



MINISTRY OF HEALTH  
MALAYSIA

# MALAYSIA NATIONAL HEALTH ACCOUNTS Health Expenditure Report 1997-2018



# MNHA



# **MALAYSIA**

## **NATIONAL HEALTH ACCOUNTS**

### **Health Expenditure Report**

### **1997-2018**

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

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Policy-makers, health administrators and other stakeholders require documented information on financing sources, health care providers and health care services to enable good resource prioritization and allocation. Timely, reliable and complete National Health Accounts (NHA) information is critical for sound health policy making and planning. Hence, I am delighted to share this Malaysia National Health Accounts (MNHA) Health Expenditure Report 1997-2018 which contains 22 years' time-series data on our national health accounts.

This report provides macro national health expenditure estimations based on national MNHA framework. The MNHA framework contextualizes international classification systems and manuals to fit national healthcare system. This enables the formulation of a standardized methodology to track, capture, analyse and report health expenditure data for national and international use. Notably, the production of national health expenditure report will not be possible without the health expenditure data gathered from various government ministries, non-governmental organizations, corporations, insurance companies etc. Thus, I wish to extend my deep appreciation to all public and private stakeholders for providing the necessary data. I sincerely hope all agencies continue their strong support for MNHA work.

Last but not least, I applaud Planning Division and especially MNHA team for their relentless effort to produce this important evidence-based report. I encourage MNHA team to persistently strive to keep in line with international standards and provide meaningful data to assist Ministry of Health.

A handwritten signature in black ink, appearing to read 'Chen Chaw Min'. The signature is fluid and cursive, written on a white background.

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



## MESSAGE FROM THE DIRECTOR-GENERAL OF HEALTH MALAYSIA

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Health care services in Malaysia are provided by various health care providers, from the public, private and Non-Governmental Organisations (NGOs) sources of financing. Services provided can be conventional, traditional & complementary medicine or health related services. The Malaysia National Health Accounts (MNHA) annual health expenditure report provides a systematic description of financial flows of healthcare funds from the source to the services via various providers. It is meaningful to note that MNHA has also started to extract, analyse and report primary health care (PHC) expenditure although it is not part of the existing framework.

The findings of this report showed that in 2018, Malaysia's total health expenditure (TEH) was estimated at RM60.1 billion or 4.2% of Gross Domestic Product (GDP). The public sources of financing remained higher than the private, with total public sector health expenditure of RM31.2 billion or 51.9% of TEH. When examining data from provider perspective, health expenditure at hospitals was highest followed by all ambulatory care providers. In terms of functions of healthcare for the same year, spending for curative care services was 68% of TEH and largely focused on inpatient care. PHC expenditure in 2018 was estimated at RM13.4 billion or 22% of TEH. This 22 years' time-series health expenditure report illustrates clearly that MOH remains the largest source of funding with its' share of TEH ranging between 42% to 49%.

It is heartening that MOH's decision to institutionalise MNHA has successfully enabled regular tracking and reporting of national health care expenditure with the help of various public and private agencies. I sincerely thank all the agencies and stakeholders for their support towards the production of this report. I appreciate all advice and input from the MNHA Steering Committee and MNHA Technical Advisory Committee. Finally, a special word of thanks goes out to MNHA team for their commitment and hard work.

A handwritten signature in black ink, appearing to read 'Hisham', with a long horizontal stroke extending to the right.

**Tan Sri Dato' Seri Dr. Noor Hisham bin Abdullah**  
Director-General of Health Malaysia

## ACKNOWLEDGEMENT

MNHA Team benefitted from the expertise, advice and support from both YBrs. Dr. Hj. Nordin bin Saleh, the Director of Planning Division and YBrs. Dr. Rozita Halina binti Tun Hussein, Senior Deputy-Director of Planning Division. Thank you for the continuous support and encouragement.

We wish to recognize and extend our appreciation to MNHA Steering Committee members, co-chaired by Director-General of Health Malaysia and Secretary-General, Ministry of Health for their guidance and endorsement of all the data in this report. A special thanks goes out to MNHA Technical Advisory Committee members and External Editors for their dedication and keen interest, which contributed further in betterment of this report.

The production of this report would not be possible without the continuous collaboration from various public and private agencies whom without fail, provide all data requested whenever available. MNHA Team take this opportunity to earnestly thank all these agencies for their unwavering support.

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## LIST OF ABBREVIATIONS

<b>AADK</b>	<i>Agensi Anti Dadah Kebangsaan</i> (National Anti-Drug Agency)
<b>AG</b>	Accountant General
<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>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>PSE</b>	Public Sector Expenditure
<b>PSHE</b>	Public Sector Health Expenditure

<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>	System of Health Accounts, Version 1.0 (published in 2000)
<b>SHA 2011</b>	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

# KEY DEFINITION

## Total Expenditure on Health (TEH):

Total Expenditure on Health (TEH) stated in this report comprises of all health expenditures by public and private sources of financing. TEH includes both 'health expenditures' and 'health-related expenditures' components. 'Health expenditures' as defined in the MNHA Framework is reflected by core function classifications under the codes MF1-MF7. Whereas 'Health-related expenditures' classification under the codes MR1, MR 2, MR 3 and MR 9 encompassing 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'.

## Current Health Expenditure (CHE):

Current Health Expenditure (CHE) instead of TEH has been used by WHO for international comparison since 2017. 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. CHE based on SHA 2011 framework includes only expenditures of 'health care services and goods by function' (core functions: HC1-HC7). 'Health-related functions' codes that encompasses '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 are all excluded.

## Primary health care (PHC):

To date, there exists no easily measurable operational definition of primary health care (PHC). For the purpose of capturing expenditure for PHC, the scope of PHC services was mapped to encompass a set of health functions codes in MNHA framework. When determining the functions codes to be included PHC was defined as including not only basic health services but also health services provided at community-level such as disease-prevention and health promotion efforts.

## Primary care (PC):

"Primary care" is a subset of PHC and refers to essential, first-contact care provided in a community setting. Primary care (PC) is often regarded as the gate keeper and a key provider process in the health-care system.

# EXECUTIVE SUMMARY 2018

Malaysia is an upper middle-income country with a health system that delivers a comprehensive range of services through a combination of public and private providers.



- (\$) MNHA Framework is based on the SHA 1.0 classifications with some minor modifications to suit local policy
- (\$) Macro level health expenditure information
- (\$) Health expenditure data of 22 years (1997-2018)

**4.16%**

Total Expenditure on Health (TEH) as percentage of GDP

**3.8%**

Current Health Expenditure as percentage of GDP

**RM1,857**

Per capita Expenditure on health

**52%**

Public sources of financing as percentage of TEH

**48%**

Private sources of financing as percentage of TEH

**44%**

MOH expenditure on health as percentage of TEH

**35%**

OOP expenditure as percentage of TEH

**19%**

Primary care as percentage of TEH

**22%**

Primary health care as percentage of TEH

Source : MNHA Database 1997-2018

# REPORT INFORMATION

**This publication on the Malaysia National Health Accounts (MNHA) contains twenty two years of national health expenditure data from 1997 to 2018, estimated using standardised and internationally acceptable National Health Accounts (NHA) methodology.**

**The “Malaysia National Health Accounts: Health Expenditure Report 1997-2018” has a total of ten chapters.**

## CHAPTERS



### **1 BACKGROUND**

Provides a comprehensive background of the establishment of the MNHA section and subsequent production of multiple series of MNHA Health Expenditure Reports.



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

Explains the MNHA Framework which is based on the SHA 1.0 classifications. It further unravels the three main entities of the framework: Sources of financing (MS), Providers of health care (MP) & Functions of health care (MF).



### **3 METHODOLOGY OF DATA COLLECTION AND ANALYSIS**

Explains general methodology that includes data collection, analysis and data processing techniques used for various agencies. This chapter also unfolds the constant value estimation techniques.



### **4 TOTAL EXPENDITURE ON HEALTH**

Encompass Total Expenditure on Health (TEH) trends from year 1997 to 2018 as percentage of Gross Domestic Products (GDP), per capita health expenditures for the same time period and state disaggregation of health expenditure.



### **5 HEALTH EXPENDITURE BY SOURCES OF FINANCING**

Shows data on the major categories of the sources of financing, namely the public and private sectors which are then separately cross-tabulated with the dimensions of providers and functions of health care. Also contains Public Sector Health Expenditure which is equivalent to the General Government Health Expenditure (GGHE) and GGHE as percentage of General Government Expenditure (GGE).



## 6 HEALTH EXPENDITURE TO PROVIDERS OF HEALTH CARE

Provides data on the Total Expenditure on Health by providers of health care. This chapter includes data on separate cross-tabulations between hospital and ambulatory care expenditure with sources of financing. A section regarding Primary Care (PC) and Primary Health Care (PHC) expenditure is also included.



## 7 HEALTH EXPENDITURE BY FUNCTIONS OF HEALTH CARE

Provides data on the Total Expenditure on Health by functions of health care. 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 also available in this chapter.



## 8 MOH HEALTH EXPENDITURE

Shows Ministry of Health's (MOH) expenditure as share of TEH and as percentage of national GDP. Also contains data on separate cross-tabulations between MOH hospital expenditure with sources of financing and functions of health care.



## 9 OUT-OF-POCKET HEALTH EXPENDITURE

Shows 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.



## 10 INTERNATIONAL NHA DATA

Contains international comparisons of MNHA data with NHA data from neighbouring and regional countries as well as some developed countries.

### Colour Scheme of Figure :

-  : public sectors
-  : private sectors
-  : private & public sectors



# 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 to enable good resource allocation and to ensure comparability across countries and over time. 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 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. A revision of previous MNHA estimations was carried out while proceeding to do the subsequent year analysis. This was to enable MNHA to produce internationally acceptable annual data by applying standardized methods of estimations when reporting NHA time series beginning

from 1997. 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. 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 final stage analysis changes. Following this, eight time series reports were published annually. This latest report MNHA Health Expenditure Report 1997-2018 is the ninth report that will also be available on the Ministry of Health's website.

In 2019, MNHA has progressed to produce an annual time series data spanning over a 22-year period 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 to 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. We would like to enlighten the readers regarding the colour scheme used in charts of this report. All public sectors are highlighted in blue colour while private sectors are in red colour. Purple colour is used for combination of both private and public sectors. For those who require references to trends over time periods, whenever possible, the revised

1997 to 2018 time series data is inserted between the detailed 2018 cross-sectional data. 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. 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

Health Accounts (HA) are essential information to examine performance of any health system similar to exploring mortality data when analysing health situation of a country. Health Account stewards of many countries have steadily strived and accomplished producing data on health care expenditure. National Health Accounts are basically standard sets of tables containing comprehensive, consistent, comparable and timely national health expenditure over a specified period. The use of identical rules is a requisite for analyses across countries and over time. To address the need for methodological consistency, Organization for Economic Co-operation and Development (OECD) published “A System of Health Accounts, Version 1.0” (SHA 1.0). This manual proposes tri-axial uniform framework of comprehensive accounts and was subsequently adopted by the World Health Organization (WHO) as a basis for international data collection and comparison.

Seeking to increase standardization, World Health Organization (WHO), Eurostat and related international organizations of OECD later produced a revised version of SHA which is known as SHA 2011. Based on the tri-axial approach to health care expenditure, SHA 2011 developed three analytical interfaces – provision, health care consumer and financing interfaces, which allow countries to focus on specific areas of national health policy interest.

The MNHA Framework embodies the principles of WHO NHA methodology and SHA 1.0 classification with some modifications to meet local policy needs. To keep in line with the revised version of SHA, MNHA worked towards incorporating the changes and is also able to provide data based on SHA 2011 core classification.

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

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. ‘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’. In SHA 1.0, TEH includes expenditures of ‘health care services and goods by function’ (core functions) and one component of ‘health-related functions’ namely ‘gross capital formation’, but excludes expenditure of all other ‘health-related functions’.

In addition to this, it is also important to understand the differences when comparing data based on MNHA framework to data based on SHA 2011 framework. As described earlier, MNHA framework captures and reports health spending as total health expenditure (TEH) whereas as current health expenditure (CHE) when reporting based on SHA 2011. Health spending based on CHE will be of a lower value as it includes all spending of healthcare that is within the functional boundary but capital spending is excluded. 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. For easier understanding, components that

make up TEH according to MNHA, SHA 1.0 and CHE according to SHA 2011 are as illustrated in Figure 2.1.

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

**TEH according to SHA 1.0**

Code	Core Functions
HC.1	Services of curative care
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

**TEH according to MNHA Framework**

Code	Core Functions
MF1	Services of curative care
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

CHE according to SHA 2011	
Code	Core Functions
HC.1	Services of curative care
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

## 2.2. THE MNHA CLASSIFICATION

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). The data in various chapters (except Chapter 10) are based strictly on the MNHA Framework. The framework 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, social security funds and all other public entities, 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).

# 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- 2017 and this report contains data from 1997-2018. Data in this report over the same time period may show some variations compared to the previous report. These variations are an acceptable phenomenon under NHA.

Changes may reflect genuine structural change or due to access to new data that is used to replace previous estimations. Changes in the times series data may reflect incorporation of recent developments with previous data from various censuses and surveys (when using secondary data) and variations in responses from multiple data sources at each cycle of estimation. For example, data 1997-2018 shows some variations compared to the previous report over the same time period because in addition to DOSM using new base year (2015) to replace base year 2010 when compiling to calculate GDP, the availability of latest data from various censuses and surveys from DOSM led to calculation of new estimations.

When limited by unavailable breakdown of health expenditure data, reported total spending for health and health-related activities is used to indirectly estimate expenditure by dimensions of provider or function of health care services and products. On the other hand, when available, disaggregation of health expenditure data from agencies is used as actual estimate. Complete lists of the data sources 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 constitutes 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 also 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). Agencies from both the public and private sectors provide primary data in several formats. These data were obtained through multiple MNHA surveys. The secondary data were retrieved from various data sources, reports, bulletins and other documents. All these data were analysed separately by identified group of agencies. Upon verification, all data were entered into various dummy time series spread-sheets. Verification of data is important as it affects the quality of final outputs. The data sets from each 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 code 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 recommended by NHA experts and these imputation methods may vary from agency to agency.

The final analysis data of each agency were coded according to the MNHA classification and SHA 1.0 classification. State codes were also assigned to every set of analysis. Data from each agency were then collated before producing data for the final MNHA database. Subsequently, additional analysis was carried out to map the expenditure to SHA 2011 core classification. This is done for each agency before merging to produce SHA 2011 database. All of these stages of analyses are highly technical and involve 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 and statistical software Stata (Version 13). After initial MNHA data preparation, analysis, and coding, several measures were taken to ensure quality of data. The final output data files of each agency were uploaded into a final database in Stata. 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.

Considering to continually improving NHA estimations and reporting, MNHA reviewed and refined its methodology in several phases. During the first round of refinement, analyses to standardize hospital reporting were applied. In short, this led to inclusion of all costs incurred for ancillary services such as pharmacy charges (drugs and non-durable products), surgical costs, laboratory tests and radiological investigations as curative care expenditure whenever they are delivered as part of curative care service package. Hospital care as defined in NHA embodies all services provided by a hospital to patients. In accordance with this, analysis of all public and private hospitals was disaggregated and reported as expenditure for in-patient, out-patient and day-care services only. On the other hand, expenditures incurred at standalone

laboratories and radiological investigations are reported under another function code. This is strictly in-keeping to definitions of function codes under MNHA Framework for curative care services and provider of health care boundary for standalone ambulatory health care centers.

Further refinement was carried out to address concerns of double counting. When producing a country's health account, it is essential to recognize the equal importance of each dimension of the NHA. Focusing on collecting data from one dimension tends to underestimate expenditure as health spending from other entities via different NHA dimension is not captured. It is important to quantify all health expenditure from various information sources along all NHA dimensions. However, estimations of expenditure along more than one dimension increases the likelihood of double counting. In the Malaysian context, estimated total health expenditure for all public hospitals are obtained from the respective data sources who are also providers of health care services. In addition to this, surveys were done to collect health spending by various public and private sector employers/companies that also capture claims or reimbursements. It is significant to note that claims and reimbursement encompass expenditure for curative care services obtained from public hospitals. Therefore, after carefully scrutinizing all details, 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. Corresponding to this, all claims or reimbursement at these providers are grouped as in-patient, out-patient and day-care services. This enables MNHA to maintain exhaustive accounting of health spending that is also mutually exclusive and standardized.

All subsequent reporting of MNHA maintains the above explained refinement. Peer review workshops are conducted annually to examine,

discuss and verify the validity and reliability of final data outputs of each agency. This involves validation of all codes and total estimation used for each data source prior to merging into a final database. This database is then subjected to a couple more verification measures prior to NHA data extraction to populate various tables and figures. This report only highlights some selected findings, which may be of use for health policy development and health planning of the country. Further detailed data extractions with cross-tabulations are normally produced based on requests by policy makers and stakeholders.

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

The methods used for data processing varies 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 (1997-2018) were obtained from the Accountant-General's Department of Malaysia (AGD), under the Ministry of Finance (MOF). The Accountant-General (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. Assigning of MNHA codes is based on examining available budgetary allocations data and further additional details captured via MNHA surveys.

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

Health expenditure under the MOE includes two main functions. Firstly, provision of health care services by university hospitals for the general population and outpatient medical clinics meant only for students and university community.

Second, health expenditure from this agency is on health related training and research expenditure. Other than these institutions, data (1997-2018) on the cost of training health professionals are also obtained from various private 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, Higher Education Institutes, Pilgrims Fund Board and Emergency Medical Rescue Services (EMRS). The expenditure on health of other Federal Agencies (including Statutory Bodies) was captured through MNHA surveys questionnaires. Data from this survey also assist to estimate and disaggregate expenditure along the providers and functions of health care dimensions for agencies with incomplete or no data. Expenditures under this group 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. Health expenditure data capture from this entity encompasses expenditure of services (preventive care services) provided to general public and expenditure that covers health care services provided for staffs.

### **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 analysed based on services provided to general community which is mainly for preventive care such as environmental health covering water treatment; and on reimbursements expenditure for state government employees mainly for curative care and ancillary services. However for 2018 expenditure, additional details on “*Peduli Sihat*” Scheme for Selangor were obtained during data collection.

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

The MOD provides health services through its Army Hospitals and Armed Forces Medical and Dental Centres (*Rumah Sakit Angkatan Tentera dan Pusat Pergigian Angkatan Tentera*). Details on MOD health expenditure is captured through MNHA annual survey and 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. MNHA annual survey captures total health expenditure by state for both of these organizations. Further breakdown to disaggregate expenditure to providers and functions are based on previous field survey that collected details based on samplings of the medical bill claims.

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

Other state agencies consist of statutory bodies and Zakat Collection Centre (MAIN). MNHA survey for MAIN captures data on curative care reimbursement, retail sales & medical goods reimbursement and various other

services provided to the community. MNHA survey for statutory bodies is carried out to collect health expenditure data which includes total health expenditure, data for provider and function dimensions. Information on number of employees obtained from JPA and disaggregated proportions of provider and function is used to estimate health expenditure of statutory bodies with incomplete or no data.

## **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 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 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 Dentist 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 Enterprises
- Private Corporations
- Employees Provident Fund (EPF)
- Social Security Organization (SOCSSO)
- 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 Survey (HES) or Household Income and Expenditure Survey (HIES) reported by Department of Statistics Malaysia (DOSM). There are several steps in estimating 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 O - 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 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 gathered from Professional and Industrial Survey (PNI) produced by DOSM and MNHA Private Hospital Survey. PNI is a rolling survey which has data gaps and requires being processed 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 assigned 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 is 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 2018 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
Deflators Base Year 2005	100	104	109	120	113	118	
Deflators Base Year 2010						100	105
GDP Deflator Base Year 2010 (Splicing Method)	<i>85</i>	<i>88</i>	<i>92</i>	<i>102</i>	<i>96</i>	<i>100</i>	<i>105</i>

*Note; Delivered 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:-

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

Where:-

- $V_{\text{cox}}$  is the value expressed in constant values for the year for which constant prices are to be calculated (Year x)
- $V_{\text{curx}}$  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:-

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

Then:  $V_{\text{cox}} = \text{RM}49,000 \times (111/109)$   
 $= \text{RM}49,899$

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) is the sum of public and private health expenditure in a given year, calculated in national currency. TEH mentioned in this report is based on MNHA framework which consists of core functions and health related function as shown in Figure 2.1.

TEH for Malaysia between 1997 to 2018 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 3.04 percent to 4.16% of GDP.

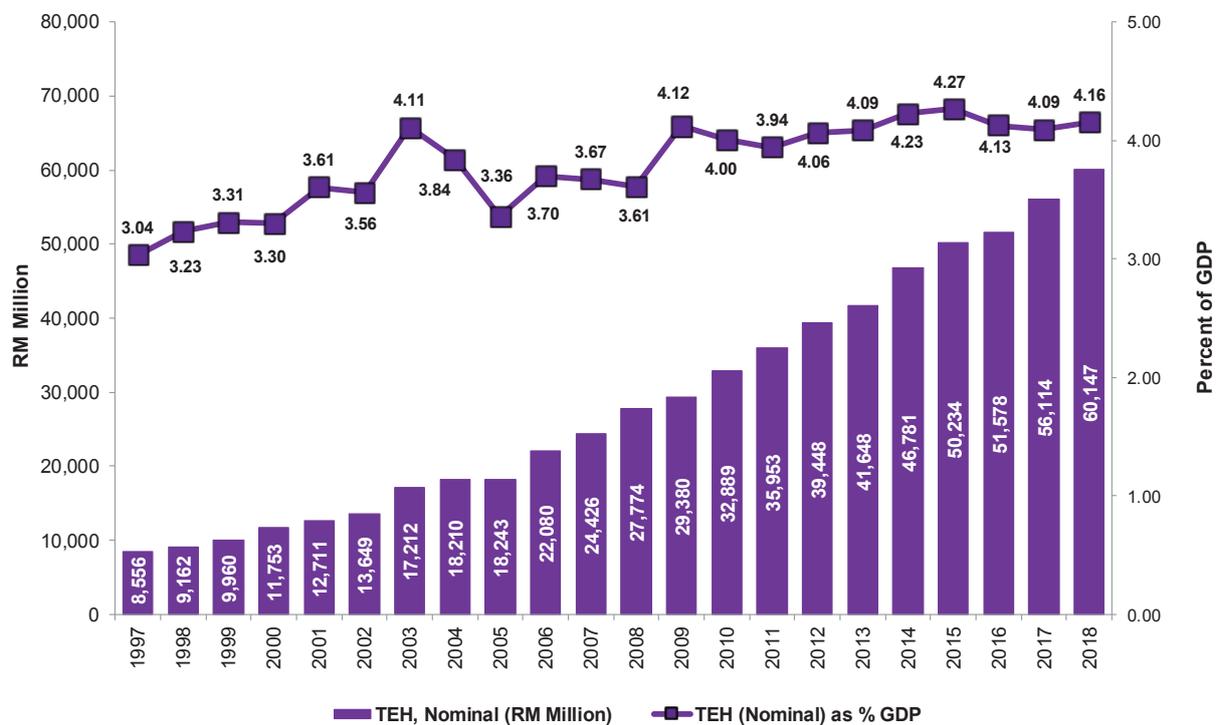
**TABLE 4.1: Total Expenditure on Health, 1997-2018 (RM Million & Percent GDP)**

Expenditure Year	TEH, Nominal (RM Million)	TEH, Constant (RM Million)*	Total GDP, Nominal (RM Million)**	MNHA Derived GDP Deflator*	TEH (Nominal) as % GDP
1997	8,556	15,446	281,795	59	3.04
1998	9,162	15,260	283,243	64	3.23
1999	9,960	16,589	300,764	64	3.31
2000	11,753	18,615	356,401	67	3.30
2001	12,711	20,542	352,579	66	3.61
2002	13,649	21,404	383,213	68	3.56
2003	17,212	25,964	418,769	70	4.11
2004	18,210	25,984	474,048	74	3.84
2005	18,243	24,908	543,578	78	3.36
2006	22,080	28,988	596,784	81	3.70
2007	24,426	30,597	665,340	85	3.67
2008	27,774	31,602	769,949	93	3.61
2009	29,380	35,500	712,857	88	4.12
2010	32,889	38,057	821,434	92	4.00
2011	35,953	39,466	911,733	97	3.94
2012	39,448	42,873	971,252	98	4.06
2013	41,648	45,185	1,018,614	98	4.09
2014	46,781	49,532	1,106,443	100	4.23
2015	50,234	53,384	1,176,941	100	4.27
2016	51,578	53,918	1,249,698	102	4.13
2017	56,114	56,513	1,371,648	106	4.09
2018	60,147	60,147	1,446,914	106	4.16

Note: \*Constant values estimated using MNHA derived GDP deflators

Source: \*\*Department of Statistics Malaysia Annual GDP Report 2015-2018, accessed on 9th May 2019

**FIGURE 4.1: Trend for Total Expenditure on Health, 1997-2018 (RM Million & Percent GDP)**



## 4.2 PER CAPITA HEALTH EXPENDITURE

Per capita expenditure on health in nominal value ranged from RM393 in 1997 to RM1,857 in 2018. In constant values, per capita health

expenditure ranged from RM710 in 1997 to RM1,857 in 2018 (Table 4.2 and Figure 4.2).

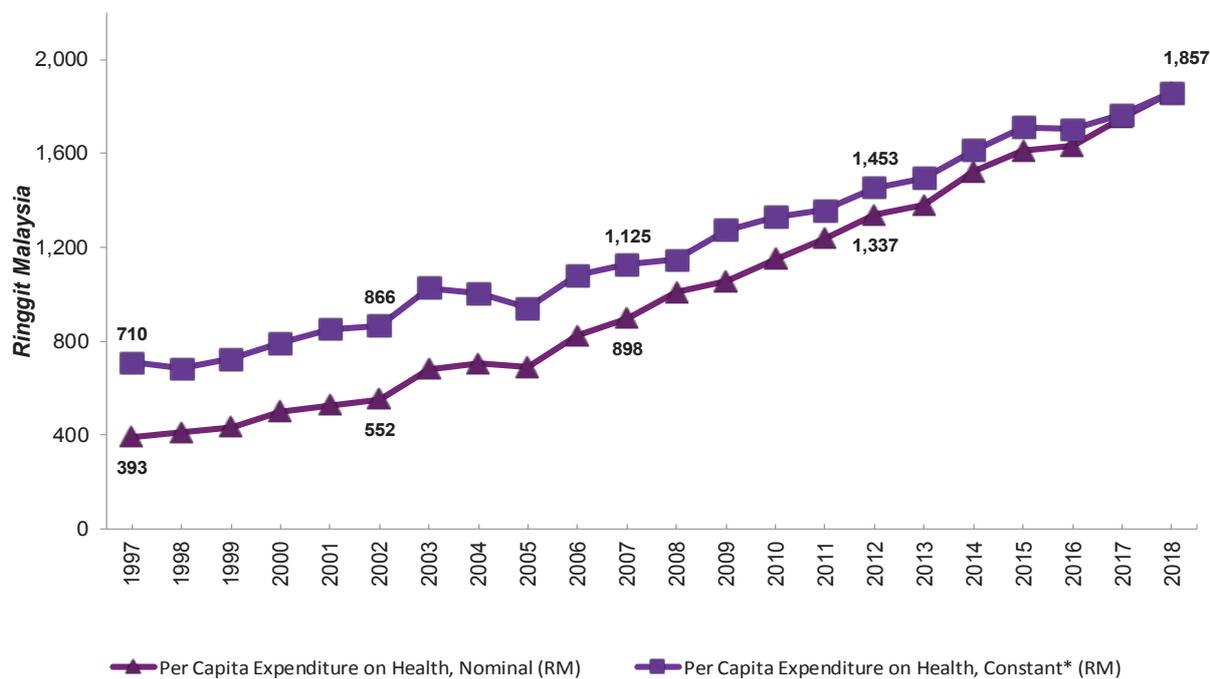
**TABLE 4.2: Per Capita Expenditure on Health, 1997-2018 (Nominal & Constant, RM)**

Expenditure / Population	TEH, Nominal (RM Million)	TEH, Nominal (RM Million)	TEH, Constant* (RM Million)	Per Capita Expenditure on Health, Constant* RM)	Total Population**
Year					
1997	8,556	15,446	393	710	21,769,200
1998	9,162	15,260	410	683	22,333,500
1999	9,960	16,589	435	724	22,909,400
2000	11,753	18,615	500	792	23,494,900
2001	12,711	20,542	527	852	24,123,400
2002	13,649	21,404	552	866	24,727,100
2003	17,212	25,964	680	1,025	25,320,100
2004	18,210	25,984	703	1,003	25,905,100
2005	18,243	24,908	689	941	26,477,100
2006	22,080	28,988	823	1,080	26,831,400
2007	24,426	30,597	898	1,125	27,186,000
2008	27,774	31,602	1,008	1,147	27,540,300
2009	29,380	35,500	1,053	1,273	27,895,100
2010	32,889	38,057	1,150	1,331	28,588,800
2011	35,953	39,466	1,237	1,358	29,062,100
2012	39,448	42,873	1,337	1,453	29,509,900
2013	41,648	45,185	1,378	1,496	30,213,800
2014	46,781	49,532	1,523	1,613	30,708,600
2015	50,234	53,384	1,611	1,712	31,186,100
2016	51,578	53,918	1,630	1,704	31,633,400
2017	56,114	56,513	1,752	1,765	32,022,600
2018	60,147	60,147	1,857	1,857	32,385,000

Note: \*Constant values estimated using MNHA derived GDP deflators

Source: \*\*Department of Statistics Malaysia Annual GDP Report 2015-2018, accessed on 9th May 2019

**FIGURE 4.2: Per Capita Expenditure on Health, 1997-2018 (Nominal & Constant, RM)**



Note: \*Constant values estimated using MNHA derived GDP deflators

### 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 facilities where the financial resources were used to purchase the various types of healthcare services and products. In the event where this is not possible, it will be allocated based on the location of the agencies which represent the facilities. The sequence of states in the figures and tables below is based on the state population

size in the year 2018 as the reference year.

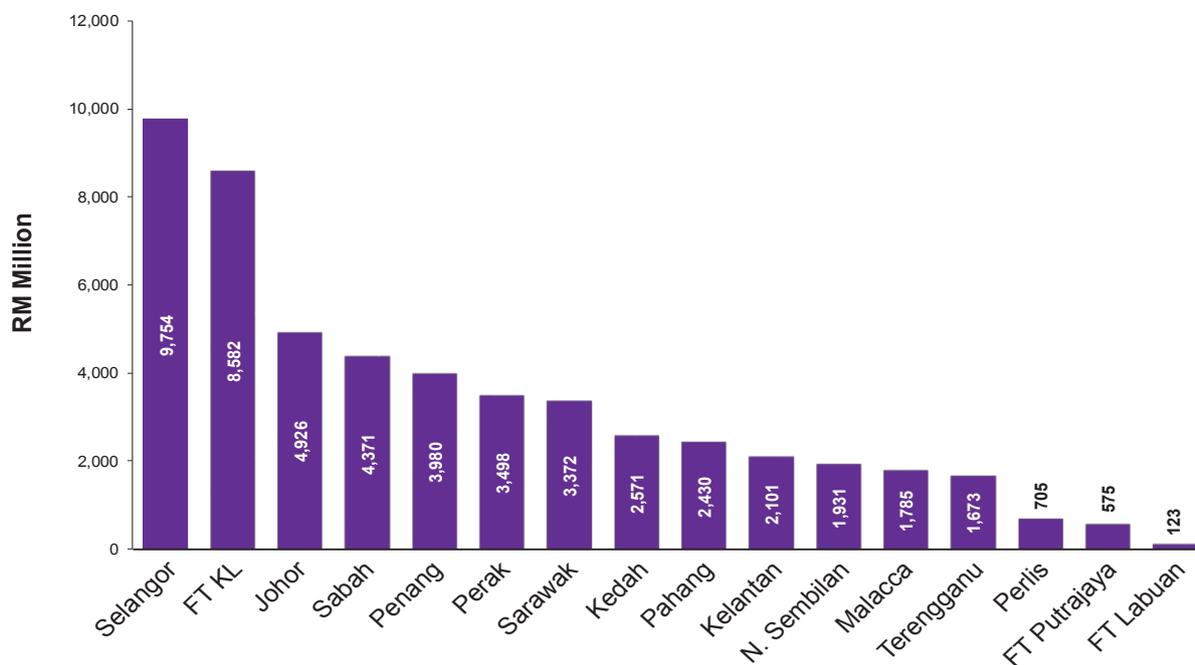
There are thirteen states and three Federal Territories, namely Kuala Lumpur, Labuan and Putrajaya. The state population census is reported by the Department of Statistics Malaysia. In 2018, Selangor had both the largest population of about 6 million people and highest expenditure on health of RM9,754 million as shown in Table 4.3 and Figure 4.3.

