2011 compatible MNHA data (MNHA database 1997-2016)



**Table A4.1: List of Available Data under “Indicators” in NHA GHED Website**

1. INDICATORS	
<b>1.1</b>	<b>AGGREGATES</b>
	Current Health Expenditure (CHE) as % Gross Domestic Product (GDP)
	Health Capital Expenditure (HK) % Gross Domestic Product (GDP)
	Current Health Expenditure (CHE) per Capita in US\$
	Current Health Expenditure (CHE) per Capita in PPP
<b>1.2</b>	<b>FINANCING SOURCES</b>
	Domestic Health Expenditure (DOM) as % of Current Health Expenditure (CHE)
	Domestic General Government Health Expenditure (GGHE-D) as % Current Health Expenditure (CHE)
	Domestic Private Health Expenditure (PVT-D) as % Current Health Expenditure (CHE)
	Voluntary Health Insurance (VHI) as % Current Health Expenditure (CHE)
	Out of Pocket (OOPS) as % Current Health Expenditure (CHE)
	Other Private Health Expenditure as % Current Health Expenditure
	External Health Expenditure (EXT) as % of Current Health Expenditure (CHE)
	Domestic General Government Health Expenditure (GGHE-D) as % General Government Expenditure (GGE)
	Domestic General Government Health Expenditure (GGHE-D) as % Gross Domestic Product (GDP)
	Domestic General Government Health Expenditure (GGHE-D) per Capita in US\$
	Domestic General Government Health Expenditure (GGHE-D) per Capita in PPP Int\$
	Domestic Private Health Expenditure (PVT-D) per Capita in US\$
	Domestic Private Health Expenditure (PVT-D) per Capita in PPP Int\$
	External Health Expenditure (EXT) per Capita in US\$
	External Health Expenditure (EXT) per Capita in PPP Int\$
	Out-of-Pocket Expenditure (OOPS) per Capita in US\$
	Out-of-Pocket Expenditure (OOPS) per Capita in PPP Int\$
<b>1.3</b>	<b>FINANCING SCHEMES</b>
	Compulsory Financing Arrangements (CFA) as % of Current Health Expenditure (CHE)
	Government Financing Arrangements (GFA) as % of Current Health Expenditure (CHE)
	Compulsory Health Insurance (CHI) as % of Current Health Expenditure (CHE)
	Social Health Insurance (SHI) as % of Current Health Expenditure (CHE)
	Voluntary Financing Arrangements (VFA) as % of Current Health Expenditure (CHE)
	Voluntary Health Insurance (VHI) as % of Current Health Expenditure (CHE)
	Rest of the World (RoW) as % of Current Health Expenditure (CHE)
<b>1.4</b>	<b>PRIMARY HEALTH CARE (preliminary data)</b>
	Primary health care (PHC) expenditure per Capita in US\$
	Primary health care (PHC) expenditure as % of Current Health Expenditure
	Domestic General Government Expenditure on primary health care (PHC) as % Domestic General Government Health Expenditure (GGHE-D)
	Domestic General Government Expenditure on PHC as % PHC
<b>1.5</b>	<b>CROSS CLASSIFICATIONS</b>
	Government Budget Transfers to Social Health Insurance (SHI-G) as % of Social Health Insurance (SHI)
	Self-Employed Contributions to Social Health Insurance (SHI-SE) as % of Social Health Insurance Expenditure (SHI)
<b>1.6</b>	<b>MACRO</b>
	General Government Expenditure (GGE) as % of Gross Domestic Product (GDP)
	Gross Domestic Product (GDP) per Capita in US\$
	Gross Domestic Product (GDP) per Capita in PPP Int\$





**Table A4.2: List of Available Data Under “Health Expenditure Data” in NHA GHED Website**

2. HEALTH EXPENDITURE DATA		
2.1	REVENUES	Current health expenditure by revenues of health care financing schemes
		2.1.1 Transfers from government domestic revenue (allocated to health purposes)
		2.1.2 Transfers distributed by government from foreign origin
		2.1.3 Social insurance contributions
		2.1.4 Compulsory prepayment (Other, and unspecified, than FS.3)
		2.1.5 Voluntary prepayment
		2.1.6 Other domestic revenues n.e.c.
		2.1.7 Direct foreign transfers
		2.1.8 Unspecified revenues of health care financing schemes (n.e.c.)
2.2	FINANCING SCHEMES	Current health expenditure by financing schemes
		2.2.1 Government schemes and compulsory contributory health care financing schemes
		2.2.2 Voluntary health care payment schemes
		2.2.3 Household out-of-pocket payment
		2.2.4 Rest of the world financing schemes (non-resident)
		2.2.5 Unspecified financing schemes (n.e.c.)
2.3	HEALTH CARE FUNCTIONS (Preliminary Data)	2.3.1 Current health expenditure by health care functions ( preliminary data)
		2.3.1.1 Curative Care
		2.3.1.2 Rehabilitative Care
		2.3.1.3 Long Term Care (health)
		2.3.1.4 Ancillary services (specified by function)
		2.3.1.5 Medical good (specified by function)
		2.3.1.6 Preventive care
		2.3.1.7 Governance and Health System, and Financing administration
		2.3.1.8 Other Health Care Services not elsewhere classified (n.e.c)
		2.3.2 Domestic General Government Helath Expenditure by health care functions ( preliminary data)
		2.3.2.1 Domestic General Government Helath Expenditure on Curative Care
		2.3.2.2 Domestic General Government Helath Expenditure on Rehabilitative Care
		2.3.2.3 Domestic General Government Helath Expenditure on Long-tern Care (health)
		2.3.2.4 Domestic General Government Helath Expenditure on Ancillary Services (nonspecific by function)
		2.3.2.5 Domestic General Government Helath Expenditure on Medical Goods (nonspecific by function)
		2.3.2.6 Domestic General Government Helath Expenditure on Preventive Care
		2.3.2.7 Domestic General Government Helath Expenditure on Governance, Health System & Financing Administration
		2.3.2.8 Domestic General Government Helath Expenditure on Other Health Care Services (n.e.c)
3. DISEASE AND CONDITION		
3.1	Domestic General Government Helath Expenditure by Disease and conditions	
3.1	External Sources of Funding by Disease and conditions	
4. AGE		
4.1	Domestic General Government Helath Expenditure in the <5 years old population	
3.1	External Sources of Funding in the <5 years old population	
5. CAPITAL EXPENDITURE		

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