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Ministry of Health
Malaysia

Annual Report 2010

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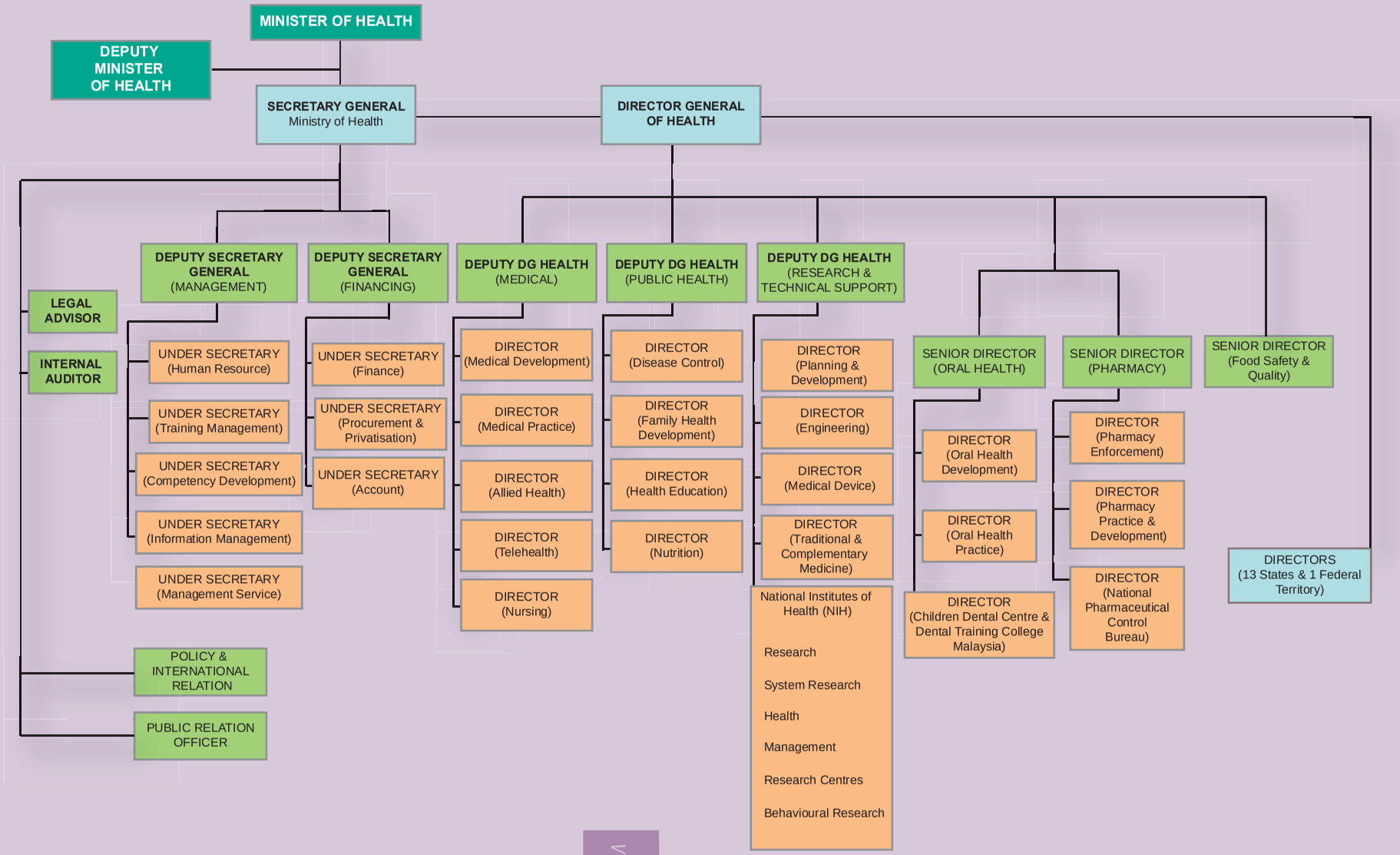
ORGANISATION CHART
MINISTER OF HEALTH, MALAYSIA



VISION

A nation working together for better health.

MISION

The mission of the Ministry of Health is to lead and work in partnership:

- to facilitate and support the people to:
  - √ fully attain their potential in health
  - √ appreciate health as a valuable asset
  - √ take individual responsibility and positive action for their health
- to ensure a high quality health system that is:customer centre
  - √ equitable
  - √ affordable
  - √ efficient
  - √ technologically appropriate
  - √ environmentally adaptable
  - √ innovative
- with emphasis on:
  - √ professionalism, caring and teamwork value
  - √ respect for human dignity
  - √ community participation

Health Status 1

INTRODUCTION

Malaysia is a vibrant and dynamic country enjoying continued economic growth and political stability since its independence 53 years ago. Malaysians today are generally healthier, live longer, and are better disposed to be more productive. The overall level of health attained is one of the key measures of the success of our country. Good health enables Malaysians to lead productive and fulfilling lives. In addition, a high level of health contributes to increased prosperity and overall social stability.

POPULATION STRUCTURE

Based on the adjusted Population and Housing Census of Malaysia 2000, the population of Malaysia in 2010 was 28.25 million with an average annual population growth rate of 1.3 per 100 populations. The total population in 2010 decreased by 0.06 million as compared to 28.31 million recorded in 2009. The geographical distribution of population showed that Selangor had the highest population of 5.10 million, while Federal Territory of Labuan recorded the lowest population of 0.1 million (Table 1). However, Kelantan recorded the highest average annual population growth rate of 1.9 per 100 populations, while Sabah recorded the lowest annual growth rate of 1.0.

It should be noted that another Population and Housing Census of Malaysia was done in 2010. Based on the latest census, the population of Malaysia in 2010 was 28.34 million. According to the geographical distribution, Selangor had the highest population of 5.46 million, while the Federal Territory of Putrajaya recorded the lowest population of 0.07 million (Table 2). From now on, demography and population data in Malaysia shall be referring to this latest census.

In 2010, 67.3% out of the total population lived in urban area, while 32.7% lived in rural area (Table 3).Overall, the population in Malaysia is relatively young, with 37.6% of the total population were below 20 years of age, and only 7.9% of the population aged 60 years and above. In 2010, the economically-productive population which consists of population aged 15 to 64 years was 19.1 million or 67.3% of the total population, while the economically dependent i.e age below 15 years and 65 years and above was 9.3 million or 32.7% of the total population.

HEALTH STATUS

Health status can be gauged by the use of health status indicators. Indicators such as life expectancy at birth, mortality and morbidity status of the country were among the indicators that can be measured, and serve as an indication of the state of health of individuals, and thus the health of the overall population.

- **Life Expectancy at Birth**

  Life expectancy is a measure of the number of years, on an average, that a person can expect to live. With the improvement in the nutritional and socio-economic status of the population, Malaysians can expect to live much longer than in the past. The estimated life expectancy at birth in 2010 has remained at 71.7 years for male and increase to 76.6 years for female as compared to 70.6 years for male and 75.1 years for female recorded in 2001 (Figure 1).

TABLE 1
POPULATION AND AVERAGE ANNUAL POPULATION GROWTH RATE BY STATE, MALAYSIA 2008 – 2010
(BASED ON ADJUSTED POPULATION AND HOUSING CENSUS OF MALAYSIA 2000)

State	Population ('000)			Average Annual Population Growth Rate (%)	
	2008	2009	2010	2008/2009	2009/2010
Perlis	236.2	240.7	240.1	1.9	1.4
Kedah	1,958.1	2,000.0	1,996.9	2.1	1.2
Pulau Pinang	1,546.8	1,577.3	1,596.9	2.0	1.1
Perak	2,351.3	2,393.3	2,460.8	1.8	1.4
Selangor*	5,071.1	5,179.6	5,102.6	2.1	1.4
FT Kuala Lumpur	1,629.4	1,655.1	1,722.5	1.6	1.1
Negeri Sembilan	995.6	1,013.9	1,011.7	1.8	1.1
Melaka	753.5	769.3	771.5	2.1	1.3
Johor	3,312.4	3,385.2	3,305.9	2.2	1.1
Pahang	1,513.1	1,543.3	1,534.8	2.0	1.2
Terengganu	1,094.3	1,121.1	1,050.0	2.4	1.4
Kelantan	1,595.0	1,634.2	1,670.5	2.4	1.9
Sabah	3,131.6	3,201.0	3,214.2	2.2	1.0
FT Labuan	87.6	89.0	95.5	1.6	1.3
Sarawak	2,452.8	2,503.6	2,506.5	2.0	1.4
MALAYSIA	**27,728.7**	**28,306.7**	**28,250.5**	**2.1**	**1.3**

Note:

1. *Population estimates based on the Population and Housing Census of Malaysia 2000, adjusted for under enumeration.*
2. *The added total may differ due to rounding.*
3. *FT = Federal Territory*

** includes FT Putrajaya*

Source: Department of Statistics, Malaysia

TABLE 2
POPULATION BY STATE, MALAYSIA 2010 (BASED ON POPULATION AND HOUSING CENSUS OF MALAYSIA 2010)

State	Population ('000)
	2010
Perlis	231.5
Kedah	1,947.7
Pulau Pinang	1,561.4
Perak	2,352.7
Selangor	5,462.1
FT Kuala Lumpur	1,674.6
FT Putrajaya	72.4
Negeri Sembilan	1,021.1
Melaka	821.1
Johor	3,348.3
Pahang	1,500.8
Terengganu	1,036.0
Kelantan	1,539.6
Sabah	3,206.7
FT Labuan	86.9
Sarawak	2,471.1
MALAYSIA	**28,334.1**

Note:

1. *Population estimates based on the Population and Housing Census of Malaysia 2010.*
2. *The added total may differ due to rounding.*
3. *FT = Federal Territory*

Source: Department of Statistics, Malaysia

TABLE 3
STATISTICS RELATED TO POPULATION, 2010
(BASED ON POPULATION AND HOUSING CENSUS OF MALAYSIA 2010)

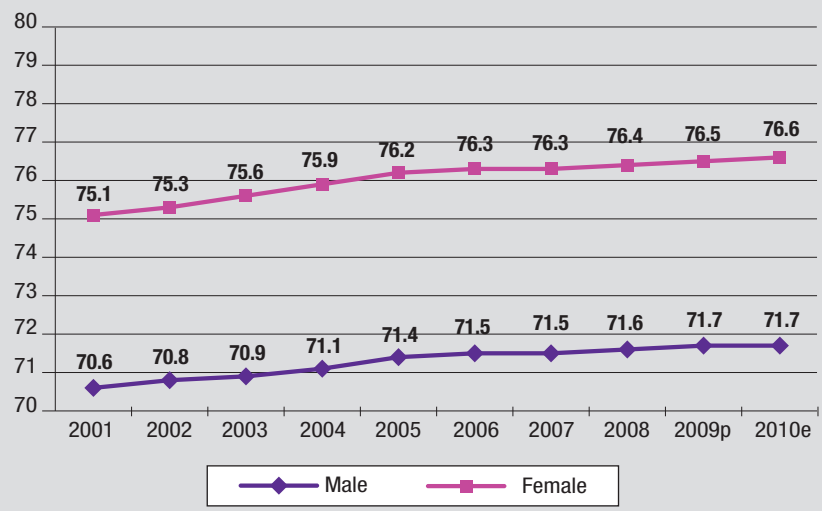
Population	2010	
	Number ('000)	% of Total Population
Male	14,526.6	51.4
Female	13,771.5	48.6
Youths (below 20 years)	10,663.6	37.6
Elderly (60 years and above)	2,251.2	7.9
Economically-productive (age 15-64 years)	19,078.9	67.3
Economically-dependent (age below 15 & above 64 years)	9,255.3	32.7
Urban	20,125.0	71.0
Rural	8,209.2	29.0

Note:

1. *Population estimates based on the Population and Housing Census of Malaysia 2010.*
2. *The added total may differ due to rounding.*

Source: Department of Statistics, Malaysia

FIGURE 1
LIFE EXPECTANCY AT BIRTH (IN YEARS) BY SEX, MALAYSIA, 2001– 2010



Note: p=Preliminary figures, e= estimated figures

Source: Department of Statistics, Malaysia

- **Mortality**

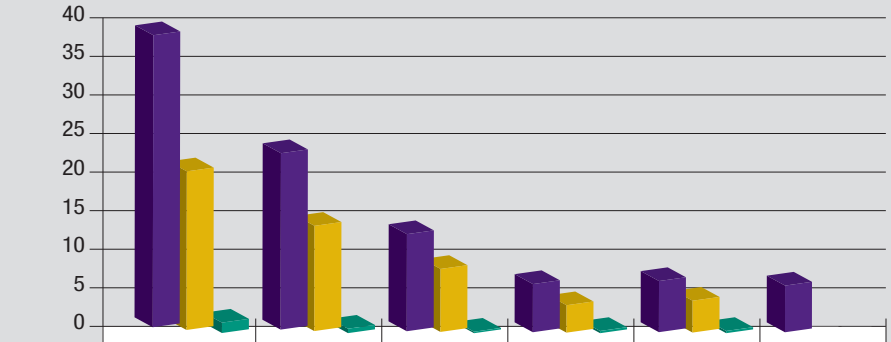
Mortality data provides a useful endpoint for measuring health. These data provide a comprehensive picture of the health of the community, since it covers every individual. Many different types of measures are used to provide views of health from differing perspectives.

For the past 40 years (1970-2010), the mortality rates in Malaysia had been decreasing. The trend of maternal mortality ratio (MMR), infant mortality rate (IMR) and neonatal mortality rate (NMR) in Malaysia are shown in Figure 2.

The MMR, which refers to the ratio of deaths occurring in women during pregnancy, childbirth or within 42 days after childbirth, due to causes directly or indirectly related to the pregnancy or childbirth, showed an apparent decreasing trend from 1.4 per 1,000 live births in 1970 to 0.3 in 2009. Even though there was a slight increase in the MMR in 2000, the rate has stabilized for the past 10 years, i.e. from 1990 to 2009. This may be due to the improved reporting system introduced in 1990, with the establishment of the Confidential Enquiry into Maternal Deaths (CEMD) by the Ministry of Health Malaysia (MoH).

IMR per 1,000 live births had improved from 39.4 in 1970 to 6.3 in 2010. Besides that, the trending of neonatal mortality rate per 1,000 live births for the same period shows a decreasing trend when compared to 21.4 in 1970.

FIGURE 2
IMR, NMR AND MMR, MALAYSIA, 1970 - 2010



	1970	1980	1990	2000	2009	2010e
IMR	**39.4**	**23.8**	**13.1**	**6.5**	**6.9**	**6.3**
NMR	**21.4**	**14.2**	**8.5**	**3.7**	**4.3**	**N/A**
MMR	**1.4**	**0.6**	**0.2**	**0.3**	**0.3**	**N/A**

Note: e = estimated figures, N/A = not available
Source: Department of Statistics, Malaysia

The trend for the other mortality rates remains relatively the same from 2006 to 2010 (Table 4). Intensive immunization efforts and other related programmed were carried out by both the public and private sectors to improve this rates. These data can also be attributed to the nutritional status improvement of the children, improvement of immunity, and improving environmental conditions.

TABLE 4
MORTALITY RATES IN MALAYSIA, 2006 - 2010

Indicator	2006	2007	2008	2009	2010e
Crude Death Rate (per 1,000 population)	4.5	4.5	4.7	4.9	4.9
Maternal Mortality Ratio (per 100,000 live births)	27.5	29.0	28.9	27.0	27.3
Infant Mortality Rate (per 1,000 live births)	6.2	6.2	6.2	6.9	6.3
Neonatal Mortality Rate (per 1,000 live births)	3.7	3.8	3.9	4.3	N/A
Under Five Mortality Rate (per 1,000 live births)	7.9	7.9	8.0	8.5	N/A
Toddler Mortality Rate (per 1,000 population aged 1-4 years)	0.4	0.4	0.4	0.4	N/A
Stillbirth Rate (per 1,000 births)	4.6	4.4	4.3	4.4	4.5
Perinatal Mortality Rate (per 1,000 births)	7.3	7.2	7.3	7.6	N/A

Note :e = estimated figures, N/A = not available
Source: Department of Statistics, Malaysia

- **Morbidity**

  The health status of a community is usually measured in terms of morbidity, which focuses on the incidence or prevalence of disease, and mortality, which describes the proportion of death in a population.

  Hospitalisation indicates the severity of disease that needs further treatment, stabilization of patients or the need of isolation in order to prevent the spreading of the diseases to others. For the period of 2000-2010, the number of admissions in MoH Hospitals had increased 35.0% to 2,099,805 in 2010 from that of 1,555,133 in 2000. The 10 principal causes of hospitalization in the MoH Hospitals for 2010 are shown in Table 5. The diseases were regrouped to groupings based on the International Statistical Classification of Disease 10th Revision (ICD10). In 2010, “Pregnancy, childbirth and the puerperium” (25.72%) was the top leading causes of admissions in MoH hospitals followed by “Diseases of the respiratory system” (9.56%).

  Similarly, the number of deaths (for all causes) in MoH Hospitals for the period of 2000-2010 increased 53.7% from 30,319 in 2000 to 46,586 in 2010. “Diseases of the circulatory system” was the top cause of death in MoH hospitals recorded in 2010 (25.35%), followed by “Diseases of the respiratory system” (18.45%) and “Certain infectious and parasitic diseases” (17.81%). The ten principal causes of deaths in the MoH Hospitals for 2010 are as shown in Table 6.

TABLE 5
10 PRINCIPAL CAUSES OF HOSPITALISATION IN MoH HOSPITALS, 2010

	Principal Causes	No. of Admissions	% to total admissions
1.	Pregnancy, childbirth and the puerperium	540,093	25.72
2.	Diseases of the respiratory system	200,637	9.56
3.	Injury, poisoning and certain other consequences of external causes	188,495	8.98
4.	Certain infectious and parasitic diseases	173,993	8.29
5.	Certain conditions originating in the perinatal period	154,298	7.35
6.	Diseases of the circulatory system	144,449	6.88
7.	Diseases of the digestive system	106,996	5.10
8.	Diseases of the genitourinary system	103,950	4.95
9.	Neoplasms	76,070	3.62
10.	Factors influencing health status and contact with health services	74,236	3.54
Total Admissions		**2,099,805**	**100**

Note:
1. *Based on actual 3-digit code grouping, ICD10*
2. *Based on revised figures, October 2011*

Source: Health Informatics Centre, MoH

TABLE 6
10 PRINCIPAL CAUSES OF DEATH IN MoH HOSPITALS, 2010

	Principal Causes	No. of Admissions	% to total admissions
1.	Diseases of the circulatory system	11,808	25.35
2.	Diseases of the respiratory system	8,597	18.45
3.	Certain infectious and parasitic diseases	8,296	17.81
4.	Neoplasms	5,532	11.87
5.	Injury, poisoning and certain other consequences of external causes	2,331	5.35
6.	Diseases of the digestive system	2,218	4.76
7.	Diseases of the genitourinary system	2,033	4.67
8.	Certain conditions originating in the perinatal period	1,543	3.87
9.	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	932	1.84
10.	Endocrine, nutritional and metabolic diseases	801	1.72
Total Deaths (All Causes)		**46,586**	**100**

Note:
1. *Based on actual 3-digit code grouping, ICD10*
2. *Based on revised figures, October 2011*

Source: Health Informatics Centre, MoH

HEALTH FACILITIES AND FACILITY UTILISATION

As for Health Facilities, there were 813 Health Clinics, 1,916 Community Clinics and 104 Maternal and Child Clinics in 2010. There were 131 government MoH hospitals and 6 Institutions with bed complementary of 33,211 and 4,582 beds respectively. Overall Bed Occupancy Rate (BOR) for MoH hospitals and Institutions in 2010 was 66.26% (Table 7).

TABLE 7
HEALTH FACILITIES BY TYPE, TOTAL BED COMPLEMENTS AND BOR, 2006 -2010

Facility	2006	2007	2008	2009	2010
Number of MoH Hospital	128	130	130	130	131
Number Special Medical Institution	6	6	6	6	6
Total Beds Complement[1]	35,739	37,149	38,004	38,057	37,793
Bed Occupancy Rate (%)[1]	65.07	64.23	65.46	65.45	66.26
Number of Health Clinics	807	806	802	808	813
Number of Community Clinics	1,919	1,927	1,927	1,920	1,916
Number of Maternal and Child Clinics	88	97	95	90	104

Note: [1] refers to beds complement and BOR in MoH Hospitals and Special Medical Institutions
Source: Health Informatics Centre, MoH

Management 2

INTRODUCTION

The Management Programme consists of six (6) divisions/unit answerable direct to the Secretary General, five (5) division under Deputy Secretary General (Management) and three (3) division under Deputy Secretary General (Finance) as listed below:-

i. Policy and International Relation Division;
ii. Legal Advisor;
iii. Internal Audit;
iv. Corporate Communication;
v. Malaysian Health Tourism Council;
vi. Health Promotion Board;
vii. Human Resource Division;
viii. Training Management Division;
ix. Competency Development Division;
x. Management Services Division;
xi. Information and Communication Technology Division;
xii. Procurement and Privatization Division;
xiii. Finance Division; and
xiv. Accounts Division.

The main objective of this programme is to facilitate and support the achievement of the MoH policy and objectives by supporting the other programmes through an efficient and effective service system, human resource management, information technology management, competency and training development and financial management.

ACTIVITIES AND ACHIEVEMENTS

HUMAN RESOURCE MANAGEMENT

The Human Resource Division (HRD) of Ministry of Health is responsible for human resource management in the health sector. Its mission is to ensure MoH is a well structured organization with optimum human resource utilization. Activities conducted by this division are aimed to strengthen the workforce to achieve an excellent service delivery system.

Positions and Personnel

In 2010, the Ministry of Finance (MoF) has approved a total number of 11,792 new positions consisting of various schemes of services and grades through the Operating Budget Expenditures (*Anggaran Belanja Mengurus, ABM*). From the total number of positions approved, 5,564 positions (47.2%) were appointment grades, while the remaining 6,228 (52.8%) were promotion grades. The number of positions created shows an increment of 27.2% (2,524 positions) as compared to 9,268 new positions approved in 2009. As of 31st December 2010, 185,997 (81.3%) of 228,826 positions in the MoH had been filled. The details are as shown in Table 1 below:-

TABLE 1
NUMBER OF POSITIONS IN MoH THAT HAD BEEN FILLED

SERVICE GROUP	POSITIONS	FILLED	VACANT
Management And Professional Group	57,326	30,359 (53%)	26,967 (47%)
Paramedic And Auxiliary Group	108,658	97,640 (89.90%)	11,018 (10.1%)
Common User And Support Group	62,839	57,995 (92.3%)	4,844 (7.7%)
TOTAL	**228,826**	**185,997 (81.3%)**	**42,829 (18.7%)**

Source: Human Resource Division, MoH

Apart from the Operating Budget Expenditures, HRD has also conducted researches on organizational restructuring, upgrading and positions establishment to accommodate the ongoing expansions of health services in MoH. For 2010, the researches and positions establishments approved by Central Agency are as shown in Table 2 below.

TABLE 2
RESEARCHES AND POSITIONS ESTABLISHMENTS APPROVED BY CENTRAL AGENCY

NO.	SUBJECT
1.	Restructuring of MoH Library
2.	Creation of three (3) Audiovisual Assistant Grade N17/22, and Technician, Grade J22 posts
3.	Upgrading of the Food Safety & Quality Division
4.	Post creation for 50 1Malaysia Clinic
5.	Post creation of Customer Service Officer to perform the task of Patient Relation Officer at Specialist Clinics, Hospitals and Clinics that offers extended hours
6.	Post creation of Medical Specialist and Dental Specialist (Special Grade A, B & C), Science Officer and Research Officer (Special Grade)
7.	Strengthening of Management Program
8.	Nomenclature Coordination for Medical Officer, Dentist & Pharmacist
9.	Coordination of ABM 2010
10.	Updating of Establishment List for the means of MOH B.42 Reserve year 2011
11.	Establishment list checking & ABM 2010 coordination workshop
12.	Redeployment application of 108 engineer posts and 16 PT(P/O), N17 posts to overtake SIHAT function
13.	Posts Abolishment
14.	Redeployment of Cook, Grade N4 and N1/N4 posts following audit research on outsourcing of food management at MOH hospitals
15.	Redeployment of Administration Officer (Medical Record), Grade N41 to perform Casemix System
16.	Temporary Staffs Approval
17.	Establishment Inspections
18.	Departments (Headquarters), JKN, PKD & KK organisation charts and functions database

Source: Human Resource Division, MoH

Service Matters

HRD is responsible in the recruitment of personnel for 6 schemes of services in the Support Group II through the Online Recruitment Management System (SPAT). The system proved to be an effective tool in recruiting personnel as HRD received a total number of 215,194 applications throughout 2010. However, only 2,992 personnel have been appointed to fill in various vacancies as compared to 4,832 personnel in 2009 due to limited vacant positions in 2010.

Placement exercises were done throughout the year for newly appointed personnel and to fill in promotion grades. In addition, HRD also managed transfers based on applications sent by MoH officers. In 2010, the numbers of officers involved in placement and transfer exercises completed by HRD are as shown in Table 3.

TABLE 3
NUMBER OF OFFICERS INVOLVED IN PLACEMENT AND TRANSFER EXERCISES COMPLETED BY HRD, 2009 - 2010

SERVICE GROUP	2009	2010
Management & Professional Group	12, 996	9, 912
Support Group	18,270	17, 791
TOTAL	**31,266**	**27,703**

Source: Human Resource Division, MoH

HRD is also responsible in managing other service matters of MOH personnel such as confirmation of appointment, conferment of pension and resignation. Table 4 below summarizes service matters managed by HRD in 2009 and 2010 according to Service Groups.

TABLE 4
COMPARISON OF THE NUMBER SERVICE MATTERS MANAGED BY HRD, 2009 - 2010

NO.	ACTIVITIES	JUSA / SPECIAL GRADE		MANAGEMENT & PROFESSIONAL GROUP		SUPPORT GROUP	
		2009	2010	2009	2010	2009	2010
1.	Confirmation of Appointment	-	-	3,076	6,771	10,916	10,600
2.	Confirmation of Service	-	-	3,517	3,562	10,416	11,378
3.	Conferment of Pensionable Status	-	-	951	1,229	11,166	10,436
4.	Extension of Probation Period	-	-	75	72	223	172
5.	Determination of Initial Salary	-	-	56	34	250	221
6.	Leave	16	48	157	120	574	772
7.	Amendment Name/ Date of Birth	1	-	8	4	112	126
8.	Resignation	65	99	432	477	190	187
9.	Post Release with Permission	22	-	191	78	707	438

NO.	ACTIVITIES	JUSA / SPECIAL GRADE		MANAGEMENT & PROFESSIONAL GROUP		SUPPORT GROUP	
		2009	2010	2009	2010	2009	2010
10.	Optional Retirement	8	-	45	15	394	230
11.	Allowances Application	-	-	-	-	74	25
12.	Consideration of Previous Service Duration	-	-	-	-	115	33
13.	Others	-	-	-	-	319	214
GRAND TOTAL		81	147	8,508	12,362	35,456	34,832

Source: Human Resource Division, MoH

Contract Employment

Contract employment is an initiative taken by the Ministry to overcome the shortage of manpower especially critical services such as Medical Officers and Dentists. Therefore, HRD is also responsible in managing contract related matters such as appointment, renewal and termination of contracts. Table 5 below shows the number of activities regarding contract employment completed by HRD for 2009 and 2010.

TABLE 5
ACHIEVEMENT FOR CONTRACT EMPLOYMENT AND SERVICE-RELATED MATTERS, 2009 - 2010

No.	Services Matter	JUSA / Special Grade and Management & Professional Group		Support Group	
		2009	2010	2009	2010
1.	New Contract Appointment	175	736	172	92
2.	Contract Appointment After Retirement	4	37	770	812
3.	Contract Renewal	165	295	-	-
4.	Contract Termination	7	5	-	-
5.	Other Service Matters: • Resignation • Transfer • Adjustment • Setting of First Drawn Salary • Leave	60	130	-	-
TOTAL		**411**	**1,203**	**942**	**904**

Source: Human Resources Division, MoH

Promotion

In 2010, 80 acting exercises involving 646 officers and 371 promotion exercises involving 12,661 officers were carried out for the Management and Professional Group. Overall, there is a decrease of 41.67% in acting exercises and an increase of 353% in promotion exercises. It also showed a decrease of 14% of the number of officers involved in acting exercises and an increase of 565% of the number of officers involved in promotion exercises.

For the Support Group, a total of 27 acting exercises involving 960 officers and a total of 227 promotion exercises involving 14,118 officers were carried out. Among the positions involved were Physiotherapist, Occupational Therapist, Assistant Pharmacist, Assistant Environmental Health Officer, Dental Nurse, Staff Nurse, Administrative Assistant (Clerical/Operational), Administrative Assistant (Finance), Assistant Medical Officer and more. Overall, there is a decrease of 73% in total approved acting exercises and 10% increased in total approved promotion for 2010 as compared to achievements in 2009. Table 6 below shows an overall achievement of acting and promotion exercises done by HRD for 2009 and 2010.

TABLE 6
THE OVERALL ACHIEVEMENT FOR ACTING AND PROMOTION EXERCISES, 2009 – 2010

Exercise	Management and Professional Group		Support Group	
	2009	2010	2009	2010
Acting	4,609	646	3,558	960
Promotion	2,237	12,661	12,874	14,118
Total	**6,846**	**13,307**	**16,432**	**15,078**

Source: Human Resources Division, MoH

The details for acting and promotion exercises for 2009 and 2010 for Special Grade, Management and Professional Group and Supporting Group are as indicated in Table 7 and Table 8.

TABLE 7
OVERALL ACHIEVEMENT FOR ACTING EXERCISES ACCORDING TO SCHEMES OF SERVICES, 2009 – 2010

Schemes	2009		2010	
	No. of Exercise	No. of Officers	No. of Exercise	No. of Officers
Medical Officer	48	2,113	183	9,167
Dentist	16	470	28	1,140
Pharmacist	10	416	22	1,284
Other Schemes	61	550	52	414

Source: Human Resources Division, MoH

TABLE 8
OVERALL ACHIEVEMENT FOR PROMOTION EXERCISES ACCORDING TO SCHEMES OF SERVICES, 2009 - 2010

Schemes	2009		2010	
	No. of Exercise	No. of Officers	No. of Exercise	No. of Officers
Medical Officer	125	10,788	183	9,167
Dentist	33	291	28	1,140
Pharmacist	2	140	22	1,284
Other Schemes	47	354	45	435

Source: Human Resources Division, MoH

Scheme and Remuneration Review

In a continuous effort to attract and retain professionals and paramedics to work with the Ministry, HRD had completed 8 researches on the improvement of Servicing Schemes and 10 researches on remuneration and perquisites. Researches which have been approved by Central Agency (Public Service Department of Malaysia) are:

i. A better career path for Midwives, Hospital Assistant, Assistant Medical Laboratory Technologist; and X-Ray Film Processor;
ii. Amendment of the job title Cook to Assistant Food Preparation Officer for Cooks working with MoH;
iii. Creation of special housing allowance for foreign contract officers in Sabah and Sarawak; and
i\v. Approval of hardship allowance for an addition of 38 rural clinics.

Disciplinary Action and Integrity

In 2010, HRD has organized 4 Disciplinary Management Workshops and 40 series of talks regarding integrity. As compared to 2009, the Unit managed to only organize 1 Disciplinary Management Conference for Chairman and Member of Disciplinary Board and 2 Disciplinary Management Workshops and 26 series of talks regarding integrity. The increase in activities signifies the commitment of HRD to ensure officers responsible in disciplinary management acquires the necessary knowledge and skills in order to manage the delinquencies and disciplinary cases. Other preventive actions that were carried out include processing of asset declaration, government land applications and outside employment applications.

As compared to 2009, the number of disciplinary cases that were reported and solved in 2010 has increased. The increment shows that the Head of Department has carried out rigorous monitoring of disciplinary cases.

Human Resource Management Information System (HRMIS)

Human Resource Management Information System (HRMIS) is an important human resource management tool introduced by the Public Service Department Malaysia (PSD) in 1999. MoH is one of 10 pilot agencies selected by PSD to implement HRMIS applications. As of 2010, 14 modules/sub modules have been implemented by the Ministry.

There were a total of five (5) main activities that have been executed in the year 2010. These activities involved elements of planning, co-ordination and implementation of the HRMIS Application in the MoH

and are as follows:

i) Basic data updates;
ii) Application roll-out;
iii) Training and skills upgrades;
iv) Data cleansing activities; and
v) Helpdesk.

As a whole, the achievements of main activities undertaken in 2010 had increased when compared to 2009, as shown in Table 9.

TABLE 9
HRMIS MAIN ACTIVITIES, 2009 - 2010

No.	Activities	2009	2010
1.	Basic Data Updates	90%	97%
2.	Application Roll-out	4 modules/ sub modules	5 modules/ sub modules
3.	Training & Skills Upgrades	10 sessions	13 sessions
4.	Data Cleansing Activities	7 activities	8 activities
5.	Helpdesk	958 logs	913 logs

Source: Human Resources Division, MoH

Improvements and Innovation

HRD constantly strive to improve its service delivery and work process to ensure an efficient human resource management that will henceforth contribute to a better health delivery services to the nation. Improvements and innovations of Human Resource Management implemented in 2010 include:-

(i) Shorten the appointment process of paramedics trainees to 30 days;
(ii) Shorten the period for payment of claims from fourteen (14) days to seven (7) days;
(iii) Conducted a talk sessions on career opportunity with the Ministry to promote students to serve in the Ministry of Health; and
(iv) Improvement of application form and the introduction of User Guideline and Interview Guideline in the Online Recruitment System (SPAT) website.

TRAINING MANAGEMENT

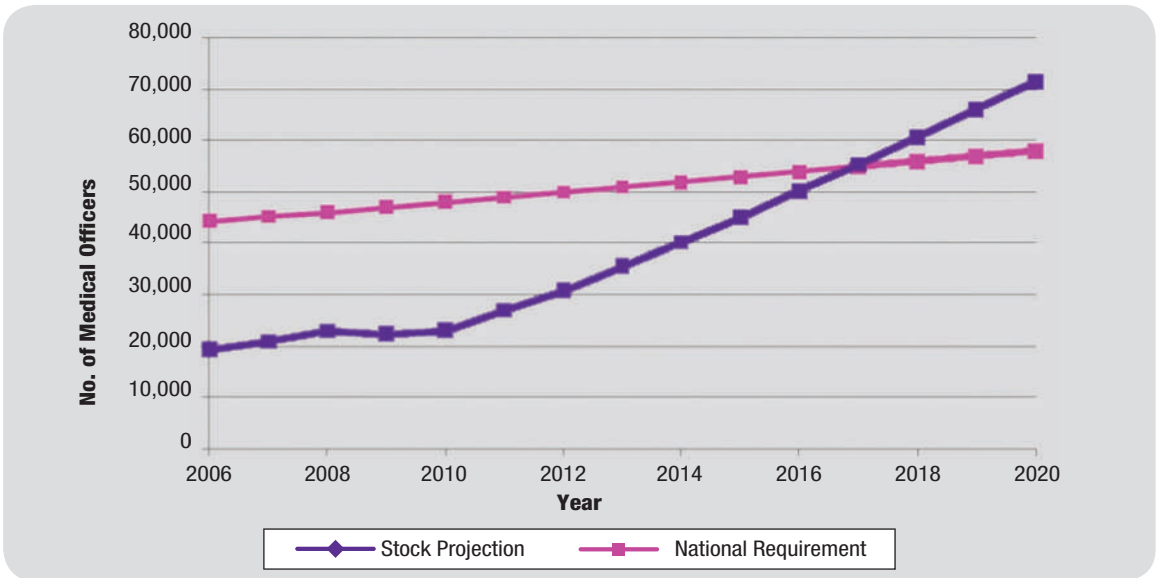
The core activity of the Training Management Division (TMD) is to develop human capital of the Ministry so as to produce an effective and efficient health delivery system. This Division is fully aware and takes cognizant of the changes and dynamism of the ever increasing expectations of the public at large in seeking first class health services. Hence, towards achieving this aim, its activities are facilitated through the various management training programmes that are designed to produce a work force that is knowledgeable, competent, disciplined, and imbued with strong work ethics, values and commitment to excellence. In short, the focus of the TMD is to increase opportunities for quality training and education with a view to strengthen its human resource base.

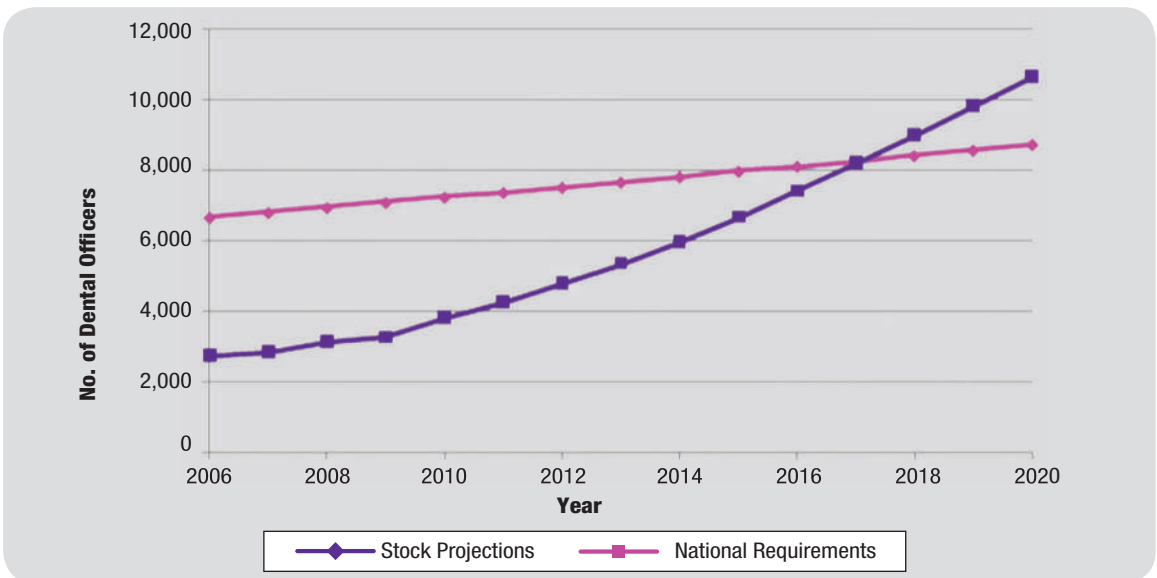
Manpower Planning

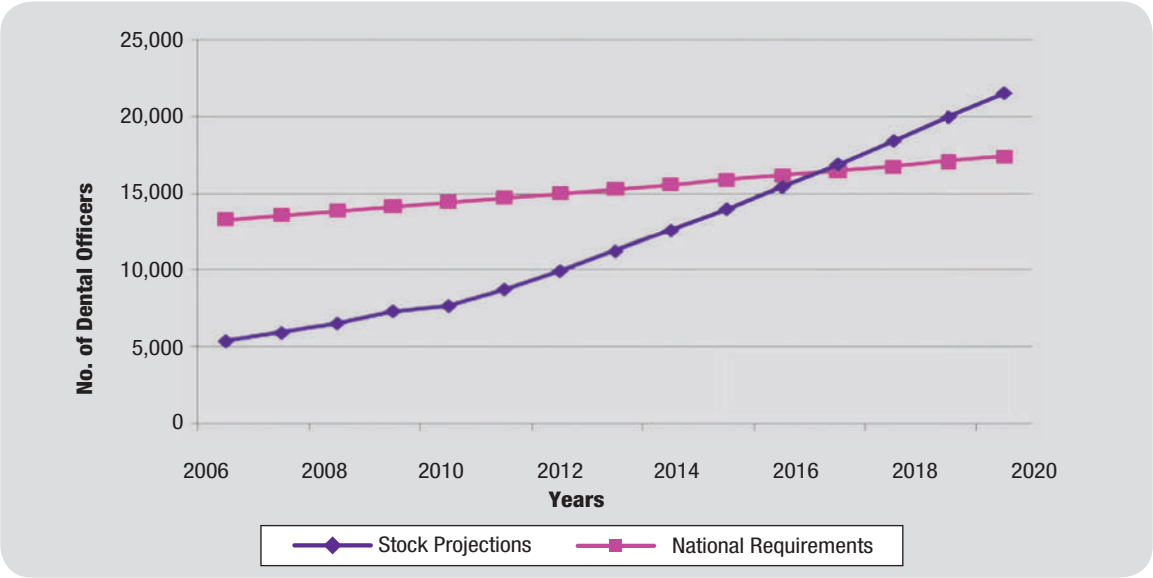
Upon reviewing the projection for the demand and supply of Medical Doctors, Dentists, and Pharmacists indicated that any increase in the supply of Medical Doctors, Dentists, and Pharmacists in the current years would still be inadequate in meeting the needs of the nation. However, it is observed that the gap

between the demand and supply of these categories of health care personnel was steadily reduced through the expanded training capacity of the training institutions/ institutions of higher learning over

supply of Medical Doctors, Dentists, and Pharmacists respectively.







Training is a continuing investment to produce trained and competent manpower in the various health skills and knowledge, TMD made itself available in offering a diverse range of training programmes throughout the year encompassing Basic Training, Post Basic Training, Masters level Training for programmes, and Short-term In-service Courses.

There has been an increase in the intake of participants for various categories of training/courses offered, with the exception of the Basic Training and Short Term In-service Courses in 2010, as compared to 2009. For 2010, the intakes for training according to the different categories are as shown in Table 10.

In 2010, 6,880 trainees were enrolled for Basic courses offered at MoH Allied Health Science Colleges (AHSC) and 1,263 were enrolled through the outsourcing programmes initiated with selected private colleges. The number of trainees enrolled for Basic Training in 2010 decreased by 20.7% as compared to only 10,267 in 2009. The breakdown of the number of trainees enrolled into the Basic training programmes according to disciplines conducted at AHSC as well as for the outsourcing programmes for 2010 is depicted in Table 11.

TABLE 10
INTAKE OF TRAINEES BY TYPES OF TRAINING, 2009 – 2010

No.	Types of Training	2009	2010
1.	Basic Training in MoH Training Colleges	8,306	6,880
2.	Basic Training through 'Outsourcing Program'	1,961	1,263
3.	Post Basic Training	2,563	2,741
4.	Specialist Training (Medical Officers)	583	647
5.	Sub-Specialist Training (Medical Officers)	80	144
6.	Master / Doctoral Programmes	103	130
7.	Short Term In-service courses (Overseas)	461	370

Source: Training Management Division, MoH

TABLE 11
INTAKE OF TRAINEES FOR BASIC TRAINING, 2009 – 2010

No.	Discipline	2009	2010
1	Nurse	3,985	3,279
2	Community Nurse	2,012	1,425
3	Medical Assistant	1,012	962
4	Pharmacy Assistant	454	141
5	Assistant Environmental Health Officer	590	413
6	Medical Laboratory Technologist	612	496
7	Radiographer	360	132
8	Dental Nurse	69	138
9	Dental Technician	63	79
10	Occupational Therapist	105	139
11	Physiotherapist	237	164
12	Dental Surgery Assistant	329	310
13	Public Health Assistant	439	465
Total		**10,267**	**8,143**

Source: Training Management Division, MoH

Post Basic Training

In 2010, a total of 2,741 AHSP attended Post-Basic training programmes in 33 different disciplines at the various AHSC, which is shown in Table 12. The number of AHSP attending Post-Basic training programmes in 2010 has increased compared to 2009. Furthermore, four new Post Basic disciplines were offered in 2010 thus offering the participants a much wider choice. The most popular and demand Post Basic Training programme is Midwifery which registered an enrolment of 846 participants followed by Intensive Care at 160 and Public Health Nursing at 155.

TABLE 12
INTAKE OF TRAINEES FOR POST BASIC TRAINING, 2009 - 2010

No.	Discipline	2009	2010
1.	Midwifery	779	846
2.	Emergency Care	192	150
3.	Public Health Nursing	132	155
4.	Environmental Health	-	-
5.	Laboratory Management	29	-
6.	Health Personnel Management	47	61
7.	Primary Healthcare	27	27
8.	Transfusion Medicine	-	35
9.	Gerontology	7	22
10.	Coronary Care	85	93
11.	Neonatal Nursing	67	92
12.	Ophthalmic Nursing	34	36
13.	Oncology Nursing	29	42
14.	Orthopaedic Nursing	63	45
15.	Paediatric Care	97	148
16.	Preoperative Care	126	144
17.	Psychiatric Nursing	65	66
18.	Intensive Care	146	160
19.	Renal Nursing	163	94
20.	Legal and Prosecution	8	14
21.	Cytology	20	-
22.	Computerized Tomography	21	26
23.	Anaesthesiology	10	-
24.	Diabetic Management	91	81
25.	Sports Medicine	10	9
26.	Haemostasis	-	-
27.	Occupational Health and Safety	-	-
28.	Paediatric Dental Care	-	23
29.	Forensic	14	19
30.	Otorhinolaringology Treatment	14	41
31.	Microbiology	29	-
32.	Food Safety and Cleanliness	-	-

No.	Discipline	2009	2010
33.	Orthodontic Treatment	-	-
34.	Infection Control	56	92
35.	Perianaesthesia Care	58	67
36.	Periodontic Care	19	-
37.	Oral Surgery	-	-
38.	Neuroscience Care	24	20
39.	Rehabilitative Nursing	27	32
40.	Musculoskeletal	-	-
41.	Chemical Pathology	32	-
42.	Gastrointestinal Endoscopy	42	40
43.	Pharmaceutical Sterile	-	15
44.	Neurophysiology Clinical	-	7
45.	HIV/ AIDS Counselling	-	16
46.	Pathology Anatomy	-	23
TOTAL		**2,563**	**2,741**

Source: Training Management Division, MoH

Masters Degree Programme for Medical Officers and Sub-speciality Training

In 2009, Public Service Department (PSD) has delegate the authority to approve 'Paid study Leave' to MoH for long-term courses such as Masters Degree and Doctorate Degree. This delegation has given MoH an advantage to shorten the processing time for long-term courses and therefore enhancing the efficiency. A total of 647 Medical Officers were offered Federal Government Scholarship (FGS) to undergo Masters in Medicine degree in various fields of specialization for 2010, which is highlighted in Table 13. The number of Medical Officers offered scholarships increased by 11% in 2010.

In 2010, 144 Medical Specialists received FGS to undergo sub-specialty training in various medical fields, as shown in Table 14.

Masters and Doctorate Programme

In 2010, 130 MoH officers from different health services were offered FGS to pursue postgraduate studies both at Masters (118 officers) and at Doctorate level (12 officers) in disciplines related to health sector. The number of scholarships offered in 2010 registered an increase of 26.2% as compared to 2009 due to higher allocation. In addition, the bulk of the available scholarships were offered to Dental Officers (53 officers) and Pharmacists (27 officers).