State	Population *	Expenditure (RM Million)
Selangor	6,472,380	9,754
FT KL	1,795,194	8,582
Johor	3,742,188	4,926
Sabah	3,899,288	4,371
Penang	1,766,795	3,980
Perak	2,504,892	3,498
Sarawak	2,791,991	3,372
Kedah	2,163,693	2,571
Pahang	1,665,695	2,430
Kelantan	1,856,794	2,101
N. Sembilan	1,130,097	1,931
Malacca	922,197	1,785
Terengganu	1,230,396	1,673
Perlis	253,799	705
FT Putrajaya	99,200	575
FT Labuan	90,400	123
National**	-	7,772
<b>Total</b>	<b>32,385,000</b>	<b>60,147</b>

Source: \*Quick Info Population, Department of Statistic Malaysia website, accessed 9th May 2019

Note: \*\*Unable to allocate by states

**FIGURE 4.3: Health Expenditure by States, 2018 (RM Million)**



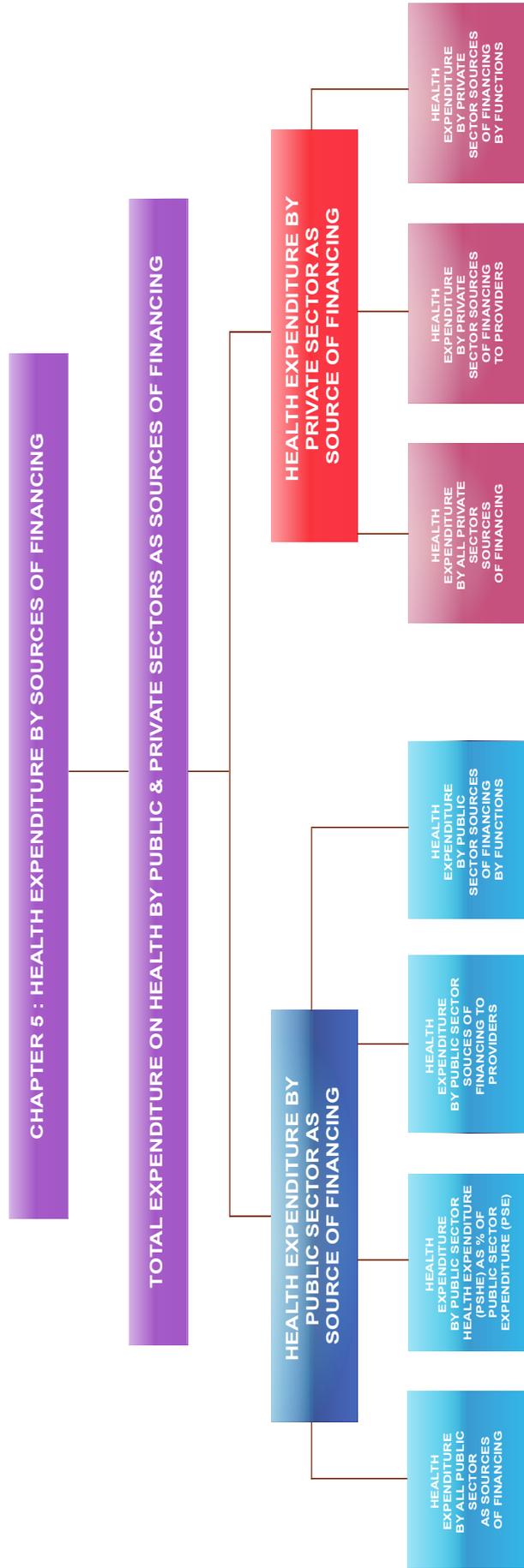
## CHAPTER 5

### 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, social security funds and all other public entities. 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. 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 in 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) had the highest expenditure amounting to RM26,499 million or 44% share of TEH (Table 5.1a and Figure 5.1a) in 2018. This is followed by private household out-of-pocket (OOP) spending (RM 21,016 million or 35%), private insurance (RM4,313 million or 7%) and all corporations (other than health insurance) (RM2,605 million contributing or 4%). Other federal agencies including federal statutory bodies spent RM2,033 million or 3% whereas Ministry of Education (MOE) spent RM1,358 million or 2% of the share of TEH.

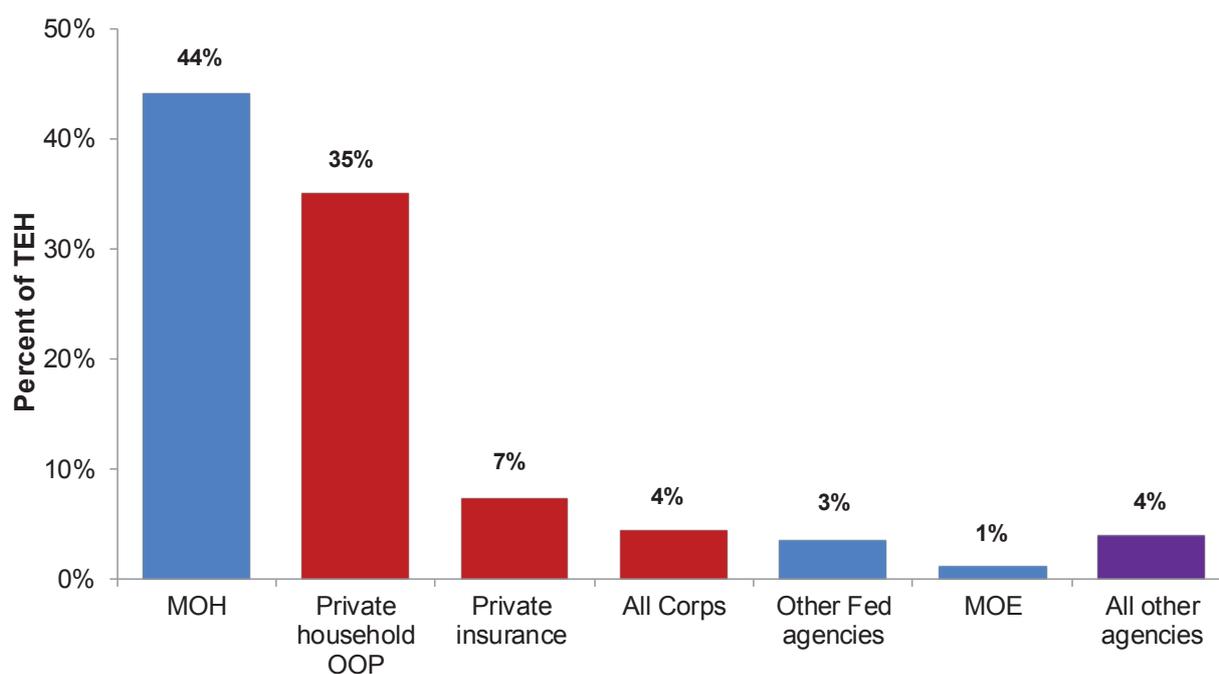
The time series data trend also shows that there are changes of trend in sources of financing from 2003 onwards. Private insurance expenditure

was the third highest source of financing until 2018. Since 2015, all corporation (other than health insurance) overtook other federal agencies (including statutory bodies) as the fourth highest source of financing (Table 5.1b and Table 5.1c).

In 2018, the public and private sectors health expenditure were RM31,206 million (52%) and RM 28,941 million (48%) respectively (Table 5.1d and Figure 5.1b). A similar pattern is noted throughout the time series from 1997 to 2018, where 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, 2018**

MNHA Code	Sources of Financing	RM Million	Percent
MS1.1.1.1	Ministry of Health (MOH)	26,499	44.06
MS2.4	Private household out-of-pocket expenditures (OOP)	21,016	34.94
MS2.2	Private insurance enterprises (other than social insurance)	4,313	7.17
MS2.6	All corporations (other than health insurance)	2,605	4.33
MS1.1.1.9	Other federal agencies (including statutory bodies)	2,033	3.38
MS1.1.1.2	Ministry of Education (MOE)	1,358	2.26
MS2.3	Private MCOs and other similar entities	910	1.51
MS1.1.2.2	Other state agencies (including statutory bodies)	416	0.69
MS1.2.2	Social Security Organization (SOCSO)	410	0.68
MS1.1.3	Local authorities (LA)	172	0.29
MS1.1.2.1	(General) State government	149	0.25
MS1.1.1.3	Ministry of Defence (MOD)	103	0.17
MS2.5	Non-profit institutions serving households (NGO)	92	0.15
MS1.2.1	Employees Provident Fund (EPF)	67	0.11
MS9	Rest of the world (ROW)	5	0.01
<b>Total</b>		<b>60,147</b>	<b>100.00</b>

**FIGURE 5.1a: Total Expenditure on Health by Sources of Financing, 2018**

**TABLE 5.1b: Total Expenditure on Health by Sources of Financing, 1997-2018 (RM Million)**

MINHA 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	2018
MS1.1.1.1	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	24,716	26,499
MS1.1.1.2	Ministry of Education (MOE)	328	330	373	416	509	563	602	649	670	720	859	999	1,039	1,243	1,245	1,311	1,261	1,376	1,347	1,322	1,299	1,358
MS1.1.1.3	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	103
MS1.1.1.9	Other federal agencies (including statutory bodies)	241	278	297	337	425	473	563	755	737	819	1,049	1,405	1,541	1,537	1,813	1,678	1,677	1,805	1,900	2,033	1,993	2,033
MS1.1.2.1	(General) State government	36	41	41	42	41	46	68	90	67	77	88	94	84	90	90	105	78	86	90	97	111	149
MS1.1.2.2	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	386	416
MS1.1.3	Local authorities (LA)	15	16	17	18	19	22	27	35	45	42	419	113	238	108	142	150	188	164	178	138	172	172
MS1.2.1	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	67
MS1.2.2	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	410
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	4,313
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	730	803	871	910
MS2.4	Private household out-of-pocket expenditures (OOP)	3,166	3,265	3,497	4,175	3,882	4,127	4,941	5,664	6,382	7,141	7,919	9,084	8,478	9,917	11,466	12,649	13,933	15,373	16,795	17,798	19,363	21,016
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	92	92
MS2.6	All corporations (other than health insurance)	616	642	658	637	722	744	701	680	787	765	951	816	801	899	1,064	1,352	1,564	1,803	1,998	2,325	2,501	2,605
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	5
	<b>Total</b>	<b>8,556</b>	<b>9,162</b>	<b>9,960</b>	<b>11,753</b>	<b>12,711</b>	<b>13,649</b>	<b>17,212</b>	<b>18,210</b>	<b>18,243</b>	<b>22,080</b>	<b>24,426</b>	<b>27,774</b>	<b>29,380</b>	<b>32,889</b>	<b>35,953</b>	<b>39,448</b>	<b>41,648</b>	<b>46,781</b>	<b>50,234</b>	<b>51,578</b>	<b>56,114</b>	<b>60,147</b>

**TABLE 5.1c: Total Expenditure on Health by Sources of Financing, 1997-2018 (Percent, %)**

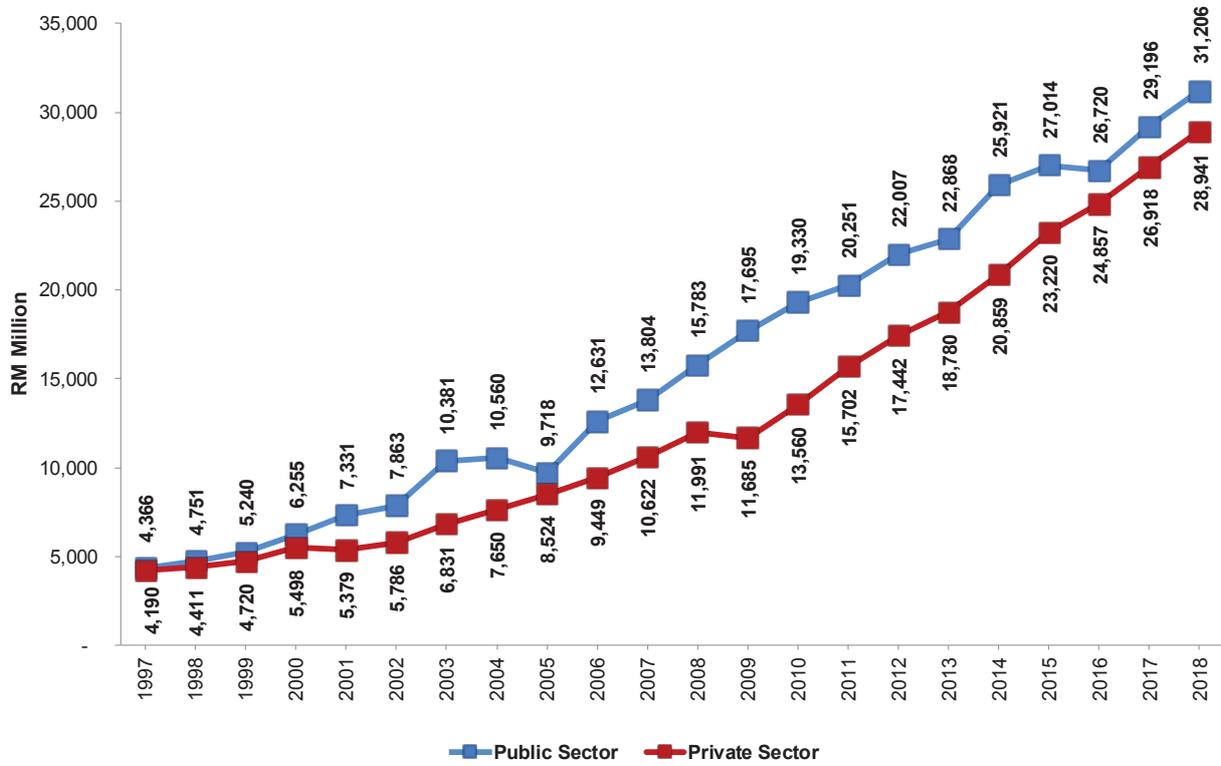
MINHA Code	Sources of Financing	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
MS1.1.1.1	Ministry of Health (MOH)	42.26	43.04	43.75	44.81	48.32	47.95	51.57	48.11	43.27	48.26	45.18	46.13	49.12	48.48	45.88	46.24	45.71	46.56	45.13	43.09	44.05	44.06
MS1.1.1.2	Ministry of Education (MOE)	3.83	3.61	3.74	3.54	4.00	4.13	3.50	3.56	3.68	3.26	3.52	3.60	3.53	3.78	3.46	3.32	3.03	2.94	2.68	2.56	2.31	2.26
MS1.1.1.3	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	0.24	0.17
MS1.1.1.9	Other federal agencies (including statutory bodies)	2.82	3.04	2.98	2.87	3.34	3.46	3.27	4.15	4.04	3.71	4.30	5.06	5.25	4.67	5.04	4.25	4.03	3.86	3.78	3.94	3.55	3.38
MS1.1.2.1	(General) State government	0.42	0.45	0.42	0.36	0.33	0.34	0.40	0.50	0.37	0.35	0.36	0.34	0.29	0.27	0.25	0.27	0.19	0.18	0.18	0.19	0.20	0.25
MS1.1.2.2	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	0.75	0.69	0.69
MS1.1.3	Local authorities (LA)	0.18	0.17	0.17	0.15	0.15	0.16	0.16	0.19	0.25	0.19	1.71	0.41	0.81	0.33	0.39	0.38	0.45	0.35	0.36	0.27	0.31	0.29
MS1.2.1	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	0.11
MS1.2.2	Social Security Organization (SOCOSO)	0.58	0.54	0.53	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	0.57	0.52	0.60	0.59	0.68
MS2.2	Private insurance enterprises (other than social insurance)	3.44	3.98	4.23	4.39	4.71	5.26	5.60	5.83	5.94	5.64	5.78	6.15	6.78	6.91	7.27	7.03	7.00	6.85	7.21	7.45	7.28	7.17
MS2.3	Private MCOs and other similar entities	0.58	0.74	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	0.77	0.69	0.93	1.45	1.56	1.55	1.51
MS2.4	Private household out-of-pocket expenditures (OOP)	37.00	35.64	35.11	35.52	30.54	30.24	28.71	31.10	34.99	32.34	32.42	32.71	28.86	30.15	31.89	32.06	33.45	32.86	33.43	34.51	34.51	34.94
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	0.16	0.15
MS2.6	All corporations (other than health insurance)	7.20	7.01	6.60	5.42	5.68	5.45	4.07	3.74	4.31	3.46	3.89	2.94	2.73	2.73	2.96	3.43	3.75	3.85	3.98	4.51	4.46	4.33
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	0.01
	<b>Total</b>	<b>100.00</b>																					

**TABLE 5.1d: Total Expenditure on Health by Public & Private Sectors Sources of Financing, 1997-2018**

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	4,366	7,882	51.02	4,190	7,565	48.98	8,556
1998	4,751	7,914	51.86	4,411	7,346	48.14	9,162
1999	5,240	8,727	52.61	4,720	7,862	47.39	9,960
2000	6,255	9,907	53.22	5,498	8,708	46.78	11,753
2001	7,331	11,849	57.68	5,379	8,693	42.32	12,711
2002	7,863	12,330	57.61	5,786	9,074	42.39	13,649
2003	10,381	15,659	60.31	6,831	10,305	39.69	17,212
2004	10,560	15,068	57.99	7,650	10,916	42.01	18,210
2005	9,718	13,269	53.27	8,524	11,639	46.73	18,243
2006	12,631	16,583	57.20	9,449	12,406	42.80	22,080
2007	13,804	17,292	56.51	10,622	13,305	43.49	24,426
2008	15,783	17,958	56.83	11,991	13,643	43.17	27,774
2009	17,695	21,382	60.23	11,685	14,119	39.77	29,380
2010	19,330	22,367	58.77	13,560	15,690	41.23	32,889
2011	20,251	22,229	56.33	15,702	17,236	43.67	35,953
2012	22,007	23,917	55.79	17,442	18,956	44.21	39,448
2013	22,868	24,810	54.91	18,780	20,375	45.09	41,648
2014	25,921	27,446	55.41	20,859	22,086	44.59	46,781
2015	27,014	28,708	53.78	23,220	24,676	46.22	50,234
2016	26,720	27,933	51.81	24,857	25,985	48.19	51,578
2017	29,196	29,404	52.03	26,918	27,109	47.97	56,114
2018	31,206	31,206	51.88	28,941	28,941	48.12	60,147

Note: \*Constant values estimated using MNHA derived GDP deflators

**FIGURE 5.1b : Total Expenditure on Health by Sources of Financing (Public vs Private), 1997-2018**



## 5.2 HEALTH EXPENDITURE BY PUBLIC SECTOR SOURCES OF FINANCING

This section describes health expenditure by public sector sources of financing, it describes public sector health expenditure according to MNHA classification of sources of financing for year 2018, followed by time series data of 1997-2018 in RM Million and percentage.

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

In 2018, analysis of the public sector sources of financing showed that MOH spent RM26,499 million (85%), making it the largest financier in this sector. This is followed by other federal agencies (including statutory bodies) with RM2,033 million (7%), MOE RM1,358 million (4%), other state agencies (including statutory bodies) RM416 million (1%), SOCSO RM410

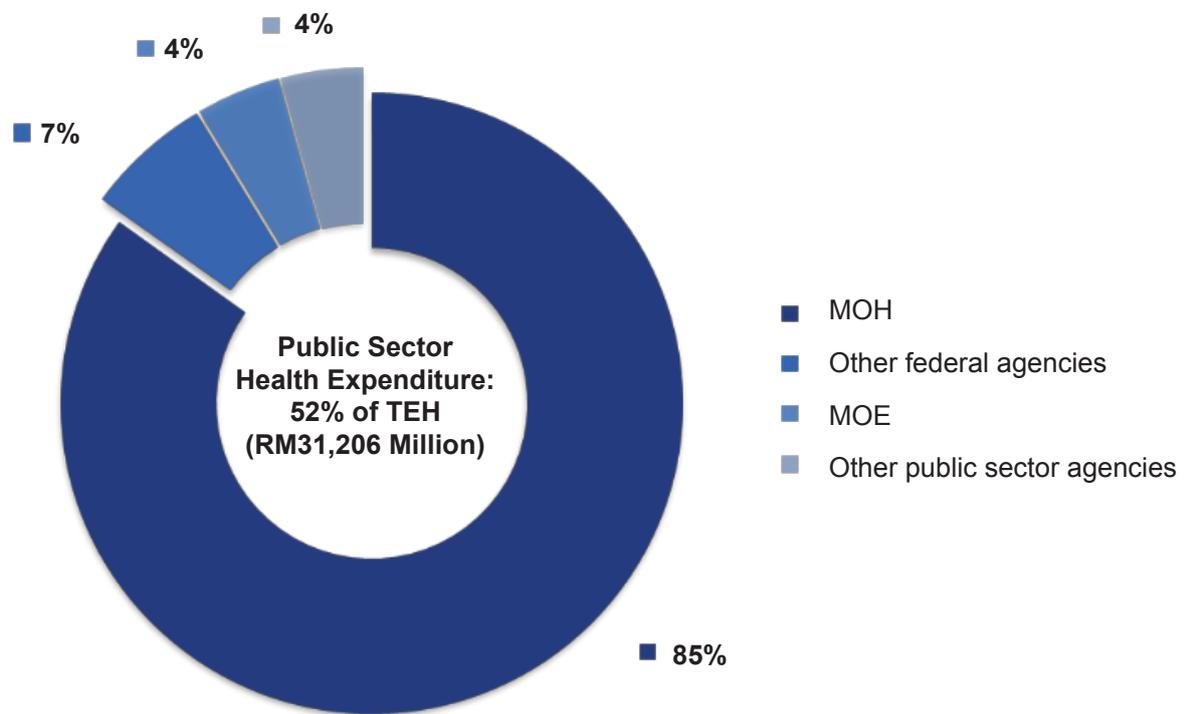
million (1%), and other public sector agencies with each agency spending less than RM170 million but in total amounting to RM491 million (2%) (Table 5.2.1a and Figure 5.2.1).

The time series expenditure data shows that MOH as the largest financier in public sector had progressively increased its spending from RM3,616 million in 1997 to RM26,499 million in 2018 (Table 5.2.1b). This MOH expenditure attributed between 81 to 85% share of public sector expenditure (Table 5.2.1c). This is followed by other federal agencies (including statutory bodies), MOE, other state agencies (including state statutory bodies) and SOCSO. These sources of financing altogether contributed to a share of less than 15 percent of the total public sector expenditure per year.

**TABLE 5.2.1a: Health Expenditure by Public Sector Sources of Financing, 2018**

MNHA Code	Sources of Financing	RM Million	Percent
MS1.1.1.1	Ministry of Health (MOH)	26,499	84.92
MS1.1.1.9	Other federal agencies (including statutory bodies)	2,033	6.51
MS1.1.1.2	Ministry of Education (MOE)	1,358	4.35
MS1.1.2.2	Other state agencies (including statutory bodies)	416	1.33
MS1.2.2	Social Security Organization (SOCSO)	410	1.31
MS1.1.3	Local authorities (LA)	172	0.55
MS1.1.2.1	(General) State government	149	0.48
MS1.1.1.3	Ministry of Defence (MOD)	103	0.33
MS1.2.1	Employees Provident Fund (EPF)	67	0.22
<b>Total</b>		<b>31,206</b>	<b>100.00</b>

**FIGURE 5.2.1: Health Expenditure by Public Sector Sources of Financing, 2018**



**TABLE 5.2.1b: Health Expenditure by Public Sector Sources of Financing, 1997-2018 (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	2018
MS1.1.1.1	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	24,716	26,499
MS1.1.1.2	Ministry of Education (MOE)	328	330	373	416	509	563	602	649	670	720	859	999	1,039	1,243	1,245	1,311	1,261	1,376	1,347	1,322	1,299	1,358
MS1.1.1.3	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	103
MS1.1.1.9	Other federal agencies (including statutory bodies)	241	278	297	337	425	473	563	755	737	819	1,049	1,405	1,541	1,537	1,813	1,678	1,677	1,805	1,900	2,033	1,993	2,033
MS1.1.2.1	(General) State government	36	41	41	42	41	46	68	90	67	77	88	94	84	90	90	105	78	86	90	97	111	149
MS1.1.2.2	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	386	416
MS1.1.3	Local authorities (LA)	15	16	17	18	19	22	27	35	45	42	419	113	238	108	142	150	188	164	178	138	172	172
MS1.2.1	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	67
MS1.2.2	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	410
<b>Total</b>		<b>4,366</b>	<b>4,751</b>	<b>5,240</b>	<b>6,255</b>	<b>7,331</b>	<b>7,863</b>	<b>10,381</b>	<b>10,560</b>	<b>7,718</b>	<b>12,631</b>	<b>13,804</b>	<b>15,783</b>	<b>17,695</b>	<b>19,330</b>	<b>20,251</b>	<b>22,007</b>	<b>22,868</b>	<b>25,921</b>	<b>27,014</b>	<b>26,720</b>	<b>29,196</b>	<b>31,206</b>

**TABLE 5.2.1c: Health Expenditure by Public Sector Sources of Financing, 1997-2018 (Percent, %)**

MINHA 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	2018
MS1.1.1.1	Ministry of Health (MOH)	82.83	83.00	83.16	84.19	83.77	83.24	85.50	82.97	81.22	84.36	79.94	81.18	81.55	82.49	81.46	82.88	83.25	84.03	83.92	83.18	84.65	84.92
MS1.1.1.2	Ministry of Education (MOE)	7.52	6.95	7.11	6.65	6.94	7.16	5.80	6.14	6.90	5.70	6.22	6.33	5.87	6.43	6.15	5.96	5.51	5.31	4.98	4.95	4.45	4.35
MS1.1.1.3	Ministry of Defence (MOD)	0.97	0.96	0.92	0.86	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	0.72	0.63	0.58	0.45	0.33
MS1.1.1.9	Other federal agencies (including statutory bodies)	5.52	5.85	5.67	5.39	5.80	6.01	5.43	7.15	7.59	6.48	7.60	8.90	8.71	7.95	8.95	7.63	7.33	6.96	7.03	7.61	6.83	6.51
MS1.1.2.1	(General) State government	0.82	0.86	0.79	0.67	0.56	0.58	0.66	0.86	0.69	0.61	0.64	0.60	0.47	0.47	0.45	0.48	0.34	0.33	0.33	0.36	0.38	0.48
MS1.1.2.2	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	0.54	0.51	0.57	0.64	0.62	0.83	0.82	1.28	1.44	1.32	1.33
MS1.1.3	Local authorities (LA)	0.35	0.33	0.32	0.28	0.26	0.28	0.26	0.34	0.47	0.34	3.03	0.72	1.34	0.56	0.70	0.68	0.82	0.63	0.66	0.51	0.59	0.55
MS1.2.1	Employee Provident Funds (EPF)	0.16	0.32	0.38	0.38	0.43	0.46	0.41	0.53	0.63	0.36	0.37	0.31	0.21	0.17	0.19	0.17	0.18	0.18	0.19	0.21	0.20	0.22
MS1.2.2	Social Security Organization (SOCOSO)	1.14	1.05	1.01	0.96	0.85	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	0.96	1.16	1.13	1.31
	<b>Total</b>	<b>100.00</b>																					

## 5.2.2 Public Sector Health Expenditure (PSHE) as Percentage of Public Sector Expenditure (PSE)

Public Sector Health Expenditure (PSHE) includes expenditure by all public sector sources of financing namely federal government, state

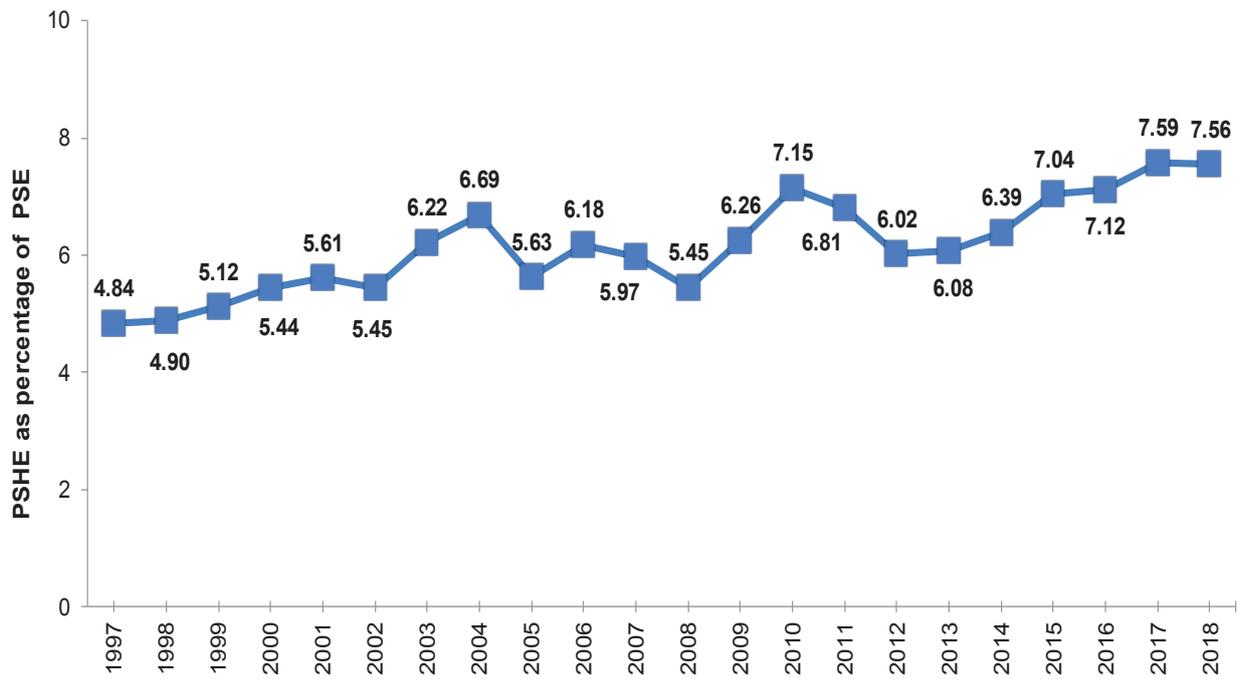
government, local authorities, social security funds and all other public entities. PSHE as percentage of Public Sector Expenditure (PSE), has increased from RM4,366 million (5%) in 1997 to RM31,206 million (8%) in 2018 (Table 5.2.2 and Figure 5.2.2).