Short Term In–Service Courses

MoH personnel were encouraged to apply and attend short term in-service courses that are financed from the development budget of the 10MP. In 2010, 370 personnel attended short term in-service course overseas as compared to 461 in 2009.

TABLE 13
INTAKE OF MEDICAL OFFICERS FOR MASTERS PROGRAMMES, 2009 - 2010

No.	Discipline	2009	2010
1.	Obstetrics & Gynaecology	36	25
2.	Anaesthesiology	74	81
3.	Paediatric	31	35
4.	Internal Medicine	42	49
5.	Psychiatry	21	29
6.	Radiology	37	42
7.	General Surgery	44	52
8.	Ophthalmology	34	36
9.	Orthopaedic	42	42
10.	Otorhinolaryngology	20	24
11.	Pathology	32	29
12.	Family Medicine	45	51
13.	Public Health	42	61
14.	Sports Medicine	3	4
15.	Rehabilitation Medicine	10	10
16.	Emergency Medicine	39	44
17.	Neurosurgery	4	7
18.	Plastic Surgery	4	3
19.	Clinical Oncology	5	7
20.	Paediatric Surgery	4	4
21.	Transfusion Medicine	9	6
22.	Nuclear Medicine	5	6
Total		**583**	**647**

Source: Training Management Division, MoH

TABLE 14
INTAKE OF MEDICAL SPECIALISTS FOR SUB-SPECIALTY TRAINING, 2009 - 2010

No.	Discipline	2009	2010
1.	Medicine	19	19
2.	Surgery	17	14
3.	Paediatric	11	10
4.	Obstetrics & Gynaecology	5	6
5.	Anaesthesiology	10	12
6.	Orthopaedic	8	6
7.	Otorhinolaryngology	2	4
8.	Ophthalmology	2	9
9.	Psychiatry	2	3
10.	Pathology	4	56
11.	Radiology	-	5
12.	Family Medicine	-	-
13.	Radiotherapy	-	-
14.	Forensic Medicine	-	-
15.	Palliative Medicine	-	-
16.	Health Management	-	-
Total		**80**	**144**

Source: Training Management Division, MoH

Management of Examinations

For management of examination in 2010, TMD has strengthened the management of basic and post basic examination for all diplomas and certificates courses conducted in AHSC. Throughout the year, new examination questions were developed and reviewed to strengthen the pool of questions in the 'Q-Bank system' for basic and post basic examinations.

Development of Curricula

In 2010, TMD has made efforts to strengthen post basic curricula to accommodate the needs of AHSP for higher academic qualification. Therefore, TMD managed to develop Midwifery Advance Diploma for a start. Few Advance Diploma curricula are under planning and are expected to be completed in 2011.

Tutor Development

In order to provide quality training, the tutors themselves must be well trained and well equipped with current medical knowledge. Various programs such as Internal Attachment Program, Overseas Attachment Program, Degree Program for Tutors, and Short Courses are conducted and implemented in 2010. These programs were meant to expose tutors to the various health facilities locally or overseas with the objective to improve their knowledge and skills in the various available disciplines.

MANAGEMENT SERVICES

The main objective of the Management Services Division (MSD) is to provide efficient and effective support and advisory services in management to ensure all activities within the MoH Headquarters are implemented professionally towards enhancing the health service delivery system. The MSD is also responsible to ensure that the required services and facilities are provided to enable each Division within the Headquarters to excel in their functions. MSD comprises of three main branches which consist of several units:

A. General Management Branch

i. Human Resource Management Unit;
ii. Innovation Unit;
iii. Parliament Coordination Unit.
iv. Psychology Counselling Services Unit; and
v. Administration Unit;

B. Finance and Asset Management Branch

i. Finance Unit; and
ii. Asset Management Unit.

C. Information Resources Branch

i. Information Resources Unit.

Personnel Management

The MSD is responsible in managing all service related matters for the 4,033 employees within the HQ. These employees come from various fields as summarized in Table 15.

The core activities of this Unit include the preparation and recording of change reports, to process Appointment Confirmation Date, confirmation of service and issuance of certification to that effect. The performance of each activity is shown in Table 16.

Within the scope of personnel management, the MSD has been appointed as the secretariat for various main committees related to employees' service matters. One of these committees is the Human Resource Development Panel, which convenes periodically to discuss various issues such as the annual salary increment and selection of the Excellent Service Awards recipients. The activities of the said panel for 2010 have been summarized in Table 17.

TABLE 15
VARIOUS CATEGORIES OF MoH HEADQUARTERS EMPLOYEES, 2009 – 2010

No.	Category	No. of Employees	
		2009	2010
i.	Administration	3	3
ii.	Top Management	46	63
iii.	Professional & Management	1,195	1,247
iv.	Support	1,775	1,887
v.	Part-time	316	289
vi.	Training Pool	552	527
vii.	Temporary Addition	40	4
viii.	Pool	13	13
Total		**3,940**	**4,033**

Source: Management Services Division, MoH

TABLE 16
PERFORMANCES BASED ON ACTIVITIES IN PERSONNEL MANAGEMENT, 2010

No	Activity	Performance
i.	To prepare and record change reports	5,508 reports
ii.	To record service-related matters	8,796 records
iii.	To process the following: a. Appointment Confirmation Date b. Certification for confirmation of service and confirmation of service c. Conferment of pension status	Total of 623 personnel
iv.	To process compulsory / optional / derivative retirement	19 retirements
v.	To process and certify applications for computer, housing and vehicle loans.	73 - Computer 65 – Housing 9 – Vehicle
vi.	To process and certify applications for winter clothing / ceremonial attire allowance.	36 – Winter Clothing 135 – Ceremonial Attire
vii.	To process promotion and 'acting' related matters	830 applications
viii.	To certify and confirm entitlement for medical benefits	181 letters
ix.	To issue Covering Allowance Certification	259 applications
x.	To process disciplinary issues	31 cases
xi.	To conduct service related courses	12 courses

Source: Management Services Division, MoH

TABLE 17
SUMMARY OF ACTIVITIES FOR HUMAN RESOURCES DEVELOPMENT PANEL, 2010

No	Activity	Performance
i.	Convened once to discuss and certify normal salary movement for employees who have submitted their Annual Performance Appraisal Forms	Total of 2,968 personnel. The meeting was held on 15 March 2010.
ii.	Convened once to select recipients of the Excellent Service Awards.	266 selected from a pool of 4,033 personnel.
iii.	Convened four times to consider and award the annual salary increment.	Total of 125 personnel.

Source: Management Services Division, MoH

The MSD is also the Secretariat for the *Majlis Bersama Jabatan* (MBJ), which was set up to enable members to discuss and resolve issues related to work systems, administrative matters and employees' welfare. In 2010, the MBJ convened thrice which is the stipulated minimum number of required meetings.

In line with the Government's Vision to modernize its administrative machinery and to create a paperless work-environment, the Public Services Department introduced the Human Resource Management Information System (HRMIS). MoH was selected as one of the pioneer agencies to launch the said system. The MSD was tasked to ensure that the HRMIS was launched and implemented effectively in the Ministry's HQ. The HRMIS involves numerous human resource related processes such as employee personal data entry, post creation, leave application and uploading service related information. In 2010, the achievement for employee personal data entry is summarized in Table 18.

TABLE 18
HRMIS PROFILE UPDATING STATUS IN MoH HQ, AS OF 31 DECEMBER 2010

Type Of Data	Status	
	Number	Percentage (%)
Personal	3,470	93.28
Family	3,228	86.77

Source: Management Services Division, MoH

Finance Management

The MSD manages all finance-related matters for employees in the HQ. These include payment of salaries, allowances, rewards and bonuses. It is also in charge of the HQs' Management Program funds whereby a total of RM 810,93 million has been allocated for its operations. The performance-based expenditure till December 2010 including Accounts Payable is 107.16% (Table 19 and Table 20).

TABLE 19
TOTAL ALLOCATION BY ACTIVITY TILL DECEMBER 2010

Department	Allocation (RM)	Percentage
HQ Management	168,080,018.10	20.73%
Human Resources	11,516,367.00	1.42%
Finance	298,410,887.25	36.80%
Training	276,178,325.83	34.06%
Information Technology	51,890,904.00	6.40%
Competency Development	4,851,067.00	0.60%
TOTAL	**810,927,569.18**	**100.00%**

Source: Management Services Division, MoH

TABLE 20
ALLOCATION ACHIEVEMENT BASED ON TOTAL EXPENDITURE BY ACTIVITY, 2010

Department	Expenditure (RM)	%	Balance (RM)	%
HQ Management	163,631,489.30	97.35	4,448,528.80	2.65
Human Resources	12,326,020.39	107.03	(809,653.39)	-7.03
Finance	298,545,759.84	100.05	(134,872.59)	-0.05
Training	336,487,123.08	121.84	(60,308,797.25)	-21.84
Information Technology	52,834,719.88	101.82	(943,815.88)	-1.82
Competency Development	5,164,186.78	106.45	(313,119.78)	-6.45
TOTAL	**868,989,299.27**	**107.16**	**(58,061,730.09)**	**-7.16**

Source: Management Services Division, MoH

As the 'Responsibility Centre' which is better known as PTJ 1, the MSD also has the role in receiving and distributing the allocation warrant for all the other PTJs under it. In 2010, a total of 471 warrants were received while 755 sub-warrants were distributed.

The MSD is also the secretariat to the PTJ-1 Accounts and Finance Management Committee (JPKA). The committees had met four times as scheduled to monitor the accounts and financial practices of 16 PTJ-2 and 32 PTJ-3 under its jurisdiction. The other responsibilities of this unit include accounting and revenue collection for the HQ. A total of RM 20.81 million as revenue was collected in 2010. In addition, it also conducts periodical courses for finance staff to equip them with the necessary skills and knowledge that would enable them to carry out their tasks more efficiently and effectively. In 2010, two such courses had been conducted, namely, The Payment Management Course and The Collection of Revenue Course.

Administration Management

The MSD is in charge of administration matters in the HQ. These include general administration, vehicles management, reports of punch card, security services and filing and correspondence management. The activities and performance pertaining to this unit for 2010 are as in Table 21.

TABLE 21
SUMMARY OF ADMINISTRATIVE ACTIVITIES, 2010

No	Activities	Achievements
i.	Compiling Punch Card Reports	- 12 Reports compiled.
ii.	SPANCO car rentals	-182 official cars for JUSA/Special Grade; - 4 official department vehicles; - 126 official vehicles replacement; and - 135 replacements of leased official vehicles, which lease had expired.
iii.	Security • Appointment of Security Services Company for HQ • Security Tags/Pas Issuance.	 - Appointment was made and the said companies were monitored accordingly. - 808 passes were issued.
iv.	Monthly Assembly	- 11 Assemblies were held.
v.	Filing Management	File Registration: - Personal: 3,339 files; - Open: 179 files; - Classified: 417 files; and - File termination: 13,263 files.
vi.	Correspondence Management	- 265,293 letters have been received, sorted and distributed. - Letters sent through postal service: - Domestic Mail: 94,448; - Registered Mail: 15,953; - Air Mail: 378; - Express Mail: 63,507; - Parcel: 1,059; and - Dispatch: 1,446.

Source: Management Services Division, MoH

MSD is also responsible in managing services related to Protocol and General Coordination in the HQ. These include parliament matters, event management, personal or official overseas trips applications (duration of less than 14 days), selection of medical representatives for the Hajj Season and acted as coordinators for uniforms procurement, the Hospital Board of Visitors and the launch of Islam Hadhari. The achievement for each activity in 2010 is as in Table 22.

TABLE 22
SUMMARY OF QUALITY AND PROTOCOL ACTIVITIES

No	Activities	Achievements
i.	Parliament (Both House of Representatives and The Senate)	- Compiled questions and answers for both houses. 239 questions for all three sittings of the House of Representatives and 123 questions for all three sittings of the House of The Senate. - Coordinated the Policy Speech preparation for the Minister of Health in presenting the policy and to debate on the motion of thanks to H.R.H. Yang Di-Pertuan Agong. - Coordinated answers for impromptu motions.
ii.	Personal or Official Overseas Trips Applications (duration < 14 days)	- Personal Trips – 5,559 applications were processed. - Official Trips – 918 applications were processed.
iii.	Selection of Medical Representatives for the Hajj Season	246 Medical Representatives were selected.

Source: Management Services Division, MoH

In 2010, there were nine main functions organized by this division. Some of them were Dinner with Former Secretary General of MoH and Director General of Health MoH, Appreciation Ceremony for Former MoH Officers (Grade 54 and below), Excellent Services Awards Function, Talks on The Holy Prophet Birthday 1429H/ 2008M, MoH Quranic Recitation Competition, Independence Month Celebration, The Feast of Aidilfitri and Deepavali, Opening Ceremony of Management Conference, Innovation Day, MoH Annual Dinner and an international conference co-organized with World Health Organization which was held on 11 – 15 October 2010.

MSD also coordinated the Naming/Official Opening ceremonies of Hospitals, events organized by other Divisions and formal visits by external parties to the Ministry. In 2010, several functions organized by other divisions and hospitals were:

1. The opening of 1Malaysia Mobile Clinic by The Prime Minister of Malaysia.
2. Hospital Ampang – the official opening of Hospital Ampang by His Royal Highness Tuanku Mizan Zainal Abidin.
3. Hospital Ampang – the official visit by Her Royal Highness Tuanku Nur Zahirah in conjunction to the His Royal Highness Birthday.

Throughout 2010, three courses were conducted. These courses are the Tahsin Bacaan Al-Quran Course, The Islamic Human Development Course and Islamic Funeral Management Course. In addition, 44 talks on inculcating Islamic values for MoH staff were conducted.

Psychology Counselling Services

MSD plans, provides direction, develops and coordinates counselling activities such as the Employees Assistance Program for the Ministry of Health HQ. Cases are managed together in collaboration with the Human Resource Division. Various human capital based activities have been carried out to implement psychological services through developmental, prevention and rehabilitation programmes. MSD also conducted counselling sessions to all personnel in MoH HQ (Table 23).

TABLE 23
SUMMARY OF PSYCHOLOGY COUNSELLING ACTIVITIES

No	Core Business	Activities	Achievement
1.	Psychological Application for Personal Assessment	Administer Psychological Test for MoH Staff.	
		- Stress Test Program	• 5 staff
		- TAJMA Personality Profile	• 370 staff
		- Junior Eysenck Personality Inventory	• 176
		- Personality Test (AB Type) Questionnaire	• 125 staff
2.	Psychological Application for Personal Development (Organize Training/ Course for all MoH staff)	Continuous Professional Development Program related to Human/ Personal Development to MSD staff.	
		- Mind Refreshment	• 73 staff
		- Parenting Skills	• 178 staff
		- Stress 2 work	• 186 staff
		- Corporate Culture	• 63 staff
		Training for Low Performance Staff.	
		- "Transformasi dan Pengukuhan Jati diri" Course	• 87 staff
		Counseling Skills Enhancement Program	• 13 person
		- AKRAB Course (Rakan Pembimbing Perkhidmatan Awam) Siri 1/2010	• 40 AKRAB members of KKM has been certified by JPA
3.	Psychological Application in Research	Conducting Psychological Research in Career Interest Amongst Staff of MoH HQ (PAR and PRA)	• 80 respondents
4.	Psychological Application in Intervention	Conducting counseling session in order to assist, help and groom the MoH staff to increase their optimum performance:	
		- Individual Counseling	• Referred (43 staff)
		- Group Counseling	• Volunteered (105 staff)
		- Mentoring Program	• Mentor (20 staff)
			• Mentee (20 staff) (16 mentor/ mentee has completed the program)

Source: Management Services Division, MoH

Asset Management

The Asset Management Unit is responsible for managing matters which are related to assets, rental of premises, maintenance and procurement. The performance for each activity for 2010 is as in Table 24. The MSD is also the secretariat to the PTJ-1 Government Property and Asset Management Committee (JKPAK). The committee had met four times as scheduled to monitor the asset management practices of 16 PTJ-2 and 32 PTJ-3 under its jurisdiction.

TABLE 24
SUMMARY OF ASSET MANAGEMENT ACTIVITIES

No	Activities	Achievements
i.	Building Maintenance • Putrajaya Office Complex. • Jalan Cenderasari Office Building - Cleaning Services - Security Services - Renovation	6 Maintenance Meetings between MSD and contractor were held. - Maintenance Company appointed. - Security Services Company appointed. - Renovation for Block B and C is in progress and expected to be completed in October 2011.
ii.	Premises and Space Rental	- 175 office space rental applications were processed. - 47 residential rental applications were processed. - 91 premises rental applications were processed.
iii.	Registration of Asset at MSD	Inventory : 177 units Asset : 155 units

Source: Management Services Division, MoH

Creativity and Innovation Initiatives

The Government of Malaysia has set a national transformation agenda that emphasized strongly on innovation and creativity. To realise the Government's agenda, every MoH personnel should give priority to speed up the execution of all work processes and must be able to think out of the box to come up with innovative, significant and high impact solutions. In this regard, MoH has established the Innovation Unit under the MSD to spearhead the creativity and innovative activities in the Ministry.

In line with the national transformation agenda, the Quality and Productivity Steering Committee has been restructured and renamed as Innovation Steering Committee and it is co-chaired by the Secretary General of Ministry and Director General of Health. The main objective of this Committee is to set policies and directions of the Ministry with regards to the implementation of innovation and quality programs at all levels in MoH.

Three (3) sub-Committees have been established under the Innovation Steering Committee to assist the smooth and systematic implementation of all initiatives and efforts related to innovation and quality, namely the Development Administration Circular (DAC) Committee, chaired by the Deputy Secretary General (Management); Quality Assurance Committee, chaired by the Deputy Director General of Health (Research & Technical Support); and Innovation Award Committee, chaired by the Senior Director of Oral Health Services. The achievements of innovation activities in 2010 are listed in Table 25.

TABLE 25
SUMMARY OF INNOVATION ACTIVITIES

No	Activities	Achievements
i.	MoH Innovation Day 2010	MoH Innovation Day with the theme of Innovation Catalyses Transformation was held on 10th November 2010 at PICC, Putrajaya and officiated by the Health Minister. Highlights of the event include the award giving ceremony in recognition to those who succeeded in the respective Excellence Innovation Programs, Innovation Talk on Culturing Innovation by Vice Chancellor of UTM, Innovation Exhibition, and creativity and innovative activities such as innovation quiz and Tree of Ideas.
ii.	Innovation Steering Committee Meeting	Convened four times.
iii.	Innovation Exhibition in conjunction with Malaysia Innovative Festival 2010	Innovation Unit and 7 more innovative projects from various MoH Divisions / State Health Departments participated in the Innovation Exhibition which took place on 24 – 26 November 2010 at Stadium Putra, Bukit Jalil, Kuala Lumpur.
		The exhibition managed to equip participants with new knowledge and perspectives, and widen participants' exposure and experience in promoting MoH's innovation to the public.
		Various activities were conducted at the booth and the MoH team received encouraging response from the public.
iv.	Participation on other Ministry's Innovation Day Celebration	Two officers from Innovation Unit, MSD participated in the Ministry of Transportation Innovation Day that was held on 27 December 2010 at Parcel D, Putrajaya. The highlights of the event were award giving ceremony to the winners of Creating Theme of Innovation Day's Competition and Talks on innovation.
v.	Database of innovation reports from all agencies under MoH	61 innovation reports have been collected in 2010 and deposited into the database and they were divided into 4 categories: Product, Process, Services & Technology.
vi.	Submission of high-impact innovation to The Public Sector Innovation Bank (BISA) developed by MAMPU	10 high-impact innovations have been uploaded to the BISA system on 30 November 2010.
vii.	Innovative ideas	26 ideas from MyIdeas portal (MOSTI) and 40 ideas from Tree of Ideas activity were acquired by MoH for consideration of implementation.

Source: Management Services Division, MoH

Enhancement of Management System

MSD received the Certification on Quality Management System MS ISO 9001:2008 on 14 January 2010 from SIRIM QAS International Sdn. Bhd. To ensure MSD compliance in adhering to and implementing requirements for the MS ISO 9001:2008, MSD conducted several scheduled quality audits as listed below:

(a) Internal Audit session was held on 1 – 9 September 2010; and

(b) Surveillance Audit session by SIRIM was held on 27 – 29 October 2010 for the extension of core activities from eight to ten, namely:

i. Human Resource Services (5 quality procedures);
ii. Financial Management (3 quality procedures);
iii. Asset Management (3 quality procedures);
iv. Approval for official application to go abroad (1 quality procedure);
v. Official Event Management (1 quality procedure);
vi. Psychology Counselling Services (1 quality procedure);
vii. Logistic Management (2 quality procedures)
viii. Mailing Services (1 quality procedure)
ix. Parliament Management (1 quality procedure); and
x. Library services.

Service Delivery Efficiency Enhancement Program

MSD also has been appointed as the MoH secretariat for Star Rating System. This system was introduced by MAMPU in line with the agenda of transforming the public sector to ensure the efficiency of service delivery system in meeting the needs of clients and stakeholders by encouraging healthy competition among public sector agencies through a rating approach. In 2010, Star Rating evaluation for MoH was carried out on 2-5 August 2010. Before the actual assessment was held by MAMPU, MSD has conducted Self-evaluation Assessment on 14-16 June 2010 and result was 77.26% (rated 3 stars). This low achievement was a wake-up call to MoH to quickly rectify the weaknesses and make improvements accordingly. MoH has taken positive and pro-active steps towards enhancing management performance and at the same time inculcating excellently the culture of underlining quality within organization.

Information Resources Management

In 2010, the MoH HQ Library was upgraded from a Unit to be ne of three Sections under the MSD. The administration of the library was upgraded with the appointment of Head Librarian (S54) and two more Librarians (S44 and S41). Functions of the MoH HQ Library are:

a. Supervising all libraries under the MoH (88 libraries identified up to December 2010);
b. Managing MoH Virtual Library Portal (a one-stop search for health and medical information);
c. Repository centre for MoH collections; and
d. Providing information and library services to MoH HQ employees and also to the public.

TABLE 26
SUMMARY OF INFORMATION RESOURCES ACTIVITIES, 2010

No	Activities	Achievements
1.	Library Management	Collections development: 1. Purchase of 39 magazines / journals titles 2. Subscribed 3 databases – MD Consult and OVID (under the Virtual Library Portal) and Lawnet Customer services provided includes: i. References and referrals – 126 requests; ii. Collections borrowed – 4,440 books; and iii. Borrowers – 4,378 people

Source: Management Services Division, MoH

COMPETENCY DEVELOPMENT

The Competency Development Division (CDD) is responsible for the assessments of the competency and management of the competency for the close service schemes in MoH. This Division also carries out the review and seeks improvements on the evaluation methods and proposed to MoH's Competency Assessment Board. This responsibility will also provide inputs regarding competency assessment results to the Human Resource Division, for the purpose of staff promotions as well as their career advancements. Activities carried out in 2010 are as listed in Table 27.

TABLE 27
ACTIVITIES FOR COMPETENCY DEVELOPMENT, 2010

NO.	ACTIVITIES	SERVICE SCHEMES	TOTAL CANDIDATES
1	Competency Level Assessment (CLA) Examinations	105	39,518
2	Competency Level Assessment (CLA) One Day Assessment Centre	21	12,303
3	Competency Level Assessment (CLA) - Continuous Professional Development (CLA-CPD)	9	80,894
4	Competency-Based Training (CBT)	2	206
5	Credentialing (Masters Programme)	2	295
6	Credentialing (Hospital Directors)	1	40
TOTAL CANDIDATES			**133,256**

Source: Competency Development Division, MoH

INFORMATION MANAGEMENT

Information is an important asset to support the effective delivery of health care services. Therefore MoH has given serious attention towards the storage, processing and dissemination of information through the use of current ICT facilities. The Ministry continuously monitors and improves ICT facilities both in terms of ICT infrastructure and application systems. Apart from that, useful health related

information is made available for public consumption at the Ministry's website. In 2010, the MoH portal receives more than 15 million visitors with an average of 1 million visitors per month.

Increased ICT Network Capacity
To cater for the transaction growth and maintaining current response performance, the Ministry has upgraded the existing network capacity to 256kbps-2Mbps. A total of 256 network locations were upgraded in 2010. However, the remaining network locations shall be upgraded under the 1GovNET project spearheaded by the Malaysian Administrative Modernisation and Management Planning Unit (MAMPU) in 2011.

Increased ICT Applications
Amongst applications developed in 2010 are the FoSIM Domestic Applications System and Quality Efficacy Safety (QUEST3) System which due for implementation in mid-2011. The Ministry is also actively engaged in the development of the Hospital Information System (HIS) for three hospitals, which are Hospital Sultanah Nur Zahirah (HSNZ) in Terengganu, Hospital Sultan Haji Ahmad Shah Hospital (HOSHAS) in Temerloh and Hospital Bintulu (HBTU) in Sarawak. By end of 2010, all three systems have undergone testing and were scheduled for full implementaton in early 2011.

The Ministry is in close collaboration with MAMPU to develop its own version of the Hospital Information System Ministry of Health (HIS@KKM). In 2010, the Operating Theatre Management System (OTMS) module was 90% completed and is scheduled for completion by the end of March 2011.

There are three major clinical applications namely the Teleprimary Care System (TPC), Clinical Information System (CIS) and the Oral Health Clinical Information System (OHCIS). In 2010, the TPC was expanded to 15 health clinics in Sabah and Pahang. Currently, the TPC has been implemented in 88 health clinics while the OHCIS in 11 dental clinics.

The Ministry has also developed internally seven small-scale systems without involving third parties. These systems are *Sistem Latihan (eLatihan)*, Dental Practitioners' Information Management System (DPIMS), *Sistem Induksi (eInduksi)*, *Sistem Maklumat Rawatan Perubatan* (SMRP), *Sistem Permohonan Tempahan Kenderaan Kerajaan (eKenderaan)*, *Sistem Pengurusan Kompetensi* (PTK Online) and *Sistem Basic Assessment IT* (BAIT).

ICT Technical Support
To address the ICT Technical Support issues, the Ministry set up the ICT Helpdesk System. Throughout 2010, the ICT Helpdesk operated 24x7. A total of 7,531 cases were logged and attended to successfully.

ICT Contract Management
The Ministry managed 24 ICT contracts valued at RM 152,892,377.28 in 2010. These investments were for the provision of facilities and improvements in health care delivery system for the public.

ICT Creativity and Innovation
The Ministry attaches significant importance to quality ICT products. Hence as means of measuring whether MoH ICT products are of quality, the Ministry encourages participation at both local and international competition. The following are achievement's obtained for MoH ICT products in 2010:

i. The project "HIS for Hospitals in Malaysia" won second place in the ICT Enabled Hospital of the Year category at the 6th eINDIA 2010 Awards held at the Hyderabad International Convention Centre.
ii. MoH also won first prize for the Tele-primary Care (TPC) project in the prestigious 2010 Public Sector Innovative Awards under the Information and Communication Technology category.

iii. MoH's portal has been awarded a 5 Star rating by an evaluation conducted by the Malaysian Development Corporation (MDeC).

FINANCE SECTION

Finance Section is headed by the Deputy Secretary General (Finance) and comprises of 3 Divisions, namely Finance Division, Accounts Division and Procurement and Privatisation Division. This Program is responsible for managing all matters related to finance such as budget and expenditure, accounts management, payments, procurement of assets and privatisation in the MoH.

The two main functions of the Finance Division are to formulate financial policies and budget management for the Ministry. The main activities of this Division are to ensure disbursement of allocation, monitoring of expenditure, general finance, revenue management, distribution of financial aid and expenditure system studies.

The role of the Accounts Division is to provide an efficient and quality accounting service in processing, checking and approving payments including emolument for all Responsibility Centers (RC) within Klang Valley. It is also responsible for processing revenue collection. In addition to preparing the financial and management report, it also inspects the electronic payment system (e-SPKB) and cash auditing at all RC. Accounts Division was divided into two branches namely Management and Operation. With the restructuring, Accounts Division extends its role in advisory and as financial solution information provider for managerial decision support besides carrying out routine processing of financial transactions.

All procurement is managed effectively by the Procurement and Privatisation Division. This Division is the main agency for procurement, privatisation, asset and store management for the Ministry. It ensures that MoH's procurement is the best, effective, transparent, fair and most cost-effective. It also ensures all privatization programs are implemented in line with the national privatization policy and monitored effectively so as to improve the standard, efficiency and quality of services provided to the public. It also ensures that the stores, inventories and assets of MoH are managed effectively, transparently, efficient and with integrity.

- **BUDGET MANAGEMENT**

In 2010, a total of RM 15.34 billion was allocated to MOH which consists of RM11.76 billion for the Operational Budget and RM3.58 billion for the Development Budget.

Performance of Operating Expenditure For 2010

The Operating Budget allocation for 2010 was RM 11.76 billion which represents decrease of RM 98.43 million as compared to RM 11.86 billion allocated for 2009. However, the total expenditure for the year 2010 was RM 12.69 billion, which was 7.92% higher than the sum allocated. The over expenditure was merely due to payment incurred for emoluments which was not budgeted for in 2010. These payments include one month bonus for civil servants, which cost RM 185.93 million, additional intake of 12,386 medical personnel of various categories to fill up the vacancies incentive for post basic medical assistants, which amounted to RM 324.67 million and implementation of fast track on Mac 2010 for 9,161 Medical/ Pharmacist/Dental Officers from UD41 to UD54, which amounted RM 239.41 million. Table 27 shows the allocation and expenditure of the Operating Budget in 2010 according to Programme.

TABLE 27
ALLOCATION AND EXPENDITURE OF THE OPERATING BUDGET IN 2010, ACCORDING TO PROGRAMME

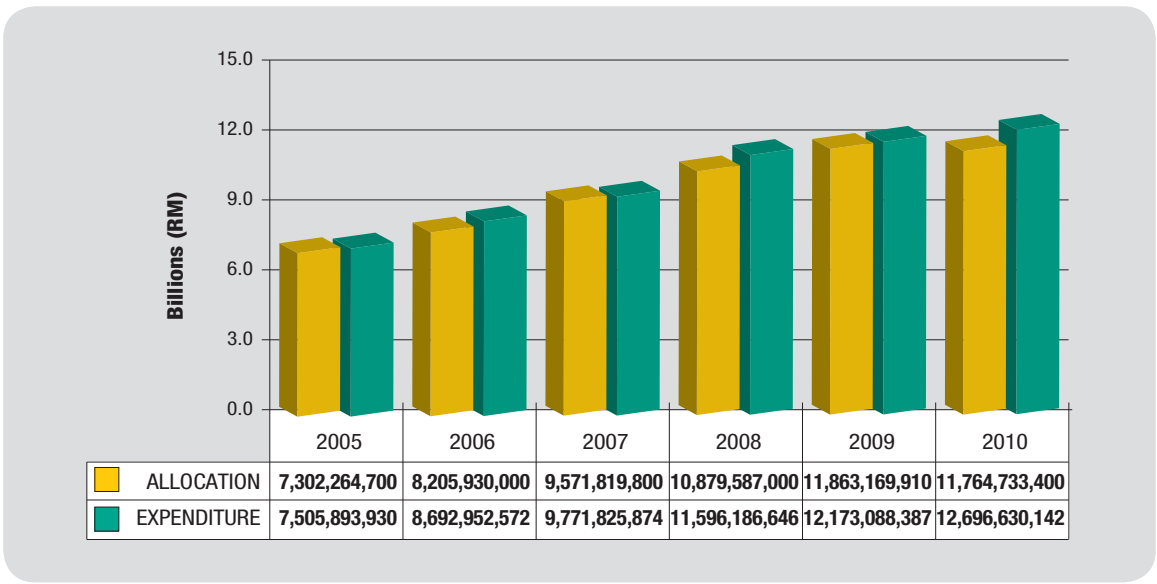
PROGRAMME	ALLOCATION (RM million)	EXPENDITURE (RM million)
Management	1,057,328,045	1,104,798,610
Public Health	2,268,754,492	2,491,575,191
Medical	7,502,798,227	8,121,679,869
Research & Technical Support	155,659,437	161,050,758
Oral Health	439,758,506	472,597,039
Pharmaceutical Services	106,751,320	111,897,514
Health Promotion Board of Malaysia	5,860,000	5,860,000
New Policy	205,855,705	205,421,197
One-Off	21,967,668	21,749,964
TOTAL	**11,764,733,400**	**12,696,630,142**

Source: Finance Division, MoH

Overall Performance of Operating Budget From 2005 - 2010

For the past five years (2005-2010), the Operating Budget allocation for MoH has increased from RM 7.30 billion in 2005 to RM 11.76 billion in 2010. Meanwhile, the expenditure for operating budget recorded an increase from RM 7.50 billion in 2005 to RM 12.69 billion for 2010. Overall, the major factor for over-expenditure was due to the payment of emoluments which was not allocated sufficiently in the budget. Figure 4 shows the overall performance of Operating Budget from 2005 - 2010.

FIGURE 4
OVERALL PERFORMANCE OF OPERATING BUDGET, 2005 - 2010



	2005	2006	2007	2008	2009	2010
ALLOCATION	7,302,264,700	8,205,930,000	9,571,819,800	10,879,587,000	11,863,169,910	11,764,733,400
EXPENDITURE	7,505,893,930	8,692,952,572	9,771,825,874	11,596,186,646	12,173,088,387	12,696,630,142

Source : Finance Division, MoH

Performance of Development Expenditure for 2010

The total expenditure of Development Budget was RM 3.56 billion or 99.58% of the total budget allocation of RM 3.58 billion. The percentage of expenditure in 2010 was slightly higher as compared to 2009 which recorded a performance of 98.95%. Table 28 shows the development expenditure according to the project details.

TABLE 28
DEVELOPMENT ALLOCATION AND EXPENDITURE BY PROJECT DETAILS, 2010

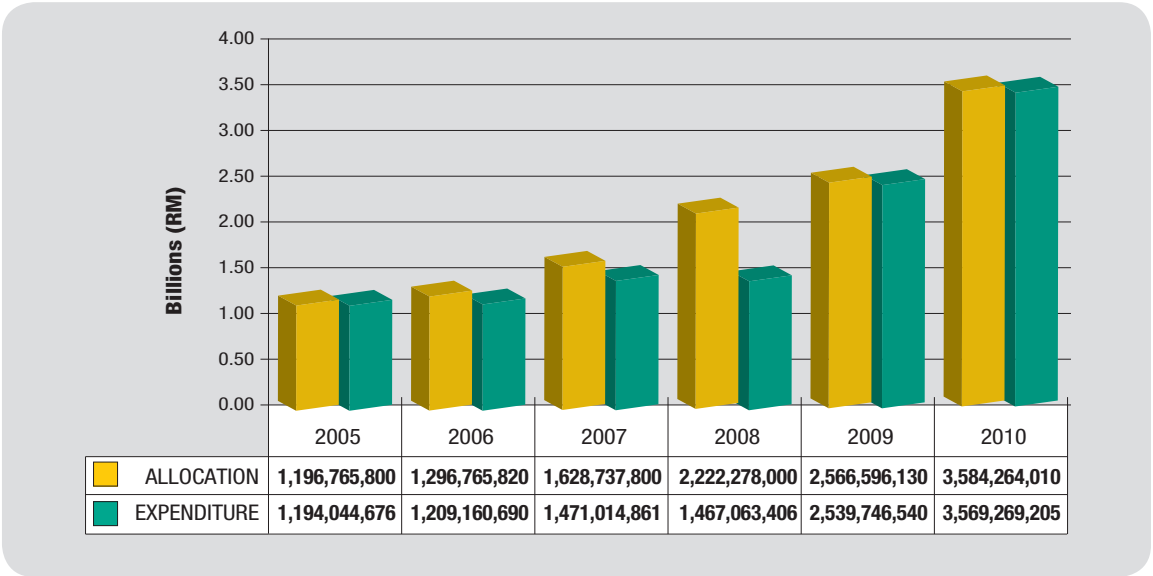
PROJECT DETAIL	TITLE	ALLOCATION (RM)	EXPENDITURE (RM)	PERCENTAGE (%)
• 00101	• Construction of New College	169,149,551	169,022,959	99.93
• 00102	• Upgrading of Training Projects	24,192,566	24,094,618	99.60
• 00103	• Hostels for Pre Service Trainees	3,428,000	3,409,878	99.47
• 00104	• Outsourcing	50,646,355	50,541,400	99.79
• 00105	• In-Service Training	107,460,850	107,387,657	99.93
00100	Training	354,877,322	354,456,512	99.88
• 00201	• Rural Health Services	263,544,139	260,864,594	98.98
• 00202	• BAKAS	7,460,206	7,454,687	99.93
• 00203	• Urban Health Services	301,169,226	299,900,180	99.58
• 00204	• Mobile Clinics	13,857,382	13,855,907	99.99
00200	Public Health	586,030,953	582,075,368	99.33
00300	Hospital Facilities	778,967,368	777,097,186	99.76
00400	New Hospitals	682,227,698	681,982,448	99.96
00500	Research and Development	29,025,105	28,960,680	99.78
00600	Restructure, Upgrade and Repair	157,536,480	157,009,457	99.67
00700	Land Procurement and Maintenance	56,810,954	56,703,151	99.81
00800	ICT Facilities	163,253,193	163,292,916	100.02
00900	Staff Facilities	175,047,700	174,941,246	99.94
01000	Health Promotion	1,368,466	1,368,465	100.00
01100	Equipments and Vehicles	599,118,771	591,381,776	98.71
Total		**3,584,264,010**	**3,569,269,205**	**99.58**

Source: Finance Division, MoH

Overall Performance of Development Budget From 2005 - 2010

Figure 5 shows the overall performance of the development budget allocation and expenditure from 2005 - 2010. In general, the development expenditure for MoH for the past five years has been less than the allocation provided, with exception in 2005 whereby MoH had managed to spend 99.77% of the budget allocated.

FIGURE 5
OVERALL PERFORMANCE OF DEVELOPMENT BUDGET, 2005 - 2010



	2005	2006	2007	2008	2009	2010
ALLOCATION	1,196,765,800	1,296,765,820	1,628,737,800	2,222,278,000	2,566,596,130	3,584,264,010
EXPENDITURE	1,194,044,676	1,209,160,690	1,471,014,861	1,467,063,406	2,539,746,540	3,569,269,205

Source: Finance Division, MoH

- **REVENUE MANAGEMENT**

Revenue Collections

The total revenue collection for MoH in 2010 was RM 311,227,608.54 of which RM 227,612,831.85 was collected from the charges of health services in hospitals and clinics while RM 83,614,776.69 or 26.87% was collected from other revenues such as fines, rentals, sales, etc. The breakdowns of the revenue classification are as shown in Table 29.

Outstanding Revenue

The total outstanding revenue in 2010 has decreased by 4.84% to RM 29.87 million from RM 31.39 million in 2009. Out of these, a total of RM 27.22 million of the outstanding revenue was from the charges of health services under the Fees (Medical) Order 1982 (RM 13.04 million by Malaysian patients and RM 14.18 million by non-Malaysian patients), while RM 2.65 million was from other revenues such as fines, rentals, sales, etc.

TABLE 29
TOTAL REVENUE COLLECTION OF MoH, 2010

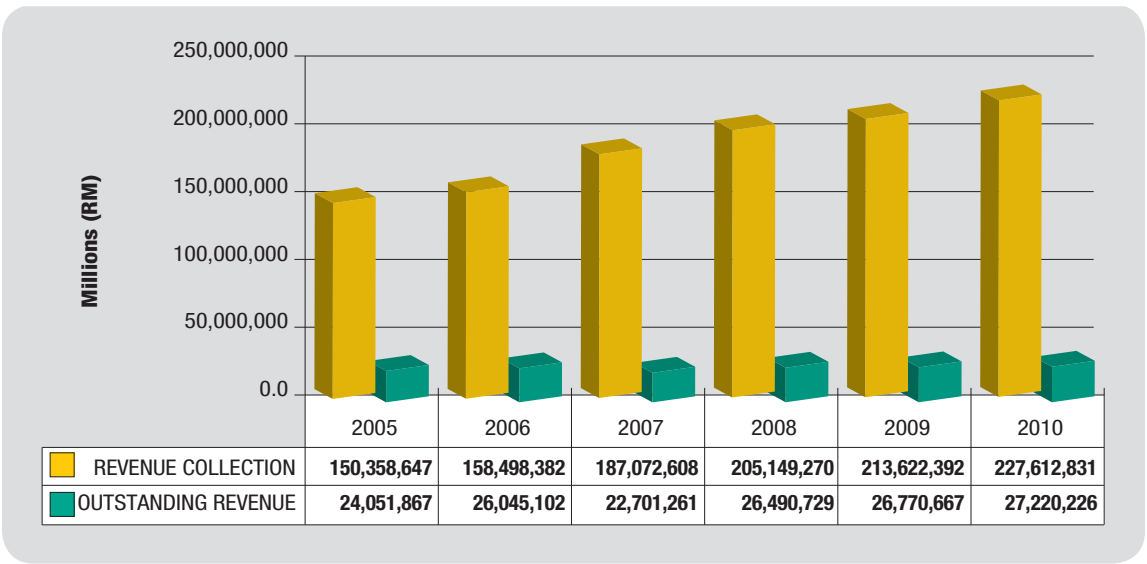
Code	Revenue Classification	Amount (RM)
60000	Tax Revenue	-
71000	Licences, Registration Fees and Permits	7,472,111.96
72000	Services and Services of Goods	243,667,341.24
73000	Receipts from Sales of Goods	6,118,422.57
74000	Rentals	14,014,540.58
75000	Interest and Returns on Investment	119,145.90
76000	Fines and Penalties	9,509,931.38
80000	Non-Revenue Receipts	28,392,704.90
90000	Revenues from Federal Territory	1,933,410.01
Total		**311,227,608.54**

Source: Finance Division, MoH

Collection and Outstanding Revenue for Health Services Under The Fees (Medical) Order 1982 for 2010

The total revenue collection for health services under the Fees (Medical) Order 1982 for the year 2010 was RM 227,612,831.35 of which RM 161,346,652.13 was contributed by Malaysians as in-patients, out-patients and Full Paying Patients for services provided by clinics/hospitals, while RM 66,266,179.72 was contributed by non-Malaysians patients.

FIGURE 6
COLLECTION AND OUTSTANDING REVENUE UNDER THE FEES (MEDICAL) ORDER 1982, 2005 TO 2010



Source : Finance Division, MoH

The total revenue collected under the Fees (Medical) Order 1982 from 2005 to 2010 showed an average annual increment of RM 15.45 million or 20% per year. The revenue collected in 2010 increased by RM 8.47 million as compared to RM 213.62 million in 2009 (Figure 6). Meanwhile, outstanding revenue for health services under the Fees (Medical) Order 1982 for 2010 increased by 1.68% or RM 0.45 million as compared to 2009.

- **FINANCIAL AID AND SUBSIDY TO NON-GOVERNMENTAL ORGANIZATION (NGO)**

Financial Aid to Non-Governmental Organization (NGO)

There are three types of financial assistance offered by MoH to NGOs which were:

1. *Health Related Programmes Fund*

   In 2010, a sum of RM 645,500.00 was allocated by MOH to NGOs in the form of financial aid to support health related programmes and activities such as counseling sessions, awareness campaigns, treatment and other related activities to the patients. This allocation was given to Malaysian Hospice Council, The Heart Foundation of Malaysia, National Diabetes Institute (NADI), Malaysian Association for the Prevention of Tuberculosis (MAPTB), and others. The total allocation in 2010 has decreased by 94.7% as compared to RM 12,153,795.00 allocated in 2009. MoH also provided funds amounting to RM 1.5 million to the Malaysian AIDS Council (MAC) in 2010 to carry out AIDS education and awareness activities.

2. *Capital Grant Fund*

   This grant was given to new dialysis centers with a maximum of 10 dialysis machine. In 2010, a sum of RM 380,500.00 was allocated to the NGO in the form of capital grant. This amount represented a decline of 90.1% as compared to RM 3,837,312.00 allocated in 2009.

3. *Haemodialysis Subsidy Fund*

   This fund was created in order to help poor patients who are undergoing dialysis due to chronic kidney failure in NGO haemodialysis centres with a subsidy of RM50.00 for each treatment. In 2010, MoH had allocated a sum of RM24,151,868.00 to NGOs as subsidy for the haemodialysis treatment.

WAY FORWARD

Various initiatives will be implemented to further improve the quality of service delivery system in human resource. The initiatives are as follows:

(i) There is a need for endless planning, implementation, coordination, monitoring and evaluation in acting and promotion exercises. This is undeniable towards providing a fair opportunity in career development for officers in Management and Professional group in MoH from the promotional aspects and thus assisting the Ministry in the retention of high qualified human resource.
(ii) To enhance the efficiency of work process.
(iii) Reviewing terms and condition of appointment to servicing schemes in MoH
(iv) Research on creating remuneration to the officers' work at the 1Malaysia Mobile Clinic.
(v) Ongoing research to improve/create servicing schemes and allowances for MoH personnel.

Development of human resource is the framework to assist personnel to broaden and enrich their personal and organizational skills, knowledge, and abilities which includes inter alia employee training.

Therefore, the TMD is fully aware of the need to continuously pursue systematic training of human resources in MoH as this is crucial in supporting the development and expansion of an efficient, effective and reliable delivery system that is ever vigilant in responding to the dynamic changes in health care needs and demands. In achieving human resources development initiatives, the following strategies are being taken:

i. To ensure continuous improvement in the planning and development of MoH training programmes. This involves the development of appropriate health manpower training plans with a view to equip all levels and categories of personnel with the required level of competencies;
ii. To continuously ensure that the teaching, learning and examination quality of MoH AHSC are of acceptable international standard. This would include collaboration with both the relevant government agencies and the private sector to ensure consistency with national needs, aspirations and the infusion of new medical developments; and
iii. To embrace ICT where possible with a view to further improve both the teaching and learning methodologies.

In meeting the future challenges, enhancement of management services is needed to support services as the backbone of health care management provider. In this regards, strengthening of all work processes, improvement of value system, as well as changing the mind set of our workforce to be in line with MoH transformation agenda. The MSD strives to carry out its responsibilities and tasks effectively and efficiently so that maximum customer satisfaction is met and achieved and at the same path all the other divisions can carry out their respective policies and responsibilities efficiently to achieve the Ministry's objectives.

In 2010, the Ministry has developed the ICT Strategic Plan for 2011-2015. Its four main pillars are:

- To create an Integrated ICT system to meet service requirements (application);
- To expand and strengthen planned ICT infrastructure that is appropriate and safe (Infrastructure);
- To strengthen Change Management and ICT acculturation in strengthening service delivery (Human Capital); and
- To strengthen ICT Governance (Corporate ICT).

To accomplish the Strategic Plan above, the Ministry will continue to expand the application system in the Hospitals, Health Clinics, Dental Clinics, and to strengthen the application at the pharmacy department. In addition, MoH will also further strengthen the governance of ICT which will be implemented continuously in the future.

CONCLUSION

The main objective of the Management Programme is to enable the achievement of MoH's vision and mission by giving support services such as human resource development, general administration, financial management, information system management, and ICT infrastructure development. In the future, continuous improvement and innovations will be implemented in order to enhance the effectiveness and efficiency of the service delivery system in MoH.

Public Health 3

INTRODUCTION

The activities under the Ministry of Health's (MoH) Public Health Programme are broad and comprehensive in order to ensure that the individuals, families and society in general maintain good health. The main objective of the Public Health Programme is to reduce the occurrence of diseases and deaths due to communicable and non-communicable diseases as well as occupational environmental related diseases so that they will no longer pose a threat to the public's health.

The other objectives are as listed below.

i. To encourage a healthy lifestyle; a healthy, safe and hygienic work environment and workplace; suitable preventive measures; immediate detection and treatment; continuous monitoring and suitable rehabilitation services.
ii. To encourage public participation and cooperation among agencies/sectors towards building a healthy and caring society.

Specific programs were also carried out by four Divisions under the Programme, namely; Disease Control Division, Family Health Development Division, Health Promotion Division, and Nutrition Division.

ACTIVITIES AND ACHIEVEMENTS

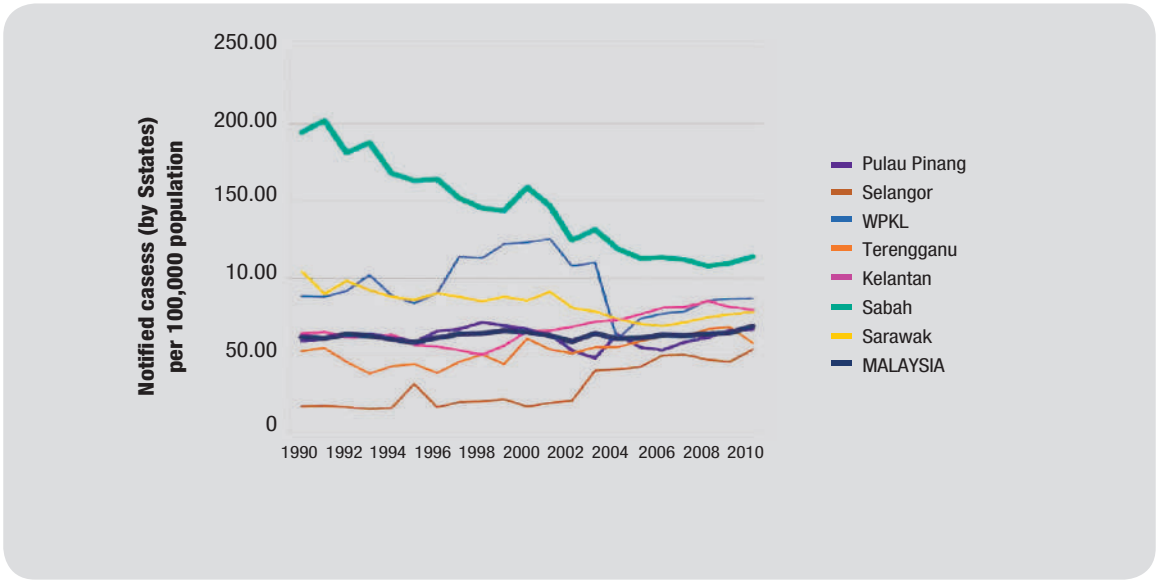
DISEASE CONTROL

- **COMMUNICABLE DISEASE**

Tuberculosis Prevention and Control Program

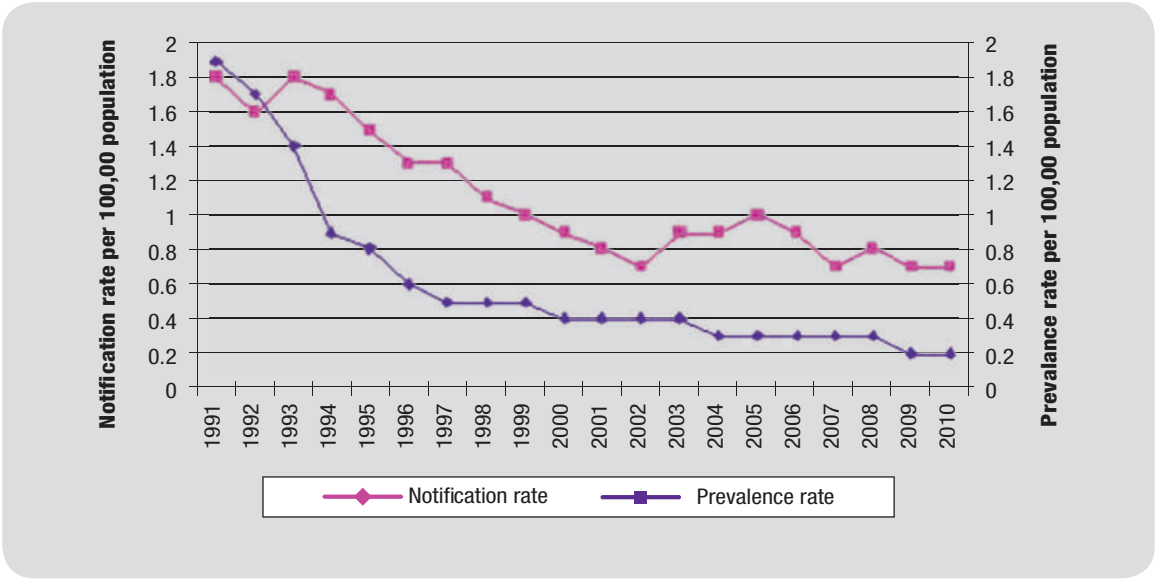
Tuberculosis remains a significant health issue for Malaysia. Similar to most other developing countries in recent years, Malaysia is reporting an increasing number of cases ranging from 1 percent to 7 percent annually. 19,337 new cases (all forms) were registered in 2010 through surveillance system, reflecting a notification rate of 68.4 cases per 100,000 populations. The total population for Malaysia in 2010 was 28,250,500 (based on the adjusted Population and Housing Census of Malaysia 2000).

Sabah remained with the highest number of tuberculosis cases in 2010 as compared with other state, although there has been a significant reduction in notification rate of cases from 194.4 cases per 100,000 in 1990 to 113.9 cases per 100,000 in 2010. Although, Sabah and Sarawak shows a decrease in notification rates, nevertheless, some states in Peninsular showed gradual increment as per Figure 1. In 2010, Sabah, Sarawak, Federal Territory of Kuala Lumpur and Kelantan had notification rates above the national rate of 68.4 per 100,000 populations.



The prevalence of leprosy in Malaysia in 2010 remained less than one case per every 10,000 population. Malaysia has achieved elimination since 1994 in accordance to the WHO Global Elimination Program's goal that a country prevalence rate of less than 1 per 10,000 populations has achieved elimination.

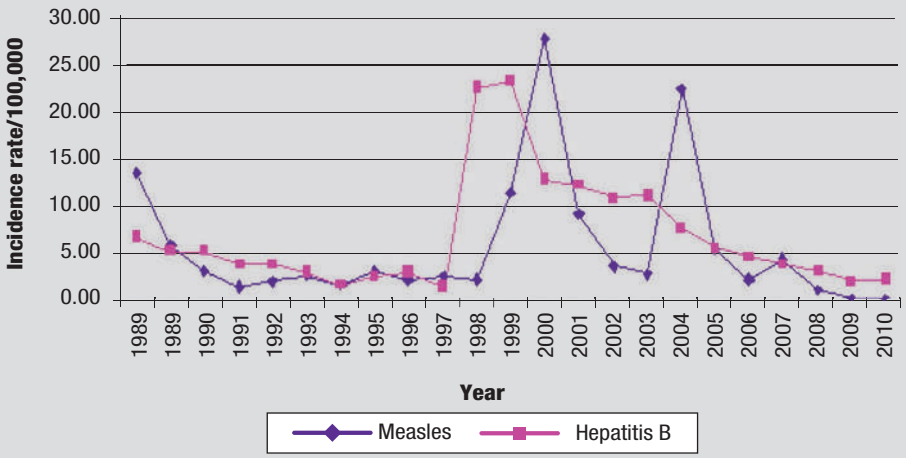
A total of 566 cases were registered in 2010, with a prevalence rate of 0.2 per 10,000. Out of these, 194 were new cases of which 90 cases (46.4%) were immigrants. The number of cases from Peninsular, Sabah and Sarawak were 82 (42.3%), 89 (45.9%) and 23 (11.8%) respectively. All patients registered with the MoH are treated with WHO Multiple Drugs Treatment (MDT) and the treatment is free of charge. Patients were no more isolated as they used to be. Patients in the Leprosorium, Hospital Sg Buloh, were all of old cured cases with other chronic diseases and deformities. Those patients were registered, treated and followed up by dermatological clinics and health centres throughout the country.

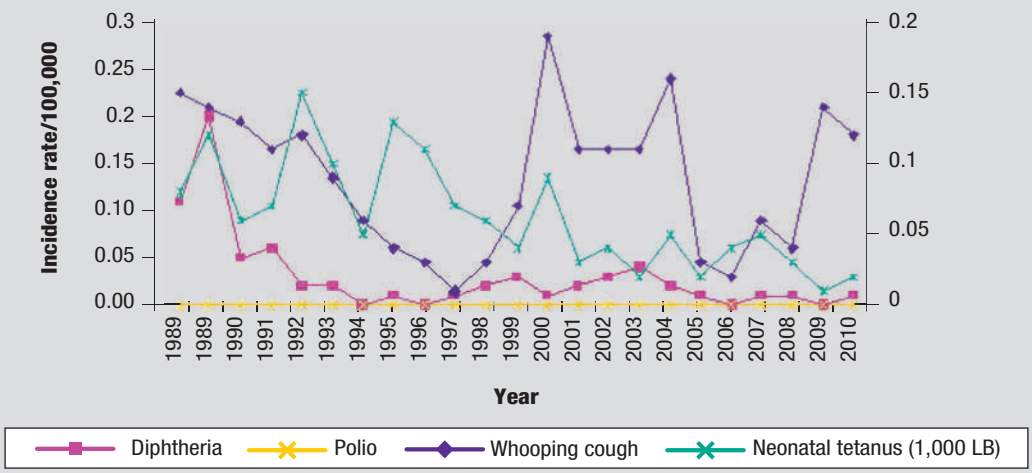


Malaysia was declared free from polio in October 2000 and remains free since. In October 2008, Malaysia has replaced the use of oral polio vaccine (OPV) for immunization of infants aged of 2, 3 and 5 months to inactivated polio vaccine (IPV). Cohorts that received IPV will get the same combination for their booster vaccination at 18 months old, starting in 2010.

There was an increase of measles cases in 2010 (57) as compared to 2009 (73) with an incidence rate of 0.26 per 100,000 as shown in Figure 3. The 28.1% increase was contributed by 3 clusters of measles outbreaks. However, the number of cases for each cluster was less than 10; showing good herd immunity in the affected community and also early intervention. There was no death reported due to measles.

The incidence rate of Hepatitis B in Malaysia was 2.27 per 100,000 in 2010, as compared to 2.13 per 100,000 in 2009 (Figure 3). The number of cases among Malaysians born after 1989, the year of Hepatitis B vaccination initiation for children, was only 4 cases in 2010 as compared to 23 cases in 2009.


Incidence rate/100,000
30.00
25.00
20.00
15.00
10.00
5.00
0.00
1989 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010
Year
Measles
Hepatitis B


Incidence rate/100,000
0.3
0.25
0.2
0.15
0.10
0.05
0.00
0.2
0.15
0.1
0.05
0
1989 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010
Year
Diphtheria
Polio
Whooping cough
Neonatal tetanus (1,000 LB)

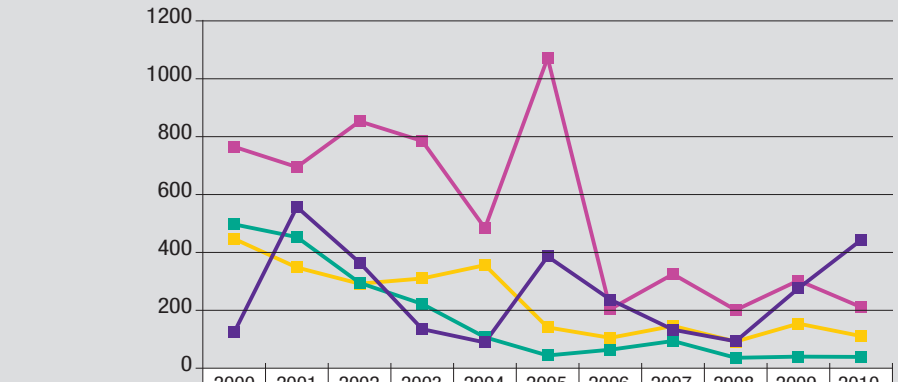
The incidence rate of diphtheria, neonatal tetanus and pertussis has been sustained to less than 1 per 100,000 for the past 20 (Figure 4). There were 46 cases of whooping cough, 10 cases of neonatal tetanus and 3 cases of diphtheria reported in 2010. Following the high fatality rate of diphtheria cases, the Committee for National Policy and Practice on Immunisation has agreed to the proposal of diphtheria antitoxin stockpiling at six major hospitals, based on territorial zoning.

Food and Waterborne Diseases Program

In Malaysia, there are 5 food and waterborne diseases monitored through the notification system under the Prevention and Control of Infectious Diseases Act 1988 (Act 342) which consists of cholera, typhoid, food poisoning, Hepatitis A and dysentery.

The incidence of cholera, typhoid, Hepatitis A and dysentery has shown a declining trend for the past 10 years (Figure 5). The average incidence of these diseases was less than 5 cases per 100,000 populations. In 2010, the incidence of cholera was 1.57 per 100,000 population because of multiple outbreak foci in Sabah causing 6 deaths.

FIGURE 5
TREND OF CHOLERA, TYPHOID / PARATYPHOID, HEPATITIS A AND DYSENTERY IN MALAYSIA, 2000 – 2010

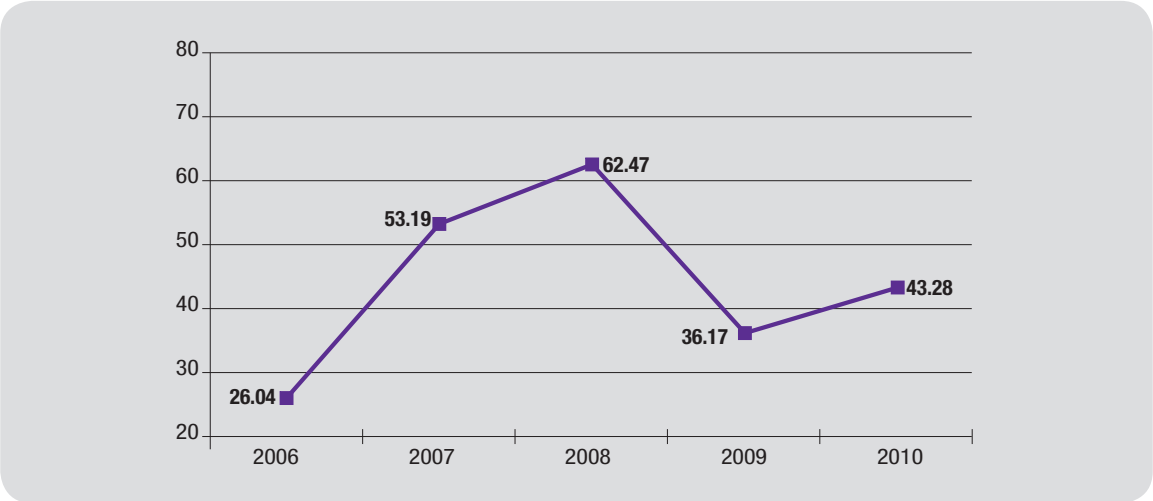


	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cholera	124	557	365	135	89	386	237	133	93	276	443
Typhoid	765	695	853	785	484	1072	204	325	201	303	211
Hepatitis A	497	453	295	222	107	44	64	94	36	40	39
Dysentry	447	348	292	310	356	141	105	146	92	154	111

Source: Disease Control Division, MoH

In 2010, the incidence of food poisoning was 43.28 per 100,000 populations, which was higher than its incidence in 2009 (36.17 per 100,000). There were 353 episodes of food poisoning, of which 43.6% occurred in schools. The most common risk factors identified were inappropriate holding temperature and holding time (22.2%) and untrained food handlers (9.4%).

FIGURE 6
INCIDENCE OF FOOD POISONING IN MALAYSIA, 2006-2010



Source: Disease Control Division, MoH

Zoonotic Diseases Control Program

Ebola, Plague, and Rabies are the notifiable zoonotic diseases under the Prevention and Control of Infectious Diseases Act 1988. There was no case of Ebola, Plague, and Rabies reported in 2010. Thus far, Malaysia has not recorded any human cases of Highly Pathogenic Avian Influenza (HPAI). Whilst, the World Organisation for Animal Health (OIE) has declared Malaysia to be free of avian influenza among birds or poultry since 2007.

On 9th December 2010, Leptospirosis has been gazetted as a notifiable disease under the same Act. There were 1976 admission cases of leptospirosis to MoH Hospitals in 2010, as reported in the Health Information Management System (HIMS) Medical Care Subsystem, managed by the Health Informatics Centre. The Zoonosis Sector also manages two other non-zoonotic diseases; Hand, Foot and Mouth Diseases (HFMD) and Influenza A (H1N1). There were 13,394 cases of HFMD and 3,714 cases of Influenza A (H1N1) reported in 2010.

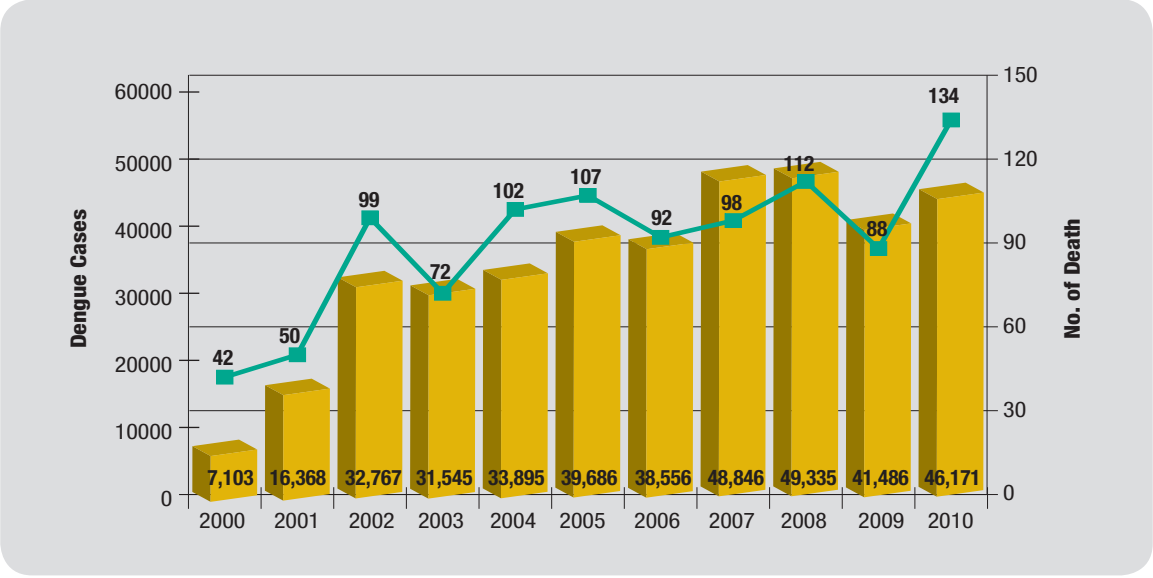
• VECTOR BORNE DISEASE CONTROL

Dengue Fever Control Program

Dengue fever is one of the significant public health problems in Malaysia. The reported Dengue cases have generally been increasing in the recent years (Figure 7). In 2010, 46171 cases and 134 deaths were reported. This was equivalent to approximately 160 cases per 100,000 populations. States with the highest Incidence Rate (IR) of all Dengue cases (per 100,000 populations) were Selangor (310), Federal Territory of Kuala Lumpur (250), Kelantan (213), Melaka (189) and Sarawak (166). States with lowest Incidence Rate (IR) were Federal Territory of Labuan (21) and Kedah (38) per 100,000 populations.

The case fatality rate in 2010 was 0.29%, an increase as compared to 0.21% in 2009. In parallel with the number of reported dengue cases, Selangor contributed the highest number of deaths with 45 deaths, followed by Sarawak with 14 deaths, Melaka and Johor with 12 deaths, and Kelantan with 11 deaths. The other states reported less than 10 deaths. There were no dengue deaths reported in Perlis and Federal Territory of Labuan.

FIGURE 7
TREND OF REPORTED DENGUE CASES IN MALAYSIA, 2000 - 2010



Source: Disease Control Division, MoH

There were 3,836,714 premises inspected for mosquito breeding in 2010 with 59,793 found to be positive for Aedes breeding, as compared to 2009 where 3,792,777 premises were inspected and 59,290 premises with positive Aedes breeding. The number of premises inspected and premises found positive with Aedes breeding increases by 1.2% and 0.8% in 2010.

There was an increase of 50% in fogging activities in 2010, which could be explained by the increase of the number of reported cases in 2010 as compared to 2009. There were 851,328 premises where Temephos were placed in 2010, an increase of 17% from 729,352 premises in 2009. Premise inspection activities in 2010 discovered that the highest Aedes index was at construction sites with AI 15.79%, followed by factories with AI 10.44%.

Health Promotion Activities in Dengue Prevention

The main focus in health promotion activities in dengue prevention and control is to mobilize individuals and communities in taking actions to prevent dengue. The achievement of health promotion activities for dengue prevention and control till the end of 2010 were as follows: *gotong-royong* - 5,905 sessions, community talks - 356,408 sessions, phamplets and posters - 4,576,808 pieces distributed, small group discussions - 905,499 sessions, and demonstrations - 1,687,407 sessions.

To mobilize the community, MoH has formed 1,740 COMBI (Communication for Behavioural Impact) projects throughout the country. In addition, MoH has also launched a Dengue Media Campaign at a cost of RM 4.9 million, which include publication of advertisements in television, radio and newspapers.

A new initiative has been introduced whereby the ministry has appointed a celebrity, Mr. Aznil Hj. Nawawi as the Anti Dengue Icon. This was to attract and create interest among the public to take actions to prevent dengue and participate in gotong-royong activities.

Other initiatives include installation of community billboards at 30 'hotspot' areas, 22 bus stops and 50 primary schools; advertisements on 30 Transnational buses; 2,551,704 slots of 'out of home advertisement'; truck service road shows in 60 dengue 'hotspot' localities; and distribution of 30,000 flipcharts as well as 400,000 posters.

Malaria Control Program

Malaysia has made great progress in the control of malaria and has successfully reduced malaria cases from 2.97 per 1,000 populations in 1995 to < 1/1000 population in 1998. Further reduction by more than 50% was achieved during the last decade from 0.55 per 1000 population (2000) to 0.24 per 1000 population in 2010. However, despite the reduction in malaria cases, case fatality rate remained high at 0.5% (2010). Malaria remains a public health problem among certain high risk groups such as undocumented/illegal foreign workers from malaria endemic countries, plantation workers, rubber tappers and those involved in forest related activities and certain areas in East Malaysia (Sabah and Sarawak).

Soon in 2011, the National Strategic Plan for Malaria Elimination 2011 – 2020 will be rolled out with the objective of halting local malaria transmission in Peninsular Malaysia by 2015 and in East Malaysia by 2020. The Elimination plan will focus on seven strategies, mainly, to strengthen the Malaria Surveillance System, to intensify vector control activities through integrated vector management approach, to improve the capacity and capability of all health facilities towards early detection and prompt treatment of all malaria cases, early detection and prompt response to outbreaks, to enhance awareness and knowledge on malaria towards social mobilisation and empowerment, to consolidate human resource capacity and to conduct relevant researches.

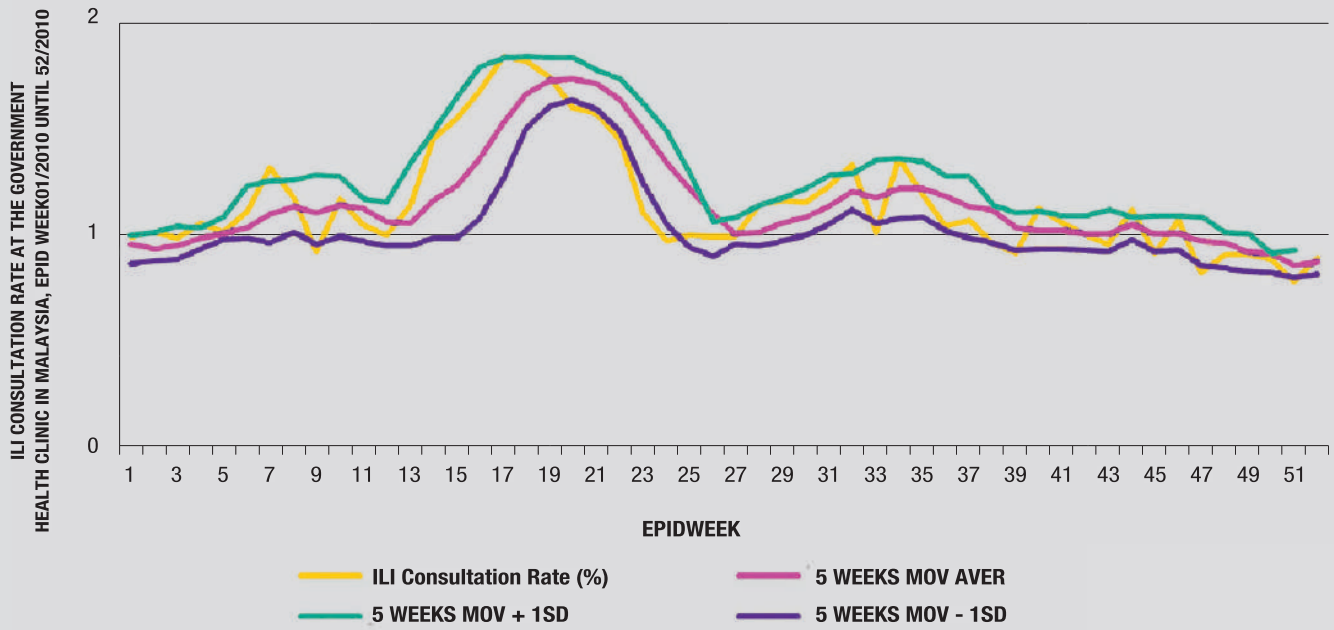
Malaysia has also made progress towards greater engagement and networking with country partners as well as other international bodies to enhance capacity building for vector control through national and international training courses, and to provide new opportunities for malaria elimination especially in combating major threats of resistance to treatment and insecticide use. There is also a strong regional collaboration with neighbouring countries and through the Asia Pacific Malaria Elimination Network (APMEN).

Filariasis Control Program

The National Programme to Eliminate Lymphatic Filariasis in Malaysia was initiated in 2001, and the target was to achieve filariasis elimination status by 2013. A yearly MDA (mass drug administration) using Diethylcarbamazine and Albendazole was started in 2004. The achievement of MDA from 2004 to 2008 was 84.3%, 88.5%, 91.3%, 93.2%, and 94.1% respectively.

Influenza-like Illness (ILI) Surveillance Program

Malaysia Influenza Surveillance System was introduced in September 2003. In May 2009, ILI Surveillance was enhanced in view of the Influenza A (H1N1) pandemic. Enhanced surveillance was continued in 2010 and the ILI consultation rate is as featured in Figure 8. Throughout 2010, the ILI consultation rate has been noted to be below the 5 weeks moving average +1 standard deviation except for Epid week 8 of 2010. Even though ILI consultation rate does not exceed the 5 weeks moving average + 1 SD, ILI consultation rate was observed to be increasing from Epid week 13 and reaches its peak in Epid week 18, after which settled to its baseline during Epid week 23. During that particular time frame, it was reported to be an increase in influenza A (H1N1) clusters.


ILI CONSULTATION RATE AT THE GOVERNMENT HEALTH CLINIC IN MALAYSIA, EPID WEEK01/2010 UNTIL 52/2010
2
1
0
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51
EPIDWEEK
ILI Consultation Rate (%)
5 WEEKS MOV AVER
5 WEEKS MOV + 1SD
5 WEEKS MOV - 1SD

HIV/STI Prevention and Control Program

A successful response to HIV/AIDS issue requires strong political commitment and leadership at the highest level. It is therefore critical that HIV/AIDS be addressed as not merely as a health issue, but also an integral matter with regards to national planning. Six priority areas which have been identified to address issues on HIV/AIDS in this country were:

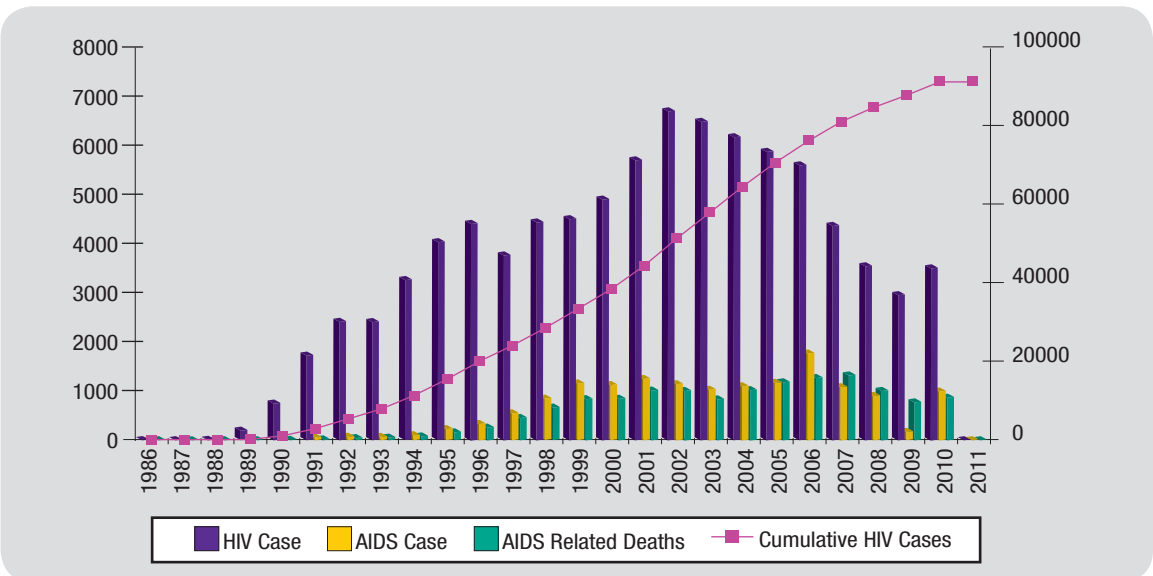
i. to strengthen leadership and advocacy
ii. training and capacity enhancement
iii. to reduce HIV vulnerability among injecting drug users ands their partners
iv. to reduce HIV vulnerability among women, young people and children
v. to reduce HIV vulnerability among marginalised and vulnerable populations; and
vi. to improve access to diagnostic, treatment and care

In adopting the National Strategic Planning on AIDS Prevention (NSP) 2006-2010, Malaysian government had shown a strong commitment to address the epidemic as one of the important national agenda, and had driven an expanded, multi-sectoral with well resourced funds and responses. The Ministry of Health had allocated RM 500 million for the year 2006-2010 to expedite the Millennium Development Goals (MDG) targets of halting and reversing the spread of HIV by year 2015 in this country.

Surveillance of HIV

As of 31st December 2010, the cumulative number of HIV cases notified to MoH was 91,362, where 14,298 were AIDS related deaths. Hence, the estimated number of people living with HIV (PLHIV) in Malaysia is 77,064. It is noted the annual number of notified HIV cases are declining steadily from its peak in 2002. There were 6,756 cases notified in 2003, declined to 5,830 cases in 2006, and decreased further to 3,652 cases in 2010 (Figure 9).

FIGURE 9
NUMBER OF HIV, AIDS CASES AND AIDS-RELATED DEATHS, MALAYSIA, 1986-2010



Source: Disease Control Division, MoH

The declining rate of HIV cases in Malaysia was due to preventive and control measures currently in place. As the current number is half than it used to be on its peak, it is hoped that the MDG target can be achieved much earlier than expected.

Harm Reduction Program

To prevent the spread of HIV infection among injecting drug users, which constitute the main source of HIV spread in the country, MoH has embarked on a Harm Reduction Program. This program incorporates the Methadone Maintenance Therapy (MMT), Needle-Syringe Exchange Program (NSEP) and condom distribution and usage.

a. MMT

This program was launched in October 2005, and was targeted to cover 25,000 opiate dependent injecting drug users (IDUs) by 2010. As of 31st December 2010, the MMT programme has been successfully implemented in 242 centres (41 hospitals, 135 government clinics, 21 private health facilities, 25 NADA Service Centres, 18 prisons and 2 outreach points) throughout the country. There were 15,869 cumulative number of IDUs registered under this programme with the retention rate of 70%.

b. NSEP

This program was launched in February 2006 with participation of the Malaysian AIDS Council (MAC) as the program implementer at the community level. The program's target was to cover 15,000 IDUs by end of 2010. As of 31st December 2010, there were 24,999 total number of IDUs registered with the program at 297 centres (73 government clinics and 224 outreach points) throughout the country. 25% or 6,216 of the total registered were regular clients, who exchange their needles and syringes more than twice a month.

c. Condom distribution and usage

The distribution and usage of condoms was implemented to prevent the spread of HIV through sexual relationship, which the later is relatively increasing from 25.6% in 2005, to 33% in 2007 and 48.6% in 2010. In the context of Harm Reduction, the distribution of condom was carried out to prevent HIV infection among IDUs and their sexual partners. Distribution of condoms to the participants was done through peer education activity by outreach workers (NGOs).

• PUBLIC HEALTH LABORATORY

Public Health Laboratory services are provided by National Public Health Laboratory (NPHL), Food Laboratories and the laboratory in primary health care clinics.

National Public Health Laboratory

The NPHL in Sungai Buloh, Selangor provides analytical, diagnostic and certain reference laboratory services to support the various activities under the national Public Health programs. The scope of the NPHL services are in surveillance of diseases, investigation and control of infectious diseases outbreaks, training and, quality assurance.

In 2010, there are five divisions in NPHL i.e. Microbiology, Food, Epidemiology, Quality and Administration. The Food Division is coordinated by the Food Safety and Quality Division (FSQD) of the MoH in terms of planning and activities and thus the division's report will be covered by the FSQD. The Microbiology Division of NPHL received samples from all over Malaysia for various purposes such as surveillance, outbreaks, monitoring, screening and, diagnostic.

The NPHL is also responsible to offer technical assistances to other Public Health Laboratories in Ipoh, Johor Bahru and Kota Kinabalu. This will also include the Public Health Laboratory in Kota Bharu which was completed in 2010 and will be starting the operation in 2011.

There were 5 Key Performance Indicators (KPI) monitored in NPHL i.e. % of accurate IgM Measles results, % of H1N1 result released within 24 hours, % of laboratories with error in reading of EQA – PT (AFB) slides, % of laboratories achieved score of 1 in malaria species identification and, % of Primary Health Care Clinic Laboratory achieved audit assessment score of more than 95%.

Under the auspices of the ASEAN+3 Partnership Laboratory (APL) Emerging Infectious Diseases Program Phase I and II, the NPHL represented MoH in coordinating the area on strengthening of laboratory capacity and quality assurance as well as on the laboratory networking. The NPHL also coordinated the development of Protocol for Regional Laboratory-based Surveillance and the development of Medium Term Work Plan (2010-2015) of APLs to operationalise the terms of reference of APLs.

Food Laboratory

The Food Division of NPHL is responsible for planning of the developments and coordinating the activities of food laboratories at other Public Health Laboratories. To ensure that all these laboratories are fully competent to conduct food analysis, they practiced various quality assurance procedures and participated in proficiency testing programs. All food laboratories had been accredited to MS ISO/IEC 17025.

The food laboratories received samples for various purposes such as outbreaks/surveillance/ monitoring/screening either from domestic and imported foods. The laboratories were assigned as the official laboratory for food export control since 2008. The laboratories also participated in the Total Diet Study and the Food Commodities Study by analyzing the microbiological and/or chemical contaminations and toxins in food.

Primary Health Care Clinic Laboratory

The Primary Health Care Clinic Laboratory provides services mainly to support the diagnostic services in the primary health care clinics. The services provided include urine analysis, stool analysis and basic blood investigations such as haematology, biochemistry, microbiology and serology.

- **NON-COMMUNICABLE DISEASE**

The Non-communicable Disease Section's activities mainly focused on Diabetes and Cardiovascular diseases prevention and control, Cancer Prevention and Control, Mental Health Programme, and Occupational Environmental Health Programme.

Diabetes and Cardiovascular Diseases Prevention and Control

To further strengthen the prevention and control of Non-communicable Diseases (NCD) in Malaysia, on 14 December 2010, the Honourable Health Minister launched the National Strategic Plan for Non-Communicable Diseases (NSP-NCD). This document was developed based on current WHO documents on the prevention and control of NCD, and incorporating the strategies contained in previous "plan of action" documents developed in Malaysia for the prevention and control of diabetes and cardiovascular diseases. NSP-NCD uses diabetes and obesity as the entry points, and it contains seven main strategies:

i. Prevention and Promotion
ii. Clinical Management
iii. Increasing Patient Compliance
iv. Action with NGOs, Professional Bodies & Other Stakeholders
v. Monitoring, Research and Surveillance
vi. Capacity Building
vii. Policy and Regulatory interventions

TABLE 1
DISTRIBUTION OF NUMBER OF ACTIVE DIABETES PATIENTS, TOTAL NUMBER OF OPD ATTENDANCES, AND NUMBER OF NEWLY REGISTERED DIABETES PATIENTS BY STATE, 2009 AND 2010

States	No. of Active Patients		Total No. of Attendances by Diabetic Patients		No. of Newly Registered Patients	
	2009	2010	2009	2010	2009	2010
Perlis	9,696	10,222	38,011	41,772	1,740	1,849
Kedah	71,777	67,112	176,863	214,687	5,797	5,661
Pulau Pinang	31,895	37,404	102,633	111,696	5,427	7,018
Perak	68,372	75,472	314,066	270,599	6,521	6,829
Selangor	104,137	113,508	358,203	370,471	12,074	14,560
FT K.Lumpur*	23,728	28,638	109,107	93,320	3,370	3,761
N.Sembilan	39,393	39,393	125,447	141,999	3,621	3,807
Melaka	31,427	31,427	84,949	90,668	2,040	5,905
Johor	87,645	91,329	488,411	445,272	9,987	9,318
Pahang	43,871	43,871	184,814	191,136	6,919	6,454
Terengganu	18,433	20,058	92,258	104,194	2,875	3,408
Kelantan	24,774	25,178	33,662	65,654	3,342	1,540
Sarawak	64,848	64,848	181,872	190,672	4,869	6,805
Sabah	9,155	10,926	32,667	42,709	1,497	1,749
FT Labuan	n.a.	552	n.a.	2,475	n.a.	120
Total	**629,151**	**659,938**	**2,322,963**	**2,377,324**	**70,079**	**78,784**

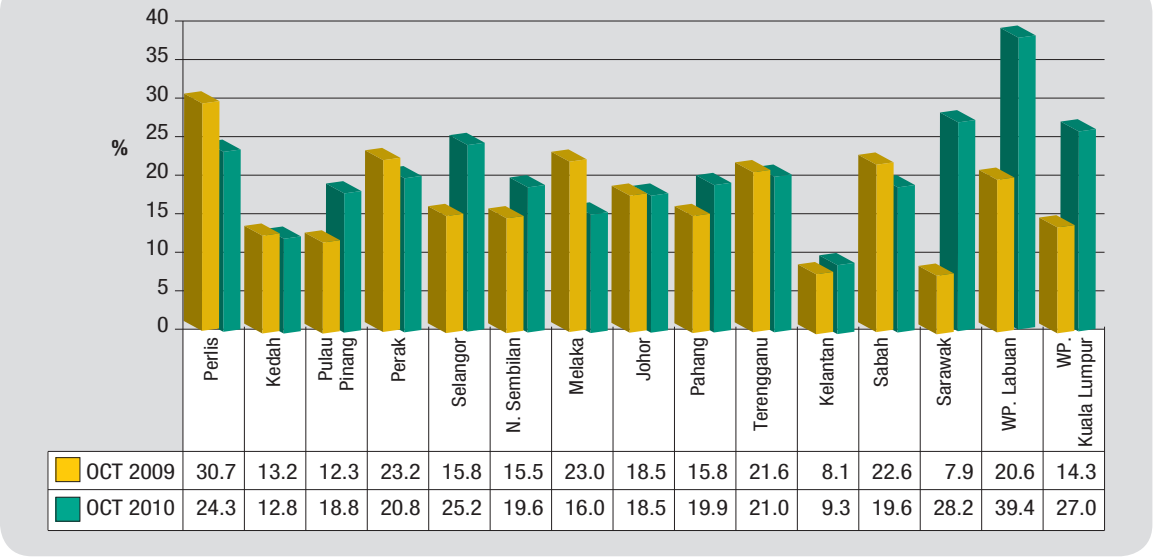
*Note: * includes FT Putrajaya*
Source: Disease Control Division, MoH

To support the implementation of NSP-NCD, particularly the "whole-of-government" approach for Strategy 7: Policy and regulatory interventions, the Cabinet on 17 December 2010 approved the establishment of the *Cabinet Committee on Creating A Health Promoting Environment,* chaired by the Right Honourable Deputy Prime Minister. Its main terms of reference (TOR) are to determine policies that create a living environment which supports positive behavioural changes of the population towards healthy eating and active living. The membership consists of 10 ministers which are Minister of Health, Minister of Education, Minister of Information, Communications, and Arts & Culture, Minister of Rural & Regional Development, Minister of Agriculture and Agro-based Industry, Minister of Youth & Sports, Minister of Human Resource, Minister of Domestic Trade, Co-operatives and Consumerism, Minister of Housing and Local Governments and Minister of Women, Family and Social Affairs.

Data from the Third National Heath and Morbidity Survey (NHMS III) 2006 showed that over 70% of diagnosed diabetes patients are under follow-up in MoH health clinics. In 2010, there were 659,938 diabetes patients on "active" follow-up at 635 MoH clinics providing diabetes services throughout Malaysia. These patients contributed to 2,377,324 attendances in MoH clinics, which work out to approximately 10% of total outpatient attendances. In addition, a total of 78,784 patients were newly diagnosed and registered in 2010 (Table 1).

Results of the Diabetes Quality Assurance Program (QAP) at the primary care level entitled "Quality of Diabetes Care at MoH Health Care Facilities : Glycaemic Control" showed an improvement, with 18.2% of Type 2 diabetes patients achieving glycaemic target of HbA1c of less than 6.5% in 2010 compared to 15.4% in 2009 (Figure 10). Eight states showed improvement in 2010, with WP Labuan recording the highest achievement at 39.4%, followed by Sarawak (28.2%) and WP Kuala Lumpur (27.0%). The rest of the states showed modest decrease. Two states with the least optimal control are Kelantan (9.3%) and Kedah (12.8%). The wide variability in the distribution of percentage of patients reaching targeted glycaemic range between states is still present.

FIGURE 10
PERCENTAGE DISTRIBUTION OF PATIENTS WITH HBA1C<6.5% BY STATE, 2009 & 2010



	Perlis	Kedah	Pulau Pinang	Perak	Selangor	N. Sembilan	Melaka	Johor	Pahang	Terengganu	Kelantan	Sabah	Sarawak	WP. Labuan	WP. Kuala Lumpur
OCT 2009	30.7	13.2	12.3	23.2	15.8	15.5	23.0	18.5	15.8	21.6	8.1	22.6	7.9	20.6	14.3
OCT 2010	24.3	12.8	18.8	20.8	25.2	19.6	16.0	18.5	19.9	21.0	9.3	19.6	28.2	39.4	27.0

Source: Diabetes QA Program, Disease Control Division, MoH

Tobacco Control and FCTC

Tobacco is one of the major risk factors for NCD. Its carnage that affected almost all countries in the world had pushed the international community through auspices of the World Health Organisation (WHO) to enact the Framework Convention on Tobacco Control (FCTC), where Malaysia became a party to in December 2005. Following instruction from the Cabinet, MoH became the official secretariat for national implementation of the FCTC. The main activites of the tobacco control are legislation, enforcement, anti-tobacco promotion and smoking cessation services.

a. Legislation

The Control of Tobacco Products Regulations (CTPR) 2004 is the principal legal tool that is being used. In 2010, the CTPR was amended to strengthen and expand smoke-free areas and control of tobacco product price promotion. In June 2010, any air-conditioned place of work with centralised air-condition system are non-smoking areas. This is in line with Article 8 of the WHO Framework Convention on Tobacco Control – Protection from exposure to tobacco smoke.

b. Enforcement

Enforcement of the CTPR is important to ensure compliance. There were 8 planned thematic enforcement activities carried out nationwide in 2010 and this is known as Enforcement Information Blast (E-infoBlast). Table 2 below provides the performance of these activities.