**TABLE 5.2.2: Trend for Public Sector Health Expenditure (PSHE), 1997-2018 (RM Million, Percent PSE)**

Year	Public Sector Health Expenditure (PSHE) (RM Million)	Public Sector Expenditure (PSE) * (RM Million)	PSHE as % PSE
1997	4,366	90,131	4.84
1998	4,751	97,040	4.90
1999	5,240	102,320	5.12
2000	6,255	114,884	5.44
2001	7,331	130,690	5.61
2002	7,863	144,278	5.45
2003	10,381	166,948	6.22
2004	10,560	157,742	6.69
2005	9,718	172,681	5.63
2006	12,631	204,255	6.18
2007	13,804	231,359	5.97
2008	15,783	289,394	5.45
2009	17,695	282,794	6.26
2010	19,330	270,171	7.15
2011	20,251	297,382	6.81
2012	22,007	365,600	6.02
2013	22,868	376,374	6.08
2014	25,921	405,788	6.39
2015	27,014	383,727	7.04
2016	26,720	375,488	7.12
2017	29,196	384,576	7.59
2018	31,206	412,996	7.56

Source: \*Treasury Malaysia website Economy Report 2019 dated 26th April 2019

**FIGURE 5.2.2: Trend for Public Sector Health Expenditure (PSHE) as Percentage of Public Sector Expenditure (PSE), 1997-2018**



### 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 2018, all hospitals (inclusive of general hospitals, psychiatric hospitals and specialty hospitals) consumed RM18,911 million (60%), followed by providers of ambulatory healthcare at RM5,495 million (18%) and general health administration and insurance at RM3,544 million

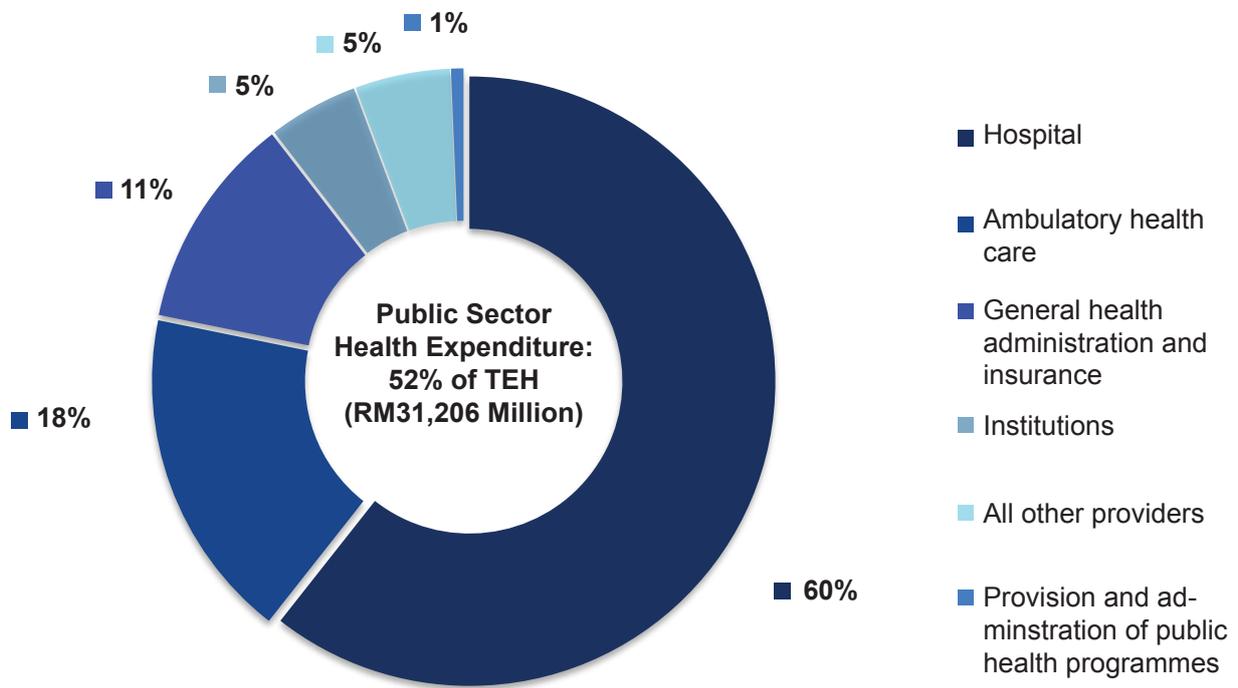
(11%) (Table 5.2.3a and Figure 5.2.3). MOH was a major contributor of expenditure for provision and administration of public health programmes.

The 1997 to 2018 time series shows a similar pattern in the share of various providers that consumed public sector source of financing. All providers showed a steady increase in expenditure over the time period (Table 5.2.3b and Table 5.2.3c). Over the period of 2000 to 2018, expenditure by all hospitals and providers of ambulatory health care which were among the higher spending groups, exhibited steeper increment in spending compared to other providers.

**TABLE 5.2.3a: Public Sector Health Expenditure to Providers of Health Care, 2018**

MNHA Code	Providers of Health Care	RM Million	Percent
MP1	All hospitals	18,911	60.60
MP3	Providers of ambulatory health care	5,495	17.61
MP6	General health administration and insurance	3,544	11.36
MP8	Institutions providing health-related services	1,483	4.75
MP5	Provision and administration of public health programmes	1,415	4.53
MP4	Retail sale and other providers of medical goods	204	0.65
MP7	Other industries (rest of the Malaysian economy)	151	<0.1
MP2	Nursing and residential care facilities	1	<0.1
MP9	Rest of world (ROW)	1	<0.1
<b>Total</b>		<b>31,206</b>	<b>100.00</b>

**FIGURE 5.2.3: Public Sector Health Expenditure to Providers of Health Care, 2018**



**TABLE 5.2.3b: Public Sector Health Expenditure to Providers of Health Care, 1997-2018 (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	2018
MP1	All hospitals	2,645	2,781	3,024	3,367	3,867	4,050	4,798	5,245	5,483	7,180	7,707	8,992	9,262	10,290	11,357	13,350	13,706	15,762	16,403	16,626	17,700	18,911
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	1
MP3	Providers of ambulatory health care	427	460	530	628	749	844	1,110	1,236	1,343	1,818	1,926	2,212	2,173	2,494	2,745	3,191	3,554	4,186	4,392	4,554	4,942	5,495
MP4	Retail sale and other providers of medical goods	27	30	33	32	39	45	52	56	59	70	86	94	128	134	135	168	202	220	332	338	355	204
MP5	Provision and administration of public health programmes	384	359	395	433	525	624	588	598	592	761	1,163	946	1,221	1,001	1,148	1,478	1,232	1,499	1,488	1,653	1,609	1,415
MP6	General health administration and insurance	663	880	973	1,473	1,713	1,797	3,200	2,694	1,539	1,928	1,907	2,287	3,419	3,965	3,184	2,303	2,684	2,621	2,825	1,912	3,215	3,544
MP7	Other industries (rest of the Malaysian economy)	41	46	46	48	47	52	79	102	84	95	105	105	104	121	118	137	271	198	138	158	148	151
MP8	Institutions providing health-related services	178	194	238	273	369	449	553	626	615	776	908	1,143	1,385	1,322	1,562	1,376	1,216	1,435	1,430	1,477	1,226	1,483
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	1
	<b>Total</b>	<b>4,366</b>	<b>4,751</b>	<b>5,240</b>	<b>6,255</b>	<b>7,331</b>	<b>7,863</b>	<b>10,381</b>	<b>10,560</b>	<b>9,718</b>	<b>13,804</b>	<b>15,783</b>	<b>17,695</b>	<b>19,330</b>	<b>20,251</b>	<b>22,007</b>	<b>22,868</b>	<b>25,921</b>	<b>27,014</b>	<b>26,720</b>	<b>29,196</b>	<b>31,206</b>	

**TABLE 5.2.3c: Public Sector Health Expenditure to Providers of Health Care, 1997-2018 (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	2018
MP1	All hospitals	60.59	58.52	57.70	53.82	52.75	51.50	46.22	49.67	56.42	56.85	55.83	56.97	52.34	53.24	56.08	60.66	59.93	60.81	60.72	62.22	60.62	60.60
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	0.01	0.00	0.00	0.00	0.00	0.00
MP3	Providers of ambulatory health care	9.77	9.69	10.12	10.04	10.21	10.73	10.69	11.71	13.82	14.39	13.95	14.01	12.28	12.90	13.55	14.50	15.54	16.15	16.26	17.04	16.93	17.61
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	0.76	0.88	0.85	1.23	1.27	1.22	0.65
MP5	Provision and administration of public health programmes	8.79	7.56	7.54	6.93	7.17	7.94	5.66	5.67	6.09	6.03	8.42	5.99	6.90	5.18	5.67	6.72	5.39	5.78	5.51	6.19	5.51	4.53
MP6	General health administration and insurance	15.19	18.51	18.57	23.55	23.37	22.85	30.82	25.51	15.84	15.26	13.82	14.49	19.32	20.51	15.72	10.46	11.74	10.11	10.46	7.15	11.01	11.36
MP7	Other industries (rest of the Malaysian economy)	0.93	0.97	0.88	0.76	0.64	0.66	0.76	0.97	0.87	0.75	0.76	0.67	0.59	0.63	0.58	0.62	1.19	0.76	0.51	0.59	0.51	0.48
MP8	Institutions providing health-related services	4.07	4.09	4.54	4.37	5.31	5.71	5.32	5.93	6.33	6.14	6.58	7.24	7.82	6.84	7.71	6.25	5.32	5.53	5.29	5.53	4.20	4.75
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	0.00
<b>Total</b>		<b>100.00</b>																					

## 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 health care.

In 2018, the public sector source of financing was spent mostly for curative care, amounting to RM22,244 million (71%), followed by health programme administration and health insurance at RM2,880 million (9%) and public health services (including prevention and health promotion) at RM2,401 million (8%). The total spending by the public sector for capital formation was RM1,653 million (5%), and RM1,529 million (5%) for education and training of health personnel. The

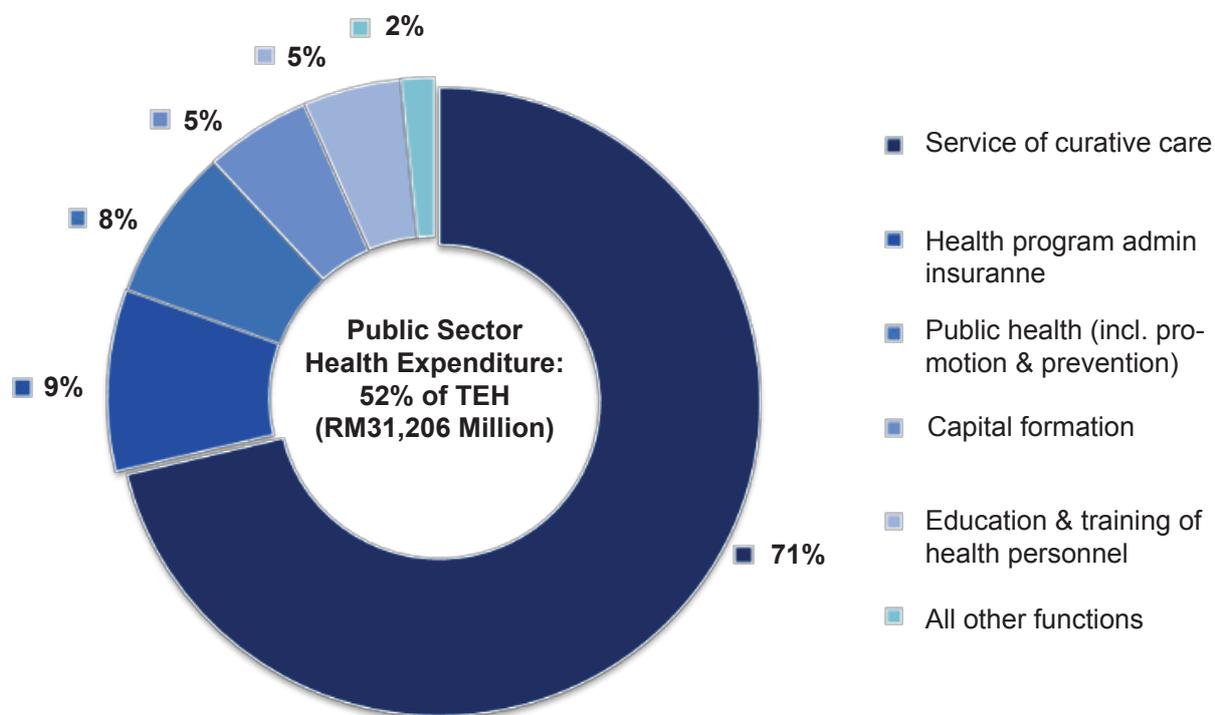
total expenditure for all other functions of health care services and products was RM500 million or 2% (Table 5.2.4a and Figure 5.2.4).

The 1997-2018 time series shows the services of curative care, and health programme administration and health insurance dominating the top two shares 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 more than 200-fold, from RM1 million in 1997 to RM287 million in 2018. The expenditure for education and training of health personnel had also increased by about 12-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, 2018**

MNHA Code	Functions of Health Care	RM Million	Percent
MF1	Services of curative care	22,244	71.28
MF7	Health programme administration and health insurance	2,880	9.23
MF6	Public health services (including health promotion and prevention)	2,401	7.69
MR1	Capital formation of health care provider institutions	1,653	5.30
MR2	Education and training of health personnel	1,529	4.90
MF4	Ancillary services to health care	287	0.92
MF5	Medical goods dispensed to out-patients	155	0.50
MR3	Research and development in health	57	0.18
MF3	Services of long-term nursing care	1	<0.1
<b>Total</b>		<b>31,206</b>	<b>100.00</b>

**FIGURE 5.2.4: Public Sector Health Expenditure by Functions of Health Care, 2018**



**TABLE 5.2.4b: Public Sector Health Expenditure by Functions of Health Care, 1997-2018 (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	2018
MF1	Services of curative care	2,890	2,995	3,254	3,680	4,170	4,498	5,321	5,859	6,088	8,179	8,720	10,133	10,502	10,996	12,930	15,007	14,996	17,703	18,656	19,059	20,676	22,244
MF3	Services of long-term nursing care	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	1	1	0	0	1
MF4	Ancillary services to health care	1	1	1	8	39	47	71	98	95	164	139	191	192	206	224	228	310	268	276	260	284	287
MF5	Medical goods dispensed to out-patients	24	24	26	29	33	35	40	47	51	58	72	80	98	114	113	138	169	183	289	286	306	155
MF6	Public health services (including health promotion and prevention)	194	197	226	230	263	275	414	480	495	635	917	801	902	874	996	1,201	1,961	1,839	1,928	2,029	2,172	2,401
MF7	Health programme administration and health insurance	559	537	564	662	746	918	1,182	1,173	1,149	1,544	1,598	1,801	1,938	1,917	2,179	1,930	2,259	2,952	2,920	2,128	3,105	2,880
MR1	Capital formation of health care provider institutions	510	794	926	1,370	1,687	1,636	2,807	2,321	1,262	1,357	1,531	1,723	2,745	3,848	2,179	2,038	1,817	1,488	1,455	1,430	1,375	1,653
MR2	Education and training of health personnel	127	150	196	239	318	375	472	521	556	659	775	1,002	1,268	1,329	1,584	1,407	1,288	1,430	1,430	1,479	1,225	1,529
MR3	Research and development in health	61	53	48	38	74	78	74	61	21	34	53	52	49	44	46	56	67	58	59	51	52	57
<b>Total</b>		<b>4,366</b>	<b>4,751</b>	<b>5,240</b>	<b>6,255</b>	<b>7,331</b>	<b>7,863</b>	<b>10,381</b>	<b>10,560</b>	<b>9,718</b>	<b>12,631</b>	<b>13,804</b>	<b>15,783</b>	<b>17,695</b>	<b>19,330</b>	<b>20,251</b>	<b>22,007</b>	<b>22,868</b>	<b>25,921</b>	<b>27,014</b>	<b>26,720</b>	<b>29,196</b>	<b>31,206</b>

**TABLE 5.2.4c: Public Sector Health Expenditure by Functions of Health Care, 1997-2018 (Percent, %)**

MNHA Code	Function of Health Care	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
MF1	Services of curative care	66.19	63.04	62.09	58.83	56.88	57.20	51.26	55.48	62.65	64.76	63.17	64.20	59.35	56.89	63.85	68.19	65.58	68.29	69.06	71.33	70.82	71.28
MF3	Services of long-term nursing care	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	0.00
MF4	Ancillary services to health care	0.03	0.03	0.03	0.13	0.53	0.60	0.68	0.92	0.98	1.29	1.01	1.21	1.08	1.07	1.11	1.03	1.35	1.03	1.02	0.97	0.97	0.92
MF5	Medical goods dispensed to out-patients	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	0.63	0.74	0.70	1.07	1.07	1.05	0.50
MF6	Public health services (including health promotion and prevention)	4.45	4.15	4.31	3.68	3.59	3.50	3.99	4.55	5.09	5.03	6.65	5.07	5.10	4.52	4.92	5.46	8.58	7.10	7.14	7.59	7.44	7.69
MF7	Health programme administration and health insurance	12.81	11.29	10.76	10.56	10.18	11.68	11.39	11.11	11.82	12.23	11.58	11.41	10.95	9.92	10.76	8.77	9.88	11.39	10.81	7.96	10.63	9.23
MR1	Capital formation of health care provider institutions	11.67	16.71	17.66	21.90	23.02	20.81	27.04	21.98	12.98	10.74	11.09	10.92	15.51	19.91	10.76	9.26	7.94	5.74	5.39	5.35	4.71	5.30
MR2	Education and training of health personnel	2.91	3.15	3.74	3.82	4.34	4.77	4.55	4.93	5.73	5.22	5.61	6.35	7.16	6.88	7.82	6.40	5.63	5.52	5.29	5.63	4.20	4.90
MR3	Research and development in health	1.39	1.12	0.91	0.60	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	0.23	0.22	0.19	0.18	0.18
	<b>Total</b>	<b>100.00</b>																					

## 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 2018, followed by times series data of 1997-2018 in RM Million and percent.

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

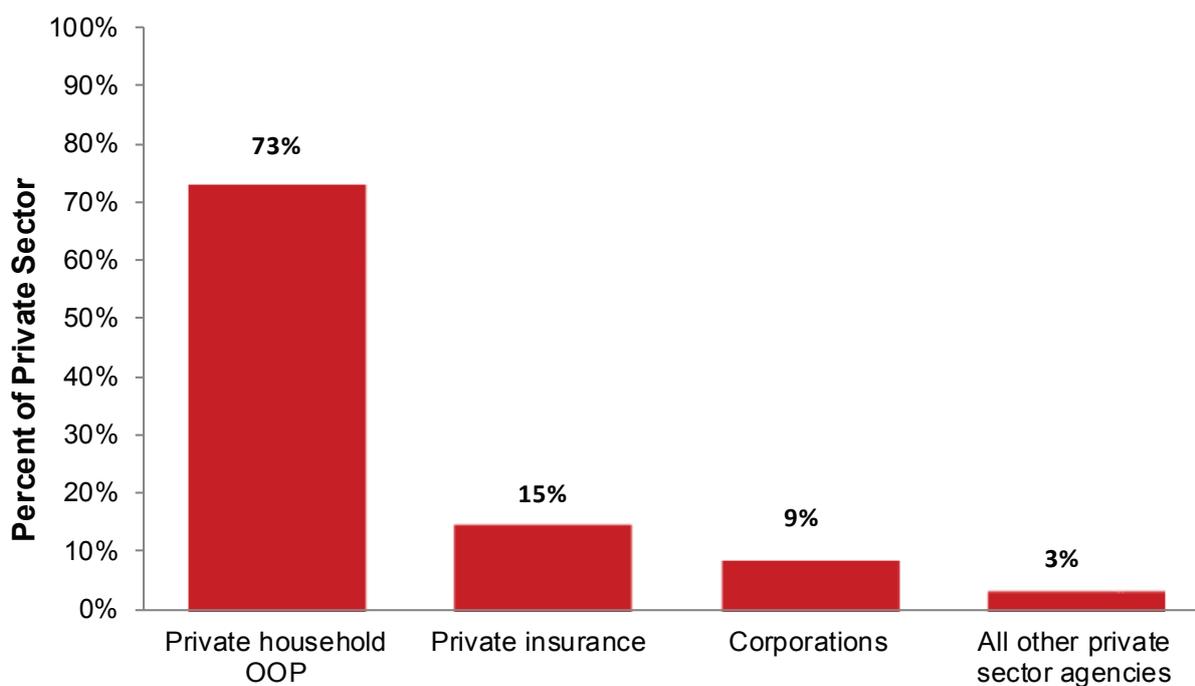
In 2018, analysis of health expenditure data showed that the highest source of financing in the private sector was private household OOP expenditure amounting to RM21,016 million (73%) (Table 5.3.1a and Figure 5.3.1). The next highest spending was private insurance enterprises (other than social insurance) which includes personal, family and company insurance policies at RM4,313 million (15%). All corporations (other than health insurance) contributed to RM2,605 million or 9% 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 RM1,007 million or 3% of health expenditure in this sector.

The private sector expenditure data for 1997-2018 time series shows private household OOP expenditure gradually increased from RM3,166 million in 1997 to RM21,016 million in 2018, and remained the largest share of private sector health expenditure (71% to 76%) (Table 5.3.1b and Table 5.3.1c). Expenditure by private insurance enterprises increased from 7% to 15% share of private sector health expenditure. Meanwhile, all corporations' share decreased from 15% to 9% from 1997 to 2018, although in terms of RM value, the expenditure on health by all corporations had increased four-fold.

**TABLE 5.3.1a: Health Expenditure by Private Sector Sources of Financing, 2018**

MNHA Code	Sources of Financing	RM Million	Percent
MS2.4	Private household out-of-pocket expenditure (OOP)	21,016	72.62
MS2.2	Private insurance enterprises (other than social insurance)	4,313	14.90
MS2.6	All corporations (other than health insurance)	2,605	9.00
MS2.3	Private MCOs and other similar entities	910	3.15
MS2.5	Non-profit institutions serving households (NGO)	92	0.32
MS9	Rest of the world (ROW)	5	0.02
<b>Total</b>		<b>28,941</b>	<b>100.00</b>

**FIGURE 5.3.1: Health Expenditure by Private Sector Sources of Financing, 2018**

**TABLE 5.3.1b: Health Expenditure by Private Sector Sources of Financing, 1997-2018 (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	2018
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	4,313
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	730	803	871	910
MS2.4	Private household out-of-pocket expenditure (OOP)	3,166	3,265	3,497	4,175	3,882	4,127	4,941	5,664	6,382	7,141	7,919	9,084	8,478	9,917	11,466	12,649	13,933	15,373	16,795	17,798	19,363	21,016
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	92	92
MS2.6	All corporations (other than health insurance)	616	642	658	637	722	744	701	680	787	765	951	816	801	899	1,064	1,352	1,564	1,803	1,998	2,325	2,501	2,605
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	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>8,524</b>	<b>9,449</b>	<b>10,622</b>	<b>11,991</b>	<b>11,685</b>	<b>13,560</b>	<b>15,702</b>	<b>17,442</b>	<b>18,780</b>	<b>20,859</b>	<b>23,220</b>	<b>24,857</b>	<b>26,918</b>	<b>28,941</b>

**TABLE 5.3.1c: Health Expenditure by Private Sector Sources of Financing, 1997-2018 (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	2018
MS2.2	Private insurance enterprises (other than social insurance)	7.03	8.28	8.92	9.38	11.13	12.42	14.11	13.89	12.72	13.19	13.30	14.25	17.04	16.76	16.65	15.91	15.53	15.36	15.60	15.45	15.18	14.90
MS2.3	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	3.14	3.23	3.24	3.15
MS2.4	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	75.57	74.56	75.76	72.56	73.14	73.02	72.52	74.19	73.70	72.33	71.60	71.93	72.62
MS2.5	Non-profit institutions serving households (NGO)	1.53	1.58	1.51	1.59	1.72	1.80	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	0.35	0.34	0.32
MS2.6	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	6.78	7.75	8.33	8.64	8.61	9.35	9.29	9.00
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	0.02
	<b>Total</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.

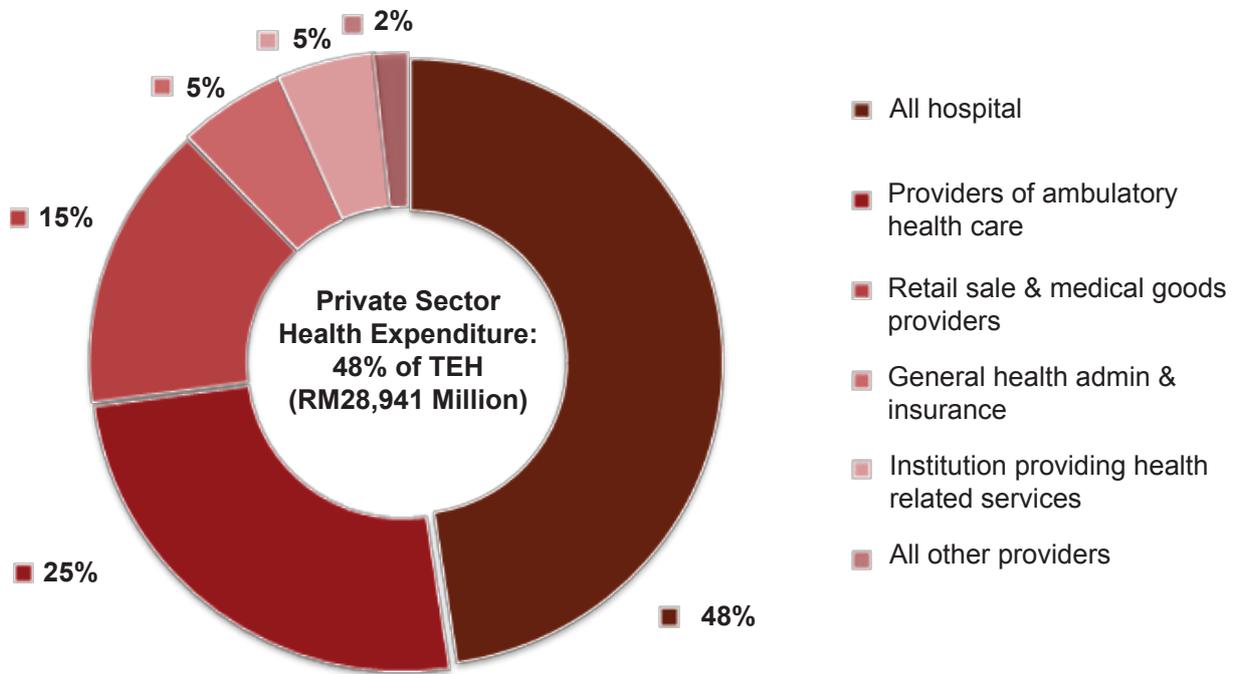
In 2018, all hospitals consumed RM13,764 million (48%) of the private sources of funds, followed by providers of ambulatory health care at RM7,297 million (25%) and providers of retail sales and other providers of medical goods at RM4,349 million (15%). The remaining private sector sources of financing amounting to RM3,531 million (12%) was spent to other providers of health care (Table 5.3.2a and Figure 5.3.2).

The 1997 to 2018 time series data shows that all hospitals and providers of ambulatory health care spent an average of 73% 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 RM13,764 million in 2018 and expenditure by providers of ambulatory health care increased from RM1,696 million in 1997 to RM7,297 million in 2018. 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, increased two and a half (2.5) times in percentage from 1997 to 2018, but in terms of RM value this expenditure increased by 18-fold from RM81 million in 1997 to RM1,447 million in 2018.

**TABLE 5.3.2a: Private Sector Health Expenditure to Providers of Health Care, 2018**

MNHA Code	Providers of Health Care	RM Million	Percent
MP1	All hospitals	13,764	47.56
MP3	Providers of ambulatory health care	7,297	25.21
MP4	Retail sale and other providers of medical goods	4,349	15.03
MP6	General health administration and insurance	1,588	5.49
MP8	Institutions providing health-related services	1,447	5.00
MP7	Other industries (rest of the Malaysian economy)	457	1.58
MP5	Provision and administration of public health programmes	19	<0.1%
MP9	Rest of the world (ROW)	17	<0.1%
MP2	Nursing and residential care facilities	3	<0.1%
<b>Total</b>		<b>28,941</b>	<b>100.00</b>

**FIGURE 5.3.2: Private Sector Health Expenditure to Providers of Health Care, 2018**



**TABLE 5.3.2b: Private Sector Health Expenditure to Providers of Health Care, 1997-2018 (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	2018
Providers of Health Care																						
MP1	1,486	1,556	1,715	2,068	2,097	2,328	2,841	3,190	3,560	4,005	4,509	5,722	5,843	6,553	7,278	7,697	8,256	9,030	10,402	11,368	12,694	13,764
MP2		1	2	2	3	5	9	10	11	11	14	4	5	12	14	18	1	1	1	4	1	3
MP3	1,696	1,704	1,747	1,972	1,833	1,885	2,069	2,369	2,831	3,151	3,516	3,456	2,603	3,145	3,906	4,582	5,201	6,125	6,260	6,515	7,061	7,297
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	2,701	3,061	3,287	3,506	4,349
MP5	5	6	5	5	6	6	6	6	9	7	12	17	7	8	11	17	3	3	23	30	19	19
MP6	363	427	452	527	542	580	760	787	799	852	909	1,011	1,088	1,256	1,467	1,629	1,343	1,312	1,619	1,679	1,699	1,588
MP7	63	64	76	76	82	84	95	102	105	110	148	157	170	203	269	293	338	358	408	443	467	457
MP8	81	106	133	179	186	229	301	286	281	313	353	361	590	822	880	1,160	1,460	1,320	1,432	1,519	1,450	1,447
MP9	4	3	5	6	6	9	9	11	12	15	19	8	4	75	101	85	6	10	13	12	21	17
<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>8,524</b>	<b>9,449</b>	<b>10,622</b>	<b>11,991</b>	<b>11,685</b>	<b>13,560</b>	<b>15,702</b>	<b>17,442</b>	<b>18,780</b>	<b>20,859</b>	<b>23,220</b>	<b>24,857</b>	<b>26,918</b>	<b>28,941</b>

**TABLE 5.3.2c: Private Sector Health Expenditure to Providers of Health Care, 1997-2018 (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	2018
MP1	All hospitals	35.47	35.28	36.33	37.62	38.98	40.23	41.58	41.70	41.77	42.39	42.45	47.72	50.01	48.33	46.35	44.13	43.96	43.29	44.80	45.73	47.16	47.56
MP2	Nursing and residential care facilities	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	0.01
MP3	Providers of ambulatory health care	40.48	38.64	37.01	35.86	34.08	32.58	30.28	30.96	33.22	33.35	33.10	28.83	22.28	23.19	24.87	26.27	27.70	29.36	26.96	26.21	26.23	25.21
MP4	Retail sale and other providers of medical goods	11.70	12.34	12.42	12.03	11.62	11.41	10.84	11.61	10.75	10.42	10.76	10.47	11.77	10.96	11.30	11.24	11.57	12.95	13.18	13.22	13.03	15.03
MP5	Provision and administration of public health programmes	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	0.07	0.07
MP6	General health administration and insurance	8.66	9.67	9.57	9.59	10.07	10.02	11.12	10.29	9.37	9.02	8.56	8.43	9.31	9.26	9.35	9.34	7.15	6.29	6.97	6.75	6.31	5.49
MP7	Other industries (rest of the Malaysian economy)	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	1.78	1.74	1.58
MP8	Institutions providing health-related services	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	5.61	6.65	7.78	6.33	6.17	6.11	5.39	5.00
MP9	Rest of the world (ROW)	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	0.65	0.49	0.03	0.05	0.06	0.05	0.08	0.06
	<b>Total</b>	<b>100.00</b>																					

### 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 2018, the private sector source of financing spent the most for services of curative care, amounting RM18,856 million (65%), followed by medical goods dispensed to out-patients at RM5,106 million (18%). Health programme administration and health insurance expenditure were RM1,588 million (5%), education and

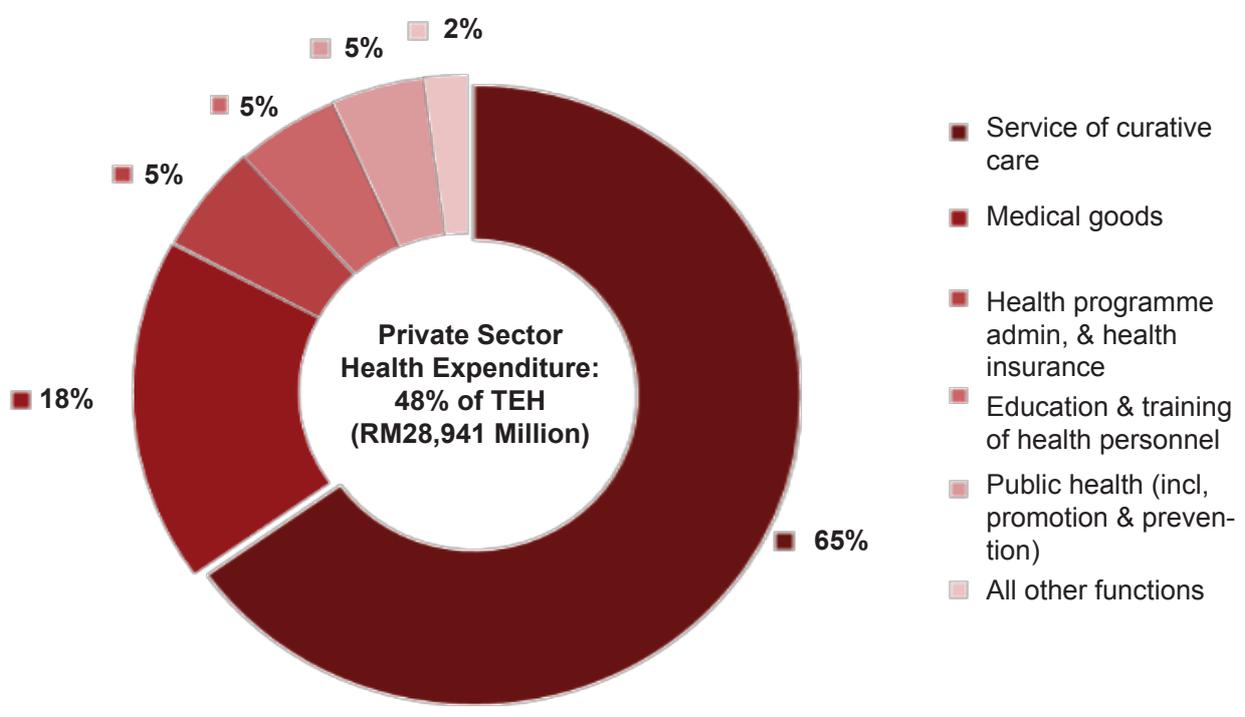
training of health personnel RM1,476 million (5%) and public health services (including health promotion and prevention) RM1,320 (5%). The remaining functions of health-care constitute only 2% of health expenditure by private sector sources of financing (Table 5.3.3a and Figure 5.3.3).