TABLE 2
CONTROL OF TOBACCO PRODUCTS REGULATIONS (CTPR) ENFORCEMENT ACTIVITIES, 2009-2010

Activities / Year	2009	2010
Number of violation notice issued	11,980	17,346
Number of compound issued	6,619	10,260
Amount of compound issued (RM)	1,419,136.00	2,198,939.00
Number of compound paid	6,304	9,219
Amount of compound paid (RM)	556,180.00	993,775.00
Percentage compound paid	95.2%	89.8%
Number of cases registered in court	4,351	6,175
Number of cases fined	670	854
Amount fined (RM)	147,098.00	228,870.00
Number of cases jailed	1	1
Number of cases discharged and acquitted	117	40
Number of cases discharged but not amounting to acquittal	2,758	3,387
Number of seizures	-	10,905
Amount seized (RM)	-	331,557.07

Source: Disease Control Division, MoH

c. Anti-Tobacco Promotion

Anti-tobacco media approach to promote health and raise public awareness about the harmful effects of tobacco is packaged in the colloquially popular “Tak Nak” Campaign. This campaign has been proven to bring about fears for smoking and had influenced smokers’ thoughts about quitting the habit of smoking.

d. Smoking Cessation Services

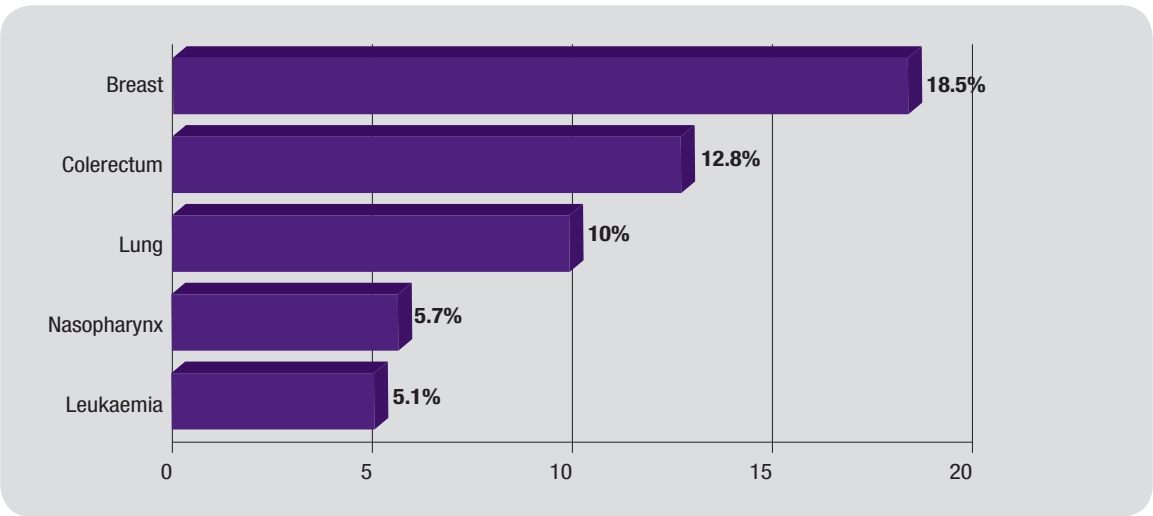
Smoking cessation service provided at the Ministry’s health centres and hospitals was given a boost in 2010 when 2 important drugs i.e. Nicotine Replacement Therapy (NRT) patch and Varenicline were both included into the MoH drug list.

Cancer Prevention and Control

The management of the National Cancer Registry (NCR) was handed over from the Radiotherapy and Oncology Department of Hospital Kuala Lumpur to the Public Health Programme of MoH in May 2006. Following that, the NCR has started collecting cancer data from all State Cancer Registries since January 2007. The cancer data is stored at the NCR database using the CanReg software which was developed by the International Agency for Cancer Research (IARC), Lyon, France and is being used by more than 150 countries in the world. A total of 43,569 cancer cases diagnosed in 1st January 2007 until 31st December 2010 were registered at the National Cancer Registry. It comprised of 19,232 (44.4%) males and 24,246 (55.6%) females. Of all the new cancer cases registered, 38.6% are Malay, 43.2% Chinese, 6.8% Indian and 11.4% of other ethnic groups. The collection of cancer data is a continuous process, hence, there are cases which are yet to be notified and registered at the NCR.

As shown in Figure 11, the top five most common cancers regardless of sex according to the compiled data from 2007 till 2010 are Breast (18.5%), Colorectal (12.8%), Lung (10.0%), Nasopharynx (5.7%) and Leukaemia (5.1%). Whereas by sex, the top five most frequent cancers in male are Colorectal (15.9%), Lung (15.7%), Nasopharynx (9.6%), Leukaemia (6.5%) and Prostate (6.2%). As for female, the most common cancer was Breast (32.8%) followed by Colorectal (10.3%), Cervix (8.6%), Ovary (6.1%) and Lung (5.4%).

FIGURE 11.
TOP 5 MOST COMMON CANCER, TOTAL OF 2007- 2010



Source: Disease Control Division, MoH

Mental Health Program

The Mental Health Unit under the Non-Communicable Disease Section is responsible for the development of the Community Mental Health Programme.

The objectives of the programme include:

i. To promote healthy mind among the population through instilling healthy lifestyle and coping skills
ii. To reduce prevalence of mental disorders of high risk groups through screening and early intervention at the PHC level
iii. To provide treatment and care for those with mental health problems and illnesses at PHC level
iv. To facilitate optimal psychosocial functioning of the mentally ill individual in the community

Scope of programme includes promotion of mental health, prevention and early detection through screening for mental heath problems, treatment at primary health care and psychosocial rehabilitation. Several activities were conducted in 2010, as stated below.

a. National Strategic and Action Plan for Suicide Prevention Plan

A National Strategic and Action Plan for Suicide Prevention Programme was developed by the technical working group and was presented at the Disease Control Technical Meeting in late June 2010. This plan outlines the implementation strategies among which are:

(i) To improve awareness among public and health care providers on suicide and suicidal behaviour.
(ii) To promote early detection of signs and symptoms of mental disorders and risk factors for suicide among primary health care providers, teachers, school counsellors, police, community and religious leaders and emergency medical care personnel.
(iii) To foster intersectoral collaboration among various agencies towards enhancing suicide prevention.
(iv) To advocate relevant agencies on efforts towards reducing access to lethal means.

This plan shall further be presented for approval at the Public Health EXCO and Policy Meeting which is chaired by Deputy Director General of Public Health.

b. Workshop on Development of Mental Health Indicators

A workshop to develop mental health indicators was conducted in April 2010 which involved experts from various services category including psychiatrists, public health specialists, family medicine specialists, state epidemiological officers, state family health officers and psychologists and counsellors. Following that a report was produced and several mental health indicators were chosen to strengthen the mental health programme. The indicators chosen are:

(i) Percentage of deliberate self-harm
(ii) Percentage of adolescents having high risk behaviour
(iii) Percentage of mental health problems among children and adolescents
(iv) Percentage of readmissions of patients under community mental health services

c. Mental Health Promotion Advisory Council

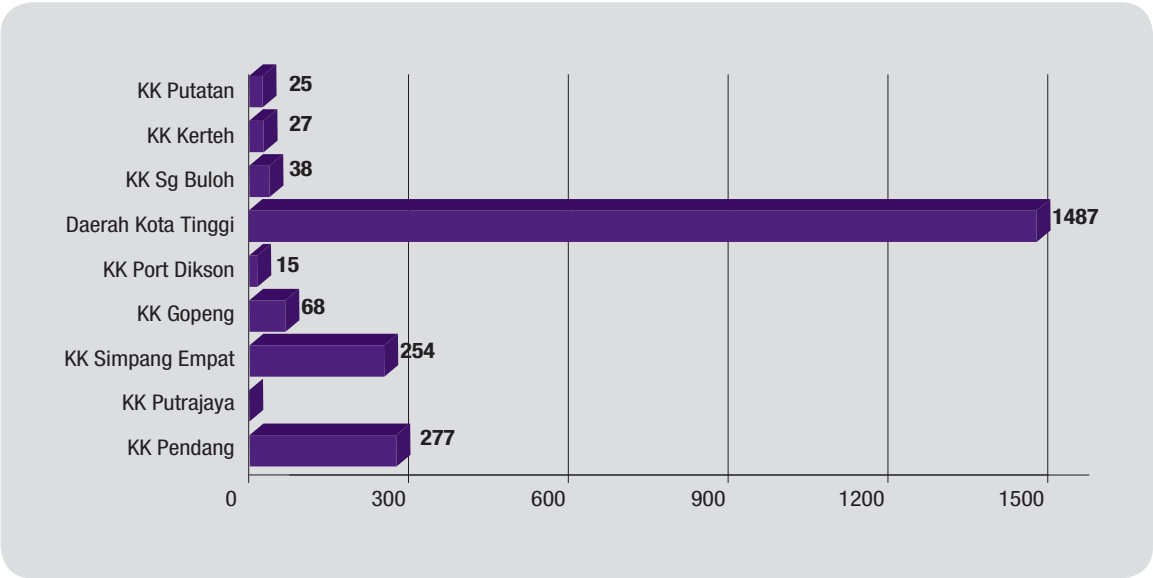
In August 2010, a Mental Health Promotion Advisory Council was set up by MoH. This Council which is chaired by Minister of Health consists of members of various experts with backgrounds related to mental health. The members include government and university psychiatrists, public health specialists, representative from Education Ministry, president of Malaysian Psychiatric

Association, president of Malaysian Mental Health Association, presidents of mental health NGO's as well as representatives from media. This council serves to advise the Health Minister on issues related to mental health as well as providing insights and views on the strategy and directions in the implementation of mental health activities. The Mental Health Unit of Disease Control Division acts as the secretariat for this council.

d. Healthy Mind Services (MINDA SIHAT)

The Healthy Mind Services which was piloted at 9 health clinics throughout Malaysia was implemented using the Guidelines and Standard Operating Procedure of Healthy Mind Services (Figure 12). The objective of the service is to promote the community to screen for their mental health status and risk factors to identify stress, anxiety and depression; and to empower the community to handle stress effectively through instilling mental health life skills and relaxation techniques. As of 31st December 2010, 2,191 clients were screened using the Depression, Anxiety, Stress Scale (DASS) of which 1,134 (52 %) were found to have stress, anxiety and depression. 64.5% out of the 1,134 clients were referred for counselling.

FIGURE 12
TOTAL NUMBER OF CLIENTS SCREENED AT 9 HEALTH CLINICS IMPLEMENTING HEALTHY MIND SERVICES, 2010



Source: Disease Control Division, MoH

e. Follow-up Treatment and Psychosocial Rehabilitation for the Mentally Ill at Health Clinics

A total of 671 (82.9%) health clinics had implemented the follow up treatment for the stable mentally ill patients. As of December 2010, a total of 1,899 new cases were detected to have mental disorders in the governmental health clinics. This was a decrease of 4% as compared to 2009. A total of 571 cases had received psychosocial rehabilitation in 26 health clinics implementing psychosocial rehabilitation services to improve their psychosocial functioning and promote independent living in the community.

Occupational Health Program

a. Occupational Health Surveillance

(i) Sharp Injury Surveillance (SIS)

Sharp injury surveillance (SIS) was introduced in 2007 in order to provide a basis for a registry on sharp injuries among healthcare workers in MoH and also to provide data for policies, strategies and program development in the prevention of occupational related diseases. Data was retrieved from OHU/SIS-1 Forms, which are used to collect epidemiological data on sharp injuries, which were collected by the Occupational Health Unit following the increasing occurrence of sharp injuries in MoH facilities. A total of 1231 cases of sharp injuries were notified from 1st January 2010 until 14th January 2011, a decrease of 321 as compared to 2009 (910 cases). With extensive campaigns on prevention of sharp injuries in Malaysia, it is hoped that there will be a decrease in the number of sharps injury in the future. A comprehensive program that addresses institutional, behavioural, and device-related factors is essential to prevent sharps injuries and its tragic consequences among healthcare workers.

(ii) Surveillance of occupational diseases, poisoning and injuries

This surveillance system was first established for pesticide and chemical poisoning in 1989, followed by surveillance for occupational lung disease, skin disease and injuries in 1997. Occupational noise induced hearing loss surveillance was established later in 2002. Generally, the number of notified occupational diseases cases is still low compared to other countries, which are most likely due to under reporting of cases and difficulties in diagnosing occupational diseases.

b. Investigation of accidents and diseases

In 2010, MoH received 126 investigation reports. Most of the reports originated from Pahang (31% @ 39 cases), followed by Kedah (19.1% @ 24 cases) and Perlis (13.5% @ 17 cases). There were no investigation reports received from Pulau Pinang, Federal Territories of Kuala Lumpur and Putrajaya, Malacca and Sarawak. Out of the 126 investigated cases, 107 cases (84.9%) were accidents at the workplace. This was followed by occupational lung diseases with 14 cases (11.1%), occupational poisoning with 3 cases (2.4%) and occupational skin disease with 2 cases (1.6%).

Environmental Health Program

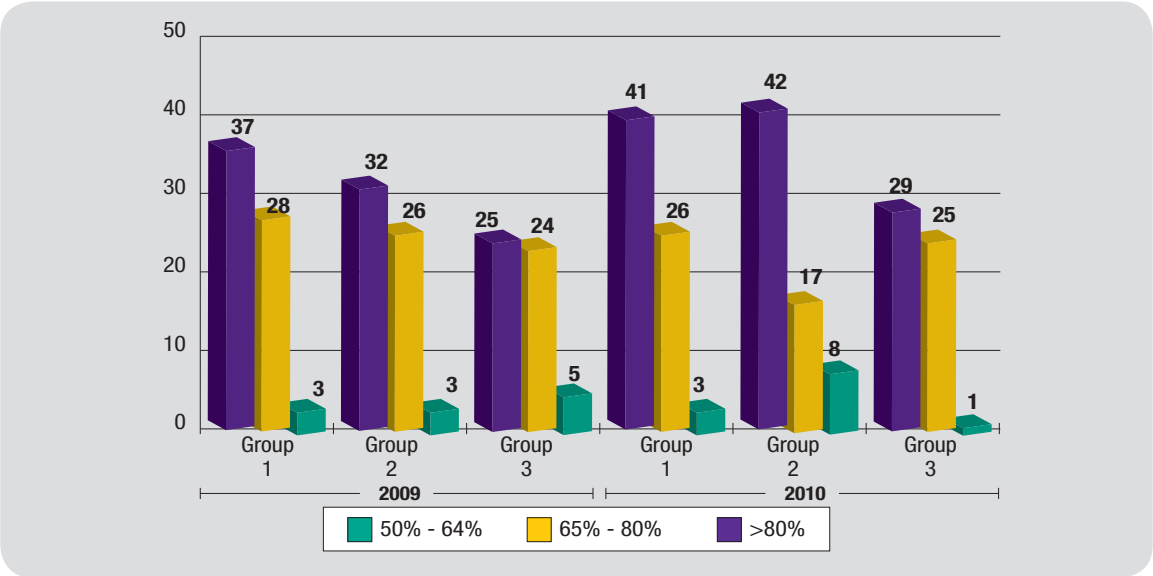
a. National Service Training Centres (PLKN) Risk Assessment and Disease Monitoring Programme

A total of 79 PLKN camps were operational in 2010, with 234 training sessions being conducted in three consecutive sessions. MoH as healthcare provider for the camps' trainees, implemented several healthcare services to ensure the health of the trainees during the training sessions, which comprised of health risk assessment of the camps, medical services and health education on HIV/AIDS. Inspection of National Service Camps is a routine activity to ensure the sanitation and hygiene of premises.

There were 234 health risk assessments done in 2010. The health risks identified were:

i) Camps canteen operated by food handlers without proper food handlers training,
ii) PLKN camps using untreated water for non-drinking purposes,
iii) PLKN camps with low sanitation and hygiene status which exposed the trainees to diseases.

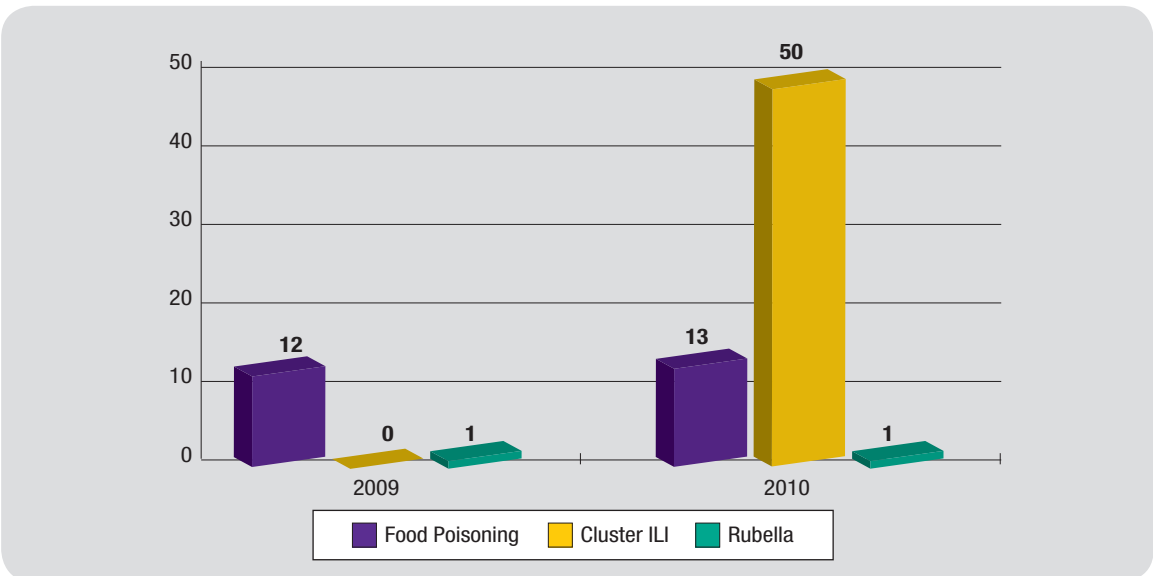
FIGURE 13
HEALTH RISK ASSESSMENTS DONE IN PLKN CAMPS, 2009 - 2010



Source: Disease Control Division, MoH

There were 64 episodes of outbreak occurred in the PLKN camps in 2010 (Figure 14); of which the contributors were food poisoning (13 episodes), rubella (1 episode) and Influenza-like Illness, ILI (50 episodes).

FIGURE 14
EPISODE OF OUTBREAKS IN NATIONAL SERVICE CAMPS IN MALAYSIA, 2009 - 2010



Source: Disease Control Division, MoH

A total of 234 health education session regarding HIV/AIDS was conducted in 2010 through 3 consecutive training sessions. In order to strengthen the assessment practice, the Disease Control Division has produce a guideline of PLKN Health Risk Assessment and a standardize format for the assessment.

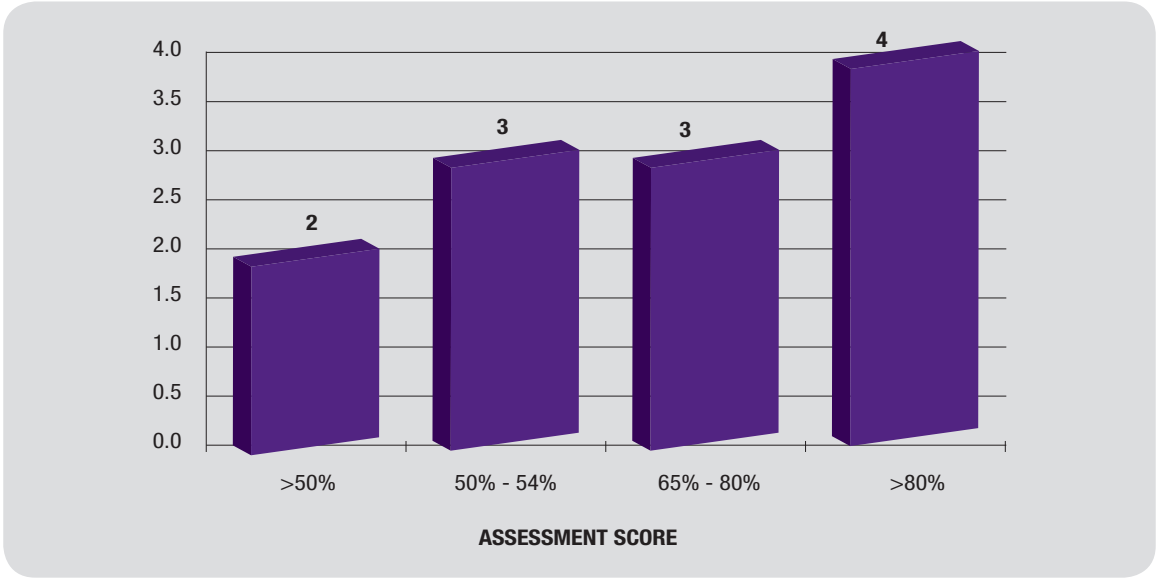
b. Natural Disaster Control Programme

Throughout 2010, several flood episodes has hit Malaysia. It began in early 2010 at Sabah and later in Kedah, Perlis and Kelantan at the end of 2010. Several factors contributed to the flood occurrences such as continuous rainfall, the effect of tidal sea water, and topographic conditions exacerbated by the rising water level in the dam reservoir Lake Tasoh Tin. In order to carry out disease prevention and control floods, MoH has mobilized 116 teams consisting of 38 medical teams and 78 health teams. There were 3,644 cases of infectious disease, 3,386 cases of non-communicable disease, and 62 cases of injuries among the flood victims in 2010. The natural disaster also resulted in 5 reported deaths.

c. Immigration Detention Depot

There are 13 Immigration Detention depots located throughout the country. As such, MoH provide outpatient services to inmates through mobile medical teams, with referrals to health clinics and hospitals of proximity the depot when deemed necessary. The Mobile Medical were despatched from the nearby district health office every fortnight, and they also provide assessment regarding the cleanliness of the depots. Depot assessment scores done to 12 depots in 2010 are as shown in the Figure 15.

FIGURE 15
DEPOT ASSESSMENT SCORES, 2010



Source: Disease Control Division, MoH

Since Non-communicable Diseases (NCDs) are the leading causes of death and disability worldwide, therefore actions to reduce these NCDs will focus on preventing and controlling the risk factors

Malaysians; smoking, and excessive consumption of sugar and sugary products.

Through the existing Healthy Lifestyles Campaigns, the "Tak Nak Merokok" and "Jom Kurangkan Gula" initiative were launched by MoH in 2010 as avenues to reduce the number of smokers and to promote less sugar intakes among Malaysians.

"Jom Kurangkan Gula" was primarily targeted at Primary School students. Initially, the program was promoted to all Primary schools in Putrajaya. Various activities were conducted by the health staffs

children. Other activities that were conducted in conjunction with the program were:

a) The "Satu Sudu Dah Cukup, Kurang Lebih Baik" seminar on the 13th of May, 2010 at the Parcel E Auditorium.
b) Cooking workshop conducted by the Head Chef of Masakan Malaysia, Berjaya University College, for housewives and working adults on the 19th of December, 2010 at

The anti-smoking campaign has been actively promoted by MoH since 2002. The World Tobacco Free Day is celebrated all over the world and in Malaysia; it was celebrated on the 31st of May, 2010 at the Midvalley Megamall, Kuala Lumpur. The event's theme was "Wanita dan Tembakau - Waspada" which

Health himself, and it aimed to create awareness among the general public on the strategies of the tobacco industries on women.

As part of the continuous efforts to promote smokers to stop smoking, "Nafas Baru Ramadan" was held every year during the month of Ramadan. This program encourages Muslim smokers to take

were among the channels used to promote anti smoking.

The public can get access to the anti-smoking program through the Quit Smoking Infoline at 03-88834400. Callers will be provided with advice and tips on how to stop smoking. In 2010, 464 calls were received. which comprised of 392 males (84.5%) and 72 females (15.5%). Those who have succeeded in their effort to quit smoking were at 32.9% or 56 individuals. Eleven (6.5%) of them succeeded through the quit smoking clinics, while the others utilised other methods.

B. FAMILY HEALTH DEVELOPMENT DIVISION

• MATERNAL AND PERINATAL HEALTH CARE SERVICES

Maternal Healthcare

The estimated number of pregnant for Malaysia increased from 542,382 in 2009 to 587,479 in 2010 (Table 1). The antenatal coverage reduced markedly from 90.7% in 2009 to 82.2% in 2010. The decline was due to the fact that data from the private sector was not complied in some states. The average number of antenatal visits by a pregnant mother to public and private health facilities increased from 9.9 in 2009 to 10.3 in 2010. Tetanus Toxoid immunization coverage for antenatal mothers showed an increase from 77% to 93.9% during the same period. Postnatal coverage also improved from 94.1% in 2009 to 99.7% in 2010. Deliveries conducted by trained health care providers remained at 98.6% in 2010. Only 1.4% of deliveries were conducted by untrained personnel (Figure 16).

TABLE 3
MATERNAL HEALTH COVERAGE IN MALAYSIA, 1990-2010

Indicator	1990	2000	2008	2009	2010
Estimated No. of Pregnant Mothers	676,382	691,664	544,180	542,382	587,479
Antenatal Coverage	528,029 78.1%	517,138 74.8%	512,286 94.1%	491,980 (90.7%)	483,136 (82.2%)
Average Antenatal Visits per Mother	6.6	8.5	9.4	9.9	10.4
Tetanus Toxoid Immunisation Coverage - (2nd & Booster Dose)	414,445 81.7%	449,608 86.8%	413,110 87.7%	*418,569 *77.17%	432,581 84.7%
Total Delivery	476,196	507,900	449,939	445,051	439,221
Postnatal Coverage	318,953 67.0%	417,23 82.1%	564.312 90.9%	*420,530 *94.5%	438,003 99.7%

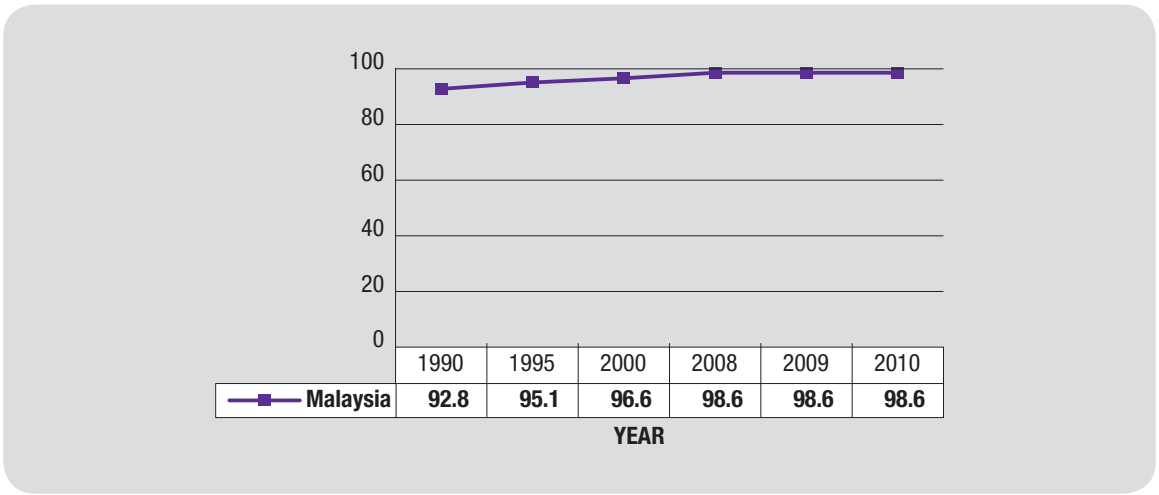
*Note: *revised figures*

Source: Health Informatics Centre, MoH

Maternal, Perinatal and Neonatal mortality

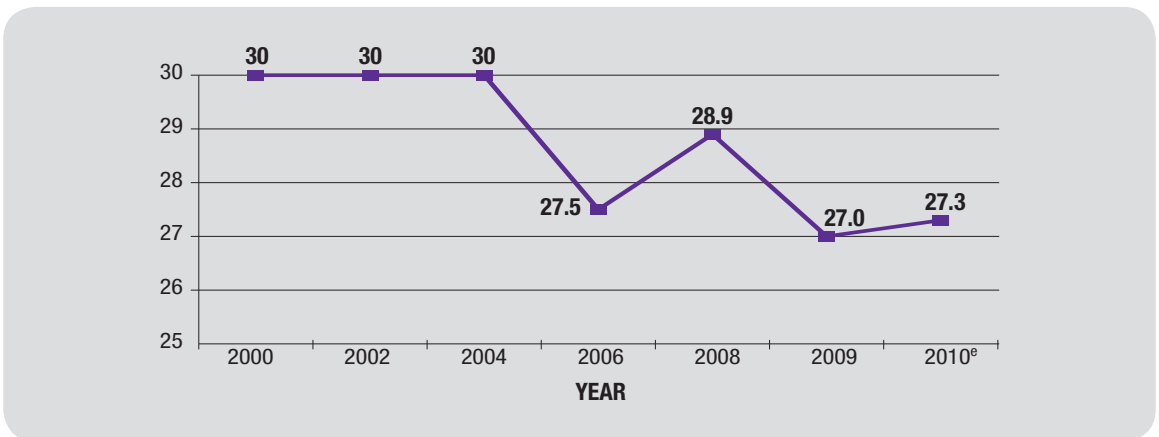
Maternal Mortality ratio (MMR) has been fluctuating between 27 and 30 per 100,000 live births (LB) since 2000 (Figure 17). The MDG 5 target for MMR was to achieve 11 per 100,000 LB by 2015. The causes were identified and it was discovered that Obstetric Embolism, Postpartum Haemorrhage, associated medical conditions, and Hypertensive Disorders in Pregnancy were the main causes.

FIGURE 16
PERCENTAGE OF SAFE DELIVERIES IN MALAYSIA, 1990 - 2010



Source: Health Informatics Centre, MoH

FIGURE 17
MATERNAL MORTALITY RATE IN MALAYSIA, 2000 - 2010

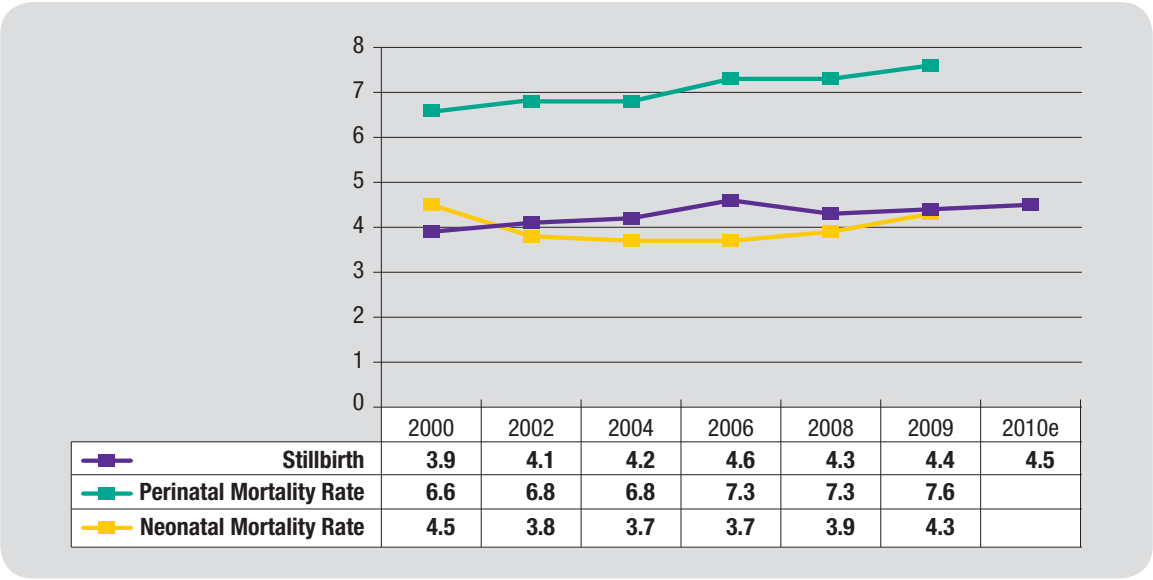


Note: e=estimated figure

Source: Department of Statistics, Malaysia

The trend of Stillbirths, Perinatal and Neonatal Mortality Rates since 2000 has not declined significantly. Perinatal Mortality Rates increased from to 6.6 per 1,000 total births in 2000 to 7.6 in 2009. During the same period, Stillbirths increased from 3.9 per 1,000 total births (2000) to 4.5 in 2010, and Neonatal Mortality Rates decreased from 4.5 per 1,000 live births in 2000 to 4.3 in 2009 (Figure 18). The leading causes of perinatal deaths are 'Normally formed macerated stillbirths', 'Asphyxial conditions' and 'Lethal congenital malformations'. Whilst 'Immaturity', 'Lethal congenital malformations' and 'Asphyxial conditions' were the main causes of neonatal deaths. Improving and providing the quality of care during pre-pregnancy and pregnancy period can help to further reduce perinatal deaths.

FIGURE 18
PERINATAL AND NEONATAL MORTALITY RATES IN MALAYSIA, 2000 - 2010



	2000	2002	2004	2006	2008	2009	2010e
Stillbirth	3.9	4.1	4.2	4.6	4.3	4.4	4.5
Perinatal Mortality Rate	6.6	6.8	6.8	7.3	7.3	7.6	
Neonatal Mortality Rate	4.5	3.8	3.7	3.7	3.9	4.3	

Note: Data for 2010's Perinatal Mortality Rate and Neonatal Mortality Rate were not available yet
Source: Department of Statistics, Malaysia

Neonatal jaundice and G6PD Deficiency

The percentage of G6PD deficiency increased from 1.1% in 2009 to 1.6% in 2010. The number of severe neonatal jaundice reduced to 1.0% in 2010 as compared to 1.3% in 2009. There was only one case of kernicterus reported in 2010.

TABLE 4
FREQUENCY AND PERCENTAGE OF G6PD DEFICIENCY, 2009 - 2010

	2009	2010
No. of cases screened	333,688	334,244
No. of G6PD deficiency	3,927	5,632
% of G6PD deficiency	1.1	1.6

Source: Health Informatics Centre, MoH

Thalassaemia Prevention and Control Program

In 2010, 187,177 persons were screened for thalassaemia of which 4,197 (2.2%) were found to be carriers (Table 3). The target groups for thalassaemia screening are relatives of known thalassaemia patient, and adolescents, young adults (preferably before they get married) and pregnant women who are anaemic are encouraged.

TABLE 5
NUMBER OF CASES SCREENED FOR THALASSAEMIA AND THALASSAEMIA CARRIERS, 2010

Number of cases screened for Thalassaemia		Thalassaemia carriers		
Male	Female	Total	Number	%
29,431	157,746	187,177	4,197	2.2

Note: Preliminary data

Source: Family Health Development Division, MoH

Data collection from the private sectors is essential as combining data across the health systems will give a more accurate picture of health care utilization. Strategies to improve maternal and child health are in place to attain MDG 4&5 by 2015. Greater awareness for screening of thalassaemia and genetic counselling will reduce the number of thalassaemia cases.

- **CHILD HEALTH**

Attendances of infants, toddlers and pre-school children to health clinics

The coverage of infants (0-1 years old) attending the government health clinic in 2010 is 74.7%, 37.3% for toddlers (1-4 years old) and 16.3% for pre-school (5-6 years old). Meanwhile the average clinic visits made per infant, toddler and pre-school are 7, 4 and 2 visits respectively. This average of visit is lesser than the norm of children visit which is 8 visits for children < 1 year old, 10 visits for children 1-4 years old and 2 visits for preschool children 5-6 years old.

Infant and Toddler Mortality Rates

Infant and toddler mortality rate has shown a decreasing trend since 1980 and starts to plateau since 2000. Infant mortality rate (IMR) in 2010 was 5.5 per 1000 live births (preliminary). The latest published data for under-five mortality rate (U5MR) available was 6.2 per 1000 live births in 2008. The common causes of death in government hospital based on ICD10 classification were similar as previous years which are 'Certain conditions originating the perinatal period', 'Congenital malformation, deformation and chromosomal abnormalities', 'Infectious and parasitic diseases', 'Diseases of respiratory system', 'Diseases of circulatory system' and 'Diseases of nervous system'. IMR and U5MR are one of the indicators in MDG 4 and also a Key Performance Index for the Minister and the Director General of Health.

Immunisation

Vaccines have proven to be one of the most effective means of control and prevention of diseases worldwide. Beginning in January 2010, all states in Malaysia had started using DTaP-IPV/Hib combination vaccine, as recommended by WHO as part of polio eradication programme. The immunisation coverage for children in 2010 was more than 95.0 % by using actual live births in the TBIS as denominator, except for the 3rd dose of Hepatitis B. The low coverage of the 3rd dose of Hepatitis B was due to change in policy regarding DTaP-IPV/Hib immunisation, which involved the change for Hepatitis B vaccination scheduling. 3rd DPT and 3rd Polio doses' coverage were >100% as some of data from the private sectors were not captured into the system.

TABLE 6
CHILDREN IMMUNISATION COVERAGE, BASED ON DENOMINATOR USED, 2010

Hep. B (3rd dose)		Polio (3rd dose)		DPT (3rd dose)		Hib (3rd dose)		MMR
TBIS	ELB	TBIS	ELB	TBIS	ELB	TBIS	ELB	Children between 1-2 years
88.57	82.57	100.98	94.13	101.14	94.28	100.73	93.90	96.10

Note: TBIS = National Tuberculosis Information System BCG (TBIS-BCG), ELB = Estimated Live Birth
Source: Health Informatics Centre and Family Health Development Division, MoH

National Congenital Hypothyroidism Screening

The main objective of this screening program is for early detection and appropriate management to prevent mental disability. In 2010, there were 116 government hospitals providing the screening program and 129 cases were detected. MoH had continuously encouraging private hospitals to provide the same screening program at their setting, and in 2010, 42 Private hospitals had started reporting about the screening program to their respective State Health Department

Integrated Management of Childhood Illness (IMCI)

IMCI is a strategy formulated and introduced by the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) to reduce child morbidity and mortality due to common diseases which include pneumonia and malnutrition. Pahang, Sabah and Sarawak had already implemented IMCI in selected areas meanwhile Kelantan planned to start IMCI later in 2011. Since its implementation, about 134 Health Clinics, Community Clinic and Maternal and Child Health Clinics have implemented IMCI and 354 health personnel (mainly community nurses, public health nurses and assistant medical officers) were trained for IMCI.

• SCHOOL HEALTH SERVICES

Service Coverage

A total of 1.68 million preschool, primary and secondary school children were examined and screened in 2010. The coverage by School Health Nurses and Assistant Medical Officers remains above 95 percent for all school years examined.

School Health Immunisation

The school health immunization coverage has increased from an average of 97 percent in 2008 to 98 percent in 2010 for all immunization. The comparison of coverage over the last 3 years is shown in table 1.

TABLE 6
THE PERCENTAGE OF IMMUNIZATION AMONG STANDARD 1 STUDENTS, 2008 – 2010

	DT BOOSTER	ORAL POLIO BOOSTER	MMR BOOSTER
2008	96.5	97.0	96.6
2009	97.9	98.0	97.7
2010	98.0	98.0	97.8

Source: Health Informatics Centre, MoH

TABLE 7
THE PERCENTAGE OF IMMUNIZATION AMONG FORM 3 STUDENTS, 2008 – 2010

	ATT
2008	97.5
2009	97.6
2010	97.4

Source: Health Informatics Centre, MoH

Students' Health Status

Visual Acuity defect is the highest morbidity detected among the school children in 2010. The rate of visual acuity detection for 2010 was 66.2, 68.3 and 52.7 for every 1,000 Standard 1, Standard 6 and Form 3 examined. Nutritional status of Malaysian students for 2010 nutrition is as shown in Table 8.

Colour blindness detection rate was 6.1 and 4.6 for every 1,000 Standard 6 and Form 3 male students examined. The detection rate is higher in Peninsular Malaysia compared to Sabah, Labuan and Sarawak.

TABLE 8
DISTRIBUTION OF SCHOOL POPULATION NUTRITIONAL STATUS ACCORDING TO CLASS, 2009 - 2010

	Standard 1		Standard 6		Form 3	
	2009	2010	2009	2010	2009	2010
Under weight	11.4 %	9.1 %	8.7 %	7.2 %	7.4 %	6.1 %
Normal Weight	75.9 %	74.7 %	73.1 %	71.7 %	78.3 %	75.5 %
At risk of obesity	6.7 %	5.5 %	9.8 %	8.8 %	7.2 %	7.2 %
Obesity	6.0 %	5.6 %	8.4 %	8.4 %	7.1 %	6.2 %

Source: Health Informatics Centre, MoH

TABLE 9
DETECTION RATE OF VISION DEFECT AMONG STANDARD 6 AND FORM 3 MALE STUDENTS (PER 1,000 SCHOOLCHILDREN), 2009 - 2010

	Standard 6		Form 3	
	2009	2010	2009	2010
Colour Blind	10.6 %	7.5 %	1.9 %	2.5 %

Source: Health Informatics Centre, MoH

TABLE 10
DETECTION RATE OF OTHER MORBIDITIES AMONG SCHOOL CHILDREN (PER 1,000 SCHOOLCHILDREN), 2010

	Preschool	Standard 1	Standard 6	Form 3
Eye infection	0.2	0.3	0.3	0.2
Ear infection	0.5	0.6	0.3	0.2
Skin diseases	18.0	18.2	32.0	23.6
Pallor	0.2	0.4	0.5	0.3
Goiter	0.0	0.2	0.1	0.3
Asthma	1.1	9.3	9.3	7.8
Heart condition	0.2	1.0	0.7	0.7
Gastrointestinal conditions	0.0	0.1	0.3	0.5
Genitourinary conditions	0.2	0.8	0.1	0.1
Musculoskeletal problems	0.2	0.3	1.1	0.2

Source: Health Informatics Centre, MoH

Morbidities related to personal hygiene continues to decline for all aged examined. Comparing across the age groups, the preschoolers and Standard 1 students have higher incidence scabies infection, head lice and worm infestation. Other morbidities remained low among Malaysian school children as shown in Table 10.

HPV Immunisation

MoH introduced HPV immunisation as a new preventive strategy in the prevention and control of cervical cancer in Malaysia in 2010 and to be implemented as part of the School Health Services. It is expected that the incidence of cervical cancer in Malaysia will reduced remarkably among immunized female population over the next 20 years.

The HPV immunization targeted 13 years old Malaysian girls both in and out of school. The Form One girls received their 3 doses of vaccination in schools whilst those out of school get their vaccination at health clinics.

Eight states started to implement in 2010 beginning with Federal Territories of Kuala Lumpur and Putrajaya, followed by Kelantan, Perak, Selangor, Perlis, Negeri Sembilan, Malacca and Johor. Other states are expected to start their program in 2011.

- **ADOLESCENT HEALTH**

In 2010, a total of 224,774 adolescents aged 10 to 19 years were screened for nutritional, physical, mental, sexual health and risk behaviours at health clinics nationwide. This accounts for 4.1% of the total adolescents population screened. A total of 27,843 adolescents had been counselled and 13,838 were referred to hospitals or other agencies for further management. The number of health clinics providing adolescent health services have increased from 513 (63.5%) to 661(81.8%) from 2009 to 2010.

A total of 76 trainings sessions on adolescent health care and counselling were conducted in 2010 at national, state and district levels involving 1,783 healthcare providers (doctors and paramedics). Trainings organized at national level included Interpretation of Adolescent Health Screening Forms, Interpretation of WHO 2007 Growth Charts, and e-HIMS Return Formats, as well as Training of Trainers on Engaging the Adolescent Using HEADSS Framework.

The Family Health Development Division (FHDD) also worked closely with other agencies to develop Guideline on Managing Sexual and Reproductive Health Problems among Adolescents. This guideline takes into consideration the legal, ethical, religious and socio-cultural perspectives and will be used as a reference for healthcare providers in managing adolescents in a holistic manner.

In 2010, MoH has also identified several Adolescent Health Indicators to monitor the risk behaviours, physical, nutritional, mental, sexual and reproductive health status of adolescents.

To promote and strengthen the adolescent health services a total of 50,000 pamphlets, 300,000 WHO 2007 growth charts and its accompanying guidelines as well as 1,450 modules and CDs on “Engaging the Adolescent Using HEADSS Framework” have been developed and distributed to all states and health clinics.

The National Adolescent Health Policy and the National Adolescent Health Plan of Action is another commitment by MoH to further develop and strengthen the Adolescent Health Programme and Services. MoH continuously forging smart partnerships with other agencies to implement the above policy and plan of action. A concerted effort by all agencies is essential to empower adolescents with appropriate knowledge, attitude and skills to practice healthy lifestyle in a supportive environment.

- **ADULT HEALTH**

The main activities for Adult Health Services are Cervical Cancer Screening Program, Family Planning Program, Breast Cancer Prevention Program, and activities related to reproductive health and gender.

National Pap Smear Screening Program

Cervical cancer screening and family planning services were available in almost all MoH health clinics in Malaysia. The number of slides taken for pap smear screening had increased from 411,313 in 2009 to 452,773 in 2010. Assuming the figure represented the number of women screened, it accounted for 20.1% coverage of estimated eligible women for a year. However, the coverage of women aged 50 to 65 years who are at higher risk is still low, 16.6% of all eligible women for this age group. The percentage of unsatisfactory slides remains low at 1.22% in 2010.

The overall positive detection rate in 2010 has further decreased to 0.58% from 0.66% in 2009. Positive smears include Low Grade Squamous Intraepithelial Lesion (LGSIL), Atypical Squamous Cells of Undertermined Significance (ASCUS), High Grade Squamous Intraepithelial Lesion (HGSIL), Atypical Glandular Cells of Undetermined Significance (AGC), Endocervical Adenoma in-situ (AIS)

and Carcinoma. The break-ups for each classification are LGSIL – 28.9%, ASCUS – 44.1%, HGSIL – 18.1%, AIS – 1.4%, AGC – 4%, Carcinoma – 3.6%. Guidelines for purchasing cytology services which was developed in 2009 were reviewed and improvised 2010, in tandem with current practice, policy and standards.

The pilot project on population-based cervical cancer screening initiated in 2008 in Mersing and Klang using SIPPS (application software for call-recall system) was continued. The final report of the Visual Inspection with Acetic Acid (VIA) project demonstration project in Sik, Kedah has been completed and deliberated on the feasibility VIA as a screening tool for early detection of Cervical Cancer in rural and inaccessible areas.

Breast Cancer Prevention Program

MoH has started breast health awareness campaign since 1995 to encourage women to perform breast self examination (BSE). Recently in 2009, emphasis was given on clinical breast examination (CBE) as a modality for early detection of breast cancer among general women population. All health providers are to examine female clients attending the clinics, as part of other screening and health services. As the starting year of data collection, the percentage of CBE among clients was 12.5% in 2010 with 0.2% abnormality detected and referred for further investigation. A structured program and guideline were planned to strengthen the current services of screening for breast cancer among high risk women.

Family Planning Program

There were 85,411 new acceptors, 57,385 repeat acceptors and 250,837 active users for family planning registered in the MoH clinics in 2010. The most popular contraceptive method was contraceptive pill (75.0%), followed by male condoms (14%), hormonal injection (10%), and intrauterine device (1%).

Gender and Health

FHDD has coordinated a training workshop on Gender & Rights in Maternal and Reproductive Health, in collaboration with the Institute for Public Health. The workshop was conducted in November 2010 in the Institute for Public Health, Kuala Lumpur

- **HEALTHCARE SERVICES FOR THE ELDERLY**

Till December 2010, a total of 629 (77.3%) health clinics had implemented the healthcare services for the elderly. In term of numbers, it was the same as the previous year. Approximately 22,000 health personnel at primary health care level had undergone the healthcare training for the elderly. The five most common morbidities among the elderly seen in the health clinics were hypertension, diabetes mellitus, joints, eye and respiratory problems, which is in similar pattern for the past five years. Screening and management of dementia was emphasised in selected health clinics. About 18,872 health personnel and caregivers from institutions, NGOs, voluntary bodies and other agencies had been trained for care for the elderly. There were 193 *Kelab Warga Tua* formed all over the country.

Throughout 2010, five (5) health education materials had been produced; *Penuaan Sihat, Osteoarthritis Lutut, Jatuh, Senaman Aerobik Warga Emas* and *Warga Emas dan Senaman.* With the addition of those five materials, a total of 21 health education materials had been produced, which comprised of booklets, pamphlets, manual and VCD, from the beginning of Healthcare Program for the Elderly till December 2010.

• HEALTHCARE FOR PERSONS WITH DISABILITIES

Healthcare programs for Persons with Disabilities (PWD) include care of children with special needs (CWSN) at the health clinic and community level, prevention and control programs for blindness and deafness as well as rehabilitation for adult PWDs at health clinic. From 1996 to 2005 activities were carried out by the unit focused on CWSN. Starting in 2006, the focus shifted to the development of services for adults with disabilities whilst strengthening and improving the quality of services for CWSN. There were two main committees that were chaired by the Director General of Health Malaysia, namely the Technical Committee for Health Care of Persons with Disabilities and the Quality of Life for PWD Committee, which oversees the development and implementation of health programmes for PWDs.

Program Development

The 1st Plan of Action on Health Care for PWD 1996 was reviewed to be in line with the PWD Policy (2007), National Plan of Action for PWD (2007), the PWD Act 2008 and the Convention on the Rights of Persons with Disabilities 2008. The proposed plan of action will be presented for endorsement at the Director General's Meeting in 2011. New area of focus would be the development of low vision services in primary care. A draft concerning the plan of action was developed and will be presented to technical committee in 2011.

Manpower Development and Training

Training on the use of the 'Live Life, Stay Safe' Training module on Sexual Reproductive Health for Children and Adolescents with Disabilities was commenced in 2010, where 445 personnel were trained including health officers, special education officers, and social welfare officers. Other trainings that were carried out included the use of six manual on care of children with special needs and the caregiver training module for caregiver in institutions and at home caring for adult PWDs.

The new PWD registration form developed in line with the Persons with Disabilities Act 2008 that was implemented from 1st January 2010. Briefing on the use of the new forms involved 3,396 officers from MoH hospitals and health clinics, private hospitals and hospitals by government agencies.

Networking with other agencies and NGOs

FHDD was involved in providing input on health isssues at events and meetings organised by other agencies; namely the Ministry of Women, Family and Community Development, Ministry of Education on development of One Stop Information Center, BAKTI for programmes in FELDA for CWSN, and Malaysian Council for Rehabilitation on Development of Programs for the wellbeing of PWDs.

Rehabilitation Services at the Health Clinic

A total of 1,925 new cases with disabilities were detected among children aged 0-18 years in 2010. These children received rehabilitation services from the 242 health clinics providing rehabilitation services. A total of 29,614 children were on follow-up with 53,266 attendances for rehabilitation services in 2010.

A total of 15,480 home visits were made during the year 2010. Healthcare personnel visiting the homes provided advice to parents and caregivers on care, immunization, nutrition and rehabilitation that can be carried out in the home. The personnel also visited Community Based Rehabilitation Centre (CBR) within operational area of their health clinics to provide healthcare services. For 2010, healthcare personnel from health clinics has received consultation from 13,771 children with special needs, and assisted CBR workers in managing CWSN.

TABLE 11
NUMBER OF CHILDREN AGED 0 – 18 YEARS DETECTED ACCORDING TO TYPES OF DISABILITIES, 2010

STATE	TYPES OF DISABILITIES												
	DEAF	BLIND	PHYSICAL	CEREBRAL PALSY	DELAYED MILESTONE	DOWN SYNDROME	AUSTISM	ADHD	MENTAL RETARDATION	SPECIFIC LEARNING DISABILITY	SLOW LEARNER	OTHERS	TOTAL
Perlis	1	0	6	5	1	3	1	4	2	16	42	6	87
Kedah	6	1	5	14	20	29	2	6	3	5	47	15	153
Pulau Pinang	3	0	7	16	22	14	7	2	2	19	21	7	120
Perak	4	1	7	17	10	20	14	5	15	22	18	16	149
Selangor	7	0	10	13	54	52	8	13	0	20	7	47	231
Ft Kuala Lumpur & Putrajaya	1	0	2	2	2	10	3	0	0	0	3	3	26
Negeri Sembilan	0	0	5	10	18	4	7	2	0	5	7	9	67
Melaka	1	1	4	4	12	6	4	5	0	5	9	8	59
Johor	2	2	12	8	19	33	4	2	2	9	28	11	132
Pahang	3	4	3	7	17	17	0	2	2	12	5	8	80
Terengganu	2	3	13	13	17	19	3	0	1	5	14	16	106
Kelantan	3	1	13	14	11	28	1	0	2	4	6	5	88
Sabah	8	9	13	21	23	33	5	1	3	8	7	18	149
FT Labuan	0	0	1	0	1	5	0	4	0	8	11	13	43
Sarawak	13	11	32	40	74	71	40	9	50	39	32	24	435
MALAYSIA	**54**	**33**	**133**	**184**	**301**	**344**	**99**	**55**	**82**	**177**	**257**	**206**	**1925**

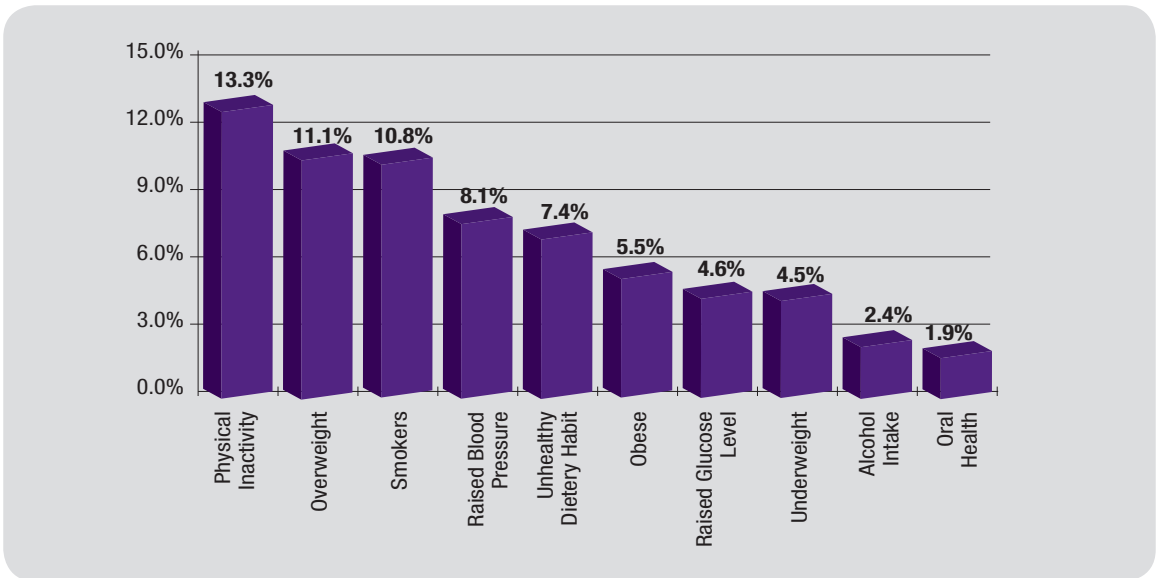
Source: Family Health Development Division

- **PRIMARY HEALTH CARE**

Health Screening and Intervention at Primary Care Clinic

The implementation of Integrated Services at Primary Health Care Clinic using Reviewed Approach (REAP) has allowed effective screening and intervention of health risks on all age groups (adolescent, adult and elderly). A total of 132,991 clients (2.3% of total outpatient attendance) was screened, of whom 43,278 (33%) were found to have at least one risk factor. The most common risk factors detected were physical inactivity, followed by being overweight and smoking as shown in Figure 19.

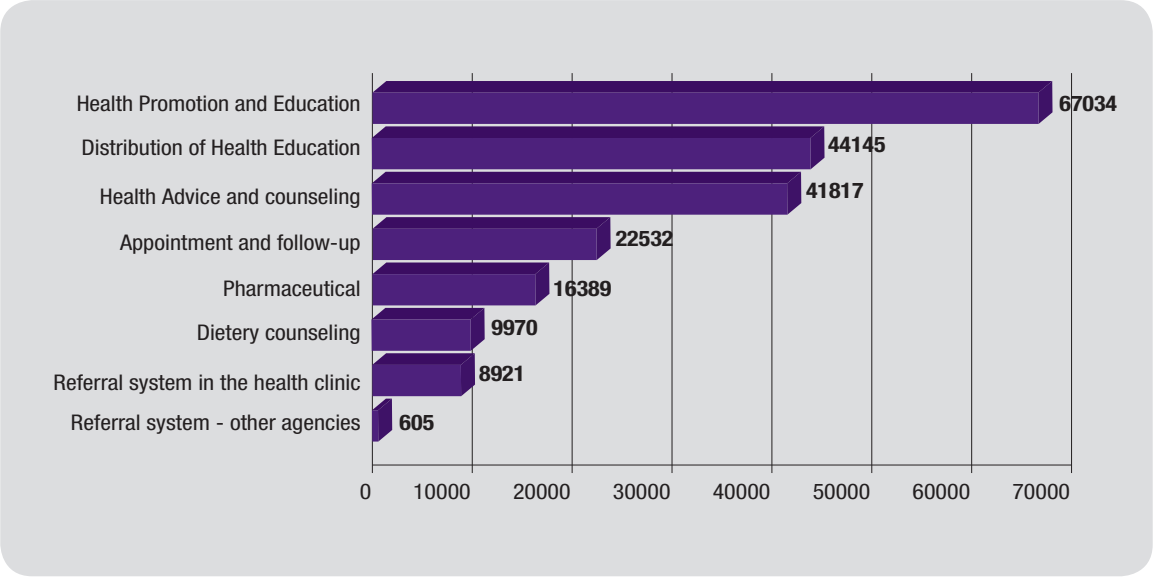
FIGURE 19
HEALTH RISKS DETECTED DURING SCREENING IN HEALTH CLINICS, 2010



Source : Family Health Development Division, MoH

The most common intervention for those detected with risk factors was health education, distribution of health education materials and counselling in 72 % of the cases (Figure 20).

FIGURE 20
INTERVENTION IN HEALTH CLINICS, 2010

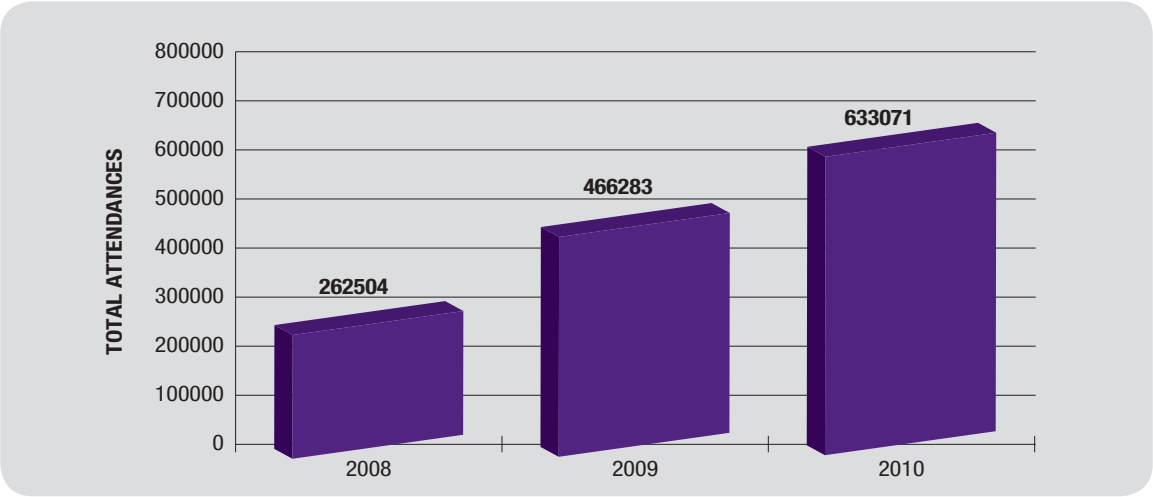


Source : Family Health Development Division, MoH

Extended Hours Service In Health Clinics

A total of 60 health clinics extended their operational hours till 9.30pm. The number of cases seen during the extended hours has steadily increased over the past three years as shown in Figure 4.

FIGURE 21
ATTENDANCES FOR EXTENDED HOURS SERVICES, 2008 - 2010

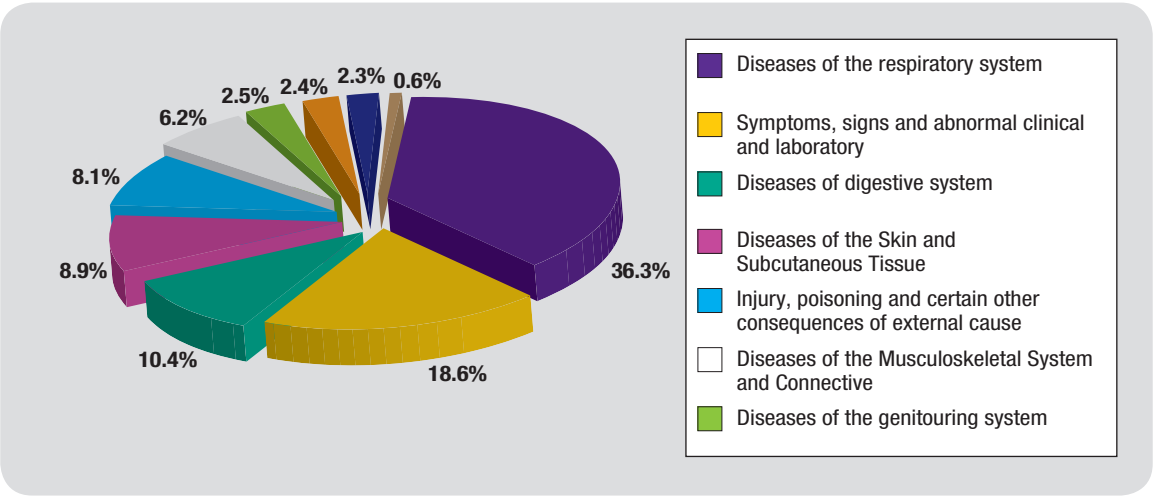


Source : Family Health Development Division, MoH

National Service Training Program (NSTP/PLKN), 7/2010 Series

A total of 79 PLKN camps were operational in 2010. The services provided by the clinics are the treatment of minor ailments & illnesses, emergency services and adolescent screening services for the 140,644 PLKN trainees in the seventh series. 134,644 attendances were recorded to the clinics, and the most common disease was of the respiratory system i.e. Upper Respiratory Tract Infection and Lower Respiratory Tract Infection, at 36.3% (Figure 22).

FIGURE 22
MORBIDITY AT PLKN CAMPS, 2010



Note: Morbidity classifcation based on ICD-10 grouping by percentage of total attendance.
Source: Family Health Development Division, MoH

Routine Medical Examination (RME) for Civil Servants

In 2010, 29,444 government servants aged 40 and above were examined, of whom 7,464 (25.3%) were identified with risk factors and morbidities and referred for further assessment and management.

1Malaysia Clinic

The 1Malaysia Clinic was an initiative by the Honourable Prime Minister of Malaysia and was officially announced in the 2010 Budget. It is meant as a special primary care service in the urban area to provide basic medical services to the urban poor category. Nurses and medical assistants provide the basic medical treatment in the clinic. The project was started in 7th January 2010 and as of 31st December 2010; there are 53 1Malaysia Clinics with 1,327,580 attendances. The most common problems attended to were cough and cold, body ache and skin problem.

Mobile Services

The main aim of the mobile services was to increase accessibility to comprehensive health services for the population in the remote areas as well as for the marginalized groups. In 2010, there were 181 mobile teams providing such health services; 70 in Peninsular Malaysia, 13 in Sabah and 98 in Sarawak. The basic services provided were maternal and child health healthcare services including immunization, treatment of minor illnesses, control of communicable diseases, school health services, environmental health and sanitation and emergency care. RM8 million was allocated to upgrade the vehicles and equipment for mobile services in 2010.

1Malaysia Mobile Clinics

A special mobile service initiative by the Honourable Prime Minister of Malaysia was the 1Malaysia Mobile Clinic, established to provide health services to the people in rural areas who live far from existing static health facilities, such as in the estates, traditional villages and Orang Asli villages. The 1Malaysia Mobile Clinic bus was launched by the Prime Minister in Pos Raya, Simpang Pulai, Perak on the 9th of December 2010. Another 4 buses for Selangor, Johor and Pahang, and a boat for Baram River, Sarawak shall be introduced in 2011.

General Practitioners Locum

Public-private integration for primary health care services has been strengthened by introducing a program enabling the General Practitioners in private practice to work in the health clinics as locum or sessional doctors for a reimbursement fee of RM 80 per hour. In 2010, 37 General Practitioners had signed contracts to work in 33 government health clinics throughout Malaysia.

Health Clinic Advisory Panels

As of December 2010, a total of 8,946 health clinics advisory panel members have been appointed to serve from the 1st July 2010 till the 30th June 2013. They have an important role in advocating health promotion and prevention within the community. Among the activities were health screenings, training sessions for members, geriatric health, adolescent health, dengue prevention campaign, methadone program, etc.

Monitoring of waiting time in health clinics (eMASA)

Monitoring of patient waiting time using the eMASA system was continued in 2010. 93% (867) of eligible facilities had been using the eMASA system, including Outpatient Department of hospitals (75), Klinik Rawatan Pesakit Selepas Waktu Pejabat (KRPSWP) of Hospital's Emergency Departments (50) and health clinics (742). Generally, the proportion of patients who achieved the targeted waiting time of less than 30 minutes was around 80% in 2010.

Quality Assurance Programme (QAP) In Primary Healthcare

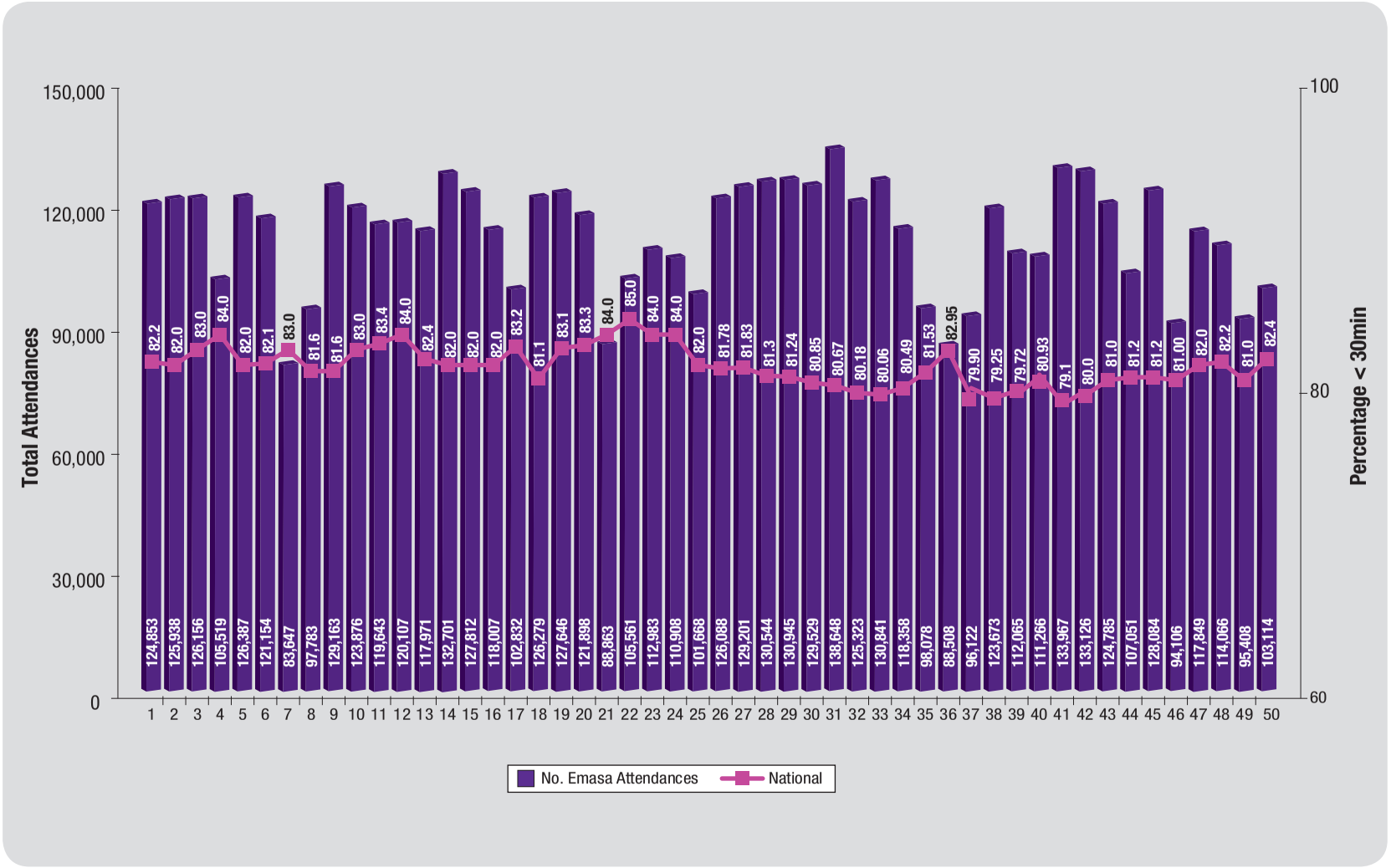
The Appropriate Management of Asthma and Client Friendly Clinic indicators are monitored in health clinics. In 2010, the percentage of clinics that participated in the Appropriate Management of Asthma and Client Friendly Clinic had increased as compared to 2009, and it was due to the increased number of clinics with medical officers. The guideline on asthma management will be reviewed and improvements will be made, taking into consideration of the current recommended management and monitoring of asthma.

TABLE 12
QUALITY ASSURANCE PROGRAMME (QAP) IN PRIMARY HEALTH CARE, 2010

Performance	Asthma			Client Friendly		
	2008	2009	2010	2008	2009	2010
Total no. of participating clinic	412	477	424	595	548	704
Percentage (%)	55.4	59.5	85.0	78.0	68.3	92.0

Source : Family Health Development Division, MoH

FIGURE 23.
PERCENTAGE OF CLIENT ACHIEVING WAITING TIME <30 MINUTES, 2010

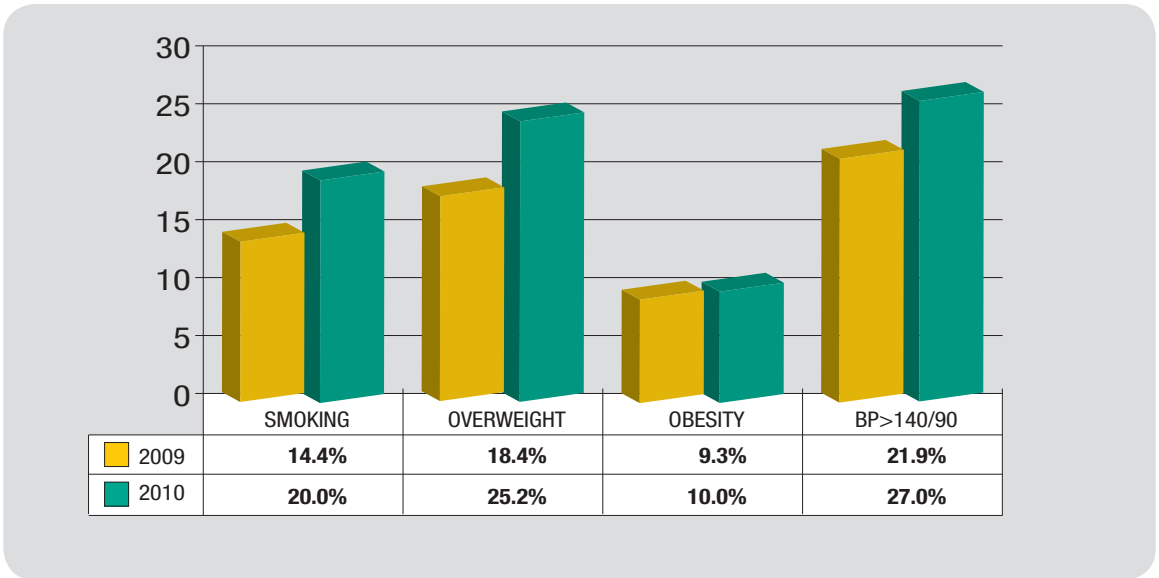


Source : Family Health Development Division, MoH

Self Monitoring

Self monitoring was introduced in 346 health clinics in 2009 with the provision of tools for self monitoring by the individual for blood pressure, body mass index and smoking status. The most common risk factors detected were overweight & obesity at 35.2 %, hypertension at 27.0%, and smoking at 20.0% (Figure 24). Higher proportions of these risk factors were detected in 2010 as compared to 2009.

FIGURE 24
HEALTH RISKS DETECTED BY SELF MONITORING IN HEALTH CLINICS, 2010



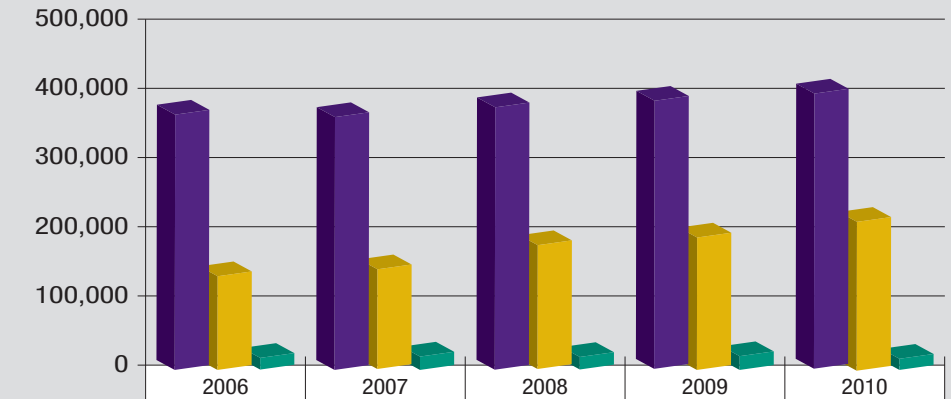
	SMOKING	OVERWEIGHT	OBESITY	BP>140/90
2009	**14.4%**	**18.4%**	**9.3%**	**21.9%**
2010	**20.0%**	**25.2%**	**10.0%**	**27.0%**

Source : Family Health Development Division, MoH

HIV Management in Primary Health Care

HIV management in primary health care includes screening program which comprises of anonymous voluntary HIV screening (AVT), premarital screening and antenatal screening (PMTCT). Health education and treatment are also provided at health clinics. The patients on anti-retroviral therapy are managed by Family Health Specialists who have been trained in Infectious Disease Management by doing two weeks attachment at Infectious Disease clinics. As shown in Figure 25, the numbers screened had steadily increased from 2006 till 2010.

FIGURE 25
HIV SCREENING IN HEALTH CLINICS, 2010



	2006	2007	2008	2009	2010
PMTCT	**384,027**	**380,346**	**394,673**	**403,287**	**413,862**
Premarital	**140,980**	**149,987**	**186,284**	**199,202**	**223,913**
AVT	**17,592**	**20,129**	**18,849**	**20,743**	**16,818**

Source: HIV/AIDS Sector, Disease Control Division, MoH

Harm Reduction Programme in Primary Health Care.

The Methadone Maintenance Therapy (MMT) and the Needle Syringe Exchange Programmes (NSEP) were introduced in the primary health care since 2005 and 2008, respectively. In 2010, a total of 134 health clinics provided MMT as compared to 77 health clinics in 2009. Meanwhile, a total of 73 health clinics provided NSEP in 2010 as compared to 22 in 2009.

Non communicable disease management in Primary Health Care

i) Diabetes

A new indicator was introduced in 2008 to assess the quality of care of diabetes patient in MoH healthcare facilities. This indicator measures proportion of diabetes patient seen at Tele Primary Care (TPC) clinics with HbA1c <6.5% with a target of ≥30% of patients. In 2010, 67,394 diabetic patients attended 73 Health Clinics that has the TPC system. Of these, 11,554 samples of HbA1c were taken. However, only 17.7% (1972) diabetics were under control (HbA1c <6.5%).

ii) Hypertension

Hypertension was also commonly seen in health clinics. Data from 73 Health Clinics that has TPC system showed there were 804,962 patients attendances in 2010 and 209,288 (26%) patients were found to have BP >140/90 mmHg. The indicator to assess the quality of care for hypertensive patients is the percentage of patients with BP <140/90 mmHg. The standard is at least 20% of the hypertensive patients in the health clinics to be under control. The achievement for 2009 was 26%.

Radiology Services

In 2010, there were 178 clinics providing radiology services. Of these, 93% of the radiographer posts were filled. A total of 415,734 X-ray examinations were performed in 2010, an increase of 7.6% as compared to 2009. There was a general improvement in the performance of the four QAP indicators monitored for radiology services in health clinics as shown in Table 13. The number of clinics participating increased in 2010. However, there was a decrease for the appropriateness of X-ray request indicator, since the QAP was not made mandatory.

TABLE 13
QAP OF RADIOLOGY SERVICES IN PRIMARY HEALTH CARE, 2009 - 2010

Indicator	No. of participating clinics		Standard	No. (%) clinics not achieving standard	
	2009	2010		2009	2010
% X-ray examination among outpatient in health clinic	91	106	<10%	24 (26.4%)	1 (0.94%)
% film rejected	115	135	<5%	18 (15.6%)	3 (2.22%)
% appropriate X-ray requests	87	35	>80%	0	1 (2.86%)
% accuracy radiography reports	15	26	>80%	0	3 (11.84%)

Source : Family Health Development Division, MoH

Pharmacy Services

The pharmaceutical services are a mainstay of the primary health care services. There was an increase of 3% in the prescriptions handled at the pharmacy counters in 2010 as compared to 2009. Out of 25,541,483 prescriptions received in 2010, 97% (24,639,179) were received during office hours and only 3% (857,333) were received after office hours. 89% (724) of the health clinics were using the electronic clinic procurement system.

The QAP indicators for pharmacy services in health were revised at the end of 2009, leaving only one indicator to be monitored, i.e. percentage of prescription wrongly filled and detected before dispensing. Although there was a drop of performance for this QAP (a drop of 0.06%) in 2010 as compared to 2009, there was an increase of 27.64% in the number of prescriptions counterchecked for 2010 as compared to 2009. The prescription intervened is still being monitored by PF system.

TABLE 14
QAP OF PHARMACY SERVICES IN PRIMARY HEALTH CARE, 2009 - 2010

Indicator	Standard (%)	No. (%) clinics participating			No. (%) clinics achieved standard		
		2008	2009	2010	2008	2009	2010
QAP 1 : % prescription wrongly filled and detected before dispensing	0	440 (70%)	387 (63%)	445 (55%)	378 (86%)	331 (86%)	326 (73%)

Source : Family Health Development Division, MoH

Pathology Services

The number of tests done in pathology laboratories in the health clinics had increased by 13.3% in year 2010 as compared to 2009. The most frequently requested analytical tests are biochemistry (63.1%) followed by haematology (20.2%) and microbiology (9.5%). By end of 2010, there were 617 haematology analyzers, 218 chemistry analyzers and 292 HbA1c analyzers in the health clinics.

Quality initiatives were strengthened especially in the analytical process of the pathology tests. Besides the existing Internal Quality control activities, External Quality Control or Proficiency Testing (PT) for routine biochemistry and HbA1C tests were continued. External quality control or proficiency testing for routine biochemistry tests was first introduced in year 2005 with 35 laboratories participating. By end of 2010, the number increased to 125 laboratories.

There was a general improvement in the performance of QAP indicators for pathology services in health clinics as shown in Table 9. Overall 2010 performance showed an improvement as compared to 2009 and 2008. QAP indicators for pathology services in the health clinics were reviewed in 2010 and TTAT Urine FEME (manual) and FBC (manual) was discarded as most laboratories were using automated FBC and Urine FEME.

TABLE 15
QAP OF PATHOLOGY SERVICES, 2008 - 2010

Item	Performance 2008	Performance 2009	Performance 2010
Total number of labs reported	351	371	401
Number (%) health clinics achieved 90% TTAT:			
a) FBC (automation) <60 minute	320 (94.3%)	349 (95.6%)	397/399 (99.4%)
b) FBC (manual) <60 minute	9 (90%)	3 (100%)	2/2 (100%)
c) Urin FEME (manual) <40 minute	43 (93.4%)	3 (100%)	Nil

Source : Family Health Development Division, MoH

- **TELE-PRIMARY CARE (TPC)**

TPC Profile

In 2010, Teleprimary Care (TPC) was extended to 15 health clinics, 3 specialist outpatient clinics in 3 hospitals and 3 district health offices in Pahang and Sabah. Through this expansion, the percentage of health clinics with TPC increased from 6% (45) in 2005 to 11% (88) in 2010, similarly for hospitals from 2% (2) to 5% (7) and district health office from 5% (7) to 9% (13). The number of users in 2010 was 9,000 ranging from doctors to various categories of allied health personnel

TPC Key Data

The cumulative number of people registered into the system had reached 3,184,290 representing 11 % of the 28.25 million Malaysian populations in 2010, an increase from 8 % in 2009. Most of this increase came from Selangor and FT Kuala Lumpur as the newest members in TPC who joined in 2009. Total number of encounters recorded into the system (visit records created) had reached 13,960,266.

In 2010, there was equal sex distribution of patients registered at clinics using TPC. 76% of visits made to the health facilities were for outpatients' services and 24% were for wellness services such

as antenatal care and child health. As such, care plans (clinical notes) created for outpatient services were 15% (530,634) of outpatient visits and 32% (350,528) of wellness visits.

Ethnic composition showed a higher preponderance of Malays (56.9 %) accessing the clinics. The young adults (20-59 years old) formed half the patients while the children (0-7 years old) comprised 27%. The elderly (> 60 years old) formed the smallest proportion at 7%.

TPC's motto "Bringing Care Closer to Home" is reflected in the number of Teleconsultation (TC) seen at TPC sites. During the two-year period of 2009 and 2010, there was a small increase in the number of TC from 445 in 2009 to 472 in 2010. In 2010, a total of 2,047 referrals were made through TPC within the same facility in cases where the paramedics needed a medical officer's opinion.

Surveys

One major activity pursued during TPC rollout to Pahang and Sabah was the conduct of two surveys prior to implementation, namely on customer satisfaction and KAP on ICT for the health staff. The survey involved 15 health clinics and 3 hospitals. The survey period was over 3 weeks in August 2010. There were 828 respondents from the public and 806 respondents from the health staff. The objective was to obtain a baseline prior to the implementation of an electronic system. It is at data processing stage.

Another key survey done was on the use of the manual version of the life time health record. The survey was conducted in Pahang at 3 health clinics. It was done over four months from July to November 2010. There were 211 respondents and it is at data processing stage. The survey was conducted after 3 years of implementation of the manual LHR.

Electronic Kuala Lumpur (eKL)

The objective of this Federal Government initiative was to ensure access to essential government services online. Customers to Ministry of Health's facilities within the Klang Valley have enjoyed the convenience of short messaging system reminders 2 days prior a given appointment in selected health clinics. Last year saw a total of 93,021 SMS reminders being sent out to patients on routine follow up for antenatal care and chronic disease management.

C. HEALTH PROMOTION DIVISION

• NATIONAL HEALTH MEDIA CAMPAIGN

One of the most common and most powerful ways of promoting health is through the mass media. Mass media reaches a very large or mass audience and includes TV, radio, newspaper, internet, magazines etc. MoH started the National Media Campaign as one of the strategy to reach the targeted audiences since 2006. The National Media Campaign was mainly an activity to compliment and strengthen the ground activities at the community level.

The main objectives of the National Media Campaign are:

- To increase public knowledge of a health issue quickly
- To raise awareness of a health issue very effectively
- To invoke an emotional response which can cause immediate changes in behaviour
- To influence public opinion and set agendas

In 2010, National Media Campaign publicized Anti-Smoking, Dengue Prevention and Control, healthy lifestyles, prevention and control of HIV/AIDS, NCDs and HPV vaccinations (Table 16).

TABLE 16
NATIONAL MEDIA CAMPAIGN, 2010

No.	Campaign	Specific Campaign objectives	Medium	Spot/ Insertion	Evaluation
1.	Dengue	To encourage public to be actively involved in eradicating Aedes breeding spots.	Television	1,378	- 90% were exposed to the campaign material
			Radio	975	- 90% among exposed understood the message
			Print ads	95	- 90% among exposed have perceptions of susceptibility/ vulnerability to dengue fever
					- 90% among exposed have intention to take action
					- 70% among exposed had taken action
2.	Anti-Smoking (Tak Nak Merokok)	To maintain smoke-free status among non-smokers and to encourage smokers to quit smoking. To encourage women and children to voice their rights to be free from cigarette smoke.	Television	312	- 91% were exposed to the campaign material
			Radio	1,361	- 99% among exposed understood the message
			Newspaper	263	- 91% of non-smokers exposed to campaign materials voiced their right to be free from cigarette smoke
			Tabletop	680	- 78% of smokers exposed to campaign material have intention to quit smoking
					- 35% of non-smokers exposed to campaign material had taken action to be free from cigarette smoke
					- 11% smokers exposed to campaign material had taken action to quit smoking by calling Infoline
					- 12% smokers had taken action to quit smoking by visiting Quit-Smoking Service
					- 59% quit smoking on their own initiatives
3.	HIV/AIDS	To encourage the adults who have been practising risky lifestyle to go for HIV screening test.	Television	438	-Evaluation of media campaign was not conducted
			Radio	1,459	
			Print ads	156	
			Outdoor media (7-Eleven)	300	
			Tabletop	150	
			Uniboard	50	
			Miniboard	10	
			'Nightspot'	4	

No.	Campaign	Specific Campaign objectives	Medium	Spot/ Insertion	Evaluation
4.	Healthy Lifestyle (10,000 steps)	To encourage housewives and working women to practice physical activity towards a healthy living.	Television	222	- 61% of the target group were exposed to the campaign materials
			Radio	441	- 94% of the target group who were exposed to the campaign material understood the campaign message
			Print ads	90	- 64% among respondents who understood the campaign message have intention to start walking
			Magazines	7	- 37% among respondents who had intention have taken action
5.	"Kurangkan Pengambilan Gula"	To create awareness in reducing daily sugar intake	Television	694	-Evaluation of media campaign was not conducted
			Radio	2,697	
			Print ads	174	
6.	Campaign on Risk Factor of Non-communicable Disease (NCD)	To create awareness among high risk groups regarding their susceptibilty to chronic diseases such as diabetes, high blood pressure and cardiovascular diseases.	Television	106	-Evaluation of media campaign was not conducted
			Radio	1,891	
			Print ads	30	
			Billboard 3D	25	
			Train (LRT)	3	
			Bus	50	
7.	Campaign on Prevention of Non-communicable Disease (NCD)	To create awareness among Malaysians on the preventional aspects and the risk factors that led to chronic diseases such as diabetes, high blood pressure and cardiovascular diseases.	Television	1,419	-Evaluation of media campaign was not conducted
			Radio	7,533	
			Print ads	78	
			Cinema	54,215	
			LCD cinema	81,340	

Source: Health Promotion Division, MoH

- **SPECIAL PROGRAMMES**

Programmes that caters for primary schools students in primary school settings and for secondary schools students or adolescents in secondary school settings and in the community.

a) DOKTOR MUDA

The Doktor Muda program is one of the programs designed to equip primary school students in Standard 4, 5 and 6 with adequate health related knowledge and skills. This program has become part of the extracurricular activity under the Ministry of Education and the students trained under the programme will become an ambassador for health in their respective schools.

i. Implementation

125 new schools have implemented the Doktor Muda Club (Figure 26) in 2010, to a total of 1,255 schools and 33,440 members. Kedah, Johore and Malacca achieved higher number among of new schools which implemented the Doktor Muda Program.

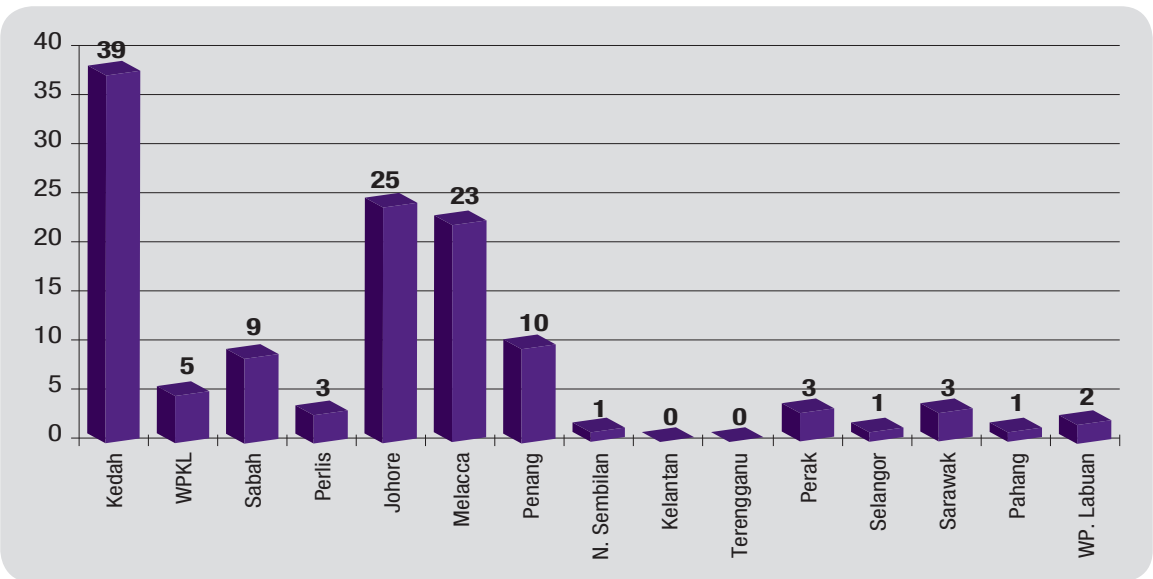
ii. Training

A total of 184 training sessions were held to train 1,257 facilitators throughout the country. It aimed to empower the selected teachers (advisors) to carry out the Doktor Muda Program through their school curriculum activities.

iii. Introduction of Icons

Doktor Muda Program had also introduced six Doktor Muda icons to promote the club. These icons will be part of Doktor Muda Program and act as agents to promote healthy lifestyles among peers.

FIGURE 26
NUMBER OF NEW SCHOOLS IMPLEMENTED DOKTOR MUDA CLUB ACCORDING TO STATES, 2010



Source: Health Education Division, MoH

Doktor Muda Icons

PROSTAR targeted those in the secondary schools and adolescents in the community. The

for the adolescents. The peer-to-peer approach was the strategy used to inculcate healthy behaviour among the adolescents. PROSTAR promotes physical and environmental health, mental health, sexual and reproductive health, avoidance of risky behaviour and good communication skill.

i. Implementation

Up to 2010, 1,692 schools have established the PROSTAR Club and implemented the program as an extracurricular activity.

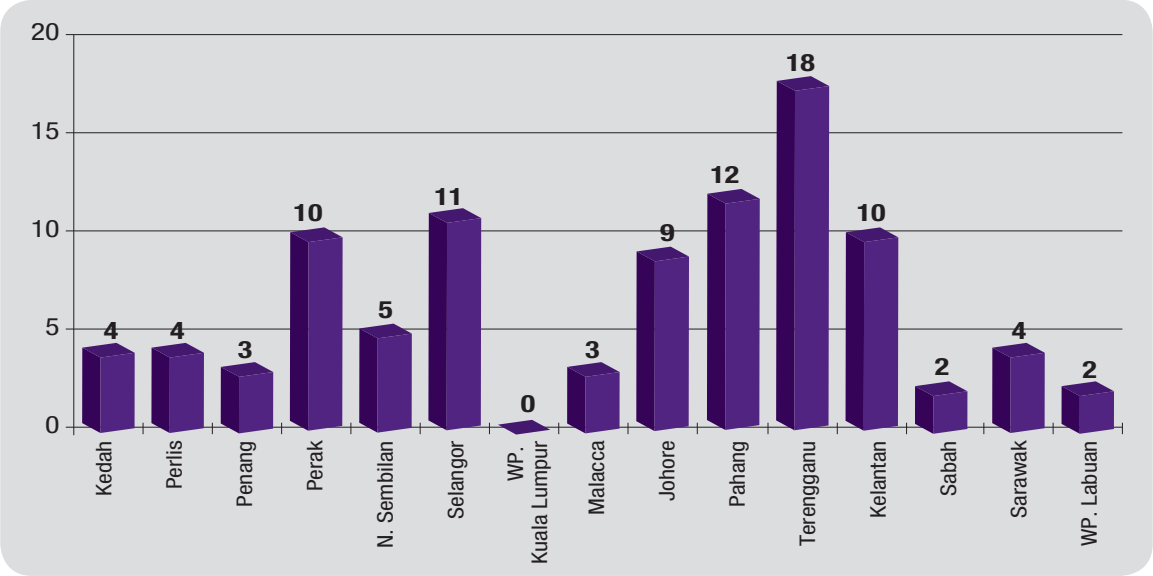
ii. Training

A total of 97 PROSTAR training sessions were held throughout the country in which 5,507 youths were trained as peer educators (Figure 27).

iii. Activities

347 activities were conducted in 2010 with 17,749 participants involved. In recognition of the commitment and active participation of PROSTAR members in various activities, a PROSTAR Convention was held on 26-28th of March 2010 at the Bukit Merah Laketown Resort, Perak.

FIGURE 27
NUMBER OF TRAINING SESSIONS ACCORDING TO STATES, 2010



Source: Health Education Division, MoH

D. NUTRITION DIVISION

The functional scopes of the Nutrition Division are nutrition planning and development, surveillance, promotion as well as rehabilitation. All activities identified under the scope are implemented with the aim of achieving and maintaining the nutritional well-being of the population.

• NUTRITION PLANNING AND DEVELOPMENT

Nutrition Planning and Development focuses on monitoring the progress of the implementation of the National Plan of Action for Nutrition of Malaysia (NPANM) 2006-2015. This plan is a long-term framework that contains recommendations for goals, strategies and activities that integrate all activities related to nutrition in various agencies, institutions and non-government organisations (NGOs) in Malaysia. A mid-term review of the plan was undertaken in 2010 to review the achievements of NPANM between 2006 and 2010. To achieve the targets by 2015, existing strategies and activities were reviewed and new ones were formulated to align with the current national policies.