The 1997 to 2018 time series shows expenditures for services of curative care and medical goods dispensed to out-patient totalling 78% to 84% (Table 5.3.3b and Table 5.3.3c). Although expenditure for education and training over this time period remained below 8% share of this spending, it increased by 19-fold from RM79 million in 1997 to RM1,476 million in 2018.

**TABLE 5.3.3a: Private Sector Health Expenditure by Functions of Health Care, 2018**

MNHA Code	Functions of Health Care	RM Million	Percent
MF1	Services of curative care	18,856	65.15
MF5	Medical goods dispensed to out-patients	5,106	17.64
MF7	Health programme administration and health insurance	1,588	5.49
MR2	Education and training of health personnel	1,476	5.10
MF6	Public health services (including health promotion and prevention)	1,320	4.56
MR1	Capital formation of health care provider institutions	505	1.74
MF4	Ancillary services to health care	48	0.17
MR3	Research and development in health	39	0.14
MF3	Services of long-term nursing care	3	0.01
<b>Total</b>		<b>28,941</b>	<b>100.00</b>

**FIGURE 5.3.3: Private Sector Health Expenditure by Functions of Health Care, 2018**



**TABLE 5.3.3b: Private Sector Health Expenditure by Functions of Health Care, 1997-2018 (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	2018
MF1	Services of curative care	2,584	2,644	2,859	3,436	3,355	3,688	4,427	5,132	5,882	6,634	7,414	8,551	7,853	9,094	10,524	11,447	12,278	13,852	14,945	15,988	17,666	18,856
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	4	1	3
MF4	Ancillary services to health care	101	110	100	98	78	63	47	29	33	37	42	48	43	58	72	86	97	112	78	40	46	48
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	2,135	2,339	2,561	3,115	3,616	3,935	4,222	5,106
MF6	Public health services (including health promotion and prevention)	281	292	315	309	348	357	350	347	398	390	488	441	413	474	582	724	843	933	1,065	1,216	1,288	1,320
MF7	Health programme administration and health insurance	363	427	452	527	542	580	760	787	799	852	909	1,011	1,088	1,256	1,468	1,629	1,343	1,312	1,619	1,679	1,699	1,588
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	365	438	503	505
MR2	Education and training of health personnel	79	104	131	174	187	229	299	284	280	312	355	364	598	828	884	1,159	1,465	1,328	1,443	1,532	1,473	1,476
MR3	Research and development in health	1	1	1	6	1	1	1	1	1	2	2	3	2	2	2	17	175	188	87	26	20	39
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>8,524</b>	<b>9,449</b>	<b>10,622</b>	<b>11,991</b>	<b>11,685</b>	<b>13,560</b>	<b>15,702</b>	<b>17,442</b>	<b>18,780</b>	<b>20,859</b>	<b>23,220</b>	<b>24,857</b>	<b>26,918</b>	<b>28,941</b>

**TABLE 5.3.3c: Private Sector Health Expenditure by Functions of Health Care, 1997-2018 (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	2018
MF1	Services of curative care	61.68	59.94	60.58	62.50	62.38	63.40	64.81	67.08	69.00	70.20	69.80	71.31	67.20	67.07	67.02	65.63	65.38	66.41	64.36	64.32	65.63	65.15
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	0.13	0.04	0.04	0.09	0.10	0.00	0.00	0.00	0.01	0.00	0.01
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	0.34	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	12.71	13.06	12.97	14.26	13.41	13.60	13.41	13.64	14.94	15.57	15.83	15.68	17.64
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	3.70	4.15	4.49	4.47	4.59	4.89	4.79	4.56
MF7	Health programme administration and health insurance	8.66	9.67	9.57	9.59	10.07	10.02	11.12	10.29	9.37	9.02	8.56	8.43	9.31	9.26	9.35	9.34	7.15	6.29	6.97	6.75	6.31	5.49
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	1.57	1.76	1.87	1.74
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	6.11	5.63	6.64	7.80	6.37	6.21	6.16	5.47	5.10
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	0.37	0.11	0.07	0.14
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>																					

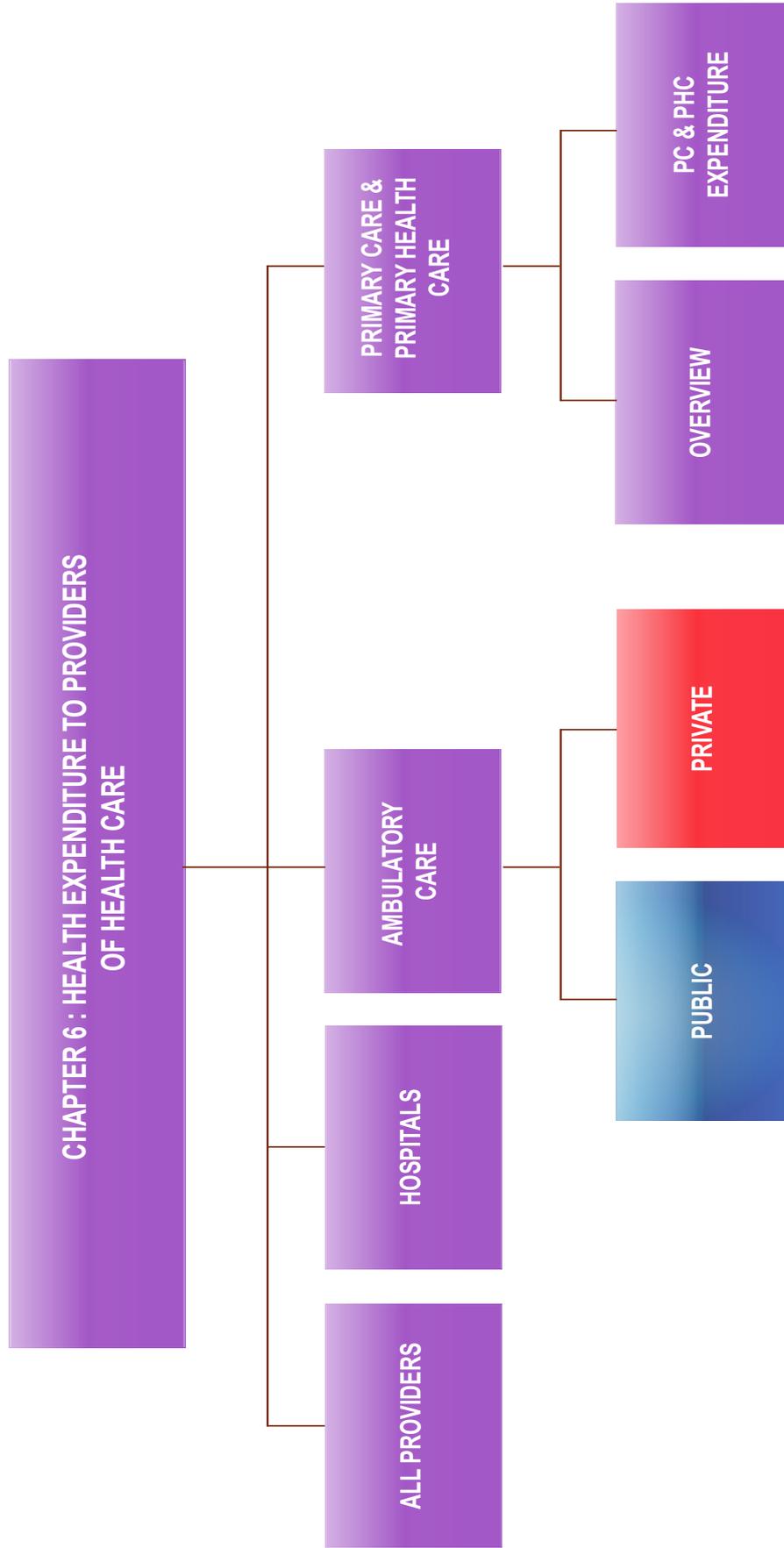
## CHAPTER 6

### 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.

This chapter contains four sections. Section 6.1 describes health expenditure to all providers of health care as classified in MNHA Framework. Health expenditure to providers of all hospitals and providers of ambulatory care services are reported in Sections 6.2 and 6.3 respectively. Section 6.4 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 2018, analysis of providers of health care shows that all hospitals consumed RM32,675 million or 54% of TEH (Table 6.1a and Figure 6.1). This is followed by providers of ambulatory health care at RM12,792 million (21%), general health administration and insurance providers at RM5,132 million (9%), and retail sale and other providers of medical goods at RM4,553 million (8%). The remaining providers of health care services and products amounted to RM4,994 million or 8% of the TEH.

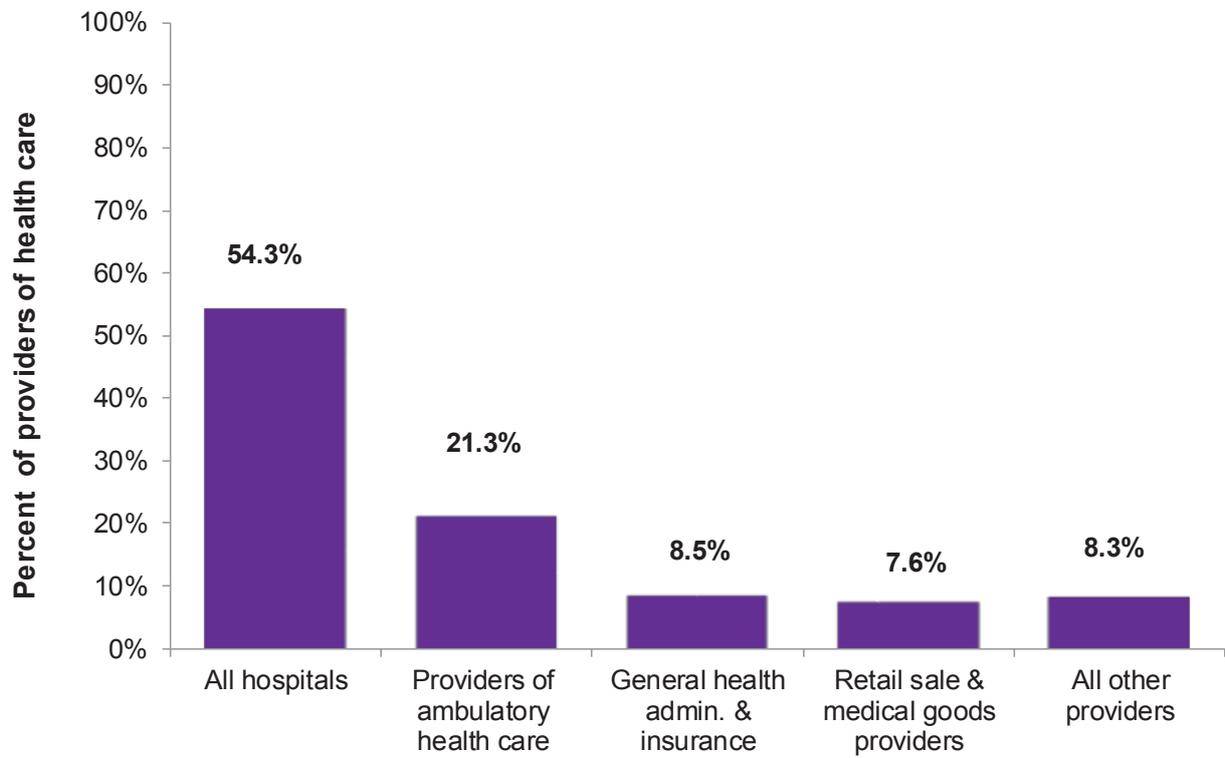
The 1997 to 2018 time series data also shows a similar pattern with the same top two providers (all hospitals and providers of ambulatory health care) contributing to an average of 71% share of

TEH throughout the time period. The third highest expenditure from 1997 to 2018 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 8-fold and 6-fold respectively over the same time period, whereas spending at retail sale and other providers of medical goods showed increase in absolute RM value by 9-fold. Providers of institutions providing health-related services showed a higher increase which is 11-fold.

**TABLE 6.1a: Total Expenditure on Health to Providers of Health Care, 2018**

MNHA Code	Providers of Health Care	RM Million	Percent
MP1	All hospitals	32,675	54.33
MP3	Providers of ambulatory health care	12,792	21.27
MP6	General health administration and insurance	5,132	8.53
MP4	Retail sale and other providers of medical goods	4,553	7.57
MP8	Institutions providing health-related services	2,930	4.87
MP5	Provision and administration of public health programmes	1,434	2.38
MP7	Other industries (rest of the Malaysian economy)	608	1.01
MP9	Rest of the world (ROW)	18	0.03
MP2	Nursing and residential care facilities	4	0.01
<b>Total</b>		<b>60,147</b>	<b>100.00</b>

**FIGURE 6.1: Total Expenditure on Health to Providers of Health Care, 2018**



**TABLE 6.1b: Total Expenditure on Health to Providers of Health Care, 1997-2018 (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	2018
MP1	All hospitals	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	18,635	21,047	21,962	24,792	26,805	27,993	30,394	32,675
MP2	Nursing and residential care facilities	2	2	2	3	3	6	10	11	12	12	15	6	6	13	16	20	2	2	1	5	2	4
MP3	Providers of ambulatory health care	2,123	2,164	2,277	2,600	2,582	2,729	3,178	3,605	4,174	4,969	5,442	5,668	4,776	5,639	6,650	7,773	8,756	10,311	10,652	11,069	12,003	12,792
MP4	Retail sale and other providers of medical goods	517	574	619	694	664	705	793	944	976	1,055	1,229	1,349	1,504	1,621	1,909	2,129	2,374	2,921	3,393	3,625	3,861	4,553
MP5	Provision and administration of public health programmes	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	1,583	1,628	1,434
MP6	General health administration and insurance	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	4,651	3,932	4,028	3,932	4,445	3,591	4,914	5,132
MP7	Other industries (rest of the Malaysian economy)	104	110	122	124	129	136	175	204	189	205	253	262	274	324	388	430	609	556	547	601	616	608
MP8	Institutions providing health-related services	258	300	370	452	575	678	854	912	896	1,089	1,261	1,504	1,975	2,144	2,442	2,536	2,676	2,754	2,862	2,996	2,676	2,930
MP9	Rest of the world (ROW)	4	4	6	7	7	10	11	13	14	17	20	12	6	75	102	86	7	11	17	14	22	18
	<b>Total</b>	<b>8,556</b>	<b>9,162</b>	<b>9,960</b>	<b>11,753</b>	<b>12,711</b>	<b>13,649</b>	<b>17,212</b>	<b>18,210</b>	<b>18,243</b>	<b>22,080</b>	<b>24,426</b>	<b>27,774</b>	<b>29,380</b>	<b>2,889</b>	<b>5,953</b>	<b>39,448</b>	<b>41,648</b>	<b>46,781</b>	<b>50,234</b>	<b>51,578</b>	<b>56,114</b>	<b>60,147</b>

**TABLE 6.1c: Total Expenditure on Health to Providers of Health Care, 1997-2018 (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	2018
MP1	All hospitals	48.29	47.33	47.57	46.24	46.92	46.73	44.38	46.32	49.57	50.66	50.01	52.98	51.41	51.21	51.83	53.35	52.73	53.00	53.36	54.27	54.16	54.33
MP2	Nursing and residential care facilities	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	0.01
MP3	Providers of ambulatory health care	24.81	23.62	22.86	22.12	20.31	20.00	18.47	19.80	22.88	22.51	22.28	20.41	16.25	17.15	18.50	19.70	21.02	22.04	21.20	21.46	21.39	21.27
MP4	Retail sale and other providers of medical goods	6.05	6.27	6.22	5.90	5.22	5.17	4.61	5.19	5.35	4.78	5.03	4.86	5.12	4.93	5.31	5.40	5.70	6.24	6.76	7.03	6.88	7.57
MP5	Provision and administration of public health programmes	4.55	3.98	4.02	3.73	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	3.26	2.90	2.38
MP6	General health administration and insurance	12.00	14.26	14.30	17.02	17.74	17.41	23.01	19.12	12.82	12.59	11.53	11.87	15.34	15.87	12.94	9.97	9.67	8.41	8.85	6.96	8.76	8.53
MP7	Other industries (rest of the Malaysian economy)	1.21	1.20	1.22	1.05	1.02	1.00	1.01	1.12	1.04	0.93	1.03	0.94	0.93	0.98	1.08	1.09	1.46	1.19	1.09	1.17	1.10	1.01
MP8	Institutions providing health-related services	3.02	3.27	3.72	3.85	4.52	4.97	4.96	5.01	4.91	4.93	5.16	5.41	6.72	6.52	6.79	6.43	6.42	5.89	5.70	5.81	4.77	4.87
MP9	Rest of the world (ROW)	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	0.22	0.02	0.02	0.03	0.03	0.04	0.03
	<b>Total</b>	<b>100.00</b>																					

## 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 2018, of the RM32,675 million spent at all hospitals, MOH as source of financing incurred the highest spending at RM16,467 million (50%) followed by private household OOP at RM9,626 million (29%), private insurance enterprises (other than social insurance) at RM3,678 million

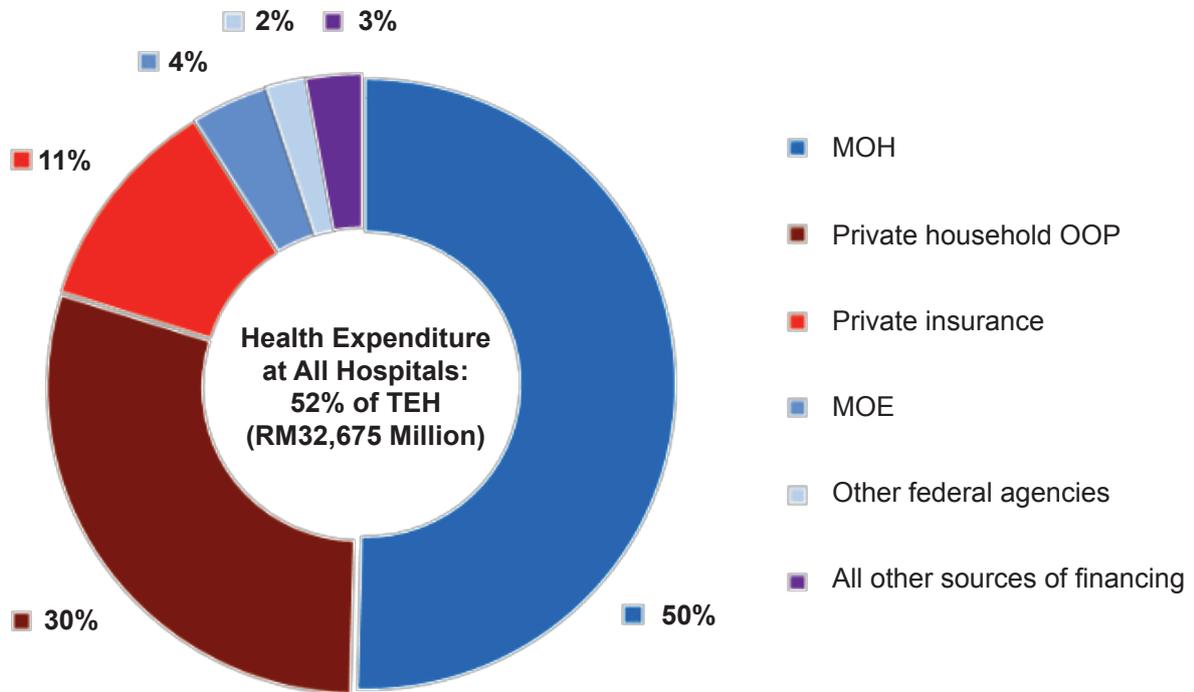
(11%), Ministry of Education (MOE) at RM1,319 million (4%) at RM651 million (2%) (Table 6.2a and Figure 6.2). The remaining expenditure from various sources at all hospitals amounted to RM933 million (3%).

The 1997 to 2018 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 81% as shown in (Table 6.2b and Table 6.2c). An average of 19% was spent by the remaining sources of financing.

**TABLE 6.2a: Health Expenditure at All Hospitals by Sources of Financing, 2018**

MNHA Code	Sources of Financing	RM Million	Percent
MS1.1.1.1	Ministry of Health (MOH)	16,467	50.40
MS2.4	Private household out-of-pocket expenditures (OOP)	9,626	29.46
MS2.2	Private insurance enterprises (other than social insurance)	3,678	11.26
MS1.1.1.2	Ministry of Education (MOE)	1,319	4.04
MS1.1.1.9	Other federal agencies (including statutory bodies)	651	1.99
MS2.6	All corporations (other than health insurance)	457	1.40
MS1.2.2	Social Security Organization (SOCSSO)	158	0.48
MS1.1.2.2	Other state agencies (including statutory bodies)	143	0.44
MS1.1.1.3	Ministry of Defence (MOD)	65	0.20
MS1.2.1	Employees Provident Fund (EPF)	55	0.17
MS1.1.2.1	(General) State government	28	0.09
MS1.1.3	Local authorities (LA)	25	0.08
MS2.5	Non-profit institutions serving households (NGO)	2	0.01
<b>Total</b>		<b>32,675</b>	<b>100.00</b>

**FIGURE 6.2a: Health Expenditure at All Hospitals by Sources of Financing, 2018**



**TABLE 6.2b: Health Expenditure at All Hospitals by Sources of Financing, 1997-2018 (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	2018
MS1.1.1.1	Ministry of Health (MOH)	2,166	2,282	2,470	2,741	3,120	3,214	3,875	4,173	4,401	6,028	6,358	7,343	7,677	8,453	9,462	11,331	11,683	13,610	14,204	14,297	15,399	16,467
MS1.1.1.2	Ministry of Education (MOE)	321	324	365	407	500	553	591	637	656	705	842	978	1,019	1,220	1,221	1,285	1,233	1,347	1,315	1,289	1,260	1,319
MS1.1.1.3	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	65
MS1.1.1.9	Other federal agencies (including statutory bodies)	99	107	113	133	149	175	198	300	275	287	337	499	363	394	420	449	489	506	553	593	611	651
MS1.1.2.1	(General) State government	5	5	6	6	7	7	8	8	9	10	13	12	12	13	15	19	18	21	17	19	19	28
MS1.1.2.2	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	128	143
MS1.1.3	Local authorities (LA)	0	0	0	0	0	1	1	1	2	3	5	6	15	19	20	16	13	21	20	21	24	25
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	55
MS1.2.2	Social Security Organization (SOCSO)	23	23	24	28	29	31	43	37	42	54	46	35	57	79	93	104	120	98	100	117	125	158
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	3,311	3,678
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	3,519	4,575	4,460	5,068	5,618	5,866	6,070	6,342	7,291	7,942	8,946	9,626
MS2.5	Non-profit institutions serving households (NGO)	1	1	1	1	1	8	6	6	7	8	9	19	39	27	29	31	44	12	13	1	1	2
MS2.6	All corporations (other than health insurance)	126	154	173	172	214	221	138	128	160	154	180	132	117	137	158	216	264	303	337	406	436	457
	<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>18,635</b>	<b>21,047</b>	<b>21,962</b>	<b>24,792</b>	<b>26,805</b>	<b>27,993</b>	<b>30,394</b>	<b>32,675</b>

**TABLE 6.2c: Health Expenditure at All Hospitals by Sources of Financing, 1997-2018 (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	2018
MS1.1.1.1	Ministry of Health (MOH)	52.43	52.62	52.13	50.43	52.31	50.39	50.73	49.47	48.67	53.89	52.05	49.91	50.82	50.18	50.78	53.84	53.20	54.90	52.99	51.07	50.67	50.40
MS1.1.1.2	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	6.55	6.10	5.61	5.43	4.91	4.61	4.15	4.04
MS1.1.1.3	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	0.28	0.20
MS1.1.1.9	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	2.25	2.13	2.23	2.04	2.06	2.12	2.01	1.99
MS1.1.2.1	(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	0.06	0.09
MS1.1.2.2	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	0.42	0.44
MS1.1.3	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	0.08	0.08	0.08
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	0.17	0.16	0.17
MS1.2.2	Social Security Organization (SOCISO)	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	0.42	0.41	0.48
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	9.57	10.30	10.78	10.89	11.26
MS2.4	Private household out-of-pocket expenditures (OOP)	31.34	30.20	29.86	31.85	27.41	27.69	29.95	30.40	31.68	28.49	28.81	31.09	29.52	30.09	30.15	27.87	27.64	25.58	27.20	28.37	29.43	29.46
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	0.01
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	0.85	1.03	1.20	1.22	1.26	1.45	1.44	1.40
	<b>Total</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 provide inpatient services. The MNHA Framework and SHA 1.0 also includes providers of Traditional and Complementary Medicine under this category.

In 2018, providers of ambulatory health care consumed RM12,792 million (21%) of TEH. Of this amount, RM7,297 million (57%) is funded by private sector source of financing which consist of private household out-of-pocket expenditures,

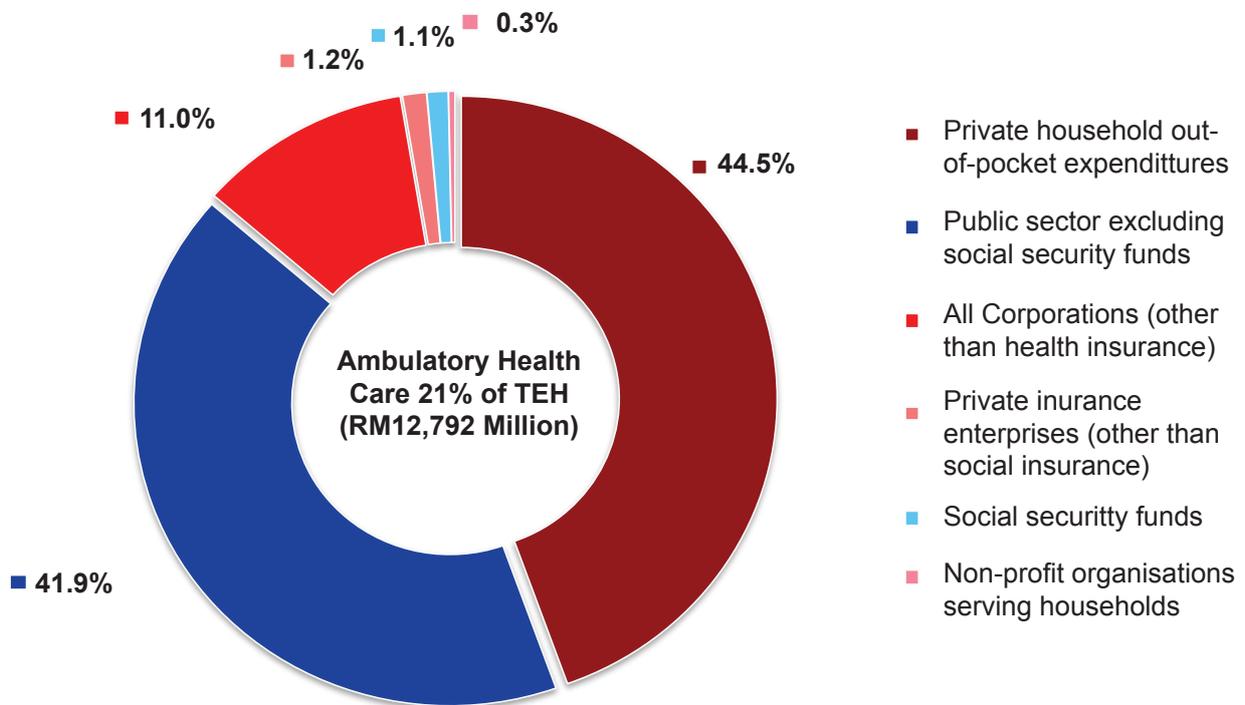
all corporations (other than health insurance), private insurance enterprises (other than social insurance) and non-profit organisations serving households and. The remaining RM5,495 million (43%) by public sector source of financing (Table 6.3a and Figure 6.3).

The 1997 to 2018 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 13-fold in public sector (Table 6.3b). 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.