Several activities were carried out by the Technical Working Groups (TWGs) under the NPANM 2006-2015 throughout the year. The Malaysian Dietary Guidelines (MDG) 1999 was revised by the TWG (Nutrition Guidelines) by taking into account current understanding and developments in nutrition science. The MDG 2010 was launched by the MoH on 25 March 2010 and subsequently, a series of trainings were conducted by the TWG (Nutrition Training). This includes training of key resource personnel from MoH, Ministry of Education and Ministry of Agriculture & Agro-Based Industry; and also training of Physical Education Trainers for Standard 1 students under the Curriculum for Primary Schools (KSSR). It was held thrice in 2010 in collaboration with the Ministry of Education, segmented according to the Northern, Southern and East Malaysia regions. Various types of education materials such as posters, die-cards, mini Malaysian Food Pyramid models, pamphlets and notepads were also developed to disseminate the key messages of the MDG 2010 to the public.

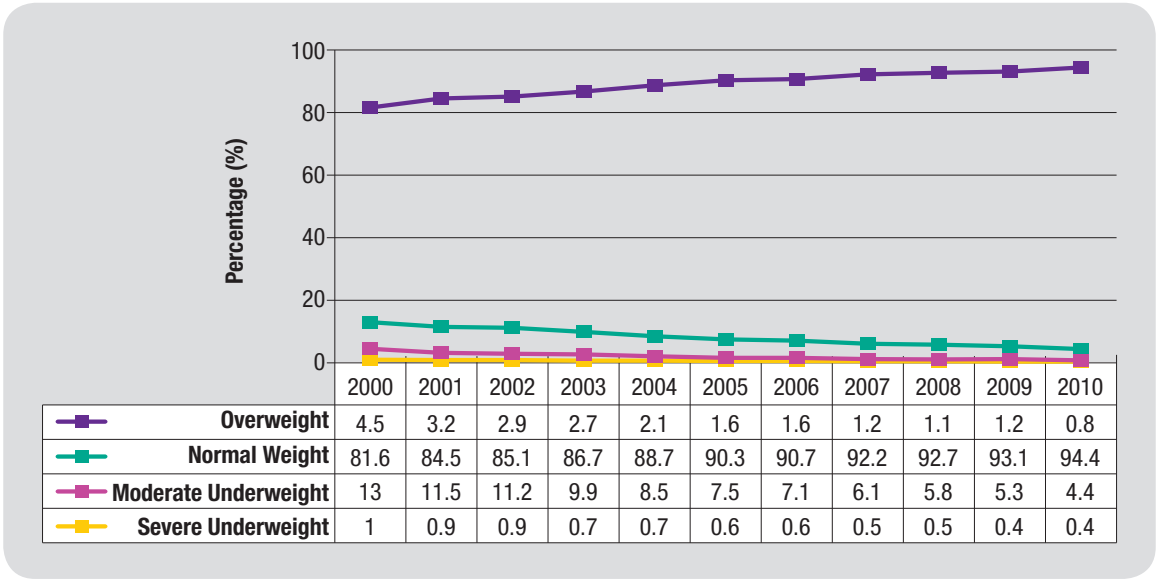
The TWG (Research) which coordinates nutrition research identified in NPANM 2006-2015 published the document entitled 'Nutrition Research Priorities in Malaysia for 10th Malaysia Plan (2011-2015)'. This document was distributed to universities and various agencies. Currently, the TWG (Research) is compiling abstracts of nutrition research conducted in Malaysia between the year 1989 to 2010 and plans to publish a bibliography by 2011. A Technical Working Committee under TWG (Research) is in the process of developing a standardised methodology for the compilation of Malaysian Food Composition Database.

- **NUTRITION SURVEILLANCE**

Nutritional Status of Children below Five Years in Malaysia

MoH monitors the nutritional status of children under five years old through nutrition surveillance under the Health Information Management System (HIMS). As shown in Figure 28, the nutritional status of children below five years old continues to improve throughout the years. In 2010, the percentage of moderately and severely underweight children declined from 5.7% in 2009 to 4.8% in 2010 while the percentage of children with normal body weight increased from 93.1% to 94.4%. On a positive side, there was a slight decrease in the percentage of overweight children, which is from 1.2% in 2009 to 0.8% in 2010.

FIGURE 28
NUTRITIONAL STATUS OF CHILDREN BELOW 5 YEARS, MALAYSIA, 2000 - 2010



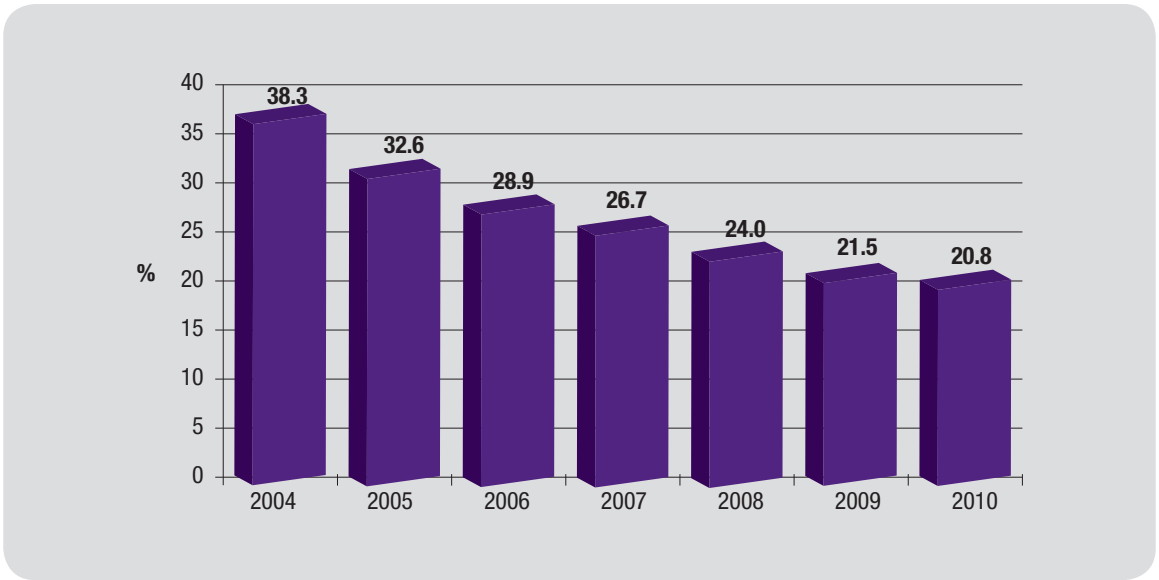
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Overweight	4.5	3.2	2.9	2.7	2.1	1.6	1.6	1.2	1.1	1.2	0.8
Normal Weight	81.6	84.5	85.1	86.7	88.7	90.3	90.7	92.2	92.7	93.1	94.4
Moderate Underweight	13	11.5	11.2	9.9	8.5	7.5	7.1	6.1	5.8	5.3	4.4
Severe Underweight	1	0.9	0.9	0.7	0.7	0.6	0.6	0.5	0.5	0.4	0.4

Source: Health Informatics Centre, MoH

Anaemia amongst Pregnant Mothers

The status of anaemia among pregnant mothers is monitored based on the haemoglobin (Hb) level of pregnant women at 36 weeks gestation who attended the government clinics. In 2010, the percentage of pregnant mothers who were anaemic (Hb level < 11 gm %) declined from 21.5% in 2009 to 20.8% (Figure 29). Based on the WHO classification of public health significance, anaemia still poses a moderate public health problem to the country.

FIGURE 29
PREGNANT MOTHERS WITH Hb LEVEL < 11 GM %, 2004 – 2010



Source: Health Informatics Centre, MoH

Infant Feeding

The percentage of exclusive breastfeeding amongst infants aged 4 months who attended the government health clinics increased from 35.0% in 2009 to 37.7% in 2010. The percentage of exclusive breastfeeding amongst infants aged 6 months also increased from 14.4% in 2009 to 16.2% in 2010. In terms of timely introduction of complementary foods, the percentage of infants between the ages of 6 to 10 months who received complementary feeding increased from 64.6% in 2009 to 72.2% in 2010.

- **NUTRITION REHABILITATION**

Nutrition rehabilitation is implemented through various strategies and interventions tailored to the specific target groups. The Rehabilitation Programme for Malnourished Children, also known as the Food Basket Programme, is carried out to rehabilitate malnourished children from hardcore poor households. A total of 4,697 children received the food basket in 2010. Out of these, 31.2% were successfully rehabilitated. Table 17 shows the number of recipients and percentage rehabilitated for the last ten years.

In 2010, the Ministry of Women, Family and Community Development collaborated with MoH in distributing the 1AZAM Food Basket to rehabilitate malnourished children from poor households. A total of 35, 245 food baskets were given to 7049 children under this program.

In Malaysia, iodine deficiency disorder is still a significant problem in several states including Kedah, Pulau Pinang, Perak, Pahang, Kelantan and Terengganu. Distribution of iodised salt and health education activities were continued in 2010. A total of 16,497.3 kilograms of iodised salt were distributed to 21,774 pregnant mothers and malnourished children in endemic areas. Health education activities were carried out by health staffs to promote iodine-rich foods, community education on modification and preparation of foods with high goitrogen content and the use of iodised salt in cooking. Implementation of Universal Salt Iodisation in Sabah and Sarawak had improved the iodine intake of the population.

TABLE 17
NUMBER OF RECIPIENTS OF THE REHABILITATION PROGRAMME FOR MALNOURISHED CHILDREN AND PERCENTAGE REHABILITATED AMONG CURRENT RECIPIENTS, 2001 - 2010

Year	No. of Current recipients on Food Basket Programme	No. of recipients rehabilitated	Percentage of recipients rehabilitated among current recipients
2001	5,125	1,089	21.2
2002	5,021	1,020	20.3
2003	5,137	899	17.5
2004	4,986	1,054	21.1
2005	6,429	1,255	19.5
2006	5,805	1,561	26.9
2007	5,590	1,733	31.0
2008	4,793	1,871	39.0
2009	5,134	1,304	25.7
2010	4,697	1,464	31.2

Source: Health Informatics Centre, MoH

Besides nutrition rehabilitation programmes at the community level, nutrition counselling service by trained nutritionists is offered to patients who are referred by the Family Medicine Specialist or Medical Officer in charge of the clinic. A total of 27,479 patients nationwide were counselled in year 2010. In addition to the two standard operating procedures (SOPs) published in 2009, a new guideline titled Weight Management of Overweight and Obese Adults was published in 2010. The guideline serves as a guideline for healthcare personnel in managing patients at the health clinics.

- **NUTRITION PROMOTION**

Infant and Young Child Feeding

As healthy nutrition starts from infancy, breastfeeding is one of the pillars of good nutrition. One of the main activities under breastfeeding promotion is the Baby-friendly Hospital Initiative. In 2010, there were 133 hospitals were designated as Baby-friendly Hospitals in Malaysia; 123 MoH hospitals, 2 Ministry of Education hospitals, 2 Ministry of Defense hospitals and 6 private hospitals.

World Breastfeeding Week is celebrated every year from 1st to 7th August worldwide to encourage breastfeeding and improve the babies' health. In Malaysia, the celebration was launched by the Deputy Health Minister of Malaysia on 3rd August 2010 at the Rumah Nur Hikmah, Kajang, Selangor. The theme for 2010 was "Breastfeeding - Just 10 Steps! The Baby-Friendly Way."

The Code of Ethics for the Marketing of Infant Foods and Related Products had been implemented in Malaysia since 1979 as one of the initiatives taken by the Ministry of Health to protect, promote and support breastfeeding. To strengthen the implementation of the Code, training on the Code of Ethics for the Marketing of Infant Foods and Related Products was conducted in May 2010. A total of 129 materials related to designated products and complementary foods were vetted. Out of these, 124 (96.1%) materials were issued approval codes. The Disciplinary Committee on the Code of Ethics for the Marketing of Infant Foods and Related Products received 5 individual complaints of alleged violations by the industries; one was found to be a confirmed violation and therefore disciplinary action was taken against the company. The Disciplinary Committee on the Code of Ethics for the

Marketing of Infant Foods and Related Products also received 332 cases of alleged violations based on active monitoring conducted at the state level, where 22 cases had been brought to the Disciplinary Committee Meeting, and 19 cases were confirmed as violations.

Efforts to improve nutrition in institutions are undertaken with the collaboration of other agencies. This includes the development of the Guidelines on Menu Planning at Care Centres with the Social Welfare Department and the revision of 344 sets of menu from Malaysian Prison Department, Community Development Department (KEMAS), MARA Junior Science Colleges, MARA Colleges and other care centres. The menus were reviewed based on the Recommended Nutrient Intakes for Malaysia (RNI, 2005) and the Malaysian Dietary Guidelines 2010.

Healthy Eating

A total of 25 nutrition articles were produced in 2010, and 14 articles were published in local magazines and websites. Various nutrition education materials on the key messages of Malaysian Dietary Guidelines 2010 were printed and disseminated. These include 43 posters, 16 video segments, 8 interactive computer games, 9 illustrations and 3 animations. These materials are posted on the MyHealth portal and are accessible to the general public.

Six trainings on Healthy Catering were held at the national level, to educate caterers on how to prepare and serve healthy menus including recipe modifications. A total of 120 food handlers from restaurants, cafeterias and food courts from Putrajaya localities were trained. Similar training was also conducted for 123 caterers serving MoH in Putrajaya. At the state level, this training was conducted for 2,284 caterers.

In ensuring accessibility to correct nutrition information, 15 Nutrition Information Centres (NICs) and 50 Healthy Community Kitchens had been set up throughout the country. Various nutrition and nutrition-related activities had been carried out at these centres for the benefit of the community. In 2010, one of the highlights of the NIC at the headquarters in Putrajaya was the continuous service of weight screening and nutrition counselling for 2,971 MoH staffs.

Nutrition promotion activities in schools had been ongoing since the 1970s. Most of the activities were carried out in collaboration with the Ministry of Education Malaysia. In 2010, the promotion activities were intensified with the production of 8,000 sets of posters consisting of 10 topics on healthy eating. The posters which were aimed at primary schoolchildren were distributed to the schools through the State Health Departments.

With the aim to improve the health of the National Service trainees through the provision of quality, safe and nutritious foods, the National Service Training Department collaborated with the Nutrition Division in developing the Guidelines on Nutrition and Food Safety at the National Service Training Camps. Assessment by the state and district Nutrition Officers nationwide found that out of a total of 79 camps assessed in 2010, 58 (73.4%) were found to comply with the practices outlined in the guidelines such as using fresh and quality raw ingredients, preparing and serving healthy foods as well as serving the recommended menu.

Nutrition Month Celebration

Nutrition Month Malaysia is an annual event in April, aimed at disseminating information on nutrition to the public. The theme for 2010 was “Healthy Children, Healthier Nation - Start Young”, and focused on children aged 7 to 12 years old. The Nutrition Month Malaysia National Steering Committee developed the plan of action and nutrition key messages for the campaign. A comic book entitled Kembara Alam Sam for primary schoolchildren and a guide book entitled ‘Smart Nutrition’ for parents and caregivers were also developed. These promotional materials were distributed nationwide. A total number of 423

activities were held during 2010 Nutrition Month Malaysia and more than 36,998 people took part in the activities.

WAY FORWARD

The strategies and activities related to the prevention and control of diseases will be further strengthened. This is in addition to the anticipated future challenges posed by zoonotic, novel and emerging diseases. Disease surveillance will also be further strengthened to ensure more timely and comprehensive information on disease situations nationwide in ensuring an adequate, appropriate and timely response. This effort to improve the core capacity is in line with compliance to targets and national obligations to among others, the International Health regulation (IHR) 2005, Asia Pacific Strategy for Emerging Diseases (APSED), and the Biological and Toxin Weapons Convention (BTWC). The wellness concept which focuses on risk factor screening and early detection will be stressed to the public so that they will be able to empower themselves and take the desired action. Collaborations and smart partnerships with various agencies at all levels – local, national and international will be further strengthened for a comprehensive diseases prevention and control implementation. The Public Health programme will also focus on human capital development. Health personnel capability will be further enhanced with appropriate training to improve their knowledge and task skills required to respond to current needs. This is to ensure that they are well prepared in dealing with emerging disease events and public health related crisis.

Meanwhile, the Public Health Programme will be providing an integrated and comprehensive health services through health promotion and prevention activities, curative as well as rehabilitative services in more than 2000 health facilities all over Malaysia. The Quality Assurances Programmes and monitoring will be incorporated in the services to further improve the quality of services provided. Community participation in healthcare will be encouraged through increasing awareness among every individual, family and the community. The public, with support from MoH must be responsible of their own health and adopt a healthy lifestyle by not smoking, having a balanced diet and being physically active to help prevent the development of chronic diseases like hypertension, diabetes and cardiovascular diseases. The collaboration with various sector and government as well as non-government organisation (NGOs) will be further enhanced.

CONCLUSION

Throughout 2010, the planning, implementation, monitoring and evaluation of the diseases prevention and control programs and activities were conducted as planned. Even though the achievements for these activities are laudable, there are still areas which can be further improved and strengthened in order to cope with the future challenges posed by the various changing disease scenarios and health problems.

Medical 4

INTRODUCTION

The Medical Programme, headed by the Deputy Director-General of Health (Medical), is responsible for matters pertaining to medical services provided in the hospital. The programme consists of five divisions; the Medical Development Division, the Medical Practices Division, the Allied Health Division, the Nursing Division, and the Telehealth Division.

The Medical Development Division is responsible for policy setting and implementation, planning and development of medical services. Its objective is to provide comprehensive medical services that support primary health care, in accordance with policies and standards of Ministry of Health (MoH), by harnessing appropriate technology towards achieving improved health and quality of life to the population. The functions of the Division are carried out by four sections namely Medical Services Development, Medical Professional Development, Medical Quality Care, and Health Technology Assessment.

The Medical Practices Division's main objectives are drafting, amending and enforcement of any Act and Regulations related to medical services provisions. It also addresses complaints as well as medico-legal issues, and provides technical expertise in liberalising healthcare sector. The Medical Practices Division is divided into sections namely Private Medical Practice Control, Legislation and Globalisation, and Complaints, Enforcement and Medico-legal. It is also the secretariat for the Malaysian Medical Council, the Malaysian Optical Council, and the Medical Assistant Board.

The Nursing Division is a PTJ-2 under the Medical Programme with activity code 030100. The Division is responsible for the governance of the nursing profession in Malaysia through statutory regulation. This is to ensure that nursing services are performed by capable, effective, competent, skillful and highly knowledgeable nurses to provide safe and holistic nursing and midwifery care. Various efforts and measures has been taken to improve service delivery and one of the efforts taken was to ensure that the Division has a well organized structure with optimum number of productive and quality personnel. This will enable the Division to implement its activities efficiently and effectively towards improving the delivery of nursing services in the country. The Division was restructured into 2 sections namely Practice and Regulatory.

The Telemedicine Unit was initially established under the Medical Development Division in November 2000, to assist in the implementation of the Multimedia Super Corridor (MSC) flagship applications. In October 2004, the Unit was upgraded to a Division after given approval by the Cabinet. The Telehealth Division is responsible to facilitate in the planning, implementation and monitoring of Health ICT initiatives in MoH. There are 8 units under the Division which are Administration, Project Management Office (PMO), Infrastructure, Application, Information Technology (security/standard), Business Process Reengineering (BPR)/Change Management (CM), Policy, and Operation and Content.

MEDICAL SERVICES DEVELOPMENT

Hospital Management Service

The functions of Hospital Management Service are to facilitate policy settings and implementation which may include project management related to medical services development, facility development, medical records, information technology and health financing.

- **Full Paying Patients Services Scheme**

  The implementation of Full Paying Patient Service Scheme was continued in 2 hospitals, which are Hospital Selayang and Hospital Putrajaya, since August 2008 till December 2010. A total of 1,176 new patients joined this scheme; with a range of 11 - 103 new patients joining the scheme

every month. This represents an increment of 43% compared to 2009. Both hospitals showed the highest number in the Outpatient Services (76.35%), followed by Inpatient Services (19.86%), and Daycare Services (3.79%). Obstetrics & Gynaecology, General Surgery and Ophthalmology are the top three disciplines with the highest number of patient in this scheme.

This scheme's total revenue from the two hospitals in 2010 amounted to RM 3,202,631.03. Apportionment of the revenue to 83 specialists involved amounted to 64.84%, or RM 1,948,482.20. The mean income per doctor-month joining the scheme is RM 2,453.00.

- **Medical Records**

The centralisation of medical records using the 'one patient one folder' concept was further strengthened within the existing limited spaces. Approximately 208,800 medical report applications were received in 2010. To enhance service delivery to the public, the period to produce medical reports had been shortened to four weeks and two weeks in the State Hospitals and Specialist Hospitals respectively; in which 65% of State Hospitals, 71% of Specialist Hospitals, and 96.5% of Non-specialist Hospitals adhered to the timeline.

- **Information Technology**

MoH has embarked on Information Technology (IT) as an enabling tool in delivering services in the MoH hospitals since 2000. In 2010, there were three groups of Hospital Information System (HIS) functioning in government hospitals. Altogether, there were 15 MoH hospitals with HIS by end of 2010 and 3 more under development. The way forward for MoH Hospitals in IT is to enhance the SPP module to be on par with a full-fledged HIS and rebranding it as HIS@KKM.

a) Group 1: Package-1 HIS

This HIS group, pioneered in Hospital Selayang since 2000, was evaluated to be in need of physical infrastructure replacement and technology enhancement. This high-end technology and proprietary application cost the government a substantial amount to maintain, besides the constraints in the technical manpower. An agreement of the hardware and software upgrading was agreed and currently implemented in phases over a period of 3 years from 8th July 2010 until 7th July 2013. Server upgrading in Hospital Putrajaya was done in 2008 while software upgrading, inclusive of the Picture Archiving Communication Systems (PACS), was still in progress in 2010.

b) Group 2: Sistem Pengurusan Pesakit (SPP)

The homegrown SPP, implemented in 2008 in Hospital Tuanku Ja'afar (Seremban) and Hospital Port Dickson, was further upgraded to Version 2.5 which used the Open Source platform in late 2009. In 2010, Hospital Raja Permaisuri Bainun (Ipoh) became the third government hospital to implement SPP, using Version 2.5 at the time of implementation. The outpatient modules of Version 2.5 were also installed at Hospital Kuala Lumpur, Hospital Tengku Ampuan Rahimah (Klang) and Hospital Kajang under the SPP-eKL project for the online appointment scheduling. Further enhancement of application to Version 2.6 was seen in 5 hospitals by the end of 2010; Hospital Tuanku Ja'afar (Seremban), Hospital Port Dickson, Hospital Kuala Lumpur, Hospital Tengku Ampuan Rahimah (Klang) and Hospital Kajang. Subsequent collaboration between MoH and the Multimedia Development Corporation (MDec) saw the SPP upgraded further to Version 3.0, where the development phase was completed at the end of 2010.

c) Group 3: HISPRO HIS Project

The Project kicked-off in 2009 and was at the implementation phase for all three hospitals in 2010. The three hospitals were Hospital Sultanah Nur Zahirah, Kuala Terengganu (HSNZ),

Hospital Sultan Haji Ahmad Shah, Temerloh (HOSHAS) and Hospital Bintulu. The expected completion date for the application development by January 2011 was not met in all the 3 hospitals due to reasons, from both the contractors and the government.

HOSHAS underwent a major event in July 2010, when Microsoft made a worldwide announcement of a change in their marketing strategy by not further enhancing their HIS Amalga module. Months were taken to further negotiate a substitute product and was finally announced in December 2010 to be FiCiSien, a locally developed product, which is also the application being implemented in HSNZ. HSNZ also had her own share of internal problems when their pharmacy modules were developed very late, and even certain pharmaceutical sub-modules were not able to be tackled.

Hospital Bintulu also faced a tough period in 2010 when the Blood Bank Information System (BBIS) application did not comply with user requirements in terms of patient and blood product safety. In the end, the BBIS module from PDN was applied, customised, and enhanced to Hospital Bintulu's specifications. Despite the setbacks, Hospital Bintulu's HIS which was developed by a local-based company, was evaluated to be on the right track in the integration and interoperability aspect. It should not be a surprise if in the near future; Hospital Bintulu's HIS module being the best in integration and interoperability among MoH Hospitals.

- **Case-Mix System**

The Case-Mix System application was developed by an appointed contractor, Formis Network Services Sdn. Bhd. (FORMIS) which was commissioned by MoH for a contract period of two years. Contract document was signed on August 25th, 2010 with a contract value of RM 3,447,778.80. Four softwares that were developed for the Case-Mix System application are Assistance Coding Tool, Core Grouping, Clinical Costing and Data Analysis/Business Intelligence. The first phase of implementation of the Case-Mix system involves only the Inpatient Services, which was started on May 5th, 2011 at six MoH hospitals; Hospital Kuala Lumpur, Hospital Tengku Ampuan Rahimah (Klang), Hospital Tuanku Ja'afar (Seremban), Hospital Serdang, Hospital Kajang and Hospital Tanjung Karang.

Activities in developing the system application started with the Kick-off Meeting on May 4th, 2010. Subsequently, series of User Requirement Studies (URS) were held with several groups of users that include the Hospital Management staff, Medical Record Officers, Accountants, and Information Technology Officer from May 11th to August 27th, 2010. The User Acceptance Test (UAT) was conducted among Medical Record and Finance Division personnel from the Headquarters, State Health Departments and those hospitals involved in the implementation in October 2010. On November 8th, 2010, the Provisional Acceptance Test (PAT) was initiated by using the actual collected patient data for one year. Data entry into Case-mix System will be done by the Medical Record Officers from the hospitals involved. All information collected were then sent to the Hospital Management Services Unit of the Medical Development Division, which overlooks the whole Case-Mix System implementation and development.

Two major components of the Case-mix System are; i) Clinical Patient Information and ii) Financial Information. For the clinical component, the accuracy of the documentation of the Principal Diagnosis, Secondary Diagnoses, Principal Procedure and Secondary Procedures by the Medical Officers are extremely important and should be addressed. The next task is to ensure the codes for both diagnosis and procedures are recorded, based on ICD10 and ICD9-CM respectively. This task is performed by each Hospital's Medical Record Department personnel. To ensure the implementation of the Case-mix System running smoothly, series of training were conducted to the Specialists, Paramedics and Administrative Officer (Medical Record) in 2010, in terms of data entry.

TABLE 1
MINISTRY OF HEALTH SPECIALIST HOSPITALS AND INSTITUTIONS, BY TYPE

Specialist Hospitals and Institutions			
HKL + State Hospitals (14)	**Major Specialist Hospitals (21)**	**Minor Specialist Hospitals (20)**	**Special Medical Institutions (6+1)**
1. Hospital Kuala Lumpur	1. Hospital Putrajaya	1. Hospital Labuan	1. Institut Perubatan Respiratori, Kuala Lumpur
2. Hospital Tengku Fauziah, Kangar	2. Hospital Sultan Abdul Halim, Sungai Petani	2. Hospital Langkawi	2. *Pusat Darah Negara, Kuala Lumpur
3. Hospital Sultanah Bahiyah, Alor Setar	3. Hospital Seberang Jaya	3. Hospital Kulim	3. Pusat Kawalan Kusta Negara, Sungai Buloh
4. Hospital Pulau Pinang	4. Hospital Taiping	4. Hospital Kepala Batas	4. Hospital Bahagia, Ulu Kinta
5. Hospital Raja Permaisuri Bainun, Ipoh	5. Hospital Teluk Intan	5. Hospital Bukit Mertajam	5. Hospital Permai, Johor Bahru
6. Hospital Tengku Ampuan Rahimah, Klang	6. Hospital Sungai Buloh	6. Hospital Sri Manjung	6. Hospital Mesra, Kota Kinabalu
7. Hospital Tuanku Jaafar, Seremban	7. Hospital Ampang	7. Hospital Slim River	7. Hospital Sentosa, Kuching
8. Hospital Melaka	8. Hospital Selayang	8. Hospital Banting	
9. Hospital Sultanah Aminah, Johor Bahru	9. Hospital Serdang	9. Hospital Port Dickson	
10. Hospital Tengku Ampuan Afzan, Kuantan	10. Hospital Kajang	10. Hospital Segamat	
11. Hospital Sultanah Nur Zahirah, Kuala Terengganu	11. Hospital Tuanku Ampuan Najihah, Kuala Pilah	11. Hospital Kluang	
12. Hospital Raja Perempuan Zainab II, Kota Bharu	12. Hospital Muar	12. Hospital Kuala Lipis	
13. Hospital Umum Kuching	13. Hospital Sultan Ismail, Pandan	13. Hospital Tanah Merah	
14. Hospital Queen Elizabeth, Kota Kinabalu	14. Hospital Batu Pahat	14. Hospital Kapit	
	15. Hospital Sultan Haji Ahmad Shah, Temerloh	15. Hospital Bintulu	
	16. Hospital Kemaman	16. Hospital Sarikei	
	17. Hospital Kuala Krai	17. Hospital Sri Aman	
	18. Hospital Sibu	18. Hospital Lahad Datu	
	19. Hospital Miri	19. Hospital Keningau	
	20. Hospital Duchess of Kent, Sandakan	20. Hospital Wanita dan Kanak-Kanak, Likas	
	21. Hospital Tawau		

**Pusat Darah Negara, unlike other facilities, had no inpatient beds*

Source: Medical Development Division, MoH

TABLE 2
MINISTRY OF HEALTH NON-SPECIALIST HOSPITALS

Non-Specialist Hospitals (76)			
Kedah	**Negeri Sembilan**	**Kelantan**	**Sabah**
• Hospital Baling • Hospital Jitra • Hospital Kuala Nerang • Hospital Sik • Hospital Yan	• Hospital Jelebu • Hospital Jempol • Hospital Tampin	• Hospital Gua Musang • Hospital Jeli • Hospital Machang • Hospital Pasir Mas • Hospital Tengku Anis, Pasir Puteh • Hospital Tumpat	• Hospital Beaufort • Hospital Beluran • Hospital Kinabatangan • Hospital Kota Belud • Hospital Kota Marudu • Hospital Kuala Penyu • Hospital Kudat • Hospital Kunak • Hospital Papar • Hospital Pitas • Hospital Ranau • Hospital Semporna • Hospital Sipitang • Hospital Tambunan • Hospital Tenom •*Hospital Tuaran
Pulau Pinang	**Melaka**	**Sarawak**	
• Hospital Balik Pulau • Hospital Sungai Bakap	• Hospital Alor Gajah • Hospital Jasin	• Hospital Bau • Hospital Betong • Hospital Daro • Hospital Dalat • Hospital Kanowit • Hospital Lawas • Hospital Limbang • Hospital Lundu • Hospital Marudi • Hospital Mukah • Hospital Rajah Charles Brooke Memorial, Kuching • Hospital Saratok • Hospital Serian • Hospital Simunjan	
Perak	**Johor**		
• Hospital Batu Gajah • Hospital Changkat Melintang • Hospital Grik • Hospital Kampar • Hospital Kuala Kangsar • Hospital Parit Buntar • Hospital Selama • Hospital Sungai Siput • Hospital Tapah	• Hospital Kota Tinggi • Hospital Mersing • Hospital Pontian • Hospital Tangkak • Hospital Temenggong Sri Maharaja Tun Ibrahim, Kulai		
Selangor	**Pahang**		
• Hospital Kuala Kubu Baru • Hospital Tanjung Karang • Hospital Tengku Ampuan Jemaah, Sabak Bernam	• Hospital Bentong • Hospital Jengka • Hospital Jerantut • Hospital Muadzam Shah • Hospital Pekan • Hospital Raub • Hospital Sultanah Hajjah Kalsom, Cameron Highlands		
	Terengganu		
	• Hospital Besut • Hospital Dungun • Hospital Hulu Terengganu • Hospital Setiu		

**Hospital Tuaran, unlike other hospitals, had no inpatient beds*
Source: Medical Development Division, MoH and State Health Departments

Starting July 2010, Clinical Audit was also conducted to ensure the accuracy of the documentation of Principal Diagnosis, Secondary Diagnosis and the related codes for the hospitals involved. The accuracy for both diagnosis and codes are very essential in ensuring the right fund is allocated for treating such cases, and hence budget allocation the departments and hospital involved. The system was planned to be rolled-out to other hospitals in stages in the 10th Malaysia Plan.

- **Facility Development**

MoH hospitals are functionally classified into five types of hospitals; State Hospitals (including HKL), Major Specialist Hospitals, Minor Specialist Hospitals, Non-Specialist Hospitals and Special Medical Institutions. The classifications are based on the workload, number of inpatient beds and scope of services rendered; and it allows medical services development to be structured and planned properly. There are 131 hospitals, six medical institutions and one National Blood Bank in 2010 (Table 1 and 2). The total inpatient beds of MoH hospitals had slightly decreased by 0.4% (37,903 beds) in 2010 as compared to 2009 (38,057 beds). This was partly due to initiatives like the introduction of daycare services and downsizing of the Psychiatric Institutions with strengthening of community psychiatric services. Hospital admission also increased by 0.71% compared to 2009. Bed occupancy rate for 2010 was 66.26% (Table 3).

Currently, 4 new hospitals and 3 replacement facilities (2 hospitals and 1 Special Medical Institution) are being constructed. The new hospitals are the Cheras Rehabilitation Hospital, Hospital Rompin, Hospital Bera, and Hospital Alor Gajah. Meanwhile, the replacement hospitals and institution are Hospital Permai, Hospital Kluang, and Hospital Tampin.

A total of ten new and replacement hospitals were also being planned in 2010, which are Hospital Dungun, Hospital Parit Buntar, Hospital Kemaman, Hospital Kampar, Hospital Sri Iskandar, Hospital Pendang, Hospital Kuala Selangor, Women and Child Hospital (Kuala Lumpur), National Cancer Institute (Putrajaya), and Hospital Sri Aman. By end of 2010, MOH had obtained a two-year lease on the Sarawak International Medical Center, a facility owned by the Sarawak government and renamed it as the Pusat Jantung Hospital Umum Sarawak, in an effort to reduce the congestion and to improve quality of services at Hospital Umum Sarawak.

In line with efforts to increase ambulatory care services so as to reduce demand for hospitalization, hospital congestion and hospital cost, a total of 5 hospitals have established dedicated ambulatory care centers in 2010 which are HSNZ, Hospital Tengku Ampuan Rahimah (Klang), Hospital Tengku Ampuan Afzan (Kuantan), Hospital Raja Permaisuri Bainun (Ipoh) and Hospital Pulau Pinang. There were two other hospitals, namely more are being constructed at Raja Perempuan Zainab II Hospital (Kota Bharu) and Kuala Lumpur Hospital, which are currently constructing their respective dedicated ambulatory care centre. To improve daycare services, a Post Occupancy Evaluation (POE) was done at HSNZ together with the Planning and Development Division. Several matters were highlighted during the POE; includes the placement of specialist offices within the specialist office complex, the practice of shared common clinics and staff facilities, and optimization of clinic facilities utillisation.

TABLE 3
NUMBER OF INPATIENT BEDS, BED OCCUPANCY RATE AND TOTAL ADMISSION TO MOH HOSPITALS AND INSTITUTION, 2007 – 2010

Subject	2007	2008	2009	2010
Bed Number (Hospital and Institution)	37,149	37,836	38,057	37,903
Bed Occupancy Rate (%)	64.23	65.46	65.45	66.26
Total Admission	1,964,903	2,072,633	2,115,617	2,130,563
Total Population	27,173,600*	27,730,000*	28,306,700*	28,250,500* 28,334,100**

Note:
** Based on the Population and Housing Census of Malaysia 2000, adjusted for under enumeration*
*** Based on the Population and Housing Census of Malaysia 2010.*
Sources: Health Informatics Centre, MoH and Department of Statistics, Malaysia

Medical Services

Medical Services are the medical-based specialist services, namely General Medicine, Dermatology, Respiratory Medicine, Psychiatry, Nephrology, Neurology, Radiotherapy and Oncology, Cardiology, Gastroenterology, Haematology, Hepatology, Endocrinology, Rheumatology, Infectious Diseases, Palliative Medicine and Geriatrics.

The total number of patients treated at specialist clinics of various medical disciplines increased by 6.63 % in 2010 as compared to 2009. Attendances at all clinics showed an increase with the most noticeable being in Radiotherapy and Oncology. Table 4 shows the total number of patients who received outpatient treatment at specialist clinics of the various medical disciplines in 2009 and 2010.

TABLE 4
TOTAL NUMBER OF PATIENTS WHO RECEIVED TREATMENT AT MEDICAL SPECIALIST CLINICS BY DISCIPLINE, 2009 - 2010

Discipline	No. of patients at specialist clinics		% +/- difference between 2009 and 2010
	2009	2010	
General Medicine	863,618	871,729	+ 0.94
Dermatology	262,231	271,511	+ 3.54
Respiratory Medicine	241,416	284,831	+ 17.98
Psychiatry	412,013	448,563	+ 8.87
Nephrology	212,460	226,849	+ 6.77
Neurology	29,807	32,156	+ 7.88
Radiotherapy & Oncology	47,047	66,467	+ 41.28
Cardiology	101,979	112,495	+ 10.31

Source: Health Informatics Centre, MoH

Table 5 shows the total number of patients from various medical disciplines treated as inpatients. Inpatients increased for most of the medical specialties with the exception of Respiratory Medicine, Psychiatry and Radiotherapy and Oncology. An increase in inpatients was most prominent for the discipline of Infectious Diseases.

TABLE 5
TOTAL ADMISSIONS FOR THE SPECIALIST MEDICAL DISCIPLINES, 2009 - 2010

Discipline	2009	2010	% +/- difference between 2009 and 2010
General Medicine	500,387	509,220	1.77
Dermatology	960	1,060	10.42
Respiratory Medicine	8,350	7,840	-6.11
Psychiatry	19,222	17,996	-6.38
Nephrology	11,215	11,771	4.96
Neurology	4,213	4,414	4.77
Radiotherapy & Oncology	13,773	11,574	-15.97
Cardiology	11,866	12,683	6.89
Infectious Diseases	4,594	5,426	18.11
Hepatology	N/A	N/A	-

** Does not include figures from Hospital Umum Sarawak, Kuching*
Source: Health Informatics Centre, MoH

In June 2010, The Mental Health Act 2001 came into force. As required under Section 3 of the Act, all hospitals with psychiatrists were gazetted. Medical Directors and Deputy Medical Directors of psychiatric hospitals and Heads of the Psychiatry Department were directly appointed by MoH as required under Section 5 of the Act. The Director-General of Health gave the authority to psychiatrists in various hospitals to be able to order the transfer of involuntary patients to other psychiatric hospitals in accordance with Section 19 of the Act. MoH also designated the four psychiatric hospitals as approved psychiatric hospitals for the purposes of the admission and detention of persons under certain sections of the Criminal Procedure Code as stated under Section 22 of the Act.

The Nephrology Services Operational Policy was prepared and published in 2010, setting the standards for nephrology services in MoH. Haemodialysis services in Hospital Jempol were also started in December 2010.

As part of MoH's efforts to improve management of patients with cancer, an amount of RM 73,900,000 was allocated for cancer drugs and RM 547,500 for equipment required for the treatment of cancer. The Palliative Care Services Operational Policy was also published in 2010 to serve as a guide for those who are pioneering and working towards developing palliative care services. Palliative Care Services, as provided by trained Palliative Medicine Physicians, were started in Hospital Pulau Pinang and Hospital Raja Permaisuri Bainun (Ipoh).

In November 2010, a dengue clinical management update was held to update clinicians in the dengue management. Those who had undergone training were then in turn meant to train other healthcare workers in their respective states. This was conducted as part of efforts to further improve dengue management in hospitals and to reduce dengue mortality.

Obstetrics & Gynaecology (O&G) Services

The O&G Services contributes towards the improvement of pregnant mothers' access to healthcare, with the availability of general and specialist O&G Services (Reproductive Medicine, Maternal Fetal Medicine, Gynae-oncology and Uro-gynaecology), and the provision of emergency obstetric care through a system of rapid, efficient referrals in managing high risk and complicated deliveries. In general, public hospitals account for 77.7% of all deliveries in Malaysia.

In 2010, there were 372,612 deliveries, with 77.4% normal deliveries and 22.6% complicated deliveries. Table 6 showed a reduction in normal deliveries for 2010 as compared to 2009, by about 2.81%. Compared to 2009, 6 states have shown to have the highest number of normal deliveries; Sabah (+10.77%), followed by Terengganu (+4.90%), Johor (+3.35%), Pahang (+2.64%), Selangor (+2.12) and Kelantan (+0.80%) respectively. Sabah has the highest number in normal deliveries (42,667), with Wilayah Persekutuan Labuan having the least number of normal deliveries (1,267).

There was also an increase in the percentage of complicated deliveries for 2010 when compared to 2009 by 0.65% even though there were eight states had decreases in the number of complicated deliveries. However, 3 states showed a remarkable reduction in the number of complicated deliveries; namely Sarawak, Terengganu and Putrajaya. Sabah was noted to have the highest percentage of complicated deliveries with 44.92%, followed by Labuan (13.2%) and Kuala Lumpur (8.85%). In term of numbers, Selangor showed the highest number of complicated deliveries with 15,042 followed by Sabah (10,418) and Johor (10,259). In summary, the total number of normal deliveries appeared to be decreasing in 2010 when compared to the previous year but the number of complicated deliveries appeared to have an increasing trend from 2008 to 2010.

The Standard Operational Policies (SOP) for the O&G Services was published in July 2010. An allocation of RM 8.5 million was approved for upgrading and replacement of old and beyond economic repair (BER) equipments in the O&G wards throughout the country. To improve the emergency obstetric care for the medical officers and nurses, another RM 893,100 was approved for purchasing mannequins and other equipments for Obstetric Life Saving Skills Training Programme in 6 regional hospitals with RM 23,000 distributed to each zone, which involved Hospital Tengku Ampuan Rahimah (Klang), Hospital Tengku Ampuan Afzan (Kuantan), Hospital Pulau Pinang, Hospital Sultanah Aminah (Johor Bahru), Hospital Umum Sarawak and Hospital Wanita dan Kanak-Kanak (Likas). Another milestone has been achieved for the Maternal Fetal Medicine subspeciality where Hospital Raja Perempuan Bainun (Ipoh) has successfully conducted 15 laser photocoagulation therapies for twin-to-twin transfusion syndrome (TTTS) since 24th November 2009. The perinatal outcome with fetoscopic laser photocoagulation in the hospital is comparable to other laser photocoagulation centres overseas with 75% success rate for 2 fetus live birth and 78% success rate for single fetus live birth. Under the Reproductive medicine subspeciality, the Technical Accreditation Subcommittee for ART (a subcommittee under the National Committee of ART) has made progress in the final preparation of the guidelines for the 'Standards for Assisted Reproductive Technology (ART) Laboratories and Operation Theatre' on the minimum standards required for clinical and laboratory practice which is due for publishing in 2011.

Paediatric Services

Emphases on improving services were given to upgrade pediatric services, in specific subspeciality areas for 2010. RM 8.5 million was allocated for genetic services in June 2010 to the Paediatric Institute of Hospital Kuala Lumpur for life-saving drugs. This allocation was approved through a memorandum cabinet paper for Enzyme Replacement Therapy for the treatment of Lysosomal Storage Disorder Diseases. For the Paediatric Cardiology subspecialty, this service was established in Hospital Serdang as a referral centre since September 2010, with the intention of reducing the waiting time for Paediatric Cardiology cases in the National Heart Institute (Insititut Jantung Negara, IJN). RM 2.2 million was allocated for this purpose. Ward 6D and 5 Paediatric CCU beds in Hospital

Serdang have been allocated for paediatric patients suffering from heart disease, whilst the Paediatric Cardiology clinic was conducted twice a week by a Paediatric Cardiologist. In 2010, one case of PDA ligation was successfully operated in Hospital Serdang.

An allocation of RM 21,695,360 was given in stages for the purchase of assets and monitoring equipments for Paediatric Departments in all MoH hospitals. Under the Paediatric Haematology subspeciality, special emphasis was given to promote awareness among the medical personnel on the haematopoietic and cord blood stem cell transplant for hematology disorders. The third, fourth and fifth road-shows in stem cell seminars was successfully conducted in Hospital Pulau Pinang, Hospital Umum Sarawak dan Hospital Raja Perempuan Zainab II (Kota Bharu). An average of 150 - 180 participants from all categories attended the roadshow, with 5 - 25 % from the private sector who were involved in the stem cell industry. Paediatric Emergencies skill training was conducted for the first time in Malaysia by 6 consultants from the United Kingdom and Australia. This Advanced Paediatric Life Support (APLS) course was successfully held at Hospital Sultanah Bahiyah (Alor Setar) on 4-14 October 2010, attended by 24 Paediatricians. The objective of this course was to enhance the knowledge and skills of medical officers and specialists in treating paediatric patients in either medical or surgical cases, and to improve the processes and skills assessment, diagnosis and medical management required for ill patients, in the hope of reducing the morbidity and mortality of these patients.

Table 7 showed that the total number of paediatric inpatients had decreased by 1.25% in 2010. 9 states showed a reduction in admitted patients in 2010 except for Selangor, Kedah, Johor, Pulau Pinang, Sabah, Negeri Sembilan and Pahang. These states (with the exception of Sabah) were also noted to have an increasing trend of inpatients for the last 3 years. Pulau Pinang recorded the highest number of inpatients whilst Sarawak had shown a remarkable reduction in the inpatient counts. Three states were found to have more than 100% Bed Occupancy Rate (BOR) for three consecutive years; FT Putrajaya, Perlis and Melaka. This might explain the reduced number of admissions to the paediatric wards for these states in 2010 as compared to 2009.