**TABLE 6.3a: Health Expenditure to Providers of Ambulatory Health Care by Sources of Financing, 2018**

MNHA Code	Sources of Financing	RM Million	Percent
MS2.4	Private household out-of-pocket expenditures	5,698	44.54
MS1.1	Public sector excluding social security funds	5,357	41.88
MS2.6	All Corporations (other than health insurance)	1,402	10.96
MS2.2	Private insurance enterprises (other than social insurance)	156	1.22
MS1.2	Social security funds	138	1.08
MS2.5	Non-profit organisations serving households	41	0.32
<b>Total</b>		<b>12,792</b>	<b>100.00</b>

**FIGURE 6.3: Health Expenditure to Providers of Ambulatory Health Care (non-hospital setting) by Sources of Financing, 2018**



**TABLE 6.3b: Health Expenditure to Providers of Ambulatory Health Care by Sources of Financing, 1997-2018 (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	2018
MS1.1	Public sector excluding social security funds	418	451	519	616	735	829	1,103	1,216	1,319	1,802	1,895	2,188	2,163	2,483	2,732	3,180	3,544	4,118	4,318	4,460	4,843	5,357
MS1.2	Social security funds	9	10	11	12	14	15	7	20	24	16	32	23	10	11	13	11	11	68	74	93	99	138
	<b>Subtotal Public sector</b>	<b>427</b>	<b>460</b>	<b>530</b>	<b>628</b>	<b>749</b>	<b>844</b>	<b>1,110</b>	<b>1,236</b>	<b>1,343</b>	<b>1,818</b>	<b>1,926</b>	<b>2,212</b>	<b>2,173</b>	<b>2,494</b>	<b>2,745</b>	<b>3,191</b>	<b>3,554</b>	<b>4,186</b>	<b>4,392</b>	<b>4,554</b>	<b>4,942</b>	<b>5,495</b>
MS2.2	Private insurance enterprises (other than social insurance)	0	0	0	0	0	0	1	1	1	1	1	34	25	34	60	75	85	67	98	134	137	156
MS2.4	Private household out-of-pocket expenditures	1,371	1,385	1,419	1,665	1,488	1,535	1,658	1,970	2,370	2,709	2,984	2,967	2,168	2,671	3,339	3,815	4,276	5,101	5,098	5,121	5,543	5,698
MS2.5	Non-profit organisations serving households	8	7	7	7	6	10	14	15	15	19	12	22	25	16	19	21	21	18	20	22	45	41
MS2.6	All Corporations (other than health insurance)	318	311	321	300	339	340	396	383	445	423	519	434	385	424	488	672	819	939	1,044	1,238	1,336	1,402
	<b>Subtotal Private sector</b>	<b>1,696</b>	<b>1,704</b>	<b>1,747</b>	<b>1,972</b>	<b>1,833</b>	<b>1,885</b>	<b>2,069</b>	<b>2,369</b>	<b>2,831</b>	<b>3,151</b>	<b>3,516</b>	<b>3,456</b>	<b>2,603</b>	<b>3,145</b>	<b>3,906</b>	<b>4,582</b>	<b>5,201</b>	<b>6,125</b>	<b>6,260</b>	<b>6,515</b>	<b>7,061</b>	<b>7,297</b>
	<b>Total</b>	<b>2,123</b>	<b>2,164</b>	<b>2,277</b>	<b>2,600</b>	<b>2,582</b>	<b>2,729</b>	<b>3,178</b>	<b>3,605</b>	<b>4,174</b>	<b>4,969</b>	<b>5,442</b>	<b>5,668</b>	<b>4,776</b>	<b>5,639</b>	<b>6,650</b>	<b>7,773</b>	<b>8,756</b>	<b>10,311</b>	<b>10,652</b>	<b>11,069</b>	<b>12,003</b>	<b>12,792</b>

**TABLE 6.3c: Health Expenditure to Providers of Ambulatory Health Care by Sources of Financing, 1997-2018 (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	2018
MS1.1	Public sector excluding social security funds	19.68	20.82	22.81	23.68	28.47	30.38	34.70	33.73	31.59	36.26	34.82	38.61	45.29	44.03	41.07	40.91	40.47	39.94	40.53	40.30	40.35	41.88
MS1.2	Social security funds	0.41	0.45	0.47	0.48	0.53	0.55	0.22	0.56	0.58	0.33	0.58	0.41	0.21	0.20	0.19	0.14	0.12	0.66	0.70	0.84	0.82	1.08
	<b>Subtotal Public sector</b>	<b>20.10</b>	<b>21.27</b>	<b>23.28</b>	<b>24.15</b>	<b>29.00</b>	<b>30.93</b>	<b>34.91</b>	<b>34.29</b>	<b>32.17</b>	<b>36.59</b>	<b>35.40</b>	<b>39.02</b>	<b>45.49</b>	<b>44.23</b>	<b>41.27</b>	<b>41.05</b>	<b>40.59</b>	<b>40.60</b>	<b>41.23</b>	<b>41.14</b>	<b>41.17</b>	<b>42.96</b>
MS2.2	Private insurance enterprises (other than social insurance)	0.00	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.59	0.52	0.60	0.90	0.96	0.97	0.65	0.92	1.21	1.14	1.22
MS2.4	Private household out-of-pocket expenditures	64.57	64.01	62.32	64.03	57.62	56.24	52.17	54.66	56.78	54.51	54.84	52.34	45.41	47.37	50.21	49.08	48.83	49.47	47.86	46.27	46.18	44.54
MS2.5	Non-profit organisations serving households	0.36	0.33	0.30	0.25	0.25	0.36	0.45	0.41	0.37	0.38	0.21	0.39	0.52	0.28	0.28	0.26	0.24	0.17	0.19	0.20	0.38	0.32
MS2.6	All Corporations (other than health insurance)	14.97	14.38	14.09	11.55	13.12	12.46	12.44	10.61	10.67	8.51	9.53	7.65	8.06	7.52	7.34	8.64	9.36	9.11	9.80	11.19	11.13	10.96
	<b>Subtotal Private sector</b>	<b>79.90</b>	<b>78.73</b>	<b>76.72</b>	<b>75.85</b>	<b>71.00</b>	<b>69.07</b>	<b>65.09</b>	<b>65.71</b>	<b>67.83</b>	<b>63.41</b>	<b>64.60</b>	<b>60.98</b>	<b>54.51</b>	<b>55.77</b>	<b>58.73</b>	<b>58.95</b>	<b>59.41</b>	<b>59.40</b>	<b>58.77</b>	<b>58.86</b>	<b>58.83</b>	<b>57.04</b>
	<b>Total</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 health care” (PHC) is an overall approach which encompasses the three aspects: multi-sectoral policy and action to address the broader determinants of health; empowering individuals, families and communities, and meeting people’s essential health needs throughout their lives. In fact, PHC seeks to address the broader determinants of health, such as community-level disease-prevention efforts, and to empower individuals, families and communities to get involved in their own health. As such, PHC goes beyond providing health care services to individuals.

“Primary care” is a subset of PHC and refers to essential, first-contact care provided in a community setting. 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. Thus, enabling health care to be delivered as close as possible to where people live and work.

To date, there exists no easily measurable operational definition neither for PHC nor PC. The System of Health Accounts (SHA 2011) also does not propose a readymade classification for these services. Based on the WHO consultation with the PHC experts, it was suggested to use available national health accounts healthcare functions to overcome the obstacles of generating expenditure estimates for PHC and PC.

Following this, in 2018 the Family Health Development Division, Ministry of Health collaborated with MNHA and successfully generated PHC expenditure for Primary Health Care Performance Initiative (PHCPI) (international) using SHA 2011 framework as one of the indicators for Malaysia’s Primary Health Care Vital Sign Profile. The data extracted based on the codes are shown in Table 6.4a.

**TABLE 6.4a: PHC<sup>(international)</sup> based on SHA 2011 codes**

SHA 2011 Codes	Functions of Health care
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

Several discussions and meetings with relevant stakeholders were held to construct a methodology to map available healthcare function codes in MNHA framework to reflect the PC and PHC services in Malaysia. These discussions involved the National Health Financing Section of Planning Division, the Family Health Development Division of Ministry of Health and the MNHA team. Subsequently,

the agreed definitions and boundaries were presented and endorsed by the MNHA Technical Advisory Committee and MNHA Steering Committee. The PC definitions were based on the concept of first point of contact of services while PHC includes PC and all the expenditure of health promotion and prevention activities (MF6) (Table 6.4b).

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

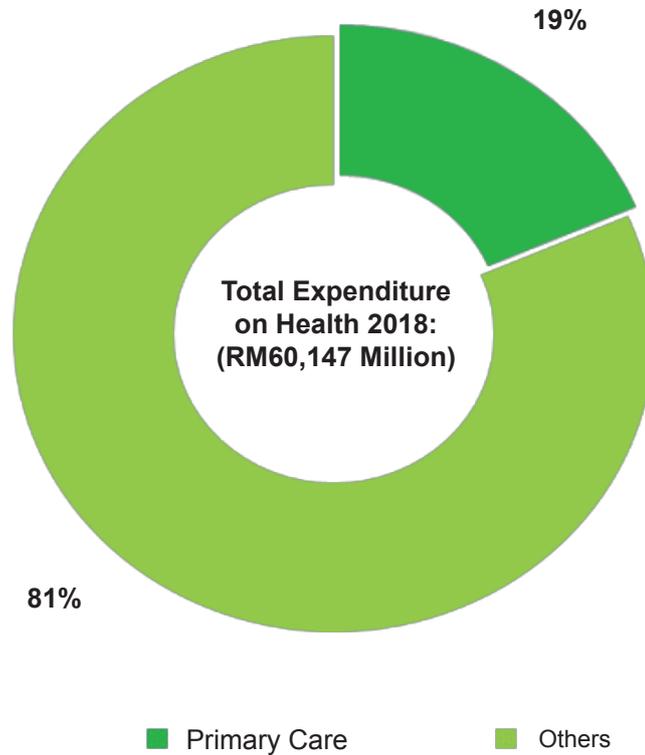
PROVIDER		FUNCTION			
MNHA Code	Description	MNHA Code	Description		
MP1.1a	Hospitals (MOH)	MF1.3.1	Basic medical and diagnostic services	Primary Health Care (PHC)	Primary Care (PC)
MP1.1b	Hospitals (Public non-MOH)	MF1.3.1	Basic medical and diagnostic services		
MP3.1	Medical practitioner clinics	MF1.3.1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

### 6.4.2 Primary Care and Primary Health Care Expenditure

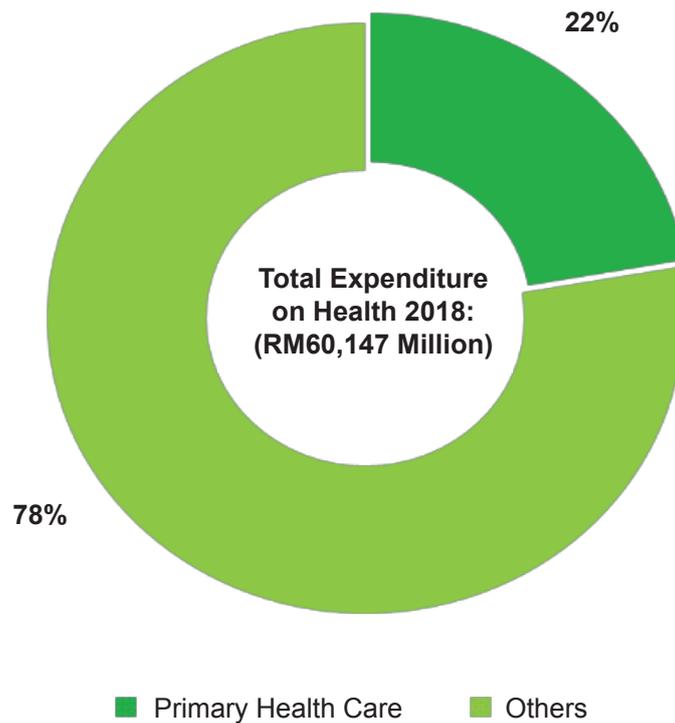
In 2018, the PC expenditure was RM 11,144 million (19%) of the TEH (Figure 6.4a) while and

PHC expenditure which encompasses a broader boundry was RM 13,369 million (22%) of the TEH (Figure 6.4b). MOH spent RM 5,946 million or 22% of the MOH expenditure (Figure 6.4c) on PHC.

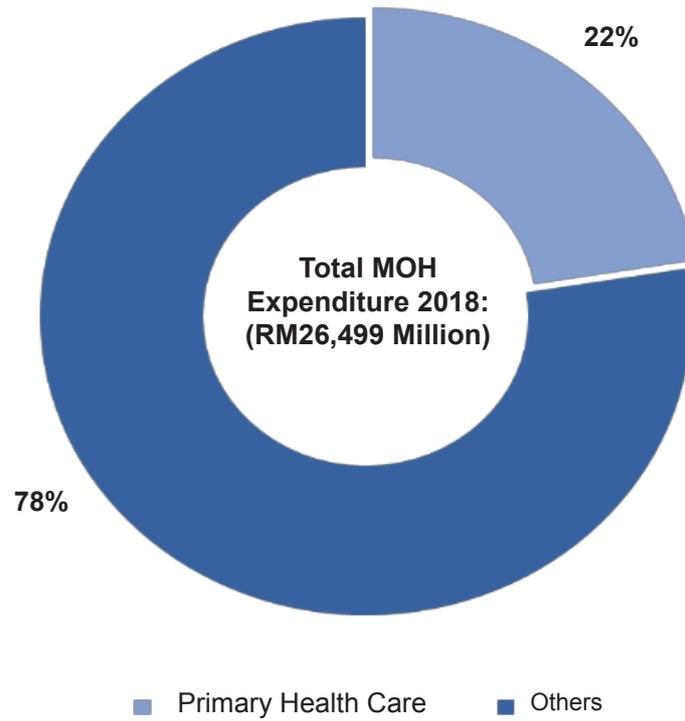
**FIGURE 6.4a: Primary Care Expenditure as Percentage of Total Expenditure on Health, 2018**



**FIGURE 6.4b: Primary Health Care Expenditure as Percentage of Total Expenditure on Health, 2018**



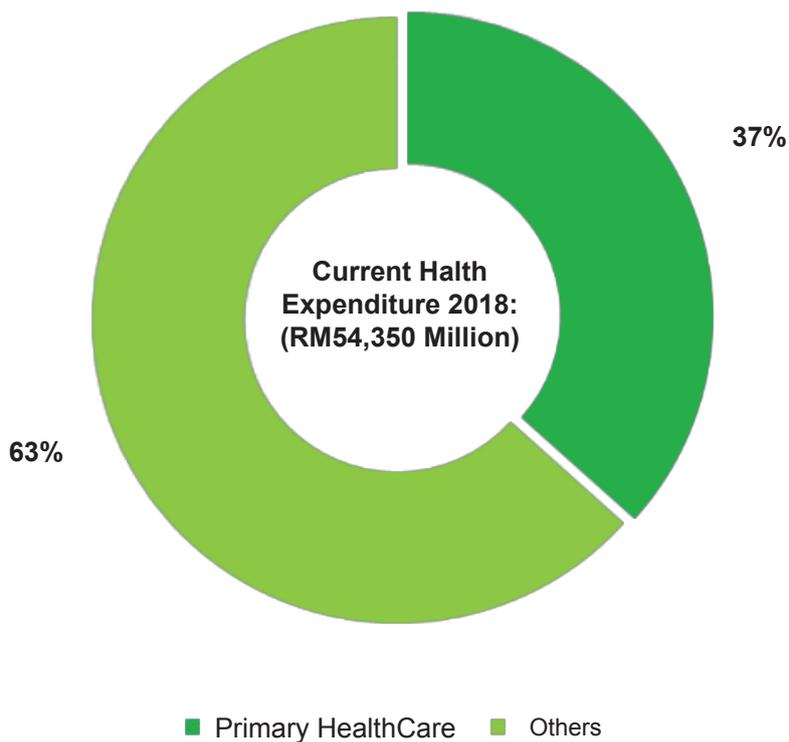
**FIGURE 6.4c: Primary Health Care Expenditure as Percentage of MOH Expenditure , 2018**



For comparison purpose, PHC expenditure was also extracted using the PHCPI boundaries (Table 6.4a) from the SHA 2011 framework. Notably PHC expenditure based on this set of healthcare

functions is higher as it encompasses a bigger boundary. In 2018, a total of RM 19,927 million (37%) of CHE was spent for PHC (Figure 6.4d).

**FIGURE 6.4d: Primary Health Care<sup>(International)</sup> Expenditure as Percentage of Current Health Expenditure, 2018**



# CHAPTER 7

## HEALTH EXPENDITURE BY FUNCTIONS OF HEALTH CARE

This chapter describes the types 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 2018, followed by time series data of 1997-2018 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

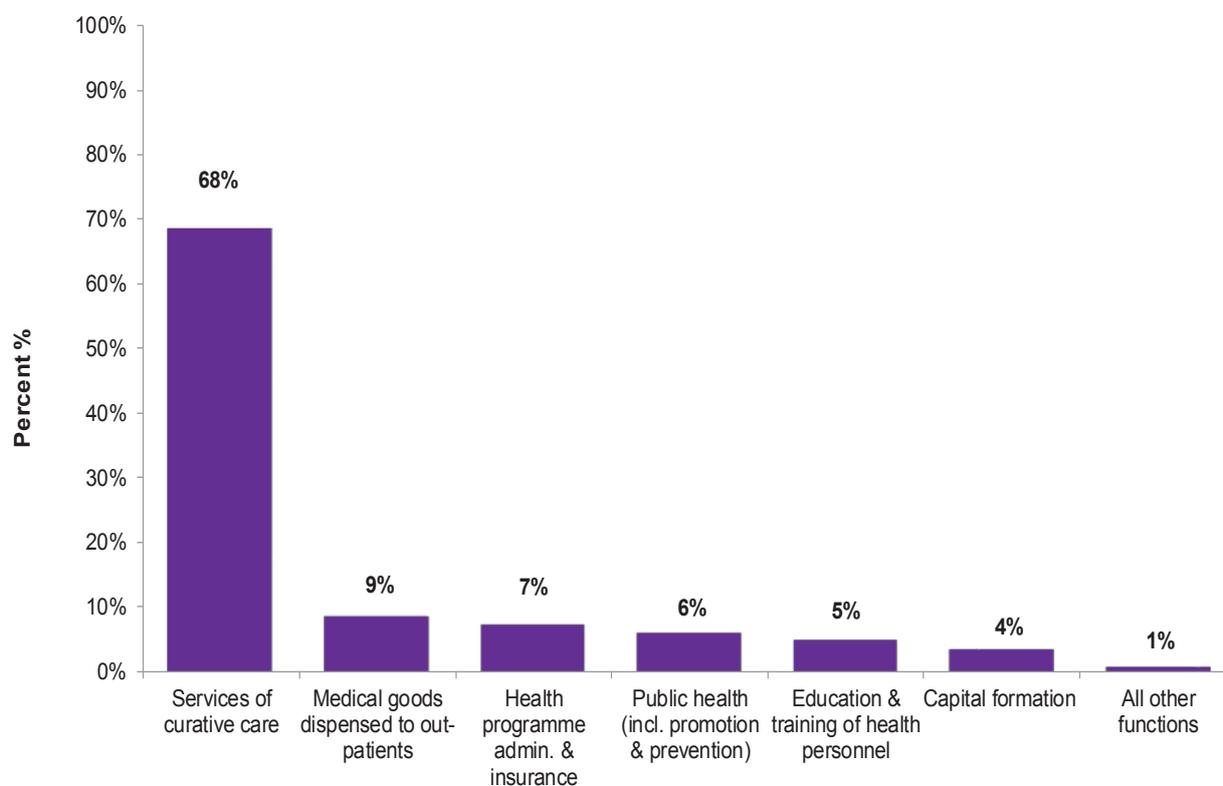
In 2018, the expenditure for services of curative care amounted to RM41,100 million (68%) of TEH (Table 7.1a and Figure 7.1). This is followed by medical goods dispensed to out-patient at RM5,261 million (9%), health programme administration and health insurance at RM4,468

million (7%), and RM3,721 million (6%) for public health services (including health promotion and prevention). A total of RM3,005 million (5%) was spent for education and training of health personnel, RM2,157 million (4%) for capital formation of health care provider institutions with the remaining RM435 million (1%) was spent on all remaining.

The 1997 to 2018 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 & 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. Subsequently, in 2013 onwards public health services (including health promotion and prevention) substituted education and training of health personnel. 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, 2018**

MNHA Code	Functions of Health Care	RM Million	Percent
MF1	Services of curative care	41,100	68.30
MF5	Medical goods dispensed to out-patients	5,261	8.80
MF7	Health programme administration and health insurance	4,468	7.40
MF6	Public health services (including health promotion and prevention)	3,721	6.10
MR2	Education and training of health personnel	3,005	5.00
MR1	Capital formation of health care provider institutions	2,157	3.60
MF4	Ancillary services to health care	335	0.60
MR3	Research and development in health	96	<1
MF3	Services of long-term nursing care	4	<1
<b>Total</b>		<b>60,147</b>	<b>100.00</b>

**FIGURE 7.1: Total Expenditure on Health by Functions of Health Care, 2018**

**TABLE 7.1b: Total Expenditure on Health by Functions of Health Care, 1997-2018 (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	2018
MF1	Services of curative care	5,474	5,639	6,113	7,116	7,525	8,166	9,748	10,991	11,970	14,813	16,134	18,684	18,355	20,091	23,453	26,453	27,274	31,555	33,601	35,047	38,342	41,100
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	2	2	3	3	6	10	10	11	12	14	5	5	12	15	19	1	2	1	4	1	4
MF4	Ancillary services to health care	102	111	101	106	117	110	118	126	128	201	180	238	235	264	296	314	407	380	354	300	330	335
MF5	Medical goods dispensed to out-patients	797	850	879	968	894	910	969	1,097	1,162	1,259	1,458	1,636	1,765	1,932	2,248	2,477	2,730	3,298	3,905	4,221	4,528	5,261
MF6	Public health services (including health promotion and prevention)	476	489	541	539	611	632	764	827	893	1,025	1,406	1,242	1,316	1,348	1,577	1,925	2,804	2,772	2,994	3,245	3,461	3,721
MF7	Health programme administration and health insurance	922	963	1,015	1,189	1,288	1,498	1,942	1,960	1,948	2,396	2,507	2,812	3,026	3,173	3,646	3,560	3,602	4,254	4,540	3,807	4,804	4,468
MR1	Capital formation of health care provider institutions	515	800	933	1,377	1,692	1,643	2,815	2,330	1,271	1,367	1,543	1,737	2,760	3,867	2,199	2,061	1,834	1,505	1,820	1,868	1,878	2,157
MR2	Education and training of health personnel	206	253	327	412	505	605	771	805	837	972	1,129	1,366	1,866	2,157	2,468	2,566	2,753	2,758	2,873	3,010	2,698	3,005
MR3	Research and development in health	62	54	49	43	75	79	75	62	22	36	55	55	51	46	48	73	242	247	146	77	72	96
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>8,556</b>	<b>9,162</b>	<b>9,960</b>	<b>11,753</b>	<b>12,711</b>	<b>13,649</b>	<b>17,212</b>	<b>18,210</b>	<b>18,243</b>	<b>22,080</b>	<b>24,426</b>	<b>27,774</b>	<b>29,380</b>	<b>32,889</b>	<b>35,953</b>	<b>39,448</b>	<b>41,648</b>	<b>46,781</b>	<b>50,234</b>	<b>51,578</b>	<b>56,114</b>	<b>60,147</b>

**TABLE 7.1c: Total Expenditure on Health by Functions of Health Care, 1997-2018 (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	2018
MF1	Services of curative care	63.98	61.55	61.38	60.54	59.21	59.83	56.64	60.36	65.61	67.09	66.05	67.27	62.47	61.09	65.23	67.06	65.49	67.45	66.89	67.95	68.33	68.33
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	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	0.00
MF4	Ancillary services to health care	1.20	1.22	1.02	0.90	0.92	0.81	0.68	0.69	0.70	0.91	0.74	0.86	0.80	0.80	0.82	0.80	0.98	0.81	0.71	0.58	0.59	0.56
MF5	Medical goods dispensed to out-patients	9.31	9.28	8.83	8.23	7.03	6.67	5.63	6.02	6.37	5.70	5.97	5.89	6.01	5.87	6.25	6.28	6.56	7.05	7.77	8.18	8.07	8.75
MF6	Public health services (including health promotion and prevention)	5.56	5.34	5.43	4.58	4.80	4.63	4.44	4.54	4.90	4.64	5.76	4.47	4.48	4.10	4.39	4.88	6.73	5.93	5.96	6.29	6.17	6.19
MF7	Health programme administration and health insurance	10.78	10.51	10.19	10.12	10.13	10.98	11.28	10.76	10.68	10.85	10.26	10.12	10.30	9.65	10.14	9.02	8.65	9.11	9.04	7.38	8.56	7.43
MR1	Capital formation of health care provider institutions	6.02	8.73	9.36	11.72	13.31	12.04	16.36	12.80	6.97	6.19	6.31	6.25	9.40	11.76	6.12	5.22	4.40	3.22	3.62	3.62	3.35	3.59
MR2	Education and training of health personnel	2.41	2.77	3.28	3.51	3.98	4.43	4.48	4.42	4.59	4.40	4.62	4.92	6.35	6.56	6.86	6.50	6.61	5.90	5.72	5.84	4.81	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	0.29	0.15	0.13	0.16
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>																					

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

Services of curative care includes 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 2018, a total of RM41,100 million (68%) 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 RM22,244 million (54%) from the public sector and the remaining

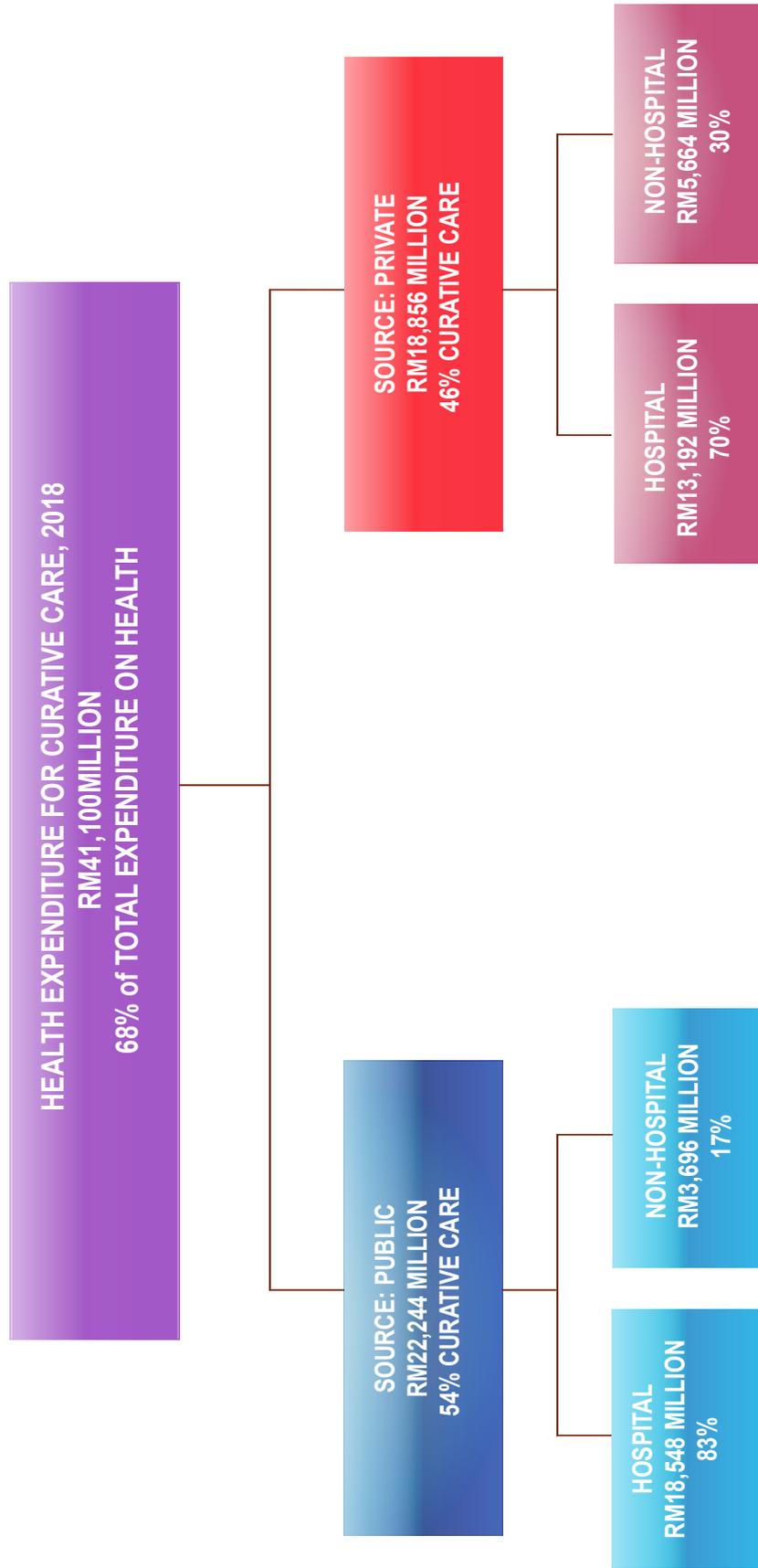
RM18,856 million or 46% from the private sector. For the services of curative care expenditure the public sector spent 83% and the private sector 70% for hospitals. The remaining expenditure was for non-hospital services. Note that there is an increasing trend on curative care spending at private sector hospitals.