TABLE 6
PERCENTAGE DIFFERENCE FOR NORMAL AND COMPLICATED DELIVERIES, 2008 - 2010

State	No. of Normal Deliveries			% +/- Differences		No. of Complicated Deliveries			% +/- Differences	
	2008	2009	2010	2008/2009	2009/2010	2008	2009	2010	2008/2009	2009/2010
Perlis	3,477	3,353	2,887	- 3.57	-13.90	1,092	1,116	1,062	+2.20	-4.84
Kedah	21,874	22,106	21,747	+1.06	-1.62	6,994	7,465	7,778	+6.73	+4.19
Pulau Pinang	11,350	11,020	9,873	- 2.91	-10.41	3,272	3,641	3,901	+11.28	+7.14
Perak	21,924	21,948	21,454	+0.11	-2.25	8,436	8,219	8,230	-2.57	+0.13
Selangor	38,206	40,337	41,193	+5.58	+2.12	13,114	14,744	15,042	+12.42	+2.02
FT KL	8,628	8,678	7,880	+0.58	+0.58	4,150	3,708	4,036	-10.65	+8.85
FT Putrajaya	4,074	3,654	3,381	- 10.31	-9.20	1,702	2,157	2,048	+26.73	-5.05
FT Labuan	1,255	1,276	1,267	+1.67	-0.09	221	250	283	+13.12	+13.2
N. Sembilan	10,496	10,272	10,134	-2.13	-1.34	3,187	3,304	3,171	+3.67	-4.03
Melaka	8,344	8,207	7,975	-1.64	-2.83	2,590	2,666	2,611	+2.93	-2.06
Johor	35,015	36,187	34,852	+3.35	+3.35	10,481	10,612	10,259	+1.25	-3.33
Pahang	17,246	17,237	17,692	-0.05	+2.64	4,400	5,101	5,545	+15.93	+8.70
Terengganu	15,849	17,032	17,866	+7.46	+4.90	3,047	3,091	2,630	+1.44	-14.91
Kelantan	22,216	22,051	22,227	-0.74	+0.80	3,384	3,541	3,446	+4.38	-2.68
Sabah	40,379	42,677	47,272	+5.69	+10.77	6,687	7,341	10,418	+9.78	+41.92
Sarawak	30,902	30,714	20,713	-0.61	-32.56	6,184	6,699	3,739	+8.33	-44.19
Total	**291,235**	**296,749**	**288,413**	**+1.89**	**-2.81**	**78,941**	**83,655**	**84,199**	**+5.97**	**+0.65**

(Examples of complicated deliveries: Caesarian, Forceps, Vacuum, etc)

Source: Health Informatics Centre, MoH

TABLE 7
TOTAL NUMBER OF PAEDIATRIC INPATIENTS AND BOR, BY STATE, 2008 - 2010

State	Total No. of Inpatients			% +/- Differences		Bed Occupancy Rate (BOR), %		
	2008	2009	2010	2008/2009	2009/2010	2008	2009	2010
Perlis	5,692	6,094	5,786	+7.06	-5.05	115.90	117.39	109.47
Kedah	31,862	37,559	39,492	+17.88	+5.15	82.57	88.25	84.42
Pulau Pinang	20,116	21,034	22,366	+4.56	+6.33	76.03	74.03	80.60
Perak	27,768	28,931	28,101	+4.19	-2.87	53.73	57.66	56.91
Selangor	34,813	40,026	41,326	+14.97	+3.25	75.12	77.55	80.38
FT KL	24,573	26,096	25,237	+6.20	-3.29	81.74	82.32	85.20
FT Putrajaya	3,404	3,447	3,336	+1.26	-3.22	119.27	123.41	118.10
FT Labuan	982	721	689	-26.58	-4.44	59.35	44.97	35.73
N. Sembilan	15,764	16,242	16,665	+3.03	+2.60	70.11	68.31	76.31
Melaka	12,355	13,979	13,334	+13.14	-4.61	104.73	108.92	101.69
Johor	28,100	29,139	30,561	+3.70	+4.88	56.01	58.02	58.54
Pahang	14,526	15,863	16,222	+9.20	+2.26	71.13	69.32	68.35
Terengganu	13,439	15,723	15,447	+17.00	-1.76	65.53	75.47	65.07
Kelantan	17,127	17,127	16,768	0.00	-2.10	70.29	68.88	71.59
Sabah	21,245	19,842	20,868	-6.60	+5.17	63.28	57.83	58.25
Sarawak	27,223	31,651	23,225	+16.27	-26.62	53.67	58.60	51.90
Total	**298,989**	**323,474**	**319,423**	**+ 8.20**	**-1.25**			

Source: Health Informatics Centre, MoH

Surgical Services

The Surgical (Specialty) Services include General Surgery, Orthopaedics, Ophthalmology, Otorhinolaringology, Urology, Neurosurgery, Plastic Surgery, Cardiothoracic Surgery and other various subspecialties. General Surgery and Orthopedic Services are available in almost all hospitals with specialists. Certain surgical specialties e.g. Ophthalmology, and subspecialties e.g. Vascular Surgery provide networking services. The outpatient attendances to surgical (specialty) clinics shown in Table 8 indicated an increase in the number of patients except for the Cardiothoracic Surgery discipline.

TABLE 8
NUMBER OF OUTPATIENTS AT SURGICAL (SPECIALTY) CLINICS, 2009 – 2010

Disciplines	Number of Outpatients		Percentage (%) ± difference between 2009/2010
	2009	2010	
General Surgery	569,504	594,159	+ 4.3
Orthopaedic	723,929	770,150	+ 6.4
Opthalmology	717,390	749,994	+ 4.6
Otorhinolaringology	399,672	422,638	+ 5.8
Urology	96,809	106,002	+ 9.5
Neurosurgery	29,930	31,634	+ 5.7
Cardiothoracic Surgery	15,933	12,206	- 23.4
Plastic Surgery	39,047	41,135	+ 5.4
Hand & Microsurgery	6,270	8,383	+ 33.7
Hepatopancreaticobiliary	NA	NA	-
Total	**2,598,484**	**2,736,301**	**+ 5.3**

NA = Data not available
Source: Health Informatics Centre, MoH

The numbers of inpatients in all surgical (specialty) wards are as shown in Table 10. Just as outpatient attendance, there was an overall increment in admission in 2010 as compared to 2009. The core activity of all the surgical specialties were operations performed as shown in Table 9. Overall, there was an increment in number of operation performed from 2008 to 2010 in both elective and emergency operation.

TABLE 9
NUMBER OF ELECTIVE AND EMERGENCY OPERATION PERFORMED, 2008 - 2010

Disciplines	Number of Operation Performed					
	Elective			Emergency		
	2008	2009	2010	2008	2009	2010
General Surgery	81,693	97,013	82,550	212,950	219,145	209,975
Orthopaedic	61,464	65,569	68,232	182,269	201,836	213,197
Opthalmology	38,177	42,594	45,383	6,766	6,876	7,476
Otorhinolaringology	29,540	27,784	32,555	10,205	12,108	12,578
Urology	17,693	17,067	15,876	4,975	6,106	5,076
Neurosurgery	1,488	1,943	1,386	6,993	7,058	7,717
Cardiothoracic Surgery	1,239	1,295	1,147	335	367	462
Plastic Surgery	5,679	6,172	5,458	3,951	3,329	3,213
Others	NA	32,568	32,431	NA	34,928	44,080
Total	**236,973**	**332,318**	**323,520**	**428,444**	**579,045**	**589,736**

NA = Data not available
Source: Health Informatics Centre, MoH

The Paediatric Cardiothoracic Surgery Program, a joint effort by MoH, the Narayana Hrudayalaya Hospital of Bangalore, and The Medi Assist4U Clinic (for sending stable congenital heart disease patients who are poor and have to wait long for surgery to be operated at Narayana Hospital at a discounted price using the Medical Aid Fund) continued in 2010 and a second term agreement was approved until 2012. Since the first batch of patients which was sent to the hospital in July 2008, as of 31st December 2010, 152 patients have benefitted from this program with good operative result (followed up by MoH Paediatric Cardiologists). A new Cardiothoracic Centre was established for the state of Sabah in the Hospital Queen Elizabeth II (purchased and renamed from Sabah Medical Centre by MoH) in Oktober 2010.

In order to increase the standard of management for trauma cases in MoH hospitals, ATLS Courses (owned by the American College of Surgeon) were successfully brought to Malaysia; i) the Inaugural ATLS Course was successfully conducted on 18-23 January 2010 (2 courses; ATLS Provider on 18-20 January, followed by ATLS Instructor Course on 22-23 January), finally putting Malaysia in world ATLS Map; ii) Four ATLS Provider Courses and one ATLS Instructor Courses were subsequently conducted by local instructor that altogether trained 66 surgeons, orthopaedic surgeons and emergency physicians as provider for Malaysia and also trained 9 local instructors (for further program continuity).

The Cochlear Implant Program was started following the Dasar Baru 2008/2009 approval and received its first patient in December 2008. In 2010, another 25 patients has undergone treatment under this program, making it a total of 62 patients since its initiation. Elective surgeries were performed on Saturdays since February 2008 as a measure to reduce operation waiting time, and were a very important milestone for Surgical (Specialty) Services and Anaesthetic Services, which is in compliance with the Director-General's circular. In 2010, 3,250 elective operations were performed on Saturdays in 31 hospitals with high operative workload, a marked increase from 2009.

TABLE 10
NUMBER OF BEDS, INPATIENT AND BED OCCUPANCY RATE OF SURGICAL (SPECIALTY) WARD, 2008 – 2010

Discipline	Number of Beds			Number of Inpatients			Percentage (%) ± Inpatient Difference Between		Bed Occupancy Rate (BOR), %		
	2008	2009	2010	2008	2009	2010	2008/2009	2008/2010	2008	2009	2010
General Surgery	3,848	3,823	3,802	238,002	234,402	233,993	- 1.51	- 0.17	68.29	58.46	69.00
Orthopaedic	2,819	2,794	2,763	125,841	123,555	122,736	- 1.82	- 0.66	68.29	68.21	69.00
Opthalmology	677	660	638	34,224	35,530	37,562	+ 3.82	+ 5.72	45.87	45.88	47.85
Otorhinolaryngology	384	392	362	15,472	16,082	16,011	+ 3.94	-0.44	49.57	49.32	49.47
Urology	234	222	203	9,377	9,183	9,700	- 2.07	+5.63	57.84	69.80	67.26
Neurosurgery	286	272	247	6,992	6,801	6,249	- 2.73	- 8.12	62.28	62.86	68.50
Cardiothoracic	68	68	60	750	959	892	+ 27.87	-6.99	41.37	69.74	55.69
Plastic Surgery	159	141	122	3,482	2,972	2,433	- 14.65	- 18.14	47.77	50.72	48.56
Hand & Microsurgery	18	18	18	470	463	580	- 1.49	+25.27	42.36	40.14	40.68
Hepatopancreaticobiliary	34	n/a	64	1,482	n/a	3,032	n/a	n/a	81.22	n/a	70.06
Total	**8,527**	**8,390**	**8,279**	**436,092**	**429,947**	**433,188**	**- 1.41**	**+ 0.75**			

Source: Health Informatics Centre, MoH

Hospital Selayang's Surgical Team performed 22 General Surgery operations in Hospital Beaufort to help reduce the waiting time for elective surgery in Hospital Queen Elizabeth (Kota Kinabalu) following problems with the main block of Hospital Queen Elizabeth. 82 cataract cases were operated in Hospital Likas by the Hospital Tuanku Jaafar's Ophthalmology team. The Neurosurgery Service was extended to Hospital Tengku Ampuan Afzan (Kuantan) in collaboration with neurosurgeons from the International Islamic University, under supervision by MoH's neurosurgeons. The management of operating theatre and operating rooms in MoH was also strengthened following an appointment and training of Operating Theatre (OT) Managers in MoH hospitals. The Urology Services in Hospital Raja Perempuan Zainab II (Kota Bharu) and Hospital Tengku Ampuan Afzan were provided extra consumables fund following assets allocation in 2009.

Anaesthesiology Services

Anesthesiology Services consisted of Anaesthetic Operation Theatre Service, Intensive Care Service and Pain Service. In 2010, there were 79 MoH hospitals providing Anaesthesiology Services with 47 having resident specialists with similar number of hospitals having such service in 2009. For the rest of the hospitals, the services were given by anesthetic medical officers, visiting specialists. For 28 district hospitals in East Malaysia, services were given by trained assistant medical officers.

Workload for the Anesthesiology Services in 2008-2009 is depicted in Table 11. The number of anaestetic given, inclusive of all modalities, showed an increasing trend. This is also seen in attendances at anaesthetic clinic and chronic pain clinic, and intensive care unit admissions.

For the Intensive Care Service, there were 46 general intensive care units with 486 beds in 2010. The Anesthesiology and Intensive Care services received a further boost as RM 5 million of asset funds was provided by the government to upgrade the intensive care services in Hospital Kuala Lumpur.

TABLE 11
WORKLOAD FOR THE ANAESTHESIOLOGY SERVICES IN 2009 – 2010

Items	2009	2010
Number of Anesthetic Administered	308,391	319.628
Number of Attendance at Anaesthetic Clinic	48,491	52,880
Number of ICU Admissions	24,901	30,089
Number of Attendance at Chronic Pain Clinic	4,622	6,281

Source: Anesthesiology Census 2009 and 2010, MoH

Emergency Services

Emergency Services is growing steadily with the increasing number of emergency physicians. Currently there are 71 of them in the state hospitals and several major specialist hospitals. Under the 10th Malaysia Plan, MoH aims to have emergency physicians deployed in all specialist hospitals.

The number of patients who received services from Emergency Department has slightly decreased. There were 6,157,140 patients who sought medical treatment at the departments in 2010 compared to 6,745,721 in 2009 (decrease of 8.7%). Table 12 states the number of cases seen in the Emergency Department and pre-hospital care services in the country.

There were 71 gazetted Emergency Physicians in the country as compared to 54 physicians last year. The Universiti Sains Malaysia has been offering Masters in Emergency Medicine since 2002. Beginning from June 2009, Emergency Physician candidates from the University Malaya and the Universiti Kebangsaan Malaysia has graduated and entered service.

TABLE 12
TOTAL CASES FOR EMERGENCY SERVICES IN 2010

State	Emergency Services					
	Emergency & Trauma Department*		Pre-Hospital Care**			No. of Emergency Physician
	No. of cases seen	% of cases seen	Emergency Calls	Interfacility Transfer	Medical Standby	
Perlis	75,471	1.11	2,919	501	120	3
Kedah	540,883	7.98	15,406	14,943	271	4
Pulau Pinang	418,126	6.17	18,031	11,323	97	5
Perak	693,620	10.24	25,190	17,371	412	4
Selangor	919,186	13.57	32,502	19,205	482	17
Federal Territories	411,276	6.07	14,007	2,035	186	11
N. Sembilan	302,567	4.47	8,956	9,085	242	3
Melaka	208,489	3.08	9,238	4,397	200	3
Johor	786,242	11.60	19,561	14,254	437	5
Pahang	404,221	5.97	10,735	11,800	353	3
Terengganu	257,850	3.81	7,616	7,551	118	3
Kelantan	370,342	5.47	5,656	13,001	217	2
Sabah	867,150	12.80	13,169	15,699	800	4
Sarawak	520,289	7.68	10,728	2035	186	4
Total	**6,775,712**	**100**	**193,714**	**148,301**	**4,234**	**71**

*Sources: *Health Informatics Centre, MoH and **Medical Development Division, MoH*

Under the Pre-Hospital Care, MERS (Medical Emergency Response System) 999 project was launched on 1st October 2007 to coordinate emergency calls and improve emergency services in Malaysia. Coordination is very important in order to achieve targeted response time of 15-30 minutes. A total of 25 hospitals have been identified as hubs for the Medical Emergency Coordinating Centre (MECC) throughout the country. The seven centers in the Klang Valley area were equipped with software application CAD (Computer Added Dispatch) and GIS (Geographical Information System). The CAD is also equipped with the Pro QA (Professional Question & Answer) software whereby this software is being used by paramedic to triage the call and guide paramedic to give medical directive to the caller. It is a question and answer protocol that is supplied by IAED (International Academy Emergency Dispatch). Translation process to the Malay Language by DSC (Dispatch Steering Committee) had already been completed and installed in the MERS 999 software. Integration of Pro QA and CAD

system was done on February 2010. The other 18 MECC was provided with 4 key phone lines for the purpose of Pre-Hospital Care Services. The similar system at 7 MECC in the Klang Valley is expected to be expanded to Melaka and Johor. This system will improve interagency and intra-MoH coordination. Cooperation with the Civil Defense and NGO's such as the Red Crescent and the St. John's Ambulance has been established since 2007. Each MECC in the country has demarcated the areas of coverage of each ambulance provider in the respective zones.

MoH is also one of the agencies in the Government Integrated Radio Network (GIRN) project coordinated by the National Security Council. About 1,700 mobile radio units were distributed in stages to hospitals and clinics throughout the country, since July 2009. This project has further enhanced the pre-hospital services.

Transplantation Services

MoH has developed and published the National Organ Tissue and Cell Transplantation Policy in the year 2007. Subsequent to the publication of the Policy, the Ministry has strategized the implementation of National Transplantation Programme into 5 main thrusts to spearhead the development in the long term period. The thrusts are:

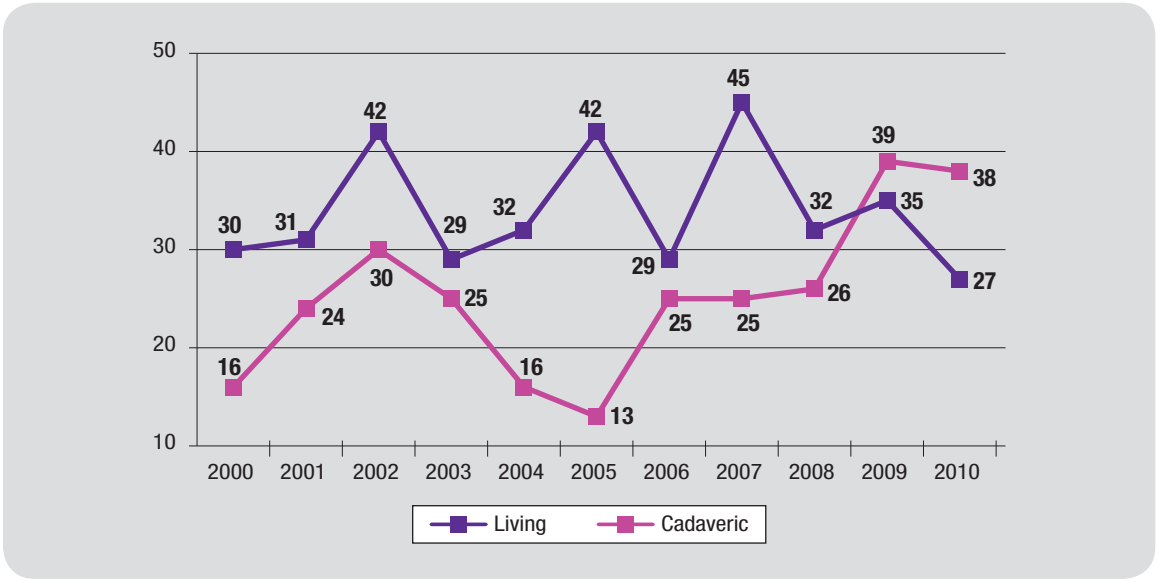
a) Thrust 1: to increase the organ and tissue donation through enhancement of organ and tissue procurement service and public education initiatives
b) Thrust 2: to strengthen the organizational structure
c) Thrust 3: to strengthen the existing transplantation services including the kidney, liver, heart, lungs, bone marrow and hematopoietic stem cell; and tissue transplantation
d) Thrust 4: to support the development of laboratory and other clinical support services for transplantation
e) Thrust 5: to strengthen the ethical and legislative framework

Since the National Policy was published, the number of cadaveric donor has slightly increased. In 2010, our country recorded 38 cadaveric donors in which 18 of them were organ donors. The number of cadaveric donor is relatively low when compared to the organ demands. For instance, prevalence of dialysis has increased to 22,932 in 2010 as compared to 7,837 patients in the 2001. It was estimated about half of patients of dialysis were eligible for transplant. As reported by the Global Observatory on Donation and Transplantation, World Health Organization 2010, Malaysia's decease organ donation rate is 0.636 donations per million populations.

As of 31st December 2010, a total of 151,525 Malaysians have pledged their organs and tissues to be donated after death. This number represented 0.54% of the total Malaysian population. Most pledgers are from the Chinese ethnic group (56.26%), followed by Indian (24.29%), Malay (16.67%) and others (2.79%).

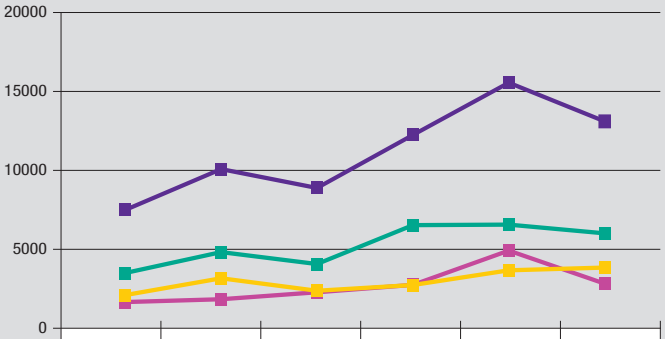
The first National Organ Donation Awareness Week was held on 16-24 October 2010, officiated by the Health Minister of Malaysia. MoH has also established collaboration with Post Malaysia in promoting organ donation. Nineteen post offices across the country provided access to their customers to obtain organ donation registration forms and pamphlets. In January 2010, the Civil Service Department had granted unrecorded leave for up to 42 days for civil servants who have donated their organs. The policy was initiated and proposed by MoH to ease and facilitate recovery of donors after the donation process

FIGURE 1
NUMBER OF ORGAN/TISSUE DONORS, 2000 - 2010



Source: National Transplant Resource Centre, Hospital Kuala Lumpur

FIGURE 2
NUMBER OF ORGAN/TISSUE DONOR PLEDGERS IN MALAYSIA, BY RACE, 2005 - 2010



	2000	2002	2004	2006	2008	2009
Total	7,492	10,081	8,885	12,242	15,554	13,104
Chinese	3,499	4,822	4,067	6,531	6,563	6,011
Indian	2,100	3,165	2,374	2,738	3,669	3,843
Malay	1,658	1,837	2,279	2,747	4,919	2,824

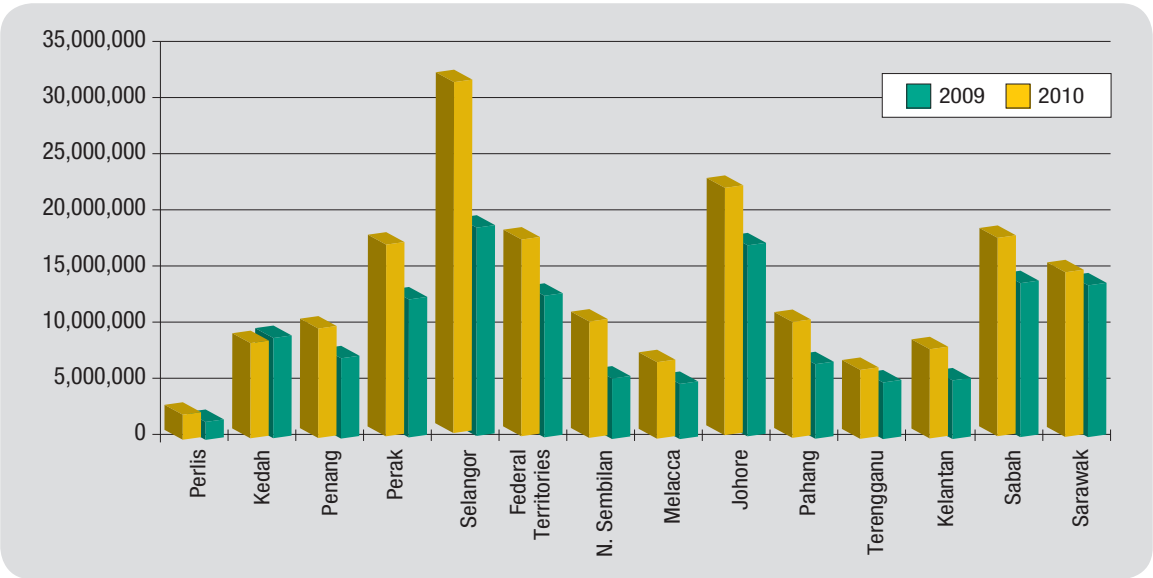
Source: National Transplant Resource Centre, Hospital Kuala Lumpur

Pathology Services

Pathology Services play an important role in patient management as well as in public health, through the efficient, accurate and comprehensive clinical laboratory services. Pathology service is provided in all MoH hospitals, health clinics, Institute for Medical Research (IMR) and Public Health Laboratories (PHL). The scope of service includes all disciplines of clinical diagnostic tests i.e. Chemical Pathology, Haematology, Medical Microbiology, Immunology, Histopathology and Cytology. The number of disciplines and clinical diagnostic tests offered by each clinical laboratory depends on the medical specialties and extent of the medical service available in the hospital where the laboratory is located.

In 2010, 343 different tests were offered by the Pathology service and a total of 189,859,062 tests were conducted. This was a 37.1% increase from 2009. Of the total tests conducted, 69.5% were conducted in hospital laboratories and 30.5% in the Health Centres. Selangor had the highest workload where the clinical laboratories had performed 32,563,980 tests (Figure 3).

FIGURE 3
NUMBER OF DIAGNOSTIC TESTS PERFORMED BY PATHOLOGY LABORATORIES BY STATE, 2009 - 2010



Source: National Advisor, Pathology Services, MoH

IMR, being the referral laboratory for MoH, provides specialized and referral diagnostic tests and tests that were not done in other laboratories. In 2010, IMR provided 206 different tests conducted by 14 different unit/laboratories. There were 19 new tests introduced in the field of Autoimmune Disease, Primary Immunodeficiency, diagnosis of human Brucellosis and genetic diseases. A total of 304,486 tests were performed in 2010 compared to 339,934 in 2009 (Table 13). A large proportion of test conducted in 2009 was for confirmation of the H1N1 diagnosis.

Many laboratories had developed their own quality management systems and some had applied for accreditation including Hospital Raja Perempuan Zainab II, Hospital Tengku Ampuan Afzan and Hospital Pulau Pinang. As part of the process of obtaining accreditation, staffs were given opportunities to attend various courses to enhance competency, capability and productivity.

TABLE 13
SPECIALISED AND REFERRAL TESTS CONDUCTED BY IMR, 2010

No.	Field of Tests	No. of Tests Performed
1.	Allergy and immunology tests	65,931
2.	Human leukocyte antigen (HLA) typing	7,272
3.	DNA analysis of alpha-globin gene	7,350
4.	Haemoglobin analysis	2,051
5.	Array comparative genomic hybridization (CGH) analysis	100
6.	Leukaemia translocation analysis	110
7.	Bone marrow cytogenetic analysis	4,006
8.	Histopatholgical examination	7,515
9.	Endocrinology tests	15,108
10.	Nutrition related tests	9,094
11.	Toxicology and pharmacology tests	3,003
12.	Bacteriology and mycology tests	40,953
13.	Parasitology tests	1,615
14.	Virology tests	80,481
15.	Molecular genetics tests	20,178
16.	Abnormal proteins analysis	16,632
17.	Biochemistry and biochemical genetics tests	23,087
TOTAL		**304,486**

Source: National Advisor, Pathology Services, MoH

National Blood Transfusion Service

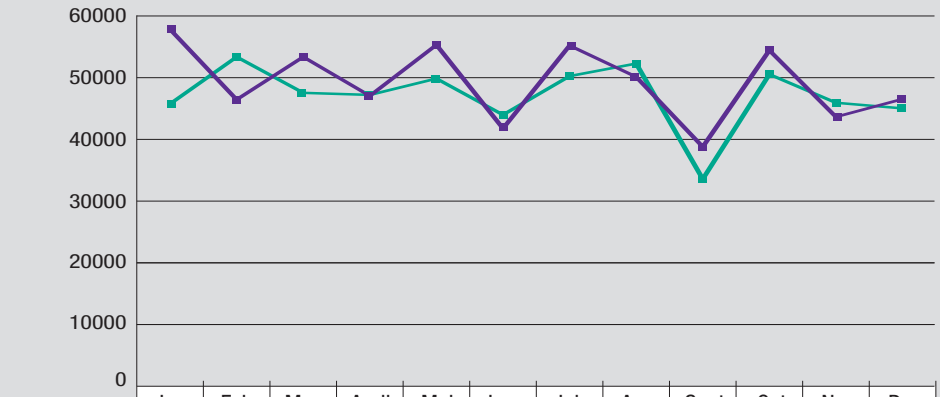
Blood Transfusion Service (BTS) is an integral and indispensable part of the healthcare system in the country. Its objective is to ensure safe, adequate, equitable and efficient supply of blood and blood products to meet the healthcare needs of the nation. The service is being coordinated by the National Blood Centre, (Pusat Darah Negara, PDN) with its main role in planning and developing blood transfusion services in the country. It also operates as the referral centre for the country as well as a regional centre for the Federal Territories, Selangor, Negeri Sembilan and the western region of Pahang.

The main responsibility of BTS includes procurement of sufficient blood and blood components from voluntary blood donors, clinical transfusion services, haemophilia care, screening donated blood and blood components for transfusion transmissible pathogens viruses (HIV, HBV, HCV and Syphilis), preparation of various components from donated blood, immunohaematology and pre-transfusion testing, blood inventory management, quality assurance and public health education. Specialized services such as Public Cord Blood Banking, Histocompatibility & Immunogenetics, and Plasma Fractionation are provided only by the National Blood Centre.

Each year the requirement for blood and blood components are steadily increasing, which is reflected

in the amount of blood collected and the number of new donation registered over the past two years (Figure 4, Table 14, and Figure 5).

FIGURE 4
NUMBER OF MONTHLY DONATION, 2009 & 2010



	Jan	Feb	Mac	April	Mei	June	July	Aug	Sept	Oct	Nov	Dec
2010	57830	46444	53366	47053	55316	41771	55208	50127	38793	54430	43646	46533
2009	45748	53666	47542	47207	49854	43975	50255	52287	33570	50540	45937	45023

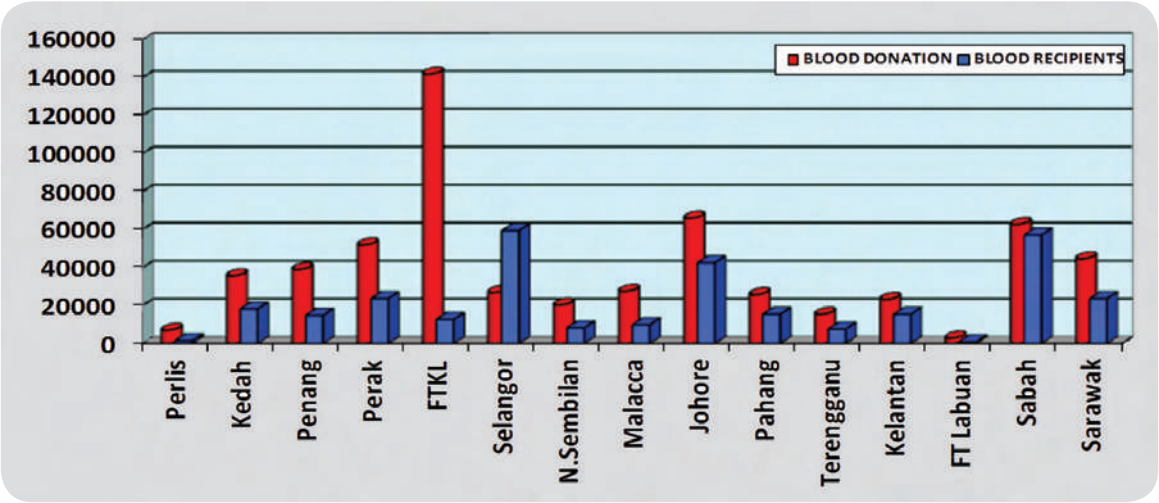
Source: National Blood Centre, MoH

TABLE 14
ACHIEVEMENT IN BLOOD TRANSFUSION SERVICES IN 2009-2010

ACTIVITY	2009	2010
Blood Collected At Centre/Blood Bank	126,416	133,949
Blood Collected At Mobile	439,188	456,568
Total	**565,604**	**590,517**
New Donation	215,628	225,465
Regular Donation	349,947	365,029
Blood And Blood Product Recipient	317,003	315,235

Source: Health Informatics Centre, MoH

FIGURE 5
TOTAL UNITS OF BLOOD DONATED AND RECIPIENTS BY STATES IN 2010



Source: National Blood Centre, MoH

The donated blood was processed and separated into different components such as packed red blood cells, leucocyte poor red blood cells, platelet concentrates, fresh frozen plasma, saline washed red blood cells, filtered red blood cells, cryoprecipitate, and cryosupernatant which were used for more effective management of various disorders. The donated plasma was also sent to the Commonwealth Serum Laboratories (CSL) fractionation plant in Australia to be further fractionated into Factor VIII, Factor IX, Albumin and Immunoglobulin. Over the years, the quantity of products received from the National Fractionation Program has been steadily increasing as shown in Table 15.

TABLE 15
AMOUNT OF PLASMA SENT TO CSL AND AMOUNT OF PLASMA FRACTIONATED PRODUCTS RECEIVED, 2009 & 2010

Years	TotaL Plasma Sent (Kg)	Fractionated Products Received (Quantity (Vial)			
		20% NSA (Albumin)	Prothrombinex	Intragam (IVIG)	Factor VIII Concentrate
2009	26,130	28,634	10,572	49,564	13,303
2010	26,540	6,772	0	16,835	0

Source: National Blood Centre, MoH

Future plans for the National BTS include consolidating the service by establishing new regional and blood screening centers, improving the safety of blood and blood components by expanding the availability of Nucleic Acid Testing (NAT) and improving the quality of the service by rolling out the Blood Bank Information System (BBIS) to all the blood banks in the country.

Forensic Medicine Services

The Forensic Medicine Services provided by MoH has been enhanced gradually and effectively throughout the years. The services which are headed by Forensic Medicine Specialists cover three areas of specialty, namely:

a) Forensic Pathology - management of deceased and investigation into cause of death
b) Clinical Forensic Medicine - medical examination of violence and assaulted living victims; and those involved in police cases
c) Medicolegal Practice - involving aspects of law and ethics in medicine

From 2009, the workload of the Forensic Medicine Services mainly focused on 4 categories: death ward cases, autopsy cases, clinical forensic cases, as well as referrals from district hospitals or performing crime scene investigation and reconstruction (Table 16).

With the availability of a CT-Scan Assisted Autopsy Facility in the Forensic Medicine Department of Hospital Kuala Lumpur since June 2010, a total of 576 medico-legal cases underwent CT-Scan assessment prior to undergoing the conventional post mortem.

The National Suicide Registry of Malaysia was set up with the cooperation of the Psychiatric Services. The objective was to have a database on the suicide cases and subsequently to have a dedicated program inclusive of the preventive strategies and actions to overcome the issues.

The Forensic Medicine Service is unique and challenging, which also need to comply with the laws and regulations of the country. With the more complex deaths due to various causes and found in various circumstances, Forensic Medicine Service has to be on par with the development of an up-to-date sophisticated technology in helping the court bring justice to the people. The planning of a National Forensic Medicine Institute is very timely and will help Malaysia to become one of the Forensic Medicine Centre of Excellence in the world.

TABLE 16
WORKLOAD OF FORENSIC SERVICES BY STATE, 2010

State	Ward Cases	Post Mortem	Clinical Forensic	Referral Case	Total
Federal Territories	2,161	565	39	70	2,835
Selangor	7,947	2,362	104	60	10,473
Negeri Sembilan	3,149	746	37	12	3,944
Melaka	1,926	469	0	20	2,145
Johor	7,423	1,979	0	6	9,408
Pahang	3,614	730	453	91	4,888
Terengganu	2,183	460	138	26	2,807
Kelantan	2,656	452	0	0	3,108
Perlis	717	144	0	8	869
Pulau Pinang	4,275	1,223	0	63	5,561
Kedah	4,055	970	1	24	5,050
Perak	7,878	1,769	11	1	9,659
Sarawak	3,287	268	45	0	3,600
Sabah	4,940	546	7	53	5,546
Total	**56,211**	**12,683**	**835**	**384**	**70,113**

Note: Referral case = Crime scene investigation and post mortem at districts hospitals
Source: National Advisor, Forensic Medicine Services, MoH

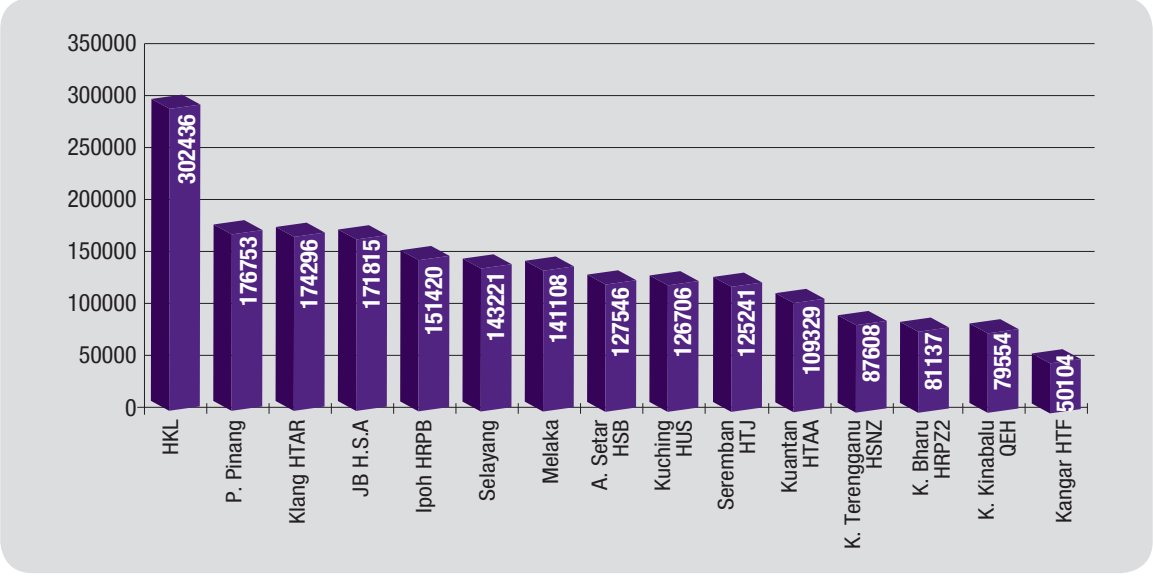
Diagnostic Imaging (Radiology) Service

Radiology Service is provided in all MoH hospitals and most of the health clinics. The services provided ranged from special radiological examinations and general radiography in the tertiary and larger hospitals to basic radiographic examination in smaller hospitals and health clinics. Medical diagnostic imaging is, without a doubt, an integral part of patient management.

There has been a tremendous increase in the demand for diagnostic imaging and interventional radiological services over the last few years. General radiography forms the bulk of the workload, in terms of numbers. Specialized, more labor intensive examinations like CT, ultrasound and MRI are beginning to bloom at a phenomenal growth rate. This was one of the bottle-neck areas in the patient management chain. Besides these, mammography services were now available at all the larger hospitals while angiography services were now provided in 6 hospitals. Advanced-level Interventional Radiology (IR) services are currently provided in Hospital Kuala Lumpur and Hospital Pulau Pinang by specially trained radiologists. Intermediate-level IR Services are also provided at Hospital Selayang, Hospital Sungai Buloh, Hospital Sultanah Aminah and Hospital Umum Sarawak. Neuro-IR service was started in Hospital Pulau Pinang Hospital since 2009 spearheaded by a trained resident radiologist. Basic IR services are provided at all hospitals with radiologists.

The career development of staff was also taken seriously. Training through CPD programs were organized for all categories of staff, and numerous post-basic courses were introduced to the Allied Health Personnel. Staffs were also encouraged to involve themselves in research activities. Teleconsultation Services were now in place at selected hospitals, and particularly active in Sabah and Sarawak, via the TPC initiative. The numbers of radiological examinations done in 15 states hospitals throughout 2010 are as shown in Figure 6.

FIGURE 6
THE NUMBER OF RADIOLOGICAL EXAMINATIONS IN 15 STATE HOSPITALS, 2010



Source: National Advisor, Diagnostic Imaging Services, MoH

The future objectives and activities of Radiology Services are to increase the quality and quantity of services, so as to meet the needs and demands of other healthcare providers and the public. Strengthening and expanding the scope of teleradiology services are also in plans to allow the expertise reaching out to a wider area within the country. Radiology Services also plan to participate actively in the government initiative of in sourcing of Radiology Telereporting Services as one of the Entry Point Project (EPP) under the National Key Economic Areas (NKEA). The pilot project involved sending selected radiology images from Hospital Kuala Lumpur and Hospital Selayang to the Diagnostic Services Nexus (DSN) Centre located at the University Malaya Specialists Centre (UMSC).

Nuclear Medicine Services

Nuclear Medicine is fast becoming one of the most important diagnostic services available in this country. The main characteristic of this service is the use of radioactive substances both for diagnostic and therapeutic purposes. Nuclear Medicine was first introduced in this country in 1964 where services were provided by a special unit under the purview of the Radiotherapy Department of Hospital Kuala Lumpur. It was later expanded to include Hospital Pulau Pinang in 1995 and Hospital Sultanah Aminah in 1997. The service was provided later in Hospital Putrajaya in 2004.

The main objective of the Nuclear Medicine Service is to provide high quality service to all patients for both diagnostic and therapeutic purposes. The Nuclear Medicine Service aims to continuously improve its services by keeping up with the latest advancements and future applications in this field. It is made up of three main components:

a) Clinical component - diagnostic, therapeutic and interventional (main activities).
b) Radiopharmaceutical component - supporting activities by radio pharmacist.
c) Nuclear physics component - supporting activities by nuclear physicist.

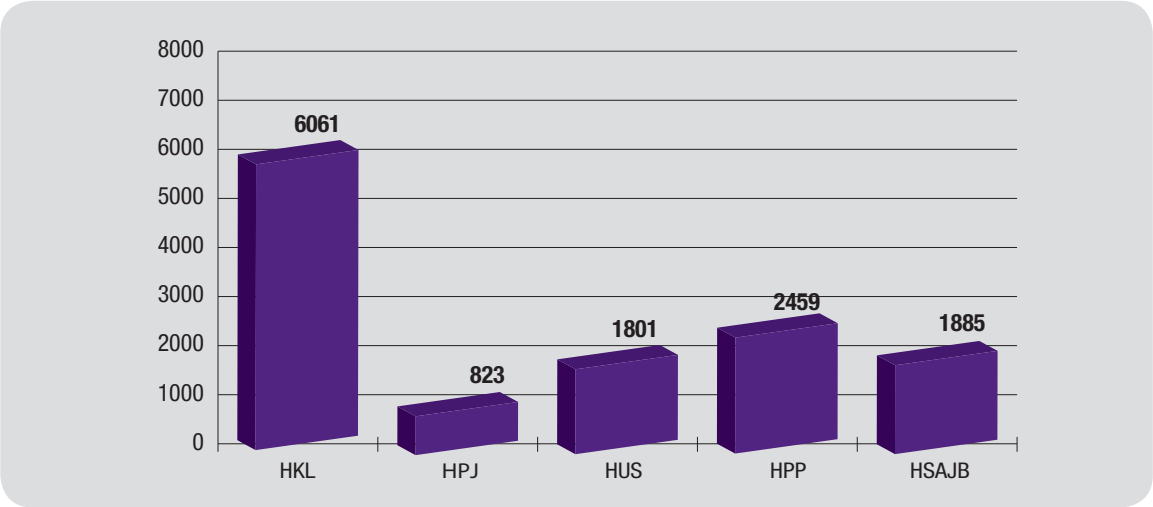
Activities of the clinical component are mainly concerning referrals from other departments and prescribing certain forms of therapy including radioiodine ablation therapy. The radiopharmaceutical component is mainly involved in procurement, preparation, quality assurance activities and dispensing radiopharmaceuticals according to various types of scan performed in the nuclear medicine department. While the nuclear physics component mainly revolved around the quality assurance aspect involving various equipments used in the department, and most importantly in radiation protection and safety of the staffs working in the department.

TABLE 17
OVERVIEW OF ALL SERVICES PROVIDED BY THE 5 NUCLEAR MEDICINE CENTERS

Nuclear Medicine Center	Services Provided
Hospital Kuala Lumpur (HKL)	Diagnostic, Therapeutic, Training.
Hospital Umum Sarawak (HUS)	Diagnostic & Therapeutic
Hospital Pulau Pinang (HPP)	Diagnostic, Therapeutic, Research, Training.
Hospital Sultanah Aminah (HSA), Johor Bahru	Diagnostic, Therapeutic, Training.
Hospital Putrajaya (HPJ)	Diagnostic & Training.

Source: National Advisor, Nuclear Medicine Services, MoH

FIGURE 7
THE WORKLOAD OF THE 5 NUCLEAR MEDICINE CENTRES, 2010



Source: National Advisor, Nuclear Medicine Services, MoH

The Nuclear Medicine Services at Hospital Pulau Pinang was able to start the sentinel node lymphoscintigraphy to aid surgeons in identifying the lymph node involved to prevent distant metastases in breast carcinoma. The Radioiodine Ward was finally operational after a one-year delay due to problems with electrical supply. In Hospital Kuala Lumpur, there is an ongoing in vivo white cell study using the Scintimun kit to detect inflammations and infections. An alternative therapy of replacing P-32 with Yttrium-90 colloid for radiosynovectomy is currently awaiting approval from MoH's Radiation Protection Committee. Hospital Putrajaya has started to introduce the use of Ga-68 Dotatate for neuroendocrine cases. Hospital Umum Sarawak is introducing new scans including MUGA, Gallium and Sestamibi for the diagnostic component.

With hopes of expanding nuclear medicine services in this country, various activities and advancements have been planned for all five centers under the 10th Malaysian Plan. Table 18 provides an overview of the activities planned by all five centres.

TABLE 18
OVERVIEW OF THE ACTIVITIES PLANNED BY THE FIVE NUCLEAR MEDICINE CENTERS

Nuclear Medicine Centre	Application Under 10th Malaysian Development Plan
Hospital Kuala Lumpur	Upgrading the radioisotope lab in keeping with the *Good Preparation Practice*
Hospital Putrajaya	Production of radiopharmaceuticals other than F18-FDG for PET-CT.
Hospital Umum Sarawak	Radioiodine ablation therapy for papillary thyroid cancer.
Hospital Pulau Pinang	Procurement of SPECT-CT machine.
Hospital Sultanah Aminah	New department building for the Nuclear Medicine Department.

Source: National Advisor, Nuclear Medicine Services, MoH

Rehabilitation Medicine Service

As the country progresses to become a developed nation by 2020 and undergoing major transformation in its public services, improvements in the healthcare industry particularly the public healthcare system has seen the decline in mortality rate and the rise of patients with physical disabilities. This is where the Rehabilitation Medicine Service comes into play by offering specialized inpatient and outpatient services to these patients. This service is delivered by core team members from the Rehabilitation Medicine Unit, the Physiotherapy Unit, the Occupational Therapy Unit, the Speech Therapy Unit and the Rehabilitation Nursing. These core members work symbiotically in providing a comprehensive and effective treatment to enable patients achieving their full potential of recovery.

In line with the population growth of the country which has now reached 28 million, the workload for the Rehabilitation Medicine Unit are also increasing as evidenced in Table 19. Diseases of the affluent such as diabetes, hypertension and coronary heart disease and their complications are increasing in the Malaysian population. The prevalence of traumatic brain injury due to motor vehicle accidents is also seeing a surge of late. In response to inclining workload, two new specialists have been gazetted in 2010 to a total of 20 Rehabilitation Medicine Specialists in MoH.