The 1997 to 2018 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, 2018**

Source	Provider	RM Million	Percent
Public Sector	Hospital	18,548	45.13
	Non-Hospital	3,696	8.99
	<b>Sub-Total</b>	<b>22,244</b>	<b>54.12</b>
Private Sector	Hospital	13,192	32.10
	Non-Hospital	5,664	13.78
	<b>Sub-Total</b>	<b>18,856</b>	<b>45.88</b>
<b>Total</b>		<b>41,100</b>	<b>100.00</b>

**FIGURE 7.2 : Health Expenditure for Curative Care by Sources of Financing, 2018**



**TABLE 7.2b: Health Expenditure for Curative Care by Sources of Financing, 1997-2018 (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	2018
Public Sector	Hospital	2,542	2,637	2,843	3,202	3,611	3,846	4,551	4,987	5,155	6,922	7,402	8,600	8,886	9,211	10,873	12,651	13,011	15,240	15,832	16,045	17,354	18,548
	Non-Hospital	348	358	410	478	559	652	770	872	933	1,257	1,317	1,533	1,616	1,785	2,057	2,355	1,985	2,463	2,824	3,014	3,322	3,696
	<b>Sub-Total</b>	<b>2,890</b>	<b>2,995</b>	<b>3,254</b>	<b>3,680</b>	<b>4,170</b>	<b>4,498</b>	<b>5,321</b>	<b>5,859</b>	<b>6,088</b>	<b>8,179</b>	<b>8,720</b>	<b>10,133</b>	<b>10,502</b>	<b>10,996</b>	<b>12,930</b>	<b>15,007</b>	<b>14,996</b>	<b>17,703</b>	<b>18,656</b>	<b>19,059</b>	<b>20,676</b>	<b>22,244</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	5,818	6,528	7,253	7,659	8,060	8,818	9,941	10,893	12,150	13,192
	Non-Hospital	1,103	1,093	1,151	1,375	1,266	1,348	1,594	1,950	2,331	2,639	2,920	2,849	2,035	2,566	3,271	3,788	4,218	5,034	5,004	5,095	5,516	5,664
	<b>Sub-Total</b>	<b>2,584</b>	<b>2,644</b>	<b>2,859</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>6,634</b>	<b>7,414</b>	<b>8,551</b>	<b>7,853</b>	<b>9,094</b>	<b>10,524</b>	<b>11,447</b>	<b>12,278</b>	<b>13,852</b>	<b>14,945</b>	<b>15,988</b>	<b>17,666</b>	<b>18,856</b>
<b>Total</b>		<b>5,474</b>	<b>5,639</b>	<b>6,113</b>	<b>7,116</b>	<b>7,525</b>	<b>8,166</b>	<b>9,748</b>	<b>10,991</b>	<b>11,970</b>	<b>14,813</b>	<b>16,134</b>	<b>18,684</b>	<b>18,355</b>	<b>20,091</b>	<b>23,453</b>	<b>26,453</b>	<b>27,274</b>	<b>31,555</b>	<b>33,601</b>	<b>35,047</b>	<b>38,342</b>	<b>41,100</b>

**TABLE 7.2c: Health Expenditure for Curative Care by Sources of Financing, 1997-2018 (Percent, %)**

Source	Provider	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Public Sector	Hospital	46.43	46.77	46.51	44.99	47.98	47.09	46.68	45.37	43.07	46.73	45.88	46.03	48.41	45.85	46.36	47.82	47.71	48.30	47.12	45.78	45.26	45.13
	Non-Hospital	6.35	6.35	6.71	6.72	7.43	7.98	7.90	7.94	7.80	8.48	8.16	8.21	8.80	8.89	8.77	8.90	7.28	7.80	8.40	8.60	8.66	8.99
	<b>Sub-Total</b>	<b>52.79</b>	<b>53.12</b>	<b>53.22</b>	<b>51.71</b>	<b>55.41</b>	<b>55.08</b>	<b>54.58</b>	<b>53.31</b>	<b>50.86</b>	<b>55.22</b>	<b>54.05</b>	<b>54.23</b>	<b>57.22</b>	<b>54.73</b>	<b>55.13</b>	<b>56.73</b>	<b>54.98</b>	<b>56.10</b>	<b>55.52</b>	<b>54.38</b>	<b>53.92</b>	<b>54.12</b>
Private Sector	Hospital	27.06	27.50	27.95	28.97	27.77	28.41	29.06	28.95	29.67	26.97	27.85	30.52	31.70	32.49	30.93	28.95	29.55	27.95	29.59	31.08	31.69	32.10
	Non-Hospital	20.15	19.38	18.82	19.32	16.82	16.51	16.35	17.74	19.47	17.81	18.10	15.25	11.08	12.77	13.95	14.32	15.46	15.95	14.89	14.54	14.39	13.78
	<b>Sub-Total</b>	<b>47.21</b>	<b>46.88</b>	<b>46.78</b>	<b>48.29</b>	<b>44.59</b>	<b>44.92</b>	<b>45.42</b>	<b>46.69</b>	<b>49.14</b>	<b>44.78</b>	<b>45.95</b>	<b>45.77</b>	<b>42.78</b>	<b>45.27</b>	<b>44.87</b>	<b>43.27</b>	<b>45.02</b>	<b>43.90</b>	<b>44.48</b>	<b>45.62</b>	<b>46.08</b>	<b>45.88</b>
<b>Total</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 2018, a total of RM3,721 million (6%) of TEH is spent on public health programmes. From this, RM2,401 million (65%) is by the public sector sources of financing. MOH is the highest financier of public health services with the expenditure of RM2,118 million (57%) of the total expenditure on public health services (Table 7.3a). About 88% of public sector health expenditure on

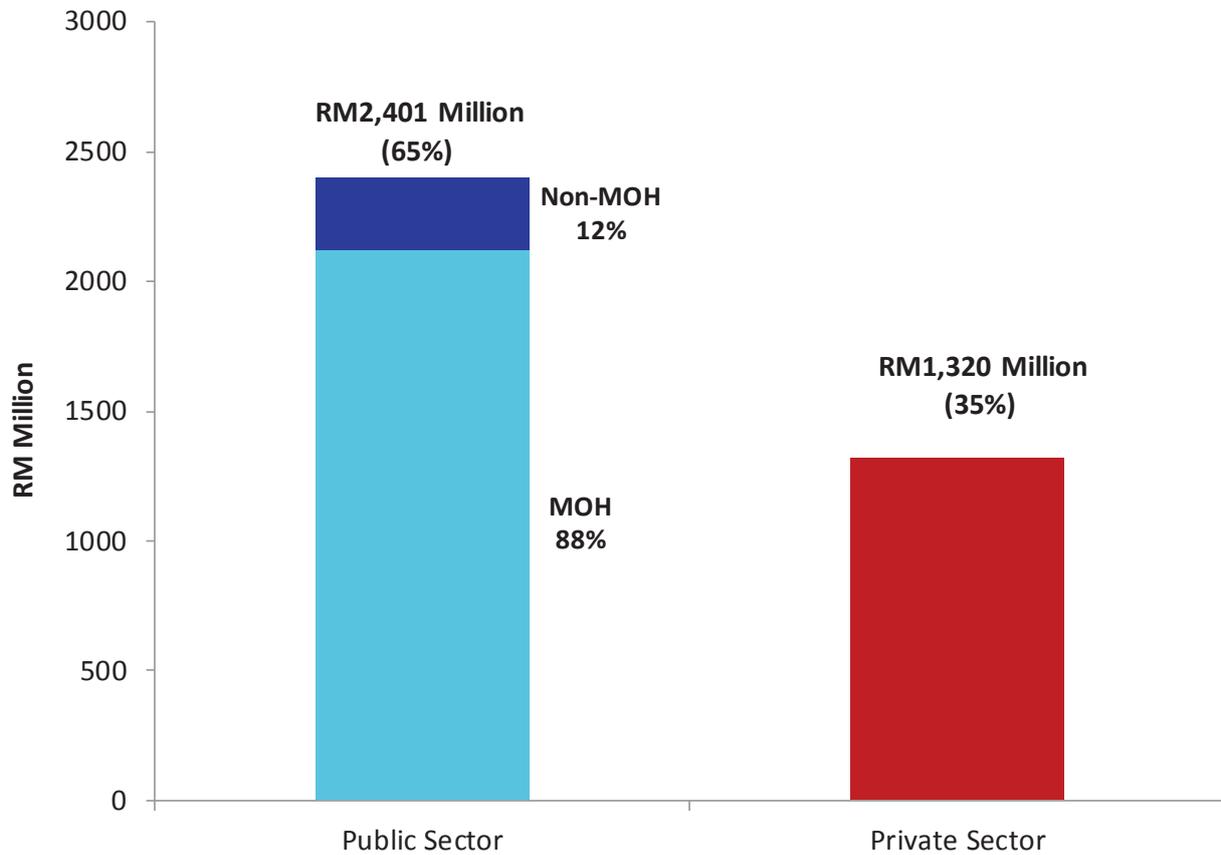
public health services is by MOH as shown in Figure 7.3. The second highest financier for public health services is all corporations (other than health insurance) that spent RM1,294 million (35%) followed by other federal agencies (including statutory bodies) amounted to RM159 million (4%).

The 1997 to 2018 time series data also showed MOH as the largest source of financing for this function of health care service with a 15-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 17-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, 2018**

MNHA Code	Sources of Financing	RM Million	Percent
MS1.1.1.1	Ministry of Health (MOH)	2,118	56.92
MS2.6	All corporations (other than health insurance)	1,294	34.79
MS1.1.1.9	Other federal agencies (including statutory bodies)	159	4.27
MS1.1.2.2	Other state agencies (including statutory bodies)	52	1.41
MS1.1.3	Local authorities (LA)	43	1.15
MS1.1.2.1	(General) State government	29	0.79
MS2.5	Non-profit institutions serving households (NGO)	18	0.48
MS2.4	Private household out-of-pocket expenditures (OOP)	7	0.20
<b>Total</b>		<b>3,721</b>	<b>100.00</b>

**FIGURE 7.3: Health Expenditure for Public Health Services (Including Health Promotion and Prevention) by Sources of Financing, 2018**



**TABLE 7.3b: Health Expenditure for Public Health Services (including Health Promotion and Prevention) by Sources of Financing, 1997-2018 (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	2018
MS1.1.1.1	Ministry of Health (MOH)	146	139	166	167	197	201	307	341	364	496	495	603	628	673	752	898	1,634	1,541	1,653	1,777	1,902	2,118
MS1.1.1.9	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	141	159
MS1.1.2.1	(General) State government	24	29	29	28	27	30	52	73	49	56	65	69	56	60	54	64	25	31	31	35	27	29
MS1.1.2.2	Other state agencies (including statutory bodies)	3	3	3	3	3	3	6	6	10	9	6	6	13	26	30	34	66	78	43	52	50	52
MS1.1.3	Local authorities (LA)	6	6	7	7	8	10	13	19	26	21	291	65	138	40	62	83	73	45	53	27	45	43
MS1.2.2	Social Security Organization (SOCSCO)	2	2	2	3	3	3	3	4	4	5	5	1	1	2	4	5	35	23	9	11	8	0
MS2.4	Private household out-of-pocket expenditures (OOP)	5	5	5	5	5	5	5	6	9	11	10	10	8	9	8	10	10	8	6	6	6	7
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	17	18
MS2.6	All corporations (other than health insurance)	271	281	305	298	337	346	338	335	381	373	467	415	399	458	563	698	832	924	1,038	1,181	1,265	1,294
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	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>1,406</b>	<b>1,242</b>	<b>1,316</b>	<b>1,348</b>	<b>1,577</b>	<b>1,925</b>	<b>2,804</b>	<b>2,772</b>	<b>2,994</b>	<b>3,245</b>	<b>3,461</b>	<b>3,721</b>

**TABLE 7.3c: Health Expenditure for Public Health Services (including Health Promotion and Prevention) by Sources of Financing, 1997-2018 (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	2018
MS1.1.1.1	Ministry of Health (MOH)	30.71	28.51	30.68	31.05	32.29	31.80	40.23	41.24	40.81	48.39	35.18	48.56	47.72	49.93	47.71	46.66	58.26	55.57	55.23	54.75	54.96	56.92
MS1.1.1.9	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	3.91	4.52	5.08	5.47	5.95	6.11	4.57	4.38	4.67	3.93	4.07	4.27
MS1.1.2.1	(General) State government	5.14	5.93	5.33	5.27	4.38	4.76	6.80	8.86	5.45	5.45	4.65	5.59	4.22	4.45	3.41	3.30	0.90	1.13	1.03	1.07	0.77	0.79
MS1.1.2.2	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	1.89	1.75	2.35	2.81	1.43	1.59	1.44	1.41
MS1.1.3	Local authorities (LA)	1.26	1.29	1.25	1.37	1.36	1.53	1.67	2.30	2.87	2.03	20.70	5.24	10.50	2.97	3.90	4.29	2.59	1.63	1.76	0.84	1.31	1.15
MS1.2.2	Social Security Organization (SOCOSO)	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	0.26	0.27	1.26	0.83	0.29	0.35	0.24	0.00
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	0.50	0.52	0.35	0.27	0.21	0.18	0.17	0.20
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	0.65	0.81	0.04	0.04	0.72	0.88	0.49	0.48
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	33.19	33.40	30.34	33.98	35.71	36.28	29.67	33.34	34.66	36.41	36.57	34.79
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	0.00
<b>Total</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 & 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 2018, a total of RM3,005 million or about 5% of TEH was spent on health education and training of health personnel. A total of RM1,529 million (51%) of this amount is funded by public sector source of financing (Table 7.4a). The MOH spent about 13% of public sector health expenditure

on health education and training as shown in Figure 7.4.

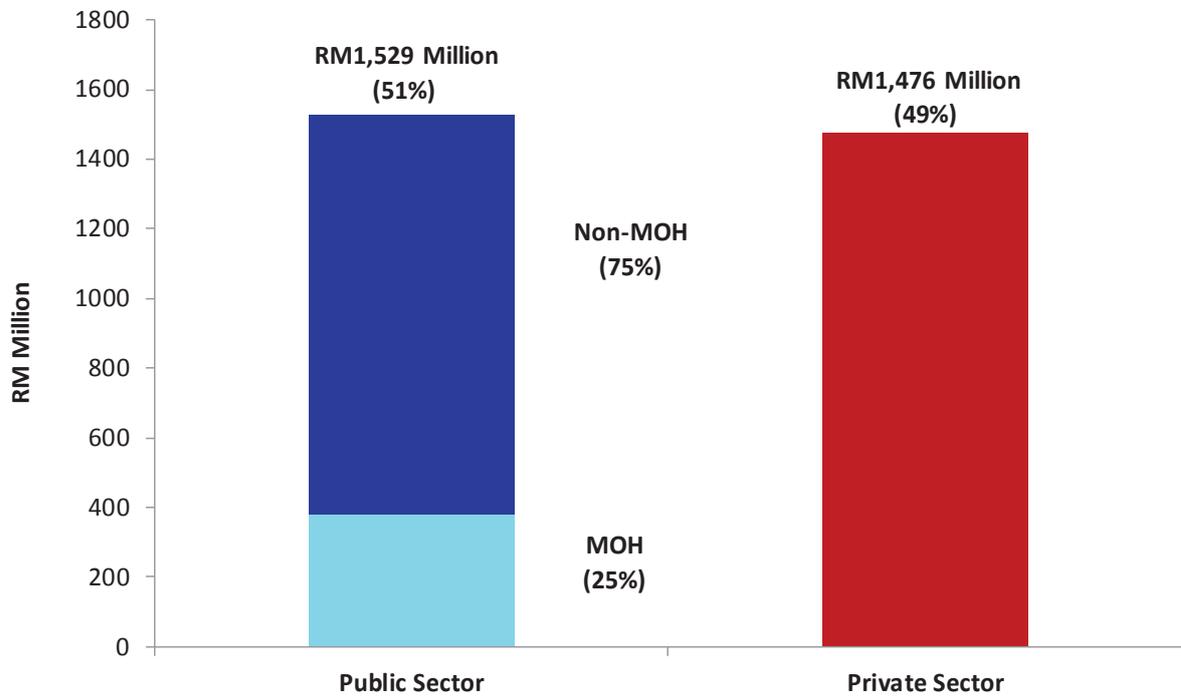
The 1997 to 2018 time series data shows that both the public sector and private sector sources of financing has an increasing trend in expenditure for this function. The public sector expenditure remains almost two times of private sector in absolute *Ringgit Malaysia* (RM) value between year 1997 and 2011. From 2015 till 2017, private sector source of financing has overtaken public sector in this expenditure however in 2018 public sector is back to domination (Table 7.4b and Table 7.4c). In the public sources of financing alone, the non-MOH spent about 3-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, 2018**

MNHA Code	Sources of Financing	RM Million	Percent
MS1.1.1.1	Public sector (MOH)	380	12.63
MS1 (others)	Public sector (Non-MOH)	1,149	38.24
MS2 + MS9	Private sector*	1,476	49.13
<b>Total</b>		<b>3,005</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, 2018**



**TABLE 7.4b: Health Expenditure for Health Education and Training by Sources of Financing, 1997-2018 (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	2018
MS1.1.1.1	Public sector (MOH)	35	33	68	96	147	186	231	222	218	270	275	310	325	340	380	377	407	438	446	428	244	380
MS1 (others)	Public sector (Non-MOH)	92	117	128	143	171	189	241	299	338	389	500	691	943	989	1,204	1,030	881	992	984	1,051	981	1,149
MS2 + MS9	Private sector*	79	104	131	174	187	229	299	284	280	312	355	364	598	828	884	1,159	1,465	1,328	1,443	1,532	1,473	1,476
	Total	206	253	327	412	505	605	771	805	837	972	1,129	1,366	1,866	2,157	2,468	2,566	2,753	2,758	2,873	3,010	2,698	3,005

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

**TABLE 7.4c: Health Expenditure for Health Education and Training by Sources of Financing, 1997-2018 (Percent, %)**

MNHA Code	Source of Financing	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
MS1.1.1.1	Public Sector (MOH)	16.91	13.04	20.76	23.35	29.12	30.74	30.00	27.54	26.08	27.81	24.34	22.72	17.41	15.78	15.41	14.71	14.79	15.89	15.53	14.21	9.05	12.63
MS1 (others)	Public Sector (Non - MOH)	44.70	46.02	39.26	34.57	33.88	31.33	31.22	37.16	40.42	40.04	44.24	50.63	50.53	45.84	48.77	40.14	31.99	35.95	34.24	34.91	36.37	38.24
MS2 + MS9	Private sector*	38.39	40.94	39.97	42.08	37.00	37.93	38.78	35.30	33.50	32.15	31.41	26.65	32.06	38.38	35.82	45.15	53.22	48.16	50.23	50.88	54.58	49.13
	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	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

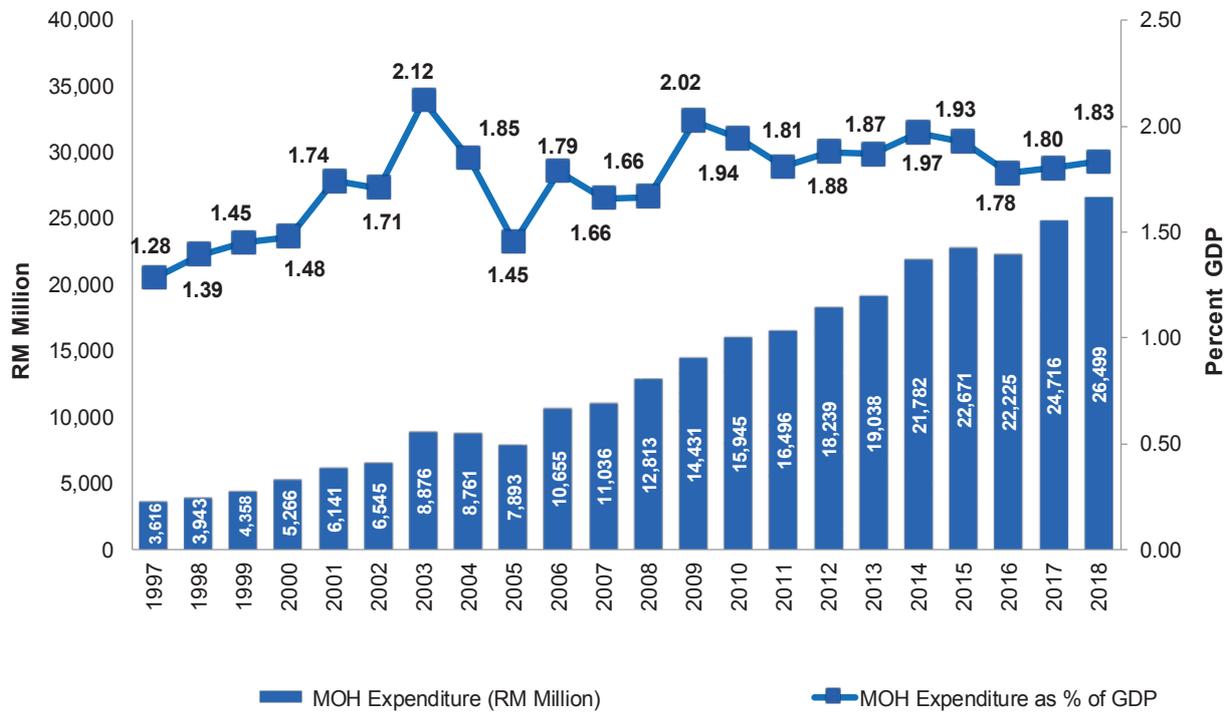
in the government treasury accounting system based on AG data as total MOH expenditure, which is inclusive of operating and development expenditures) for a particular year. The NHA framework allows tracking of reimbursements by various agencies (e.g. EPF, SOCSO, private health insurance, state government (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 2018, a total amount of RM26,499 million (44%) of TEH has been spent by MOH. In relation to GDP, MOH health expenditure takes up 1.83% of the national GDP in the same year. The 1997-2018 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 2018, RM26,499 million (44%) of TEH was spent by MOH. In relation to GDP, MOH expenditure in 1997 is equivalent to 1.28% of national GDP while in 2018, MOH expenditure was 1.83% of the national GDP (Table 8.1 and Figure 8.1).

**TABLE 8.1: MOH Share of Total Expenditure on Health and Percent GDP, 1997-2018**

<b>MOH Expenditure</b>	<b>TEH, Nominal (RM Million)</b>	<b>MOH Expenditure (RM Million)</b>	<b>MOH Expenditure as % TEH</b>	<b>TEH (Nominal) as % GDP</b>	<b>MOH Expenditure as % of GDP</b>
<b>Year</b>					
1997	8,556	3,616	42.26	3.04	1.28
1998	9,162	3,943	43.04	3.23	1.39
1999	9,960	4,358	43.75	3.31	1.45
2000	11,753	5,266	44.81	3.30	1.48
2001	12,711	6,141	48.32	3.61	1.74
2002	13,649	6,545	47.95	3.56	1.71
2003	17,212	8,876	51.57	4.11	2.12
2004	18,210	8,761	48.11	3.84	1.85
2005	18,243	7,893	43.27	3.36	1.45
2006	22,080	10,655	48.26	3.70	1.79
2007	24,426	11,036	45.18	3.67	1.66
2008	27,774	12,813	46.13	3.61	1.66
2009	29,380	14,431	49.12	4.12	2.02
2010	32,889	15,945	48.48	4.00	1.94
2011	35,953	16,496	45.88	3.94	1.81
2012	39,448	18,239	46.24	4.06	1.88
2013	41,648	19,038	45.71	4.09	1.87
2014	46,781	21,782	46.56	4.23	1.97
2015	50,234	22,671	45.13	4.27	1.93
2016	51,578	22,225	43.09	4.13	1.78
2017	56,114	24,716	44.05	4.09	1.80
2018	60,147	26,499	44.06	4.16	1.83

**FIGURE 8.1: MOH Share of Total Health Expenditure and Percent GDP, 1997-2018**



## 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 was 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 Section 3.2 of this report.

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

In 2018, both the public sectors and the private sectors sources of financing at MOH hospitals totaled RM16,915 million. Various financiers were tracked through MOH hospitals accounting

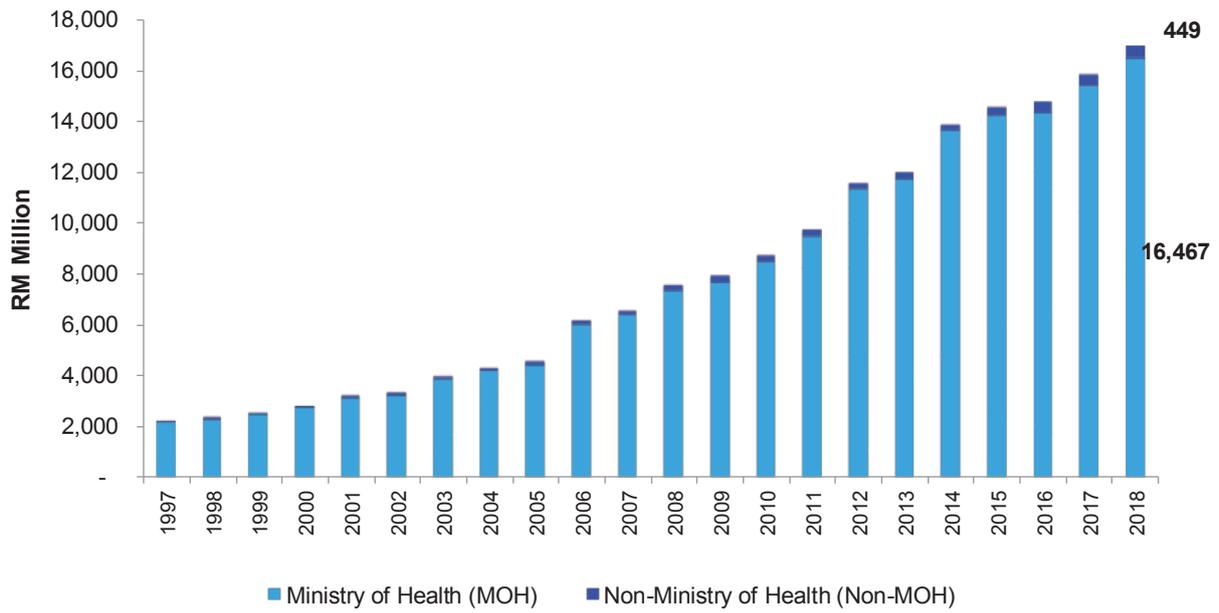
systems and sources of financing codes were assigned for payments made through private household out-of-pocket, private health insurance and other types of sources of financing. As a result, of the RM16,915 million spent, RM 16,467 million or 97 % is assigned as MOH source of financing. A small amount of RM449 million (3%) were accounted by other financiers such as private household OOP (RM272 million), other state agencies (including statutory bodies) (RM80 million), private insurance enterprises (other than social insurance) (RM48 million), Social Security Organization or SOCSO (RM33 million) and the remaining non-MOH expenditure at RM15 million (Table 8.2.1a).

The 1997 to 2018 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).

<b>TABLE 8.2.1a: Health Expenditure at MOH Hospitals by Sources of Financing, 2018*</b>				
	<b>MNHA code</b>	<b>Sources of Financing</b>	<b>RM Million</b>	<b>Percent</b>
<b>Ministry of Health (MOH)</b>	<b>MS1.1.1.1</b>	<b>Ministry of Health (MOH)</b>	<b>16,467</b>	<b>97.35</b>
<b>Non-Ministry of Health (Non-MOH)</b>	MS2.4	Private household out-of-pocket expenditures (OOP)	272	1.61
	MS1.1.2.2	Other state agencies (including statutory bodies)	80	0.47
	MS2.2	Private insurance enterprises (other than social insurance)	48	0.28
	MS1.2.2	Social Security Organization (SOCSO)	33	0.20
	MS2.6	All corporations (other than health insurance)	11	<0.1
	MS2.5	Non-profit institutions serving households (NGO)	1	<0.1
	MS1.2.1	Employees Provident Fund (EPF)	1	<0.1
	MS1.1.1.9	Other federal agencies (including statutory bodies)	1	<0.1
	MS1.1.2.1	(General) State government	1	<0.1
	MS1.1.3	Local authorities (LA)	<1	<0.1
		<b>Non-MOH Sub-total</b>	<b>449</b>	<b>2.65</b>
<b>Total</b>			<b>16,915</b>	<b>100.00</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, 1997-2018 (RM, Million)**



**TABLE 8.2.1b: Health Expenditure at MOH Hospitals by Sources of Financing, 1997-2018\* (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	2018
Ministry of Health (MOH)	2,166	2,282	2,470	2,741	3,120	3,214	3,875	4,173	4,401	6,028	6,358	7,343	7,677	8,453	9,462	11,331	11,683	13,610	14,204	14,297	15,399	16,467
Non-Ministry of Health (Non-MOH)	82	79	82	89	96	109	118	133	141	156	174	187	225	262	276	236	273	235	315	436	428	449
<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>	<b>16,915</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, 1997-2018\* (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	2018
Ministry of Health (MOH)	96.37	96.65	96.79	96.86	97.01	96.72	97.05	96.91	96.89	97.48	97.33	97.51	97.15	96.99	97.16	97.96	97.72	98.30	97.83	97.04	97.30	97.35
Non-Ministry of Health (Non-MOH)	3.63	3.35	3.21	3.14	2.99	3.28	2.95	3.09	3.11	2.52	2.67	2.49	2.85	3.01	2.84	2.04	2.28	1.70	2.17	2.96	2.70	2.65
<b>Total</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. Functions of curative care services provided in MOH hospital are 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 2018, RM16,915 million is spent at MOH hospitals. From this amount, RM16,842 million

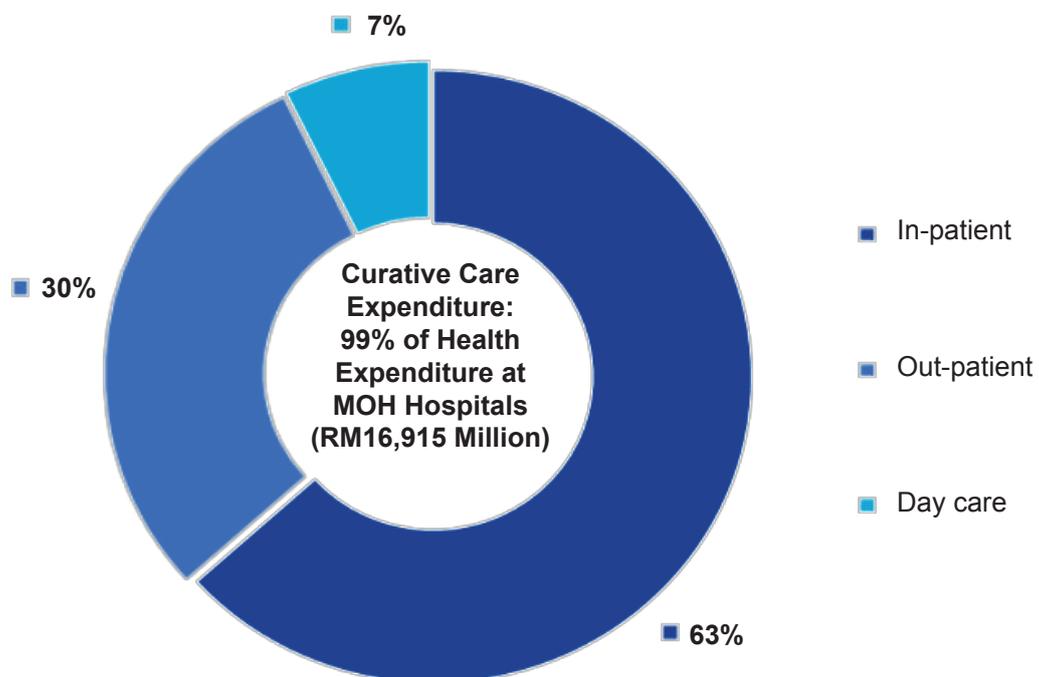
(99%) is for curative care services (Table 8.2.2a). In the same year, the expenditure for curative care services at MOH hospitals showed that RM10,667 million (63%) was spent for in-patient curative care services. This is followed by RM4,957 million (29%) for out-patient curative care services and RM1,219 million (7%) for day cases of curative care services (Figure 8.2.2).

The 1997 to 2018 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, 2018**

	MNHA Code	Functions of Health Care	RM Million	Percent
<b>Curative Care</b>	MF1.1	In-patient curative care	10,667	63.06
	MF1.3	Out-patient curative care	4,957	29.30
	MF1.2	Day cases of curative care	1,219	7.20
	<b>Sub-total (curative care)</b>		<b>16,842</b>	<b>99.57</b>
<b>Non-Curative Care</b>	MR1	Capital formation of health care provider institutions	73	0.43
<b>Total</b>			<b>16,915</b>	<b>100.00</b>

**FIGURE 8.2.2: Health Expenditure at MOH Hospitals by Curative Care Functions of Health Care, 2018**



**TABLE 8.2.2b: Health Expenditure at MOH Hospitals by Functions of Health Care, 1997-2018\* (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	2018
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	16,842
Non-Curative Care	32	53	78	63	130	68	121	155	247	176	214	103	122	618	96	265	366	269	291	315	111	73
<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>	<b>16,915</b>

**TABLE 8.2.2c: Health Expenditure at MOH Hospitals by Functions of Health Care, 1997-2018\* (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	2018
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	99.57
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	0.43
<b>Total</b>	<b>100.00</b>																					

# 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 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:

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

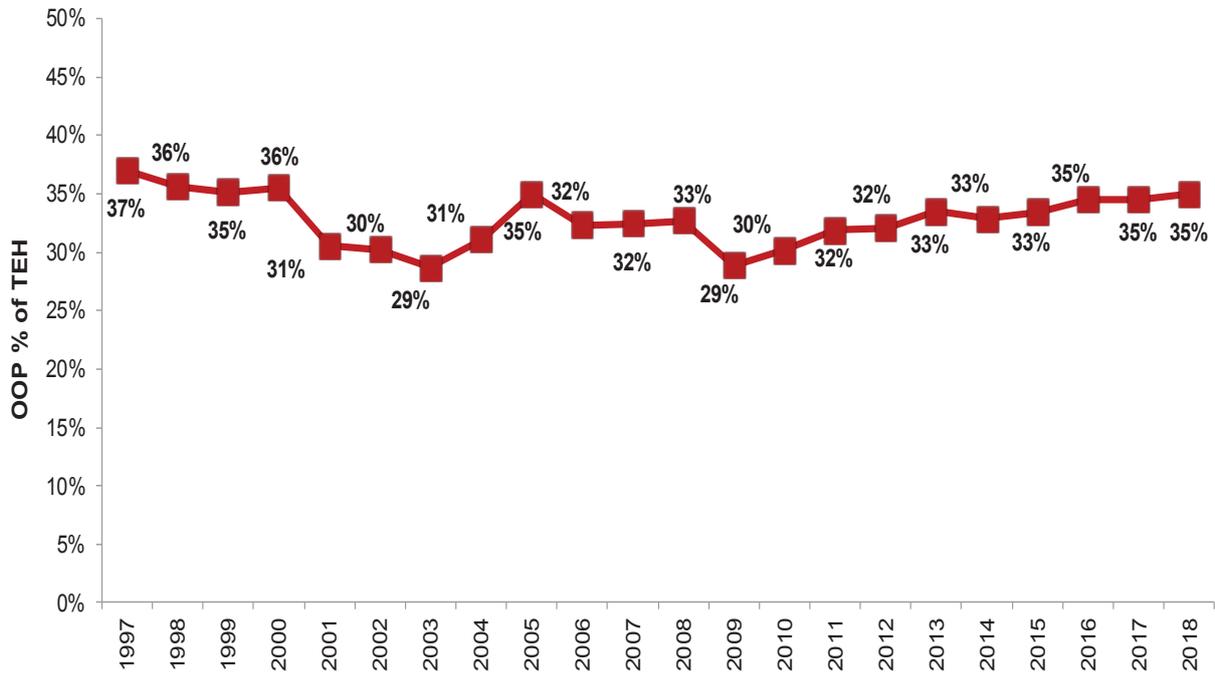
In 2018, the OOP health expenditure amounts to RM21,016 million, which is equivalent to 35% of the TEH and 73% share of the private sector health expenditure (Table 9.1a). The 1997-2018 time series data shows that the household OOP health expenditure is between 29% and 35% of TEH. Throughout the years, it remains the largest single source of financing in the private sector amounting to an average of 74% of this sector spending (Figure 9.1a, Figure 9.1b). The OOP health expenditure from 1997 to 2018 has increased from RM3,166 million to RM21,016 million which constitute 1% of GDP (Table 9.1b and Figure 9.1c).

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

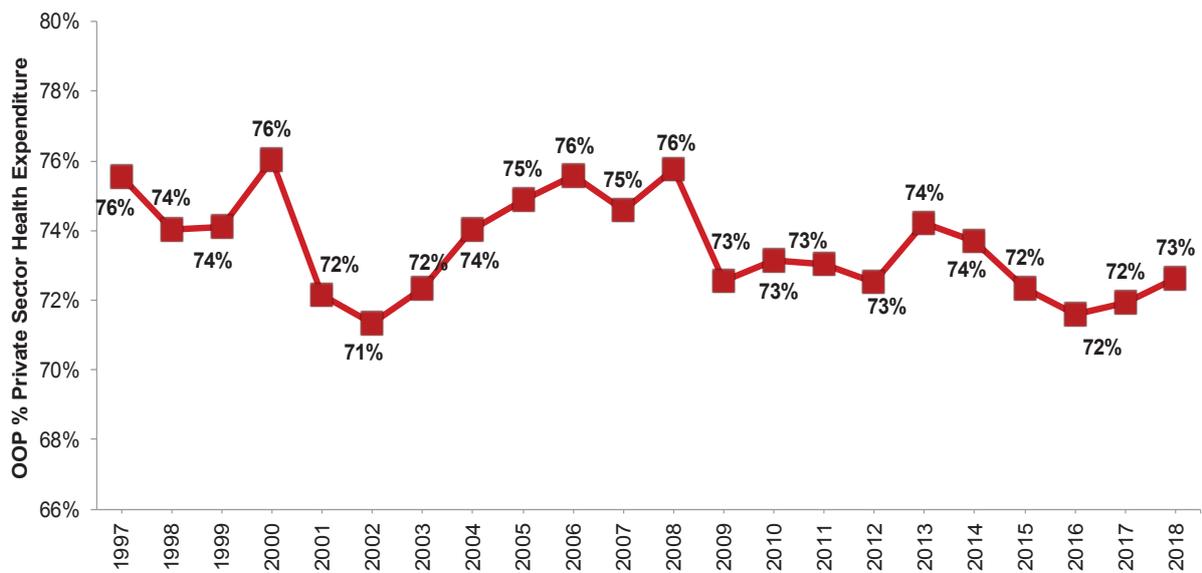
**TABLE 9.1a: OOP Share of Total Expenditure on Health and Private Sector Health Expenditure, 1997-2018 (Percent, %)**

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 (percent)	OOP Share of Private Sector Health Expenditure (percent)
1997	4,190	8,556	3,166	37.00	75.55
1998	4,411	9,162	3,265	35.64	74.04
1999	4,720	9,960	3,497	35.11	74.10
2000	5,493	11,753	4,175	35.52	76.01
2001	5,379	12,711	3,882	30.54	72.16
2002	5,786	13,649	4,127	30.24	71.33
2003	6,831	17,212	4,941	28.71	72.33
2004	7,650	18,210	5,664	31.10	74.04
2005	8,524	18,243	6,382	34.99	74.87
2006	9,449	22,080	7,141	32.34	75.57
2007	10,621	24,426	7,919	32.42	74.57
2008	11,990	27,774	9,084	32.71	75.77
2009	11,682	29,380	8,478	28.86	72.57
2010	13,559	32,889	9,917	30.15	73.14
2011	15,700	35,953	11,466	31.89	73.04
2012	17,439	39,448	12,649	32.06	72.53
2013	18,777	41,648	13,933	33.45	74.20
2014	20,855	46,781	15,373	32.86	73.71
2015	23,215	50,234	16,795	33.43	72.35
2016	24,853	51,578	17,798	34.51	71.61
2017	26,913	56,114	19,363	34.51	71.95
2018	28,936	60,147	21,016	34.94	72.63

**FIGURE 9.1a: OOP Share of Total Expenditure on Health, 1997-2018 (Percent, %)**



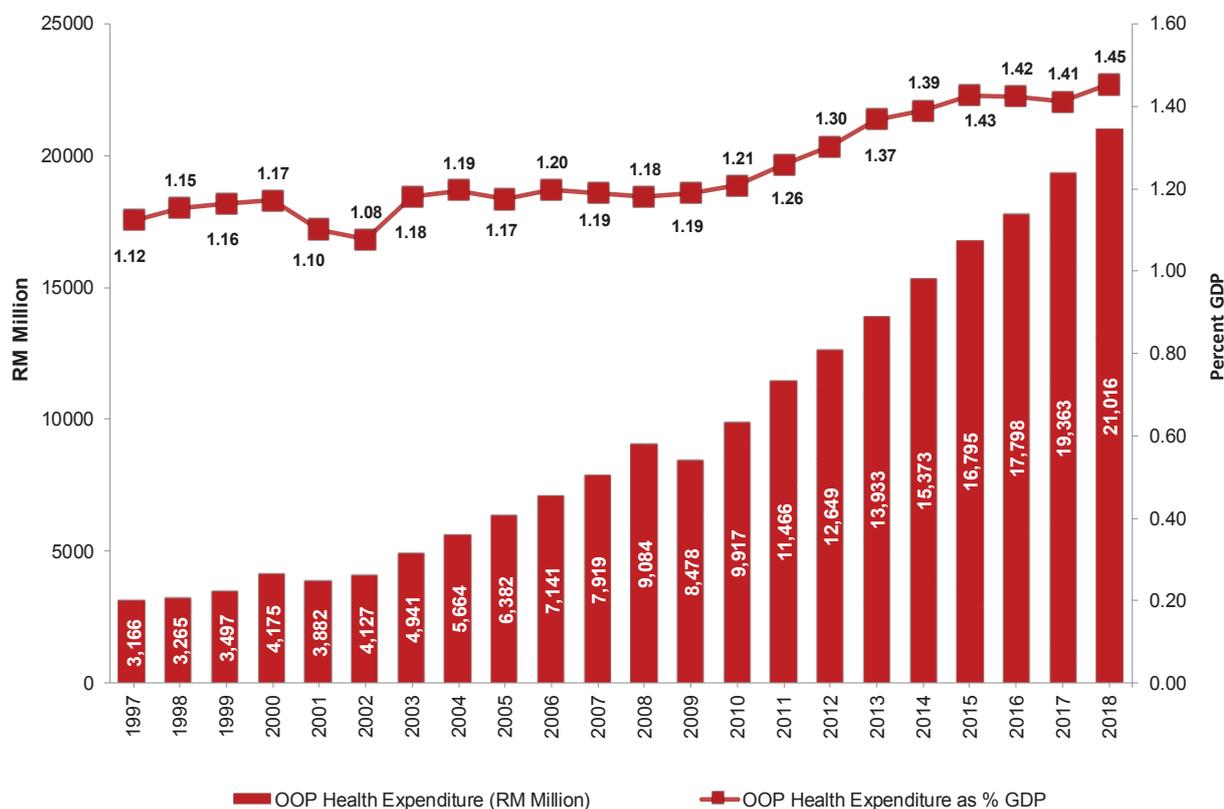
**FIGURE 9.1b: OOP Share of Private Sector Health Expenditure, 1997-2018 (Percent, %)**



**TABLE 9.1b : OOP Health Expenditure and as GDP percentage, 1997-2018**

Year	OOP Health Expenditure (RM Million)	OOP Health Expenditure as % GDP
1997	3,166	1.12
1998	3,265	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	7,141	1.20
2007	7,919	1.19
2008	9,084	1.18
2009	8,478	1.19
2010	9,917	1.21
2011	11,466	1.26
2012	12,649	1.30
2013	13,933	1.37
2014	15,373	1.39
2015	16,795	1.43
2016	17,798	1.42
2017	19,363	1.41
2018	21,016	1.45

**FIGURE 9.1c: OOP Health Expenditure and as GDP percentage, 1997-2018 (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 1997-2018 time series, OOP health expenditure generally shows an increasing pattern, with slight reduction in 2009, and followed by a progressive increase from then onwards (Table 9.2a and Figure 9.2a).

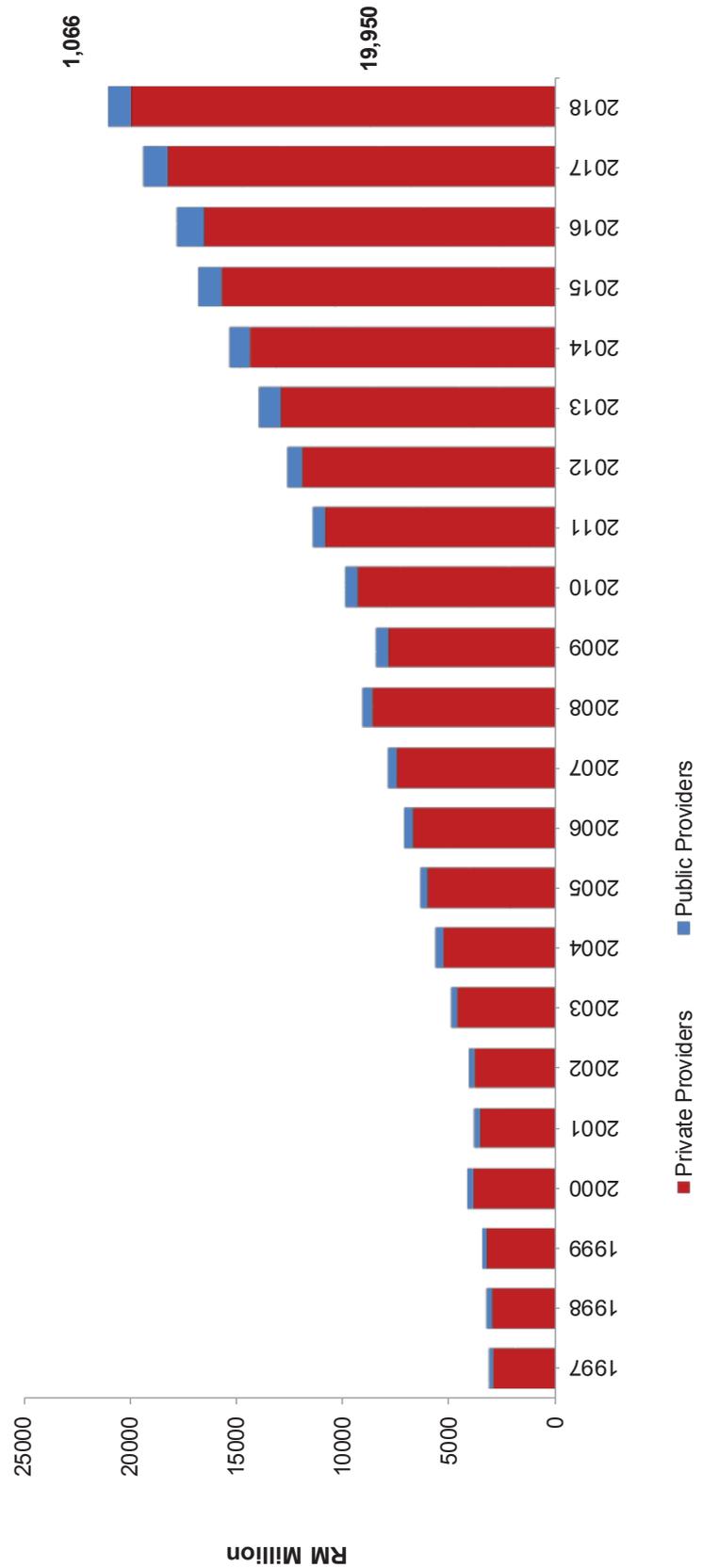
In 2018, of the total RM19,950 million of OOP health expenditure to private providers of health care, private hospitals consumed the largest share at RM9,183 million (44%) followed by private medical clinics at RM3,908 million (19%), private pharmacies at RM3,734 million (18%), private dental clinics at RM883 million (4%), TCM providers at RM722 million (3%), retail sale and other suppliers of medical goods and appliances at RM605 million (3%), private medical and diagnostic laboratories at RM39 (<1%) and the balance, RM 877 million (4%) comprise of other private providers of health care (Table 9.2b and Figure 9.2b).

The 1997 to 2018 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 RM9,183 million in 2018, a difference of RM8,024 million. However, there is an 11-fold increase in spending at private pharmacies from RM325 million in 1997 to RM3,734 million in 2018. The OOP health expenditure at private medical clinics showed a fluctuating trend with expenditure of RM3,908 in 2018. The time series data also showed an increasing pattern of OOP health expenditure at public providers with an average of 6% throughout the years (Table 9.2c and Table 9.2d).

**TABLE 9.2a: OOP Health Expenditure to Public and Private Providers of Health Care, 1997-2018 (RM Million)**

Providers	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Public Providers	167	195	215	223	247	265	283	328	328	358	386	450	556	586	628	691	1,013	995	1,096	1,226	1,132	1,066
Private Providers	2,998	3,070	3,283	3,952	3,635	3,862	4,659	5,336	6,055	6,782	7,534	8,635	7,922	9,331	10,838	11,957	12,920	14,378	15,659	16,571	18,231	19,950
<b>Total</b>	<b>3,166</b>	<b>3,265</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>7,141</b>	<b>7,919</b>	<b>9,084</b>	<b>8,478</b>	<b>9,917</b>	<b>11,466</b>	<b>12,649</b>	<b>13,933</b>	<b>15,373</b>	<b>16,795</b>	<b>17,798</b>	<b>19,363</b>	<b>21,016</b>

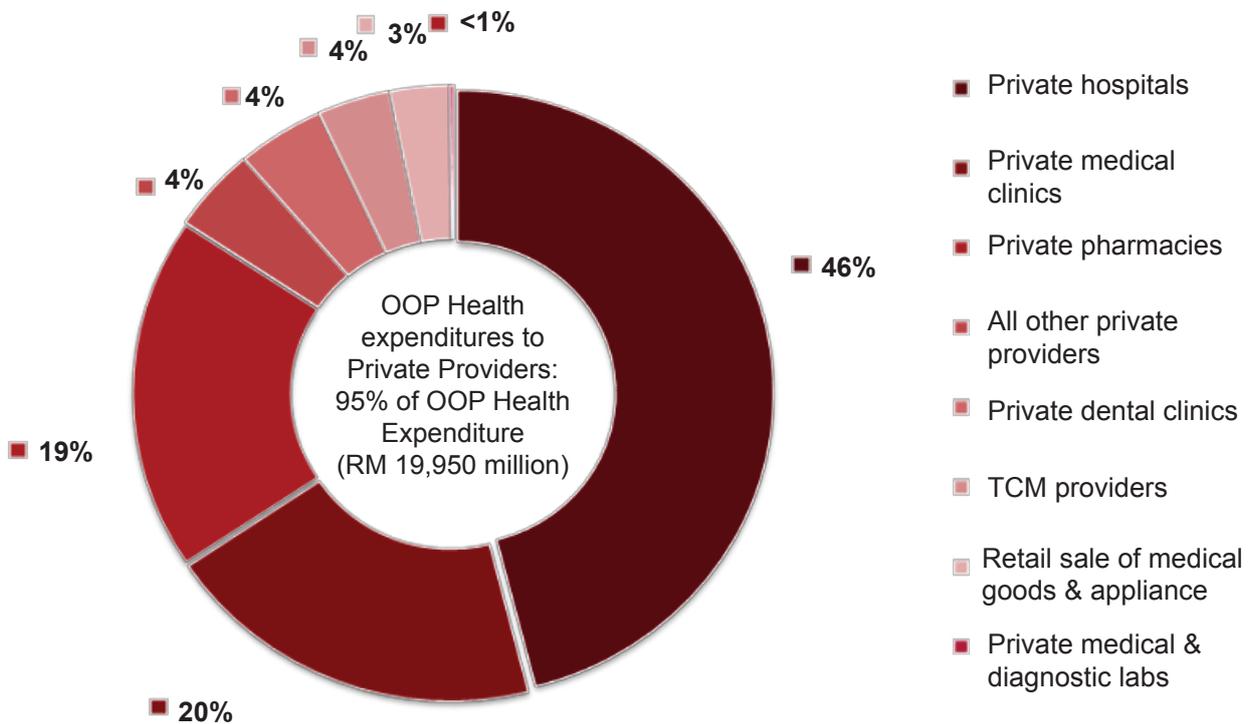
**FIGURE 9.2a: OOP Health Expenditure to Public and Private Providers of Health Care, 1997-2018 (RM Million)**



**TABLE 9.2b: OOP Health Expenditure to Private Providers of Health Care, 2018**

Provider name	RM (Million)	Percent
Private hospitals	9,183	46.03
Private medical clinics	3,908	19.59
Private pharmacies	3,734	18.71
All other private sector providers of health care	877	4.40
Private dental clinics	883	4.43
Traditional and Complementary Medicine (TCM) providers	722	3.62
Retail sale and other suppliers of medical goods & appliances	605	3.03
Private medical and diagnostic laboratories	39	0.19
<b>Total</b>	<b>19,950</b>	<b>100.00</b>

**FIGURE 9.2b: OOP Health Expenditure to Private Providers of Health Care, 2018**



**TABLE 9.2c: OOP Health Expenditure to Providers of Health Care, 1997-2018 (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	2018
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	5,359	5,613	5,736	6,034	6,922	7,492	8,521	9,183
Private medical clinics	815	816	863	1,065	951	1,013	1,149	1,481	1,810	2,096	2,315	2,152	1,375	1,725	2,272	2,654	3,055	3,767	3,655	3,581	3,834	3,908
Private pharmacies	325	363	408	464	448	479	572	718	712	755	871	943	1,075	1,144	1,407	1,580	1,842	2,360	2,626	2,749	2,922	3,794
Private dental clinics	135	140	152	183	182	200	227	249	277	288	296	371	364	451	509	560	592	646	697	746	828	883
Traditional and Complementary Medicine (TCM) providers	294	292	277	289	247	227	202	176	210	240	277	333	319	361	394	412	424	452	534	624	685	722
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	424	523	574	605
Private medical and diagnostic laboratories	25	26	25	26	21	18	14	9	11	12	14	18	17	29	43	59	78	108	72	33	36	39
All other private sector providers of health care	96	107	144	180	163	180	236	192	191	220	232	213	267	503	534	754	869	678	769	823	830	877
<b>Sub-Total (Private Providers)</b>	<b>2,998</b>	<b>3,070</b>	<b>3,283</b>	<b>3,952</b>	<b>3,635</b>	<b>3,862</b>	<b>4,659</b>	<b>5,336</b>	<b>6,055</b>	<b>6,782</b>	<b>7,534</b>	<b>8,635</b>	<b>7,922</b>	<b>9,331</b>	<b>10,838</b>	<b>11,957</b>	<b>12,920</b>	<b>14,378</b>	<b>15,699</b>	<b>16,571</b>	<b>18,231</b>	<b>19,950</b>
Public hospitals	136	143	158	168	167	174	179	205	201	223	229	255	229	254	259	253	334	309	369	451	424	443
Public medical clinics	10	10	11	11	13	16	19	23	25	28	32	36	38	41	45	50	44	48	58	60	75	51
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	633	572
<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>586</b>	<b>628</b>	<b>691</b>	<b>1,013</b>	<b>995</b>	<b>1,096</b>	<b>1,226</b>	<b>1,132</b>	<b>1,066</b>
<b>Total</b>	<b>3,166</b>	<b>3,265</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>7,141</b>	<b>7,919</b>	<b>9,084</b>	<b>8,478</b>	<b>9,917</b>	<b>11,466</b>	<b>12,649</b>	<b>13,933</b>	<b>15,373</b>	<b>16,795</b>	<b>17,798</b>	<b>19,363</b>	<b>21,016</b>

**TABLE 9.2d: OOP Health Expenditure to Providers of Health Care, 1997-2018 (Percent, %)**

Provider Name	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Private hospitals	36.60	35.72	35.94	37.68	37.80	38.56	42.67	41.66	41.73	41.51	41.54	47.55	49.90	48.54	46.74	44.38	41.17	39.25	41.22	42.09	44.01	43.70
Private medical clinics	25.74	24.98	24.67	25.50	24.50	24.53	23.25	26.14	28.36	29.35	29.23	23.69	16.21	17.40	19.82	20.98	21.93	24.50	21.76	20.12	19.80	18.59
Private pharmacies	10.26	11.11	11.65	11.11	11.54	11.60	11.57	12.67	11.15	10.57	11.00	10.38	12.68	11.54	12.27	12.49	13.22	15.35	15.64	15.45	15.09	17.77
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	4.44	4.43	4.25	4.20	4.15	4.19	4.28	4.20
Traditional and Complementary Medicine (TCM) providers	9.28	8.95	7.93	6.93	6.37	5.49	4.08	3.11	3.29	3.36	3.50	3.66	3.76	3.64	3.43	3.25	3.04	2.94	3.18	3.50	3.54	3.44
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	2.80	2.57	2.34	2.17	2.52	2.94	2.97	2.88
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	0.38	0.47	0.56	0.70	0.43	0.18	0.19	0.18
All other private sector providers of health care	3.04	3.27	4.11	4.30	4.19	4.36	4.77	3.38	2.99	3.08	2.93	2.34	3.15	5.07	4.65	5.96	6.23	4.41	4.58	4.63	4.29	4.17
<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>94.98</b>	<b>95.13</b>	<b>95.05</b>	<b>93.44</b>	<b>94.09</b>	<b>94.52</b>	<b>94.53</b>	<b>92.73</b>	<b>93.53</b>	<b>93.47</b>	<b>93.11</b>	<b>94.15</b>	<b>94.93</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	2.71	2.56	2.26	2.00	2.40	2.01	2.20	2.53	2.19	2.11
Public medical clinics	0.30	0.31	0.30	0.27	0.33	0.38	0.39	0.40	0.39	0.39	0.41	0.39	0.45	0.42	0.40	0.40	0.32	0.31	0.35	0.34	0.39	0.25
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	2.63	3.07	4.55	4.15	3.98	4.02	3.27	2.72
<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>5.02</b>	<b>4.87</b>	<b>4.95</b>	<b>6.56</b>	<b>5.91</b>	<b>5.48</b>	<b>5.47</b>	<b>7.27</b>	<b>6.47</b>	<b>6.53</b>	<b>6.89</b>	<b>5.85</b>	<b>5.07</b>
<b>Total</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 2018 the largest proportion of OOP health expenditure is RM8,427 million (40%) for out-patient care services (Figure 9.3a). This includes 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 RM4,833 million (23%) of OOP health spending. This includes 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 RM3,734 million (18%), health education and training is RM1,386 million (6%), medical appliances and

non-durable goods is RM792 million (4%), day-care services at RM683 million (3%), TCM is RM569 million (3%) and the remaining RM593 million (3%) is for other functions.

Although the 1997 to 2018 time series data shows general increase in the level of OOP health spending for various functions, the proportions showed some variations. Over this 22-year time period, the OOP health spending for out-patient services has increased from RM1,450 million in 1997 to RM8,427 million in 2018, the proportion of out-patient services has actually reduced, from 46% to 40% (Figure 9.3b). There is also rise in in-patient services from RM745 million in 1997 to RM4,833 million in 2018 with the proportion of this function reduced from 24% to 23% over this time period. There is 50 fold increase in OOP health spending for health education and training from RM28 million in 1997 to RM1,386 million in 2018 and 11-fold increase in OOP health expenditure for pharmaceuticals from RM325 million in 1997 to RM3,734 million in 2018 (Table 9.3a and Table 9.3b).

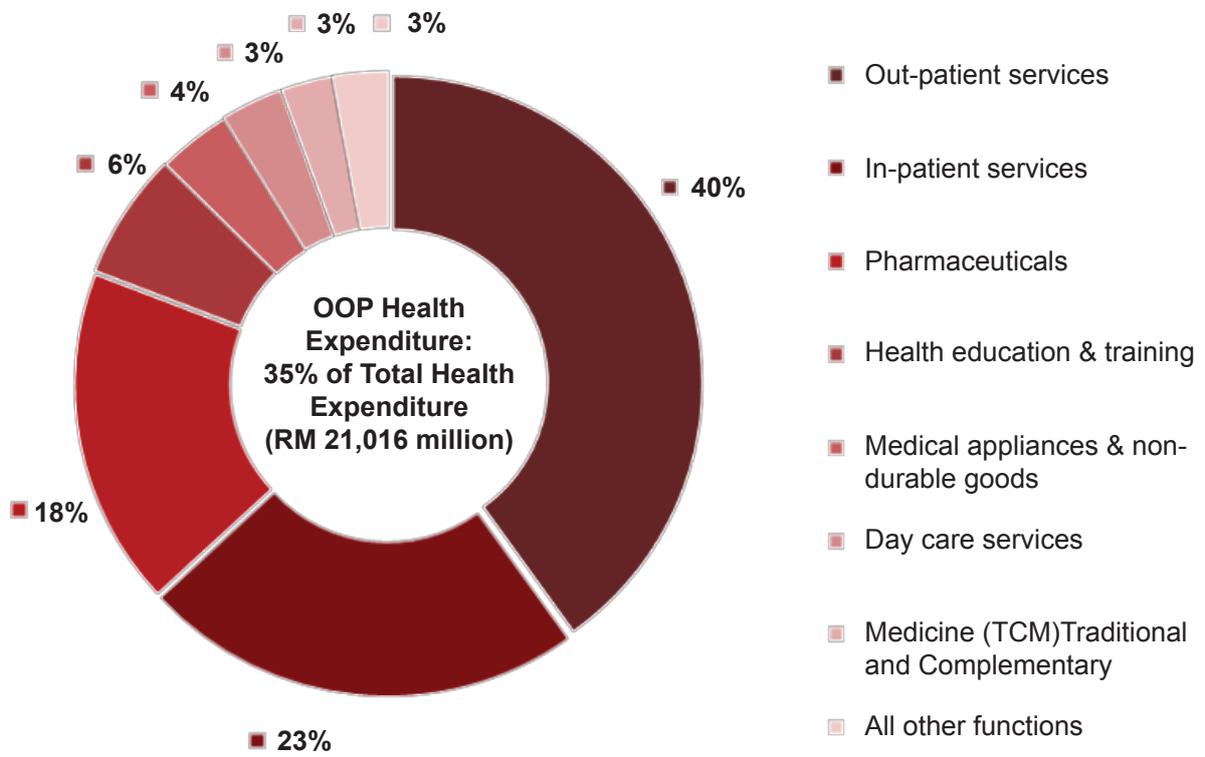
**TABLE 9.3a: OOP Health Expenditure by Functions of Health Care, 1997-2018 (RM Million)**

Function Name	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
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	5,342	5,925	6,446	7,413	7,200	7,358	8,034	8,427
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	2,765	2,856	2,845	2,904	3,582	3,993	4,506	4,833
Pharmaceuticals	325	363	408	464	448	479	572	718	712	755	871	943	1,075	1,144	1,407	1,580	1,842	2,360	2,626	2,749	2,922	3,734
Health education & training	28	49	100	146	158	197	274	262	257	286	312	321	513	744	795	1,072	1,428	1,244	1,367	1,474	1,400	1,386
Medical appliances & non-durable goods	168	180	179	197	180	181	180	183	220	244	273	334	322	360	384	394	398	413	571	682	750	792
Day care services	77	78	84	102	101	112	129	145	165	185	215	323	284	325	387	393	365	381	508	545	641	663
Traditional and Complementary Medicine (TCM)	264	263	247	253	212	188	160	130	156	180	209	253	244	275	298	310	317	335	407	489	540	569
All other functions	109	118	108	107	87	73	57	40	48	54	58	67	62	75	89	120	293	322	534	507	570	593
<b>Total</b>	<b>3,166</b>	<b>3,265</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>7,141</b>	<b>7,919</b>	<b>9,084</b>	<b>8,478</b>	<b>9,917</b>	<b>11,466</b>	<b>12,649</b>	<b>13,933</b>	<b>15,373</b>	<b>16,795</b>	<b>17,798</b>	<b>19,363</b>	<b>21,016</b>

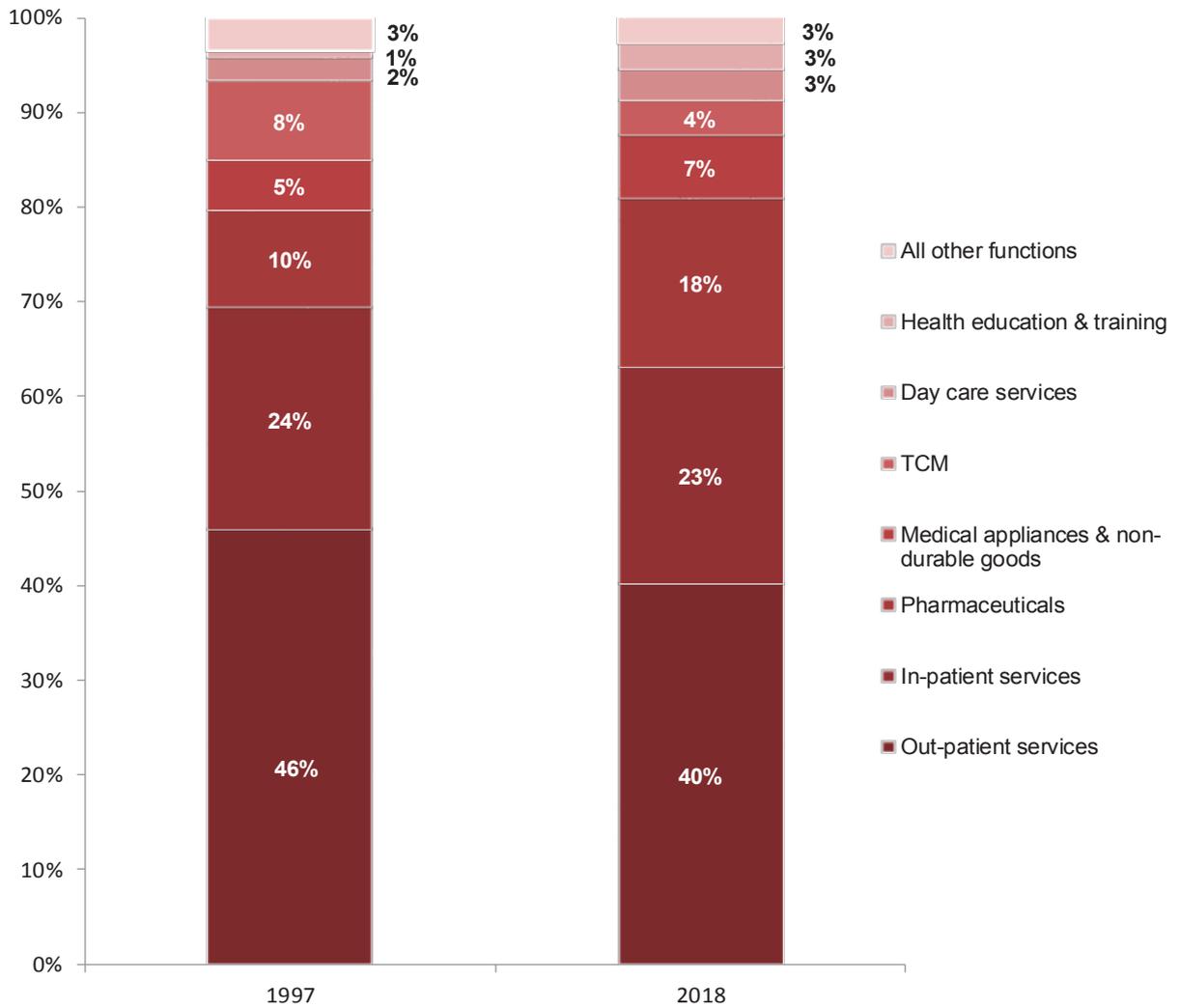
**TABLE 9.3b: OOP Health Expenditure by Functions of Health Care, 1997-2018 (Percent, %)**

Function Name	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Out-patient services	45.79	46.00	46.21	47.43	47.86	48.93	48.72	50.90	52.60	53.79	53.83	50.68	45.11	45.69	46.59	46.84	46.26	48.22	42.87	41.34	41.49	40.10
In-patient services	23.54	21.85	21.61	22.16	21.59	21.28	23.54	23.01	23.00	22.37	21.68	24.65	25.41	24.83	24.11	22.58	20.42	18.89	21.33	22.44	23.27	22.99
Pharmaceuticals	10.26	11.11	11.65	11.11	11.54	11.60	11.57	12.67	11.15	10.57	11.00	10.38	12.68	11.54	12.27	12.49	13.22	15.35	15.64	15.45	15.09	17.77
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	7.51	6.93	8.47	10.25	8.09	8.14	8.28	7.23	6.59
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	3.35	3.12	2.86	2.69	3.40	3.83	3.87	3.77
Day care services	2.43	2.38	2.40	2.45	2.60	2.72	2.60	2.56	2.59	2.59	2.71	3.56	3.35	3.28	3.38	3.11	2.62	2.48	3.03	3.06	3.31	3.25
Traditional and Complementary Medicine (TCM)	8.35	8.06	7.05	6.06	5.46	4.57	3.24	2.29	2.44	2.51	2.64	2.79	2.88	2.77	2.60	2.45	2.27	2.18	2.42	2.75	2.79	2.71
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	0.77	0.95	2.10	2.10	3.18	2.85	2.94	2.82
<b>Total</b>	<b>100.00</b>																					

**FIGURE 9.3a: OOP Health Expenditure by Functions of Health Care, 2018 (Percent, %)**



**FIGURE 9.3b: OOP Health Expenditure by Functional Proportion, 1997 & 2018 (Percent %)**



# CHAPTER 10

## INTERNATIONAL NHA DATA

Global Health Expenditure Database (GHED) is the largest database that provides global reference for health expenditure data for almost 190 World Health Organization (WHO) member countries. On an annual basis every member country submits their national health expenditure data according to WHO request formats. WHO carries out their own country level analysis based on System of Health Accounts (SHA) framework. Available country specific data, submitted country specific NHA data, country specific macro level data from various sources such as United Nations (UN), World Bank (WB) and International Monetary Fund (IMF) form the basis of WHO NHA analysis.

The outputs of WHO analysis are then uploaded onto GHED database as the international health expenditure data of the member countries. These WHO estimations for member countries allow standardization in NHA reporting and ensure better cross-country comparability. This is freely accessible via the related website. 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 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. In keeping with structural changes and further development of the health care industry during the subsequent

decade, related international organizations of OECD, Eurostat, and WHO produced an updated version of SHA which is referred to as SHA 2011.

GHED under WHO website accommodates NHA data reporting based on the latest SHA 2011 framework since December 2017. 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. Malaysia NHA data from 2015 to 2017 for core classification was submitted using SHA 2011 format. Table 10.1 shows available data in GHED database under various headers which have further disaggregated data as listed in Appendix Table A3.1 and A3.2.

A total of 16 developing and developed countries with potential policy relevance to Malaysia are selected from WHO GHED database for country comparison. Comparisons are made based on the year 2017 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 clarified earlier in Section 2.1, CHE instead of TEH has been used by WHO for international comparison. In 2017 based on WHO GHED database, CHE of Malaysia was 3.9% of GDP which is lower than neighboring countries such as Singapore, Philippines, China and Korea but higher than other regional countries such as Sri Lanka, Thailand, Indonesia and Bangladesh (Figure 10.1). Health expenditures in developed countries like Australia, UK, Japan, France and Germany were between 9 to 11% of GDP with

USA at 17% of GDP. Likewise, the per capita health expenditure of developed countries ranged from two 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.

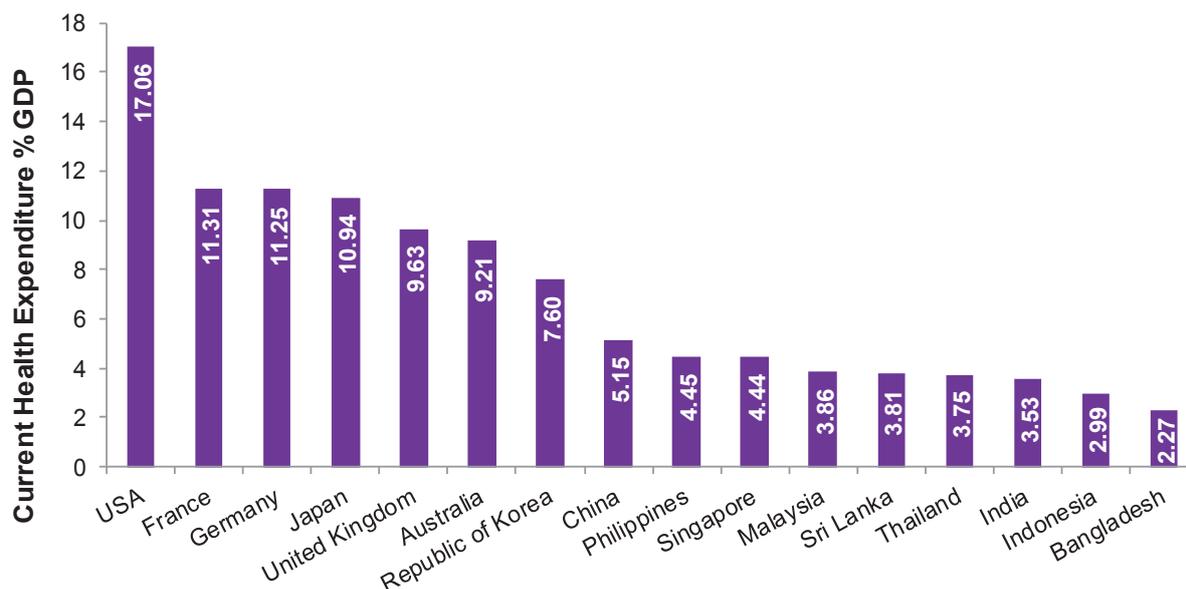
Even though SHA 2011 does not use the terms “public” or “private” sources of financing, GHED database maintains this terminology under the list of indicators under “domestic general government” and “domestic private” health expenditure (Appendix Table A3.1). Most developed countries have a higher domestic 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, Malaysia is lower than Bangladesh, India, Philippines and Sri Lanka in 2017 (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 90 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 Schemes
		1.3	Financing Sources
		1.4	Cross classifications
2	Health Expenditure Data	2.1	Revenues
		2.2	Financing Schemes
		2.3	By Disease/Condition
		2.4	Capital Expenditure
3	Macro Data	3.1	Consumption
		3.2	Exchanges Rates
		3.3	Price Index
		3.4	Population
4	Global Health Observatory	4.1	Life expectancy at birth
		4.2	Infant mortality rate
		4.3	Maternal mortality ratio
		4.4	Median availability of selected generic medicines (%) - Public
		4.5	Median availability of selected generic medicines (%) - Private
		4.6	Median consumer price ratio of selected generic medicines - Public
		4.7	Median consumer price ratio of selected generic medicines - Private
		4.8	Under-five mortality rate
		4.9	Births attended by skilled health personnel (%)
		4.10	Population at risk of malaria

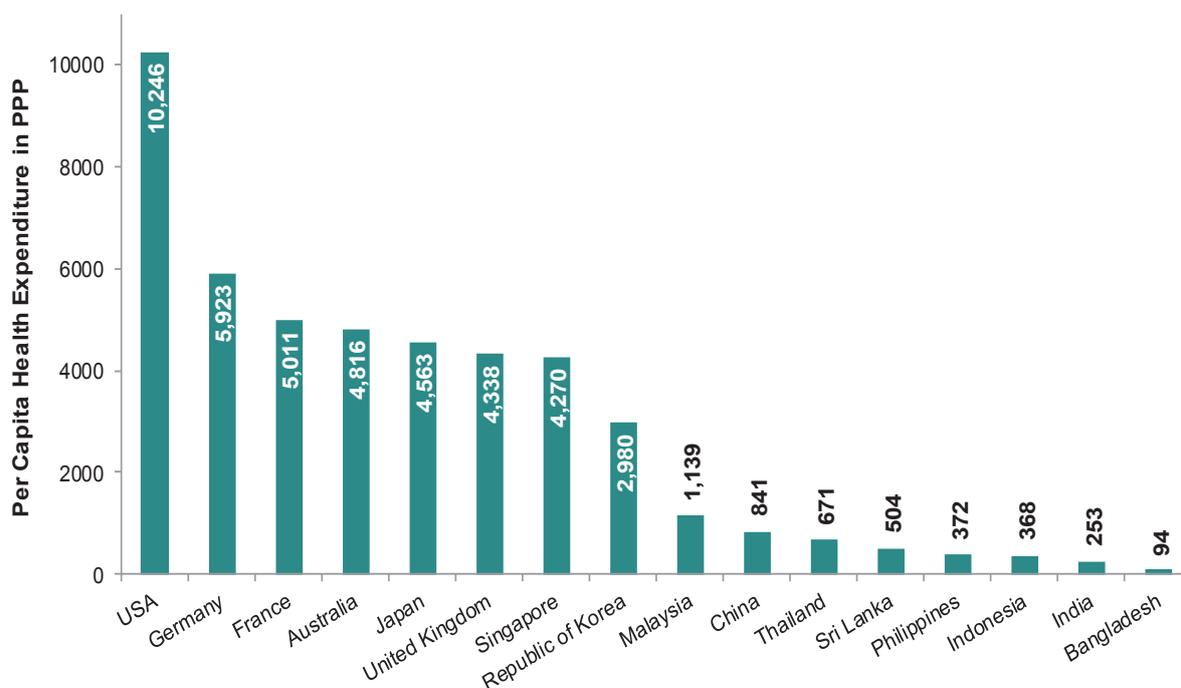
Source: Global Health Expenditure Database (GHED) WHO NHA on 7th February 2020

**Figure 10.1: International Comparison of Current Health Expenditure as Percent of GDP, 2017**



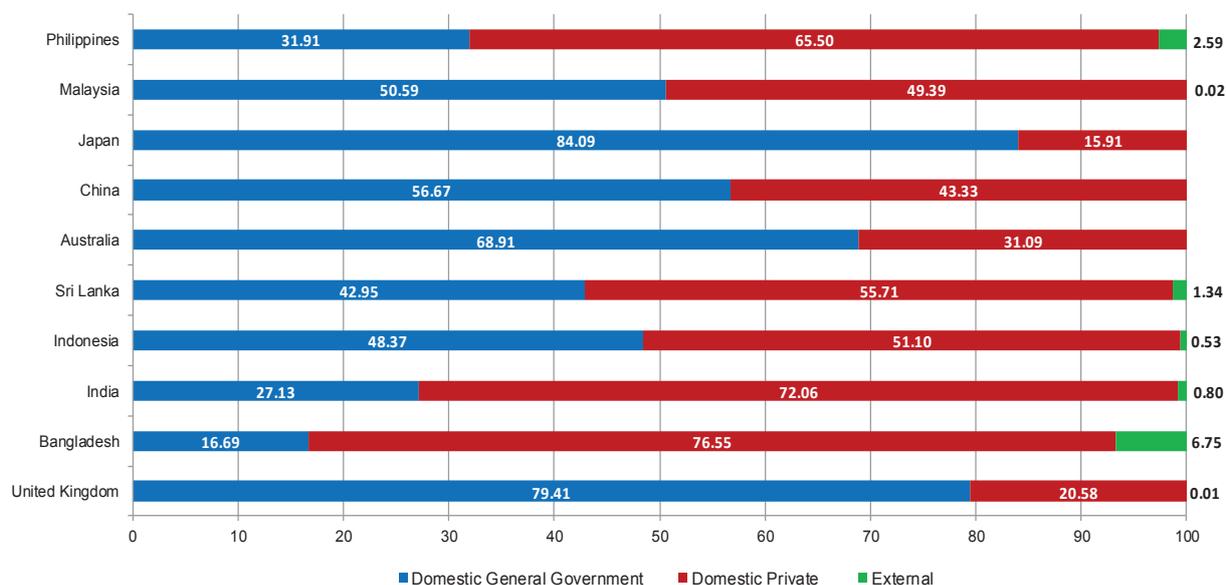
Source: Global Health Expenditure Database (GHED) WHO NHA on 7th February 2020

**Figure 10.2: International Comparison of Per Capita Health Expenditure in Purchasing Power Parity (PPP), 2017**



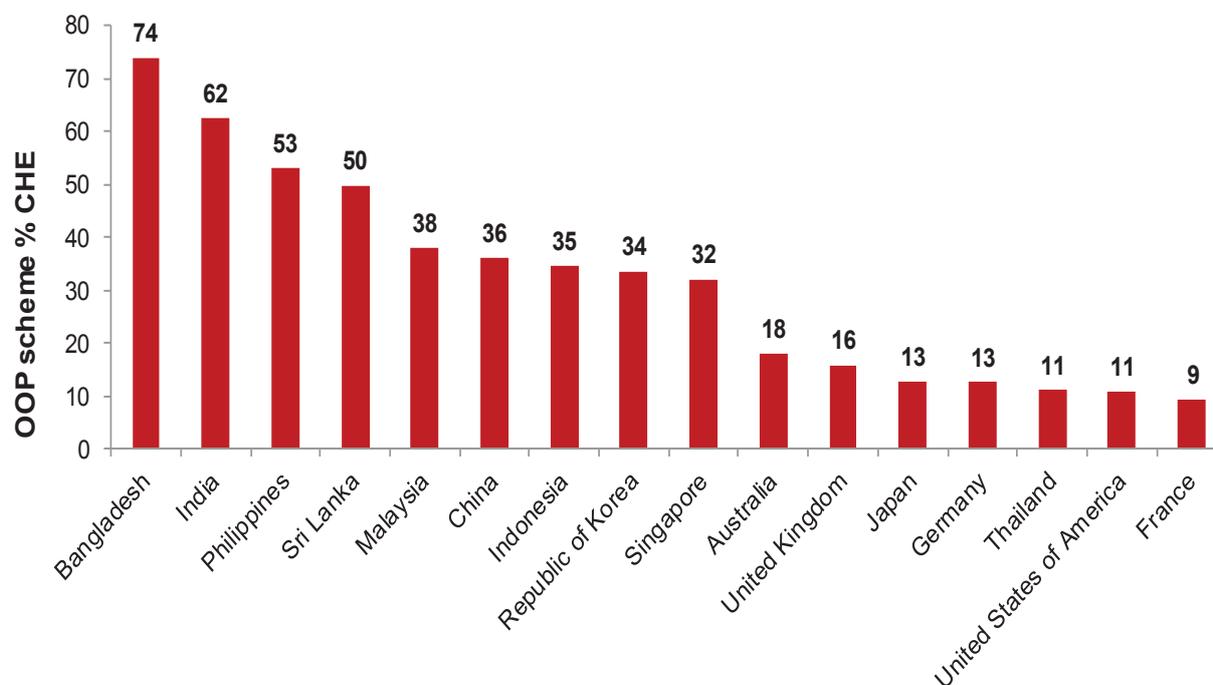
Source: Global Health Expenditure Database (GHED) WHO NHA on 7th February 2020

**Figure 10.3: International Comparison of Domestic Government and Private Health Expenditure, 2017**



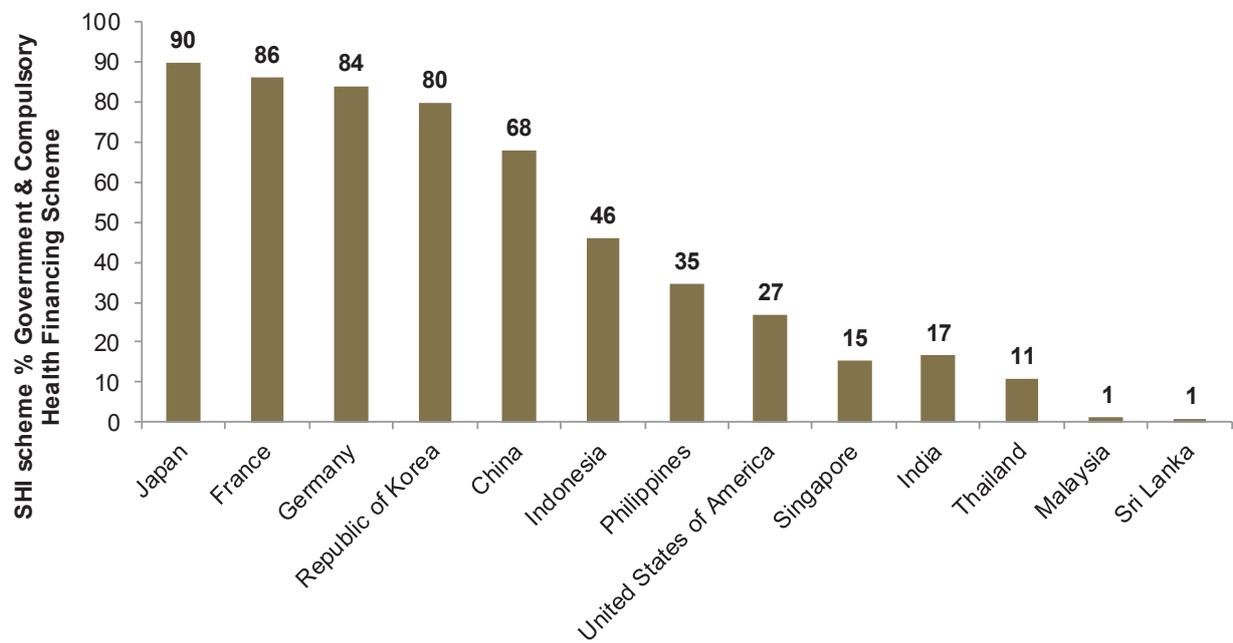
Source: Global Health Expenditure Database (GHED) WHO NHA on 7th February 2020

**Figure 10.4: International Comparison of Out-of-pocket Health Financing Scheme as Percent of Current Health Expenditure, 2017**



Source: Global Health Expenditure Database (GHED) WHO NHA on 7th February 2020

**Figure 10.5: International Comparison of Social Health Insurance as Percent of Government and Compulsory Health Financing Schemes, 2017**



Source: Global Health Expenditure Database (GHED) WHO NHA on 7th February 2020

## APPENDIX TABLES

<b>TABLE A1.1 : Source of Data</b>			
<b>Data Sources for Public Sector Estimation</b>			
<b>PUBLIC SECTOR</b>			
	<b>Main Agencies</b>	<b>Specific Organisation</b>	<b>Source of Data</b>
1	Ministry of Health (MOH)	Accountant-General's Department	MOH - AG DATA (expenditure)
2	Other Ministries	Ministry of Education	MNHA survey - MOE
		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)
		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)		
Emergency Medical Rescue Services	MNHA survey - EMRS		
University Health Center	MNHA survey - PKU		

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 - INSURANCE
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
		MOE 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 - INSURANCE
		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	International Organizations in Malaysia	MNHA survey - Rest
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 A2.1 : GLOBAL HEALTH EXPENDITURE DATABASE (GHED), WHO INDICATORS AND DATA - MALAYSIAN HEALTH EXPENDITURE, 2000-2017\***

Indicators	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Health Capital Expenditure (HK) % Gross Domestic Product (GDP)	<	<	<	0.63	<	<	<	<	<	<	<	<	<	<	<	<	<	<
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	384.07
Current Health Expenditure (CHE) per Capita in PPP	355.99	380.88	398.55	461.59	485.76	485.83	578.63	610.19	632.32	664.42	667.55	739.37	816.54	860.28	964.61	1,040.62	1,053.63	1,138.96
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	3.89	3.80	3.86
Domestic Health Expenditure (DOM) as % of Current Health Expenditure (CHE)	100.00	99.73	99.79	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	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	53.94	52.87	53.26	55.44	52.82	52.96	53.68	53.86	54.79	53.09	50.47	50.59
Domestic Private Health Expenditure (PVT-D) as % Current Health Expenditure (CHE)	53.33	49.14	48.53	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	49.39
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	9.71
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	37.95
Other Private Health Expenditure (OTHER) as % Current Health Expenditure (CHE)	12.33	13.14	13.52	13.13	12.44	12.57	11.09	11.68	11.01	12.04	12.64	11.90	11.76	10.79	10.00	11.39	11.91	11.44
External Health Expenditure (EXT) as % of Current Health Expenditure (CHE)	-	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<
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	6.58	6.83	7.85	8.24	8.32	8.93
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	1.95
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	194.29
Domestic General Government Health Expenditure (GGHE-D) per Capita in PPP Int\$	166.14	192.69	204.29	240.45	248.54	238.52	311.52	322.61	336.76	368.34	352.60	391.57	438.32	463.33	528.55	552.48	531.78	576.19
Domestic Private Health Expenditure (PVT-D) per Capita in US\$	59.42	56.37	59.17	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	189.69
Domestic Private Health Expenditure (PVT-D) per Capita in PPP Int\$	189.85	187.17	193.42	220.99	236.90	247.19	266.98	287.47	295.45	296.00	314.90	347.77	378.03	396.73	435.56	487.78	521.63	562.52

Note: \*WHO estimation based on MNHA submission of SHA 2011 compatible MNHA data (MNHA database 2015-2017)

**TABLE A2.2 : GLOBAL HEALTH EXPENDITURE DATABASE (GHED), WHO INDICATORS AND DATA - MALAYSIAN HEALTH EXPENDITURE, 2000 -2017\***

Indicators	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Out-of-Pocket Expenditure (OOPS) per Capita in PPP Int\$	145.95	137.12	139.55	160.38	176.47	186.14	202.80	216.19	225.84	216.00	230.53	259.78	282.01	303.92	339.09	369.21	396.12	432.20	
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	50.70	
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	49.96	
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	0.63	
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	0.63	
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	49.30	
General Government Expenditure (GGE) as % of 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	28.91	28.17	26.33	25.10	23.04	21.87	
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	10,882.22	11,183.84	9,655.11	9,515.19	9,951.45	
Gross Domestic Product (GDP) per Capita in PPP Int\$	13,879.62	13,960.36	14,630.17	15,472.44	16,649.01	17,079.00	18,242.63	19,547.18	20,519.66	19,997.92	20,675.40	21,818.88	23,024.02	24,084.88	25,566.02	26,717.39	27,731.44	29,511.44	
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	45,122.86	46,771.60	52,232.32	
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	26,094.88	
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	26,094.88	
Transfers distributed by government from foreign origin	-	-	-	-	-	<	3.79	2.68	<	2.44	1.78	0.70	4.79	4.98	18.55	1.11	0.81	1.37	
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	328.79	
Voluntary prepayment	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	5,069.38	
Other domestic revenues n.e.c.	4,640.99	4,393.37	4,629.86	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	16,746.31	18,361.77	20,669.46	
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	19,820.70	
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	799.40	
Other revenues from NPISH n.e.c.	82.28	62.66	76.95	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	49.36	
Direct foreign transfers	-	27.77	23.64	4.36	9.85	3.82	0.73	1.37	4.08	0.53	<	0.59	3.29	4.15	3.31	14.14	8.86	10.17	
Unspecified revenues of health care financing schemes (n.e.c.)	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	51.84	58.27

Note: \*WHO estimation based on MNHA submission of SHA 2011 compatible MNHA data (MNHA database 2015-2017)

**TABLE A2.3 : GLOBAL HEALTH EXPENDITURE DATABASE (GHED), WHO INDICATORS AND DATA - MALAYSIAN HEALTH EXPENDITURE, 2000-2017\***

Indicators	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Current health expenditure by financing schemes	9,816.30	10,330.14	11,210.61	13,416.09	14,852.89	15,989.57	19,549.46	21,450.30	24,503.76	24,460.63	26,521.88	30,885.50	34,444.92	36,383.25	41,746.30	45,122.86	46,771.60	52,232.32
Government schemes and compulsory contributory health care financing schemes	4,581.31	5,226.00	5,746.41	6,888.71	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	26,483.31
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	26,096.25
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	328.79
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	328.79
Compulsory Medical Saving Accounts (CMSA)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51.84	56.30	58.27
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	5,928.31
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	5,069.38
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	59.53
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	683.83	702.16	799.40
Household out-of-pocket payment	4,024.70	3,718.83	3,925.27	4,861.40	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	19,820.70
Capital health expenditure	1,376.00	1,682.00	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	1,378.76
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	736,221.00	821,435.00	911,733.00	971,251.00	1,018,610.00	1,106,440.00	1,158,510.00	1,231,020.00	1,353,380.00
Final consumption expenditure of Households and profit institutions serving households	166,925.00	174,072.00	184,634.00	199,622.00	223,264.00	250,734.00	276,203.00	313,609.00	359,330.00	363,467.00	395,245.00	437,340.00	482,237.00	527,749.00	579,985.00	626,373.00	674,965.00	748,857.00
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	217,056.00	230,645.00	221,643.00	250,477.00	280,792.00	286,992.00	291,279.00	290,800.00	283,652.00	295,972.00
Purchasing Power Parity (NCU per Int\$)	1.19	1.14	1.16	1.18	1.21	1.28	1.29	1.32	1.43	1.33	1.41	1.46	1.45	1.42	1.43	1.41	1.42	1.45
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	4.30
Gross domestic product - Price index (2017 =100)	63.28	62.28	64.23	66.35	70.34	73.89	76.83	80.58	88.95	83.62	86.77	91.47	92.38	92.54	94.83	94.48	96.32	100.00
Population (in thousands)	23,185.61	23,698.91	24,198.81	24,888.70	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	31,624.26
Population <5 - UN	2,684.24	2,688.56	2,684.49	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	:	:
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	10,833.24	:	:
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	10,833.24	:	:

Note: \*WHO estimation based on MNHA submission of SHA 2011 compatible MNHA data (MNHA database 2015-2017)

**Table A3.1: List of Available Data under "Indicators" in NHA GHED Website**

<b>1. INDICATORS</b>	
<b>1.1 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 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 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 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 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 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 A3.2: List of Available Data Under "Health Expenditure Data" in NHA GHED Website**

<b>2. HEALTH EXPENDITURE DATA</b>		
<b>2.1</b>	<b>REVENUES</b>	<b>Current health expenditure by revenues of health care financing schemes</b>
		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.)
<b>2.2</b>	<b>FINANCING SCHEMES</b>	<b>Current health expenditure by financing schemes</b>
		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.)
<b>2.3</b>	<b>HEALTH CARE FUNCTIONS (Preliminary Data)</b>	<b>2.3.1 Current health expenditure by health care functions ( preliminary data)</b>
		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)
		<b>2.3.2 Domestic General Government Health Expenditure by health care functions ( preliminary data)</b>
		2.3.2.1 Domestic General Government Health Expenditure on Curative Care
		2.3.2.2 Domestic General Government Health Expenditure on Rehabilitative Care
		2.3.2.3 Domestic General Government Health Expenditure on Long-term Care (health)
		2.3.2.4 Domestic General Government Health Expenditure on Ancillary Services (nonspecific by function)
		2.3.2.5 Domestic General Government Health Expenditure on Medical Goods (nonspecific by function)
		2.3.2.6 Domestic General Government Health Expenditure on Preventive Care
		2.3.2.7 Domestic General Government Health Expenditure on Governance, Health System & Financing Administration
		2.3.2.8 Domestic General Government Health Expenditure on Other Health Care Services (n.e.c)
<b>3.DISEASE AND CONDITION</b>		
<b>3.1</b>	<b>Domestic General Government Health Expenditure by Disease and conditions</b>	
<b>3.1</b>	<b>External Sources of Funding by Disease and conditions</b>	
<b>4. AGE</b>		
<b>4.1</b>	<b>Domestic General Government Health Expenditure in the &lt;5 years old population</b>	
<b>3.1</b>	<b>External Sources of Funding in the &lt;5 years old population</b>	
<b>5. CAPITAL EXPENDITURE</b>		

# MNHA COMMITTEES AND MEMBERS

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Director-General of Health Malaysia

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Deputy Secretary-General (Finance)

Deputy Director-General (Research & Technical Support)

Deputy Director-General (Medical)

Deputy Director-General (Public Health)

Senior Director of Oral Health Division

Senior Director of Pharmaceutical Service Division

Director of Planning Division

Director of Medical Development Division

Director of Medical Practices Division

Director of Family Health Development Division

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Director of Food Safety and Quality Division, Ministry of Health, Malaysia

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Secretary-General, Ministry of Human Resource

Secretary-General, Ministry of Defence

Secretary-General, Ministry of Higher Education

Director-General, Economic Planning Unit, Prime Minister's Department

Director-General, Public Private Partnership Unit (UKAS), Prime Minister's Department

Governor, Central Bank of Malaysia

Accountant-General of Malaysia, National Accountant Department

Deputy Director-General of Civil Service (Development), Civil Service Department

Chief Statistician of Malaysia, Department of Statistics

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Chief Executive Officer, Employees Provident Fund

Chief Executive Officer, Social Security Organization

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President, Association of Private Hospitals of Malaysia  
President, Malaysian Medical Association  
General Manager, IQ VIA (IMS)  
President, Malaysian Dental Association  
President, Malaysia Medical Device Association  
President, Federation of Malaysian Consumers Associations (FOMCA)

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**Deputy Chairperson:** Senior Deputy Director, Planning Division

**Secretary:** Deputy Director, MNHA Section, Planning Division

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Family Health Development Division  
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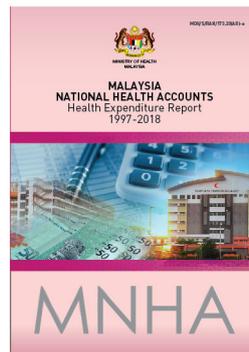
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