TABLE 19
WORKLOAD OF THE REHABILITATION MEDICINE CENTRES, 2009 - 2010

Hospital	No. of Specialists		No. of Outpatients		No. of Inpatients	
	2009	2010	2009	2010	2009	2010
Hospital Tuanku Jaafar	5	4	2,023	2,368	321	384
Hospital Kuala Lumpur	3	4	2,721	2,901	601	282
Hospital Sungai Buloh	2	2	1,043	1,182	568	641
Hospital Tengku Ampuan Rahimah	2	2	1,589	2,202	269	331
Hospital Serdang	2	2	3,292	3,768	99	114
Hospital Raja Perempuan Zainab II	1	1	534	670	102	174
Hospital Queen Elizabeth	1	1	175	493	60	129
Hospital Raja Permaisuri Bainun	1	1	332	934	156	289
Hospital Pulau Pinang	1	1	140	978	88	198
Hospital Sultan Ismail	1	2	138	945	33	201
Total	**19**	**20**	**11,987**	**16,441**	**2,297**	**2,743**

Source: National Advisor, Rehabilitation Medicine Service, MoH

The Cardiac Rehabilitation program in Hospital Serdang, started in 2007 (first in the country), was headed by a Rehabilitation Medicine Specialists. To date, about 300 patients have been enrolled in this program since its inception, which is designed to fulfill the need of patients with coronary heart disease manifested as acute myocardial infarction and angina, or following revascularization procedures such as coronary artery bypass surgery (CABG) or percutaneous transluminal coronary angioplasty (PTCA). It is a multidisciplinary effort which includes counseling, health education, exercise training, behavioural training, and secondary prevention measures with the aim to facilitate these patients in their road to recovery and ensure that they are able achieve their optimal physical, psychological and vocational status. At the moment, the program is mainly hospital-based. However, the Cardiac Rehabilitation Team in Hospital Serdang has taken the initiative to extend their service into the community by collaborating with the community health centres last year. This initiative was taken to ensure patients continue to maintain optimum levels of exercise and healthy lifestyle. It is hoped that with this achievement, the reintegration process of these patients back into the community will be enhanced and therefore enable them to preserve, or resume when lost, a place as normal as possible in the life of the community.

Another major event that occurred last year was the audit exercise by the National Audit Department on the Rehabilitation Service activity. The objective of the exercise was to evaluate whether the service is planned, carried out and monitored accordingly. It consist of record audit at the Medical Development Division, the Medical Practice Division and the Finance Division in the MoH HQ as well as physical visit to the Rehabilitation Medicine Department and staff interviews at 6 hospitals and 6 health clinics throughout the country. The hospitals and health clinics visited is as shown in Table 20.

TABLE 20
LIST OF MOH FACILITIES AUDITED BY THE NATIONAL AUDIT DEPARTMENT, 2010

Hospitals	Health Clinics
Hospital Kuala Lumpur	Poliklinik Seri Kembangan, Selangor
Hospital Serdang	Klinik Kesihatan Serendah, Selangor
Hospital Sultanah Bahiyah, Alor Setar	Klinik Kesihatan Pendang, Kedah
Hospital Sungai Buloh	Klinik Kesihatan Padang Besar, Perlis
Hospital Queen Elizabeth, Kota Kinabalu	Klinik Kesihatan Beseri, Perlis
Hospital Tuanku Jaafar, Seremban	Klinik Kesihatan Putatan, Sabah

Source: Audit Report on Management of Activities of Rehabilitation 2010

There were a few deficiencies identified in specific fields such as human resource allocation, asset management and procurement issues which need to be corrected and remedied to ensure the service running smoothly and efficiently. For staff training, Rehabilitation Medicine Department staffs from Hospital Pulau Pinang, Hospital Tengku Ampuan Rahimah, Hospital Tuanku Jaafar and Hospital Kuala Lumpur had the opportunity to do short term attachments in overseas facilities. Each team went for specific training which includes Traumatic Brain Injury rehabilitation, Amputee rehabilitation, Spinal Cord Injury rehabilitation and governance in Rehabilitation Medicine. In addition to that, one Rehabilitation Medicine Specialist was also sent to undergo subspecialty training in Spinal Cord Injury in New Zealand and expected to return by December 2011. The post-basic course in Rehabilitation Nursing which is now in its third year of inception has produced 30 certified paramedics in 2010. With all these efforts, it is hoped that the staffs who have attended the courses will be able to work together as a team and provide the best care for patients.

The future developments in Rehabilitation Medicine services include the operation of the Cheras Rehabilitation Hospital to improve healthcare provision to the disabled patients with the aim to improve quality of life. The facility is expected to be completed by mid-2012. Issues pertaining to the establishment of the Prosthetic and Orthotic Workshops and the drafting of an Advanced Diploma in Neurological Physiotherapy which are currently still at the early stage of planning are hoped to further enhance the visibility and affirmation of the service as one of the vital services in this country.

Physiotherapy Service

Physiotherapy service is moving forward and has shown significant growth and changes ever since its establishment more than 50 years ago. Physiotherapy aims to provide the public with easy access service at all levels of care i.e. primary, secondary and tertiary care for patient/client management, prevention, promotion and wellness program. The restructuring of the Rehabilitation Services, Rehabilitation Medicine, Physiotherapy, Occupational Therapy and Speech Therapy units under the Rehabilitation Medicine Department, was made to carry out delivery of rehabilitation services in a more efficient and organized manner. This restructuring emphasizes the role and function of the physiotherapists in patient care and also to ensure that rehabilitative services by the different units are not duplicated. The physiotherapy profession has greatly contributed to the health care by getting the patients back into the community with improved quality of life (QoL).

Physiotherapists specialize in exercises prescription and movement science and are concerned with the assessment, maintenance and restoration of the physical functions of the body. It is done either in isolation or through an interdisciplinary approach. It also advocates continuous professional development, promote and encourage research based practice in pursuit of excellence in physiotherapy service. With the population growth and the increase in the numbers of non-communicable diseases and their complications, propagated by the advancement in the healthcare industry, the number of patients with the physical disabilities who need physiotherapy intervention in the country is also seeing a surge as evidenced by Table 21 below.

TABLE 21
PHYSIOTHERAPY SERVICE WORKLOAD, 2009 - 2010

	2009	2010
Inpatient		
No of cases	688,653	826,736
No of treatment given	2,655,458	3,335,816
Outpatient		
No of cases	833,761	919,526
No of treatment given	3,272,936	3,799,105

Source: Head of Profession, Physiotherapy Service, MoH

With the increase in the prevalence of traumatic brain injury as a result of motor vehicle and industrial accidents, the need for a more specialized physiotherapy in neurological physiotherapy is warranted more than ever. The physiotherapist needs to have a more in-depth knowledge and skill in this specific area of practice. Using this as the main justification, the drafting of the Advanced Diploma in Neurological Physiotherapy, which is still in the early stage of preparation, it was hoped that it expedite the training of generalist physiotherapist so that they are much more competent, independent and able to provide quality physiotherapy management to neurological patients so that they could achieve the highest possible level of independence in function.

Similarly, many more areas of specialization within the physiotherapy practice need to be developed to ensure effective participation at all levels of care. Developing physiotherapist to become extended scope practitioner in managing musculoskeletal conditions will enable to give added value to patient care resulting in improved health outcomes, more timely care, higher patient satisfaction and lower costs. Musculoskeletal pain syndromes are among the highest seen by doctors and referred for physiotherapy. Another domain of physiotherapy for specialization is in the management of cardio-respiratory condition. All this was due to the changing pace and styles of life. There is an ongoing research into cardio-respiratory conditions that has brought in tremendous amount of updates in physiotherapy management. Hence, greater emphasis needs to be given on continuous professional development program.

Physiotherapy service will continue to grow and expand to fulfill the changing needs of the current and future healthcare system. Through continuing education and developing their own expertise in various clinical areas of practice will enhance participation in the multidisciplinary team composition and management of patient in all other areas of clinical disciplines.

Occupational Therapy Service

Occupational Therapy Service is concerned with the restoration of meaningful and purposeful physical functions following a disabling accidents or sickness. Occupational therapists work with individuals who suffer from a mentally, physically, developmentally, and/or emotionally disabling condition by utilizing treatments that develop, recover, or maintain clients' activities of daily living. The ultimate goal of this is to ensure that the patient will be able to achieve an optimal level of independence, productive and satisfying life. Compared to physiotherapy, occupational therapy focuses more on the finer movements necessary for daily living. The occupational therapist helps clients not only to improve their basic motor functions and reasoning abilities, but also to compensate for permanent loss of function. The scope of service includes clinical specialization and public health services as well as an extended role such as in community-based rehabilitation in psychiatry, SCAN team in the paediatric departments, and management of dyslexia in schools.

The Occupational Therapy Unit is also included in the restructuring of the Rehabilitation Medicine Department together. The reason is in no way to belittle the function of this unit, but to emphasize the importance and significance of the role the occupational therapist, either as an isolated entity or in conjunction with the other unit in the interdisciplinary team. Again, as with the physiotherapists, the population growth and the increase in the numbers of diseases of the affluent such as diabetes, hypertension and coronary heart disease and their complications, propagated by the advancement in the healthcare industry, the number of patients with physical disabilities who need occupational therapy had also increased substantially over the years as evidenced by Table 22. The increase in the prevalence of traumatic brain injury as a result of motor vehicle and industrial accidents also give rise to this surge in the number of patients seen as inpatient and outpatient.

It is hoped that with the medical advancements, especially in the occupational therapy techniques and modalities of treatment, services that can be provided to the public will also grow accordingly. However, this has to go in tandem with improvement in knowledge and hands-on skill of the therapists so that this will complement whatever new technology that is going to be introduced in the service. With this bear in mind, development of more courses or even an advanced diploma for occupational therapist, as what is planned for their physiotherapists counterpart, is hopefully will be in the horizon.

TABLE 22
OCCUPATIONAL THERAPY SERVICE WORKLOAD, 2009 - 2010

	2009	2010
Inpatient		
No of cases	302,188	332,409
No of treatment given	1,513,693	1,676,105
Outpatient		
No of cases	353,676	338,905
No of treatment given	1,218,312	1,350,149

Source: Head of Profession, Occupational Therapy Service, MoH

Speech-Language Therapy Service

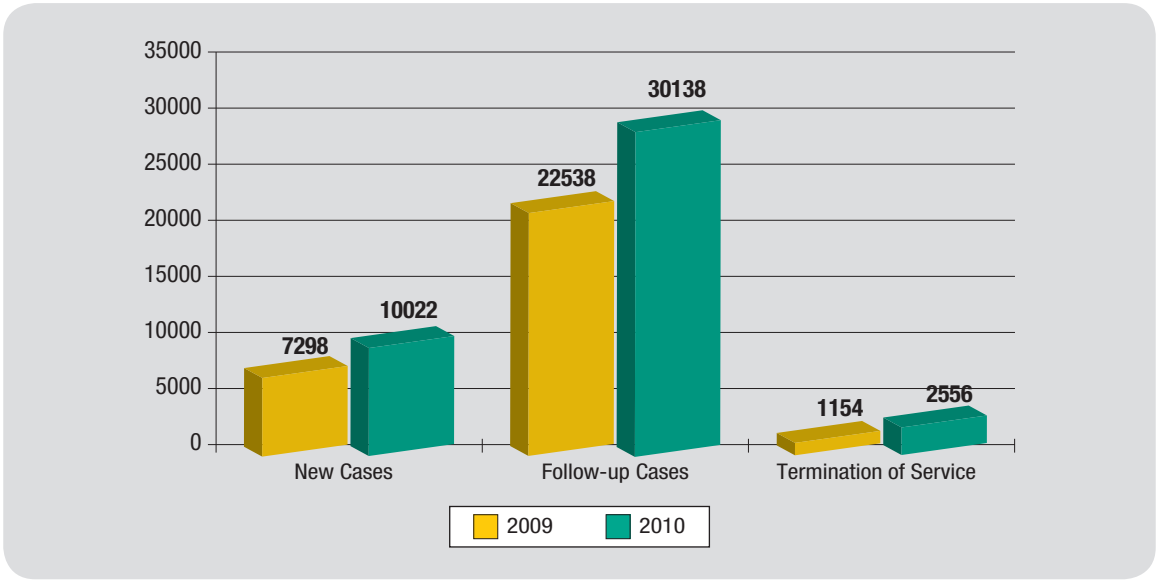
The Speech-Language Therapy Service is a relatively young, yet dynamic and fast growing professional service in the country. Speech-Language Therapists (SLTs) work in many different settings and provide a wide range of services to a large and diverse population. SLTs in Malaysia also face a challenging task in serving a population of diverse ethnic, religious and language backgrounds. The main languages spoken are Malay, Chinese, English, Tamil and indigenous dialects. In view of the large and multicultural population, SLTs have to ensure that assessment and treatment are ethno-culturally sensitive and appropriate. SLT Services are provided for patients with the following disorders:

a) SLD (Speech and Language Disorders)
b) Hearing Impaired (HI)
c) Articulation Disorders
d) Voice Disorders (including Resonance & Fluency Disorder)
e) Acquired Speech-Language Disorders
f) Dysphagia/feeding

In Malaysia, there are currently about 150 SLTs with only 59 of them working in the MOH hospitals. For the year 2010, a total of 31 hospitals provide speech-language therapy service in either the Otorhinolaryngology Department or the Rehabilitation Medicine Department, and 5 hospitals have visiting SLTs. In 2010, 2 new hospitals have started providing the Speech-Language Therapy Service, namely Hospital Duchess of Kent and Hospital Sibu. Although the number of SLTs has reduced, the number of cases has increased in 2010 (10,324 cases). Workload comparisons and the total number of cases seen for the 2009 and 2010 are shown in Figure 8 and 9.

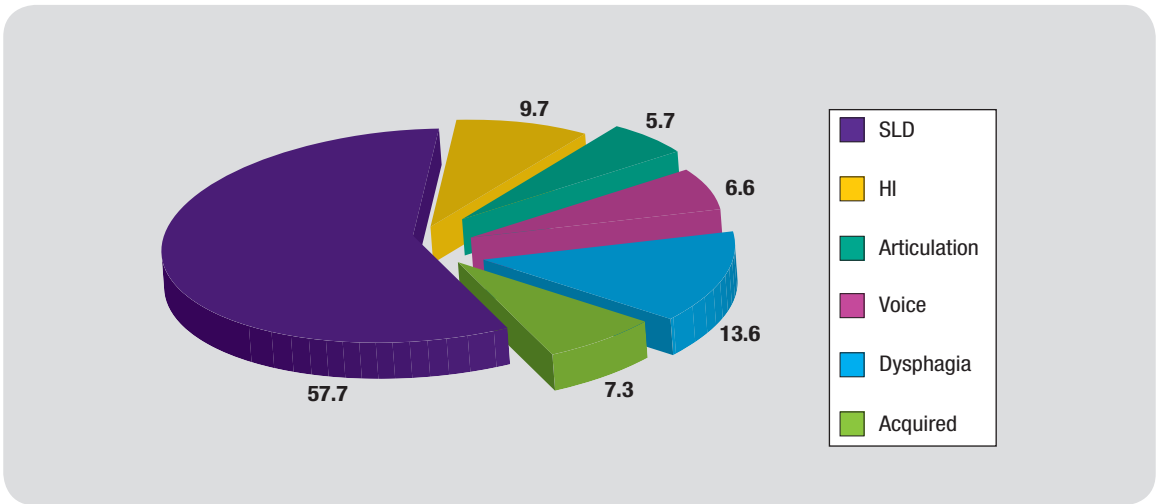
The future plan for Speech-Language Therapy Service includes the development of Speech-Language Therapy sub-specialty services in Voice Rehabilitation, and Augmentative & Alternative Communication. The service also aims to implement early speech-language interventions especially early childhood intervention. To achieve this goal, all 31 hospitals with this service plans to run an awareness campaign in May 2011, in conjunction with the “May: Speech & Hearing Month” which is also celebrated internationally. The objective of this campaign is to increase awareness of the public and the MoH staffs on Speech, Language & Communication Disorders and also the importance of early intervention program. A speech-language screening protocol will also be developed in the near future.

FIGURE 8
SPEECH-LANGUAGE THERAPY SERVICE WORKLOAD, 2009 - 2010



Source: Head of Profession, Speech-Language Therapy Unit, MoH

FIGURE 9
SPEECH-LANGUAGE THERAPY CASES SEEN (%) BY TYPE, 2010



Source: Head of Profession, Speech-Language Therapy Unit, MoH

Dietetic & Catering Service

Food service to patients is a challenge that has to consider several aspects of clinical dietetics treatment as compared to "mass catering" which is available in the industry. Customers (patients) in hospitals have a health problem or disease that requires either a normal diet or therapeutic diet, and there are some patients who need prescription special nutrients individually.

Currently, the service is available in 134 MoH hospitals with the strength of 1781 members. Catering service at seven hospitals has been outsourced since 1999. For 2010, the number of diets available to patients and staffs in MoH hospitals and health institutions is as shown in Table 23. The workload for Dietetic and Catering services throughout the country for 2010 is as shown in Table 24 and 25.

Several accomplishments have been achieved in 2010 for the Dietetic & Catering Services. Achievements for the Dietetic Services were as follows:

a) Re-evaluation of the CPG (Clinical Practice Guidelines) for Dietetic by inserting six new dietary components (Medical Nutrition Therapy).
b) Enforcement of the Dietetics Standard Operating Procedure (SOP) implementation, especially on the use of Dietetic Care Notes.
c) NIA (National Indicator Approach) for Dietetic the "Delay in Respond to Inpatient Referred to Dietician" has reached the prescribed percentage.
    i. Critical Patients: 1.5% (Standard: <5%)
    ii. Non-critical Patients: 2:04% (Standard: <10%)

d) Enhance the Cardiac Rehabilitation Program (CRP) conducted in all hospitals across the country by providing special SOP for the program.
e) Clinical Dietetics and Serving Student placement guidelines in the Ministry of Health
f) Preparing Protocol regarding the "The Role of Dietician in the Management of Patients underwent Bariatric Surgery"
g) Coordinating the activities of Dietetic Officers at some selected health clinics by creating 'Fail Meja' and SOP.

TABLE 23
NUMBER OF MEALS PROVIDED BY THE DIETETICS AND FOOD SERVICES, 2010

STATES	NORMAL DIET			THERAPEUTIC DIET			LIQUID DIET	DK	DM	DR	RH	TOTAL	CM
	K1	K2	K3	K1	K2	K3							
Perlis	2,354	3,666	53,738	2,508	3,376	24,753	115,158	6,188	6,146	12,359	2,725	232,971	66,654
Kedah	10,328	15,800	226,562	15,253	12,688	195,085	20,048	58,701	81,642	76,691	5,845	718,643	198,774
Pulau Pinang	10,849	18,427	248,423	5,759	7,601	147,723	28,038	45,783	63,580	39,336	42,129	657,648	157,046
Kelantan	3,414	5,819	215,476	3,206	7,903	107,329	2,345	32,618	39,710	54,597	56	472,473	143,471
Perak	17,459	36,053	725,553	16,378	25,766	486,508	20,002	71,830	98,554	105,183	88,775	1,692,061	327,231
Selangor	46,516	122,774	944,749	37,618	82,595	522,289	9,539	226,971	257,503	141,048	133,266	2,524,868	270,308
Negeri Sembilan	10,902	11,211	192,067	10,354	4,852	118,144	3,495	30,842	33,531	56,603	36,359	508,360	79,488
Terengganu	6,903	19,676	176,766	4,769	8,875	279,689	10,476	21,924	28,946	39,464	2,423	599,922	120,005
Melaka	10,564	10,882	189,494	5,275	4,159	70,659	1,617	20,366	24,206	48,126	12,515	397,863	85,957
Johor	19,330	93,945	810,472	14,950	66,325	566,760	11,145	141,706	160,588	142,013	20,019	2,047,253	363,999
Pahang	8,229	14,449	289,907	5,306	7,899	183,392	8,796	51,250	63,196	39,557	16,726	688,707	154,157
FT Kuala Lumpur	28,744	78,000	395,225	21,900	25,295	91,250	0	68,000	133,000	149,671	20,250	1,011,335	189,435
FT Putrajaya	34,024	0	0	17,241	0	0	0	6,867	7,640	13,812	8,820	88,404	6,849
FT Labuan	798	0	9,345	607	0	4,496	295	918	1,536	1,536	0	19,531	8,310
Sabah	13,550	2,041	786,232	1,713	227	306,303	43,638	193,266	261,509	71,554	60,095	1,740,128	101,624
Sarawak	3,416	3,474	443,536	2,262	4,202	349,127	5,863	81,661	121,031	76,340	12,577	1,103,489	133,358
TOTAL	**227,380**	**436,217**	**5,707,545**	**165,099**	**261,763**	**3,453,507**	**280,455**	**1,058,891**	**1,382,318**	**1,067,890**	**462,591**	**14,503,656**	**2,406,666**

K1- 1st Class, K2- 2nd Class, K3- 3rd Class, DK- Paediatric Diet, DM- MAC Diet, CM- Night Ration, RH- Daycare
Source: National Advisor, Dietetic and Catering Service, MoH

TABLE 24
TOTAL OUTPATIENT GIVEN DIETETIC COUNSELLING, 2010

Method of Counselling	No. of Patients
Individual Patients	53,648
Grouping	23,848
Total Outpatient Counselled	**77,496**

Source: National Advisor, Dietetic and Catering Services, MoH

TABLE 25
TOTAL INPATIENT REVIEWED BY DIETETICS, 2010

Workload	No. of Patients
Referred patients	88,041
Patients that been seen by dietetics	82,372
% Patients seen from reference	**93.6%**
Follow-up Cases	54,923
% Follow-up Cases	**66.7%**
Total Inpatient Reviewed (Seen & Follow-up)	**137,295**

Source: National Advisor, Dietetic and Catering Services, MoH

Meanwhile, the Catering Services' achievements were:

a) KPI (Key Performance Indicator): The implementation of customer-satisfaction surveys in 2010 has been 87.8% achieved (Standard: ≥80%).
b) HACCP: All states are actively carrying out the implementation of GMP and GMP courses in the state hospitals. At least 60% of the state has set the target of GMP certification in 2013.

The future plans for the Dietetics and Catering Service are to ensure improvements in the area of service which includes creating a therapeutic diet food system by "individual plating" and "improved therapeutic diet" menus, establish an Integrated Training Center in the preparation of patient meals to members who are involved in food handling (including rural community services), and expanding the scope of services serving the hospitality services in the ward, dormitory and cafeteria hospital towards compliance with accreditation standards.

Medical Social Work Service

The Medical Social Work Service was first introduced in Malaysia in 1952 in a few major hospitals in Kuala Lumpur, Pulau Pinang, Sabah and Sarawak. The services provided back then were largely with reference to financial and social support. The Medical Social Work Service is increasingly expanding and its role challenging as well as extensive, and has now been extended to state hospitals, district and health clinics across the country. Presently, the role of Medical Social Work Officers is also required in the healthcare setting because of its focus on promoting health and wellness. The biopsychosocial intervention; a non-clinical approach to optimize the management of patient (client)'s cognitive and social problems. This approach complements patient's care in line with the concept of "Holistic and

Comprehensive Care" (the physical, mental, social, and spiritual aspects of patient care).

Interventions provided by the Medical Social Work Officers, consisted of supportive therapy and practical assistance. Supportive therapy includes crisis intervention, consultation and counseling services to improve client's quality of life and coping skill towards a better understanding of the disease and treatment involved. Practical assistance encompasses assessment towards funding of treatment, institutional placement, discharge planning and networking with government organizations and non-governmental organizations (GO's and NGO's). The Medical Social Work Officers work with inter-disciplinary medical teams to achieve total patient care. In 2010, a total of 173,072 patients were referred, comprising of 70,256 requiring Therapeutic Support and 102,816 Practical Support. The workload for the Medical Social Work Services is as shown in Table 26.

TABLE 26
MEDICAL SOCIAL WORK SERVICE WORKLOAD, 2010

INTERVENTION	INPATIENT	OUTPATIENT	TOTAL
Interview	95,190	77,883	173,073
Multidisciplinary Team Discussion	52,575	45,645	98,220
Ward round	17,872	-	17,872
Networking	54,335	48,800	103,135
Home visit	6,265	4,607	10,872
Socio- economic Assessments	48,062	42,808	90,870
Supportive Therapy	34,438	35,818	70,256
Practical Support	43,455	59,361	102,816
TOTAL	**352,192**	**314,922**	**667,114**

Source: National Advisor, Medical Social Work Services, MoH

The main achievements in 2010 include the compilation of the Standard Operational Procedure (SOP), Key Performance Indicators (KPI), a road show to promote Continuous Professional Development and the launching of the Code of Ethic for Medical Social Work Officers in MoH. In addition, the Association of Medical Social Officers has established a "Tabung Kebajikan Perubatan Malaysia" for needy patients, and is actively involved in community projects such as establishing the "Half-way Homes" for patients requiring long term treatment and the "Nur Hasanah Transit Home" for abandoned patients.

TABLE 27
INTERVENTION GIVEN AND ACTIVITIES BY MEDICAL SOCIAL WORKS SERVICES, 2010

No	Intervention Given	Activities
1	Interview	Interview with patients, caregivers, and family members
2	Multidisciplinary Team Discussion	Discussion with other clinical support group such as nurses, occupational therapy, physiotherapy, speech therapy, dietition, etc. And Discussion with specialist/medical officer (Case Conference, Family Conference, OSCC Team, SCAN Team)
3	Discussion with Client/ Family and Significant Others	Discussion with client, family, and/or significant person (neighbour/community leader/employer/school)
4	Ward Rounds	Individual ward rounds and Medical team ward rounds
5	Net Working	Liaison with Goverment Organizations (GOs) and Non-Goverment Organizations (NGOs) via Oral communication, Telephone/fax /email, Correspondence, and Consultation
6	Home Visit	Individual home visits and Medical team home visits
7	Agency Visits	Agency visits to Employer, NGOs, and GOs 7.1 Home visit
8	Socio- economic Assessments	Preparation of socio-economic report for external agencies and for implant/prothesis
9	Supportive Therapy (Counseling/Guidance)	Provide counseling/guidance for Individual, Family, Group, and Marital
10	Practical Support	Assessment for financial / implant / treatment / equipment / medication which are not subsidized by the government
11	Consultation Services	Provide Consultation Services to Specialist/Medical Officer, Head of Department for Clinician and Supporting Clinician, and Correspondence by email
12	Report Writing	Preparation of biopsychosocial assessment report

Source: National Advisor, Medical Social Work Service, MoH

Central Sterilization Supply Unit (CSSU) Services

The Central Sterile Supply Services (CSSS) is also known as The Central Sterilization Supply Unit (CSSU), which is actually a service within the hospital in which supplies of medical/surgical equipments, both sterile and non sterile are cleaned, prepared, processed, stored, and issued to for usage. Sterile Processing Departments are typically divided into four major zones to accomplish the functions of decontamination, assembly, sterilization, sterile storage and distribution. In the year of 2010 the services expanded tremendously, in fact few hospitals had received new equipments such as Autoclave machine, washer disinfector for replacement. List of hospitals that received the new equipments are as shown in Table 28.

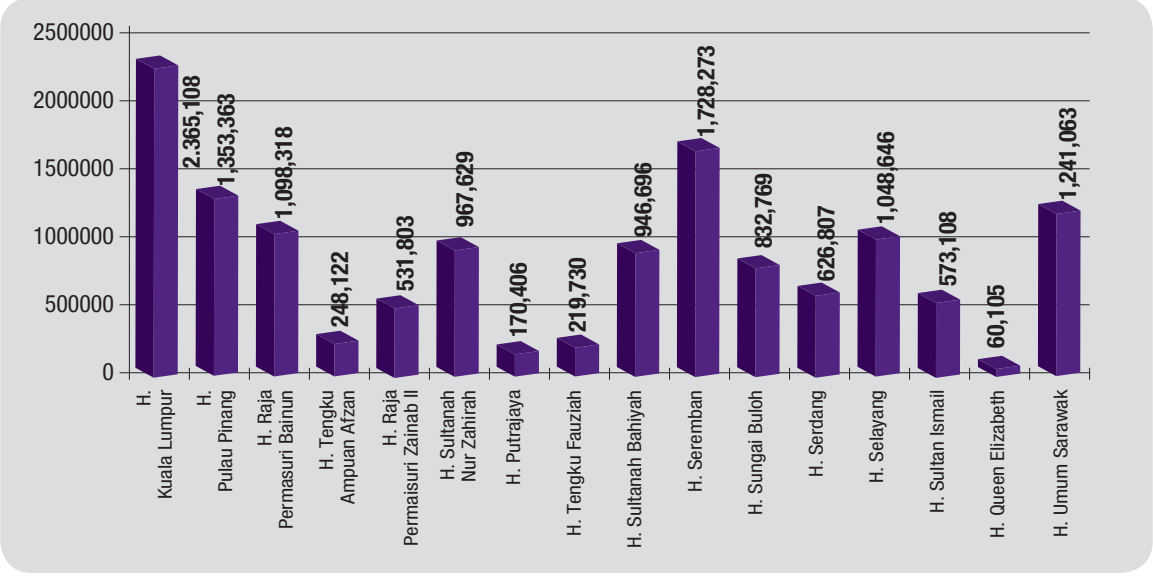
TABLE 28
HOSPITALS RECEIVING NEW EQUIPMENTS, 2010

Hospital	Equipment	Unit
Hospital Sultan Ismail, Johor	3M Attest Auto reader Gauze Cutter	1 1
Hospital Selayang, Selangor	Autoclave AMSCO Steam Boiler	1 1
Hospital Gua Musang, Kelantan	Autoclave Machine Washer Disinfector Dryer Machine Ultrasonic Washer Heat Sealer Machine	2 1 1 1 1
Hospital Limbang, Sarawak	Steelco Washer Disinfector Steam Sterilizer 20 cu. Ft.	1 1
Hospital Seberang Jaya, Pulau Pinang	Steelco Washer Disinfector Autoclave Machine	1 1
Hospital Bukit Mertajam, Pulau Pinang	Heat Sealing machine	1

Source: National Advisor, Central Sterilization Supply Unit, MoH

The workload of CSSU in several hospitals for the year 2010 is shown in Figure 10. Hospitals which have ISO accreditation maintain their status whereas Hospital Pulau Pinang had been accredited with ISO 9001-2008. The challenge faced by CSSS is the increment of the workload yet the manpower and consumable budget are limited.

FIGURE 10
CSSU WORKLOAD, 2010



Source: National Advisor, Central Sterilization Supply Unit, MoH

MEDICAL RESOURCE

The functions of Medical Resource Unit are (1) to coordinate allocation distribution for various types of budgets (e.g. operating budget for all services, development budget for equipments, Dasar Baru/ One Off budget and Peruntukan Khas budget); (2) to develop specifications and conduct technical/ price evaluations for medical equipments; (3) to monitor the progress of medical equipments tender projects in MoH hospitals; (4) to monitor the privatized hospital support services in collaboration with the MoH Engineering Division; (5) to monitor the pharmaceuticals and consumable products services privatization under Pharmaniaga Logistics Sdn. Bhd.; and (6) to coordinate response to Audit queries related to Medical Development Division.

Medical Programme Expenditure and Budget

a) Management Expenditure for the Medical Programme had raised by 3.4% in 2010 as compared to 2009, while the allocation for 2010 had decreased by 1.5% from 2009 (Table 29). In 2010, 41.3% of the total expenditure had been used for consumables/drugs and 0.94% for assets, as compared to 47.4% and 0.23% respectively in 2009. The rest of the expenditures were for emoluments in 2010. The overall increase in expenditure compared to allocation in 2010 was 108.25% (Table 29), whereby the expenditure for consumables/drugs was 103.47% (Table 30). The allocation and expenditure for assets increased tremendously in 2010 due to H1N1 outbreak (Table 31).

b) Medical Resource Unit was also involved in coordinating the *Dasar Baru* 2012-2013, Perjanjian Program 2012-2013 and *Laporan Pengecualian* 2010 which were part of the Modified Budget System (MBS) requirements.

TABLE 29
MANAGEMENT EXPENDITURE (OA), 2006 - 2010

Year	Allocation	Expenditure	Expenditure compared to Allocation (%)	Increment in Expenditure from 2009 (%)
2006	5,015,477,836.00	5,391,216,252.00	107.49	-
2007	6,032,287,883.00	6,202,537,125.00	102.82	15.0
2008	6,469,758,900.00	7,025,071,865.00	108.58	13.3
2009	7,615,055,906.00*	7,854,700,338.95	103.15	11.8
2010	7,502,798,227.00	8,121,679,869.86	108.25	3.4

*Note: *Revised Figures*
Source: Finance Division, MoH

TABLE 30
ALLOCATION AND EXPENDITURE FOR CONSUMABLES/DRUGS, 2006 - 2010

Year	Allocation	Expenditure	Expenditure compared to Allocation (%)
2006	2,806,561,413	2,766,298,284	98.57
2007	3,214,297,478	3,174,340,384.22	98.76
2008	3,145,489,838	3,171,474,249.86	100.83
2009	3,700,556,632	3,725,569,759.34	100.68
2010	3,244,014,162	3,356,594,223.71	103.47

Source: Finance Division, MoH

TABLE 31
ALLOCATION AND EXPENDITURE FOR ASSETS, 2006 - 2010

Year	Allocation	Expenditure	Expenditure compared to Allocation (%)
2006	20,114,456	19,952,048.74	99.19
2007	20,000,000	19,850,312.75	99.25
2008	26,316,335	25,692323.52	97.63
2009	17,933,996	17,930,442.70	99.98
2010	76,701,445	76,292,302.35	99.47

Source: Finance Division, MoH

Medical Equipments

a) Procurement of medical equipments

Medical Resource Unit was responsible in development of specifications for medical equipments procured by central tenders. This was achieved by coordinating meetings and committee selection for each tender, whereby there were at least three committees involved before any tender was awarded. Each committee consisted of experts in that particular field, including representatives from the MoH Engineering Division.

In 2010, there were 5 central tenders implemented by Medical Resource Unit as compared to 25 in 2006, 32 in 2007, 37 in 2008 and 6 in 2009. This reduction in number of central tenders was mainly due to overall budget and financial limitations, as well as the decentralization of medical equipments tender projects to states, resulting in majority of the procurement tenders being handled by the respective states. However, the Medical Resource Unit was still involved in the equipment specifications, technical evaluation and monitoring of the projects to ensure the projects were completed within their schedules.

Apart from this, the Medical Resource Unit also represented the Medical Development Division as one of the members in MoH's Price Negotiation Committee, when necessary.

b) Procurement of consumables

There were six central tenders for consumable items in 2010. These tenders were done to

extend the contract for items which were tendered previously. They were monitored closely to ensure that the supply items comply with the specifications, terms and conditions as stated in the contract.

Hospital Support Services

a) Medical Resource Unit was also involved as one of the committee members in monitoring the privatized hospital support services in collaboration with the Engineering Division. These support services include the Facility Engineering Maintenance Services (FEMS), Biomedical Engineering Maintenance Services (BEMS), Clinical Waste Management Services (CWMS), Cleansing Services (CLS), and Linen & Laundry Services (LLS) which were rendered by concession companies such as Radicare Sdn Bhd, Faber Medi-Serve Sdn Bhd and Pantai Medivest Sdn Bhd. As a committee member, the unit was responsible to give advices and opinions to enhance services provided to the end-users in MoH hospitals.

b) This unit also collaborated with the Procurement and Privatization Division to monitor the pharmaceuticals and consumable products services privatization under Pharmaniaga Logistics Sdn. Bhd. Among the activities include technical evaluation of consumable products requested to be added in the Approved Products Purchased List (APPL) and MoH Adoption Scheme; evaluation of all non-drug APPL products for 2011-2014 retendering and price revision process; and monitoring of APPL products complaints by end-users. In 2010, there were 180 product evaluations done for MoH Adoption Scheme whereas 297 products were evaluated for 2011-2014 retender and price revision. APPL products complaints were followed up with Pharmaniaga and the respective hospitals to ensure appropriate actions were taken and the complaints were discussed in the MoH APPL Products Complaints Committee.

Audit Evaluation

The goals of Audit are mainly focused on financial and administration aspects, and to ensure the organization complies with significant applicable legal, ethical and regulatory requirements. This is important to highlight the 'value for money' aspect in government procurement, to reduce wastage in government resources and to avoid corruption among the government servants.

In 2010, there were several hospitals audited where some of the main issues highlighted include procurements which were done without permission and payment preceding the Testing and Commissioning (T&C) of the procured equipments. Apart from that, improper storage of government assets resulting from lack of storage facilities in government hospitals was also noted. These audit issues have been investigated and the reports submitted to the respective auditors.
Strategies taken in order to manage these issues include issuing reminders to the respective hospitals and planning to organize continuous courses on procurement procedures. A Government Procurement Procedures course was organized by the unit in November 2010 in Institut Akauntan Negara, Sabak Bernam which was attended by 40 participants from MoH Hospitals' Nephrology Departments, and another course was organized in June 2011 at the Institut Latihan KWSP, Bangi which was attended by 40 participants from MoH Hospitals' Pathology Departments. The unit is planning to organize another course in NIOSH Bangi on 23-25 October 2011 with the aim of 60 participants among MoH Hospital Directors, and in subsequent years, the course will be organized at least twice yearly.

MEDICAL PROFESSIONAL DEVELOPMENT

Clinical Specialists Requirement

In 2010, there was an increase of 17.4% in the number of clinical specialists working in MoH hospitals. The total number of specialists was 2,958 from various specialties (Table 32) and grades which

include subspecialty trainees and contract officers. Even though there was an increase in the total number of specialists but it is yet to meet the need of the country.

TABLE 32
NUMBER OF SPECIALISTS IN MOH HOSPITALS, 2007 – 2010

Discipline	No. of Specialists, including Subspecialty Trainee						
	2007		2008		2009		2010
Anaesthesiology	260	(22)	272	(11)	282	(17)	319
Cardiology	33	(3)	38	(5)	36	(9)	48
Cardiothoracic Surgery	12	(2)	22	(2)	10	(6)	17
Dermatology	30	(8)	31	(8)	24	(7)	30
Emergency Medicine	36	-	44	-	54	(1)	71
Forensic	20	(2)	20	(3)	19	(1)	21
General Medicine	305	(39)	327	(40)	311	(42)	387
General Surgery	232	(41)	232	(37)	204	(36)	242
Hand & Microsurgery	1	-	1	-	1	-	1
Nephrology	44	(1)	45	(1)	48	(1)	54
Neurology	18	(3)	15	(2)	17	-	24
Neurosurgery	20	(2)	21	(2)	24	(1)	27
Nuclear Medicine	-	-	6	-	6	-	6
Obstetrics & Gynaecology	251	(22)	246	(20)	224	(20)	262
Ophthalmology	144	(18)	158	(17)	155	(15)	183
Orthopaedic	177	(15)	189	(12)	190	(10)	215
Otorhinolaryngology	89	(14)	98	(11)	103	(11)	116
Paediatric	250	(18)	262	(17)	258	(15)	289
Paediatric Surgery	17	(6)	17	(6)	11	(5)	15
Pathology	138	(5)	140	(8)	160	(7)	186
Plastic Surgery	21	(2)	23	(2)	21	(2)	28
Psychiatry	93	(4)	94	(3)	108	(3)	125
Radiology	151	(6)	151	(4)	162	(3)	188
Radiotherapy & Oncology	11	(3)	14	(3)	11	(5)	21
Rehabilitation Medicine	14	-	21	-	23	-	22
Respiratory Medicine	17	(2)	23	(2)	23	(3)	26
Sports Medicine	4	-	6	-	6	-	8
Urology	25	(1)	26	-	29	-	27
Total	**2413**	**(239)**	**2542**	**(216)**	**2520**	**(220)**	**2958**

Note: () Contract Officers

Source: Medical Professional Development Section, Medical Development Division, MoH

Engagement of Private Practitioners

Private practitioners continue to be employed on seasonal basis considering the need for provision of certain specialty in some MoH hospitals. In 2010, there were 23 applicants from the private practitioners to provide service to MoH compared to 25 applicants in 2009 (Table 33).

TABLE 33
NUMBER OF PRIVATE PRACTITIONERS EMPLOYED ON SESSIONAL BASIS FOR 2010

Hospital	Discipline	Number
Hospital Umum Sarawak	Neurology	1
	Radiology	1
	Ophthalmology	1
	Plastic Surgery	1
	Subtotal	**4**
Hospital Sultanah Aminah	Pathology	1
	Plastic Surgery	1
	O&G	1
	Paediatric	2
	Radiology	1
	Subtotal	**6**
Hospital Kuala Lumpur	Anaesthesiology	5
	Paediatric	3
	Nephrology	1
	Ophthalmology	1
	Urology	1
	Subtotal	**11**
Hospital Sultan Ismail	Anaesthesiology	1
	Subtotal	**1**
Hospital Ipoh	Dermatology	1
	Subtotal	**1**
Total		**23**

Source: Medical Professional Development Section, Medical Development Division, MoH

Gazettement of Clinical Specialists

The Special Gazettement Committee meets at least 3 times a year. However, monthly meeting is being scheduled to facilitate the gazettement process. The use of logbook which was introduced in 2005 has facilitated clinical specialist gazettement process. In 2009, 300 specialists were gazetted and this was 27% reduction compared to 2008 which was 40 specialists. In 2010, 311 specialists were gazetted and the largest number of specialist being gazetted was from the discipline of Internal (General) Medicine followed by Anaesthesiology and Orthopaedic as seen in Table 34.

TABLE 34
NUMBER OF SPECIALISTS GAZETTED BASED ON SPECIALTY, 2007 – 2010

Specialty/Subspecialty	No. of Specialists* Gazetted			
	2007	2008	2009	2010
Anaesthesiology	39	59	31	34
Cardiac Anaesthesiology	-	-	2	-
Intensive Care	-	-	1	1
Breast & Endocrine Surgery	2	1	2	1
Cardiology	4	4	7	4
Cardiothoracic Surgery	2	2	1	4
Dermatology	3	-	-	3
Emergency Medicine	6	8	9	12
Endocrinology	2	1	-	-
Forensic	-	3	-	2
Gastroenterology	3	5	4	2
Geriatric	1	-	-	-
General Medicine	49	63	50	66
General Surgery	21	42	18	20
Hand & Microsurgery	1	-	-	1
Nephrology	3	1	3	5
Neurology	3	1	1	1
Neurosurgery	1	4	4	7
Nuclear Medicine	-	1	-	-
Obstetrics & Gynaecology	39	55	19	17
Feto-maternal Medicine	-	-	1	-
Uro-gynaecology	-	-	1	-
Advance O&G	-	-	1	-
Ophthalmology	20	17	22	21
Orthopaedic	17	18	26	23
Otorhinolaryngology	14	12	15	14
Pathology	9	18	13	-
Paediatric	20	31	28	22
Paediatric Cardiology	-	1	1	-
Paediatric Neurology	-	1	-	-

Specialty/Subspecialty	No. of Specialists* Gazetted			
	2007	2008	2009	2010
Paediatric Surgery	1	-	1	-
Paediatric Endocrine	-	-	2	-
Plastic Surgery	3	3	2	3
Psychiatry	4	8	5	18
Radiology	22	35	10	17
Interventional Radiology	-	-	2	1
Radiotherapy & Oncology	1	1	2	6
Rehabilitation Medicine	4	2	5	2
Respiratory Medicine	1	-	4	1
Rheumatology	-	4	3	3
Sports Medicine	-	3	2	-
Upper Gastroenterology	-	3	-	-
Urology	1	1	2	-
Total	**296**	**408**	**300**	**311**

*Note: * including Contract Specialists*

Source: Medical Professional Development Section, Medical Development Division, MoH

Specialist Training Program

The general administration of the Master in Medicine Programme is managed by the Training Management Division with technical input from the Medical Development Division. Starting from the 2008/2009 session, the total slot for the Master in Medicine Programme had been increased to 600 as compared to 450 in the previous years. Out of the 600 slots, 400 slots (66.6%) were allocated for the Open System and the remaining 200 slots (33.3%) given for the Close System. Master in Nuclear Medicine was introduced in the 2008/2009 session. Thus, there were 22 disciplines offered in the program altogether. Although a total of 647 offers had been sent out for the various disciplines, only 613 candidates had finally accepted to register for the program. The detailed number of candidates offered and accepted to join the program is as shown in Table 35.

In 2010, a total of 299 Medical Officers under the Medical Programme reported back to MoH after completing their specialist training compared to 277 in 2009. For further improvement of the Master in Medicine Programme, more slots for the open system will be made available, more disciplines will be offered and the number of slots for each discipline will also be increased. The number of slots is also planned to be increased to 800 for the 2011/2012 intake session.

TABLE 35
DISCIPLINES OFFERED AND NUMBER OF TRAINEES FOR THE 2008/2009, 2009/2010 AND 2010/2011 SESSIONS

Disciplines	2008/2009 Session		2009/2010 Session		2010/2011 Session	
	No. of Offers	No. of Acceptance	No. of Offers	No. of Acceptance	No. of Offers	No. of Acceptance
Anaesthesiology	72	70	76	73	81	78
Clinical Oncology	4	4	5	4	7	7
Emergency Medicine	37	34	40	38	44	42
Family Medicine	52	36	52	42	51	46
General Surgery	42	41	45	44	52	51
Internal Medicine	56	51	46	39	49	46
Neurosurgery	3	2	4	4	3	3
Nuclear Medicine	4	4	5	5	6	6
Obstetrics & Gynaecology	43	40	37	36	25	25
Ophthalmology	32	31	36	32	36	34
Orthopaedic	40	37	44	42	42	42
Otorhinolaryngology	23	19	21	18	24	24
Pathology	44	41	33	32	29	29
Paediatric	39	34	34	30	35	26
Paediatric Surgery	4	4	4	4	4	4
Plastic Surgery	6	6	5	4	7	7
Psychiatry	28	25	23	20	29	27
Public Health	28	23	44	42	61	57
Radiology	37	36	37	36	42	40
Rehabilitation Medicine	10	9	10	10	10	9
Sports Medicine	3	2	3	3	4	4
Transfusion Medicine	7	7	10	9	6	6
Total	**614**	**556**	**614**	**567**	**647**	**613**

Source: Medical Professional Development Section, Medical Development Division, MoH

Subspecialty / Fellowship Training

The application to join subspecialty (fellowship) training has been increasing yearly. In 2010, there were 418 specialists who underwent fellowship training compared to 356 specialists in 2009. The number of subspecialty discipline had also increased to more than 90. The most popular subspecialty was cardiology followed by Colorectal Surgery, Urology, Endocrine & Breast Surgery, Gynae-Oncology and Arthroplasty. Other subspecialty that showed increasing interest was clinical Haematology, Respiratory Medicine and Hepatobiliary Surgery. There were 90 scholarships being offered to specialists pursuing overseas training.

Continuous Professional Development (CPD)

The Continuous Professional Development (CPD) is a bigger form of the Continuous Medical Education (CME) which is more comprehensive in nature. It is a systematic planned process of life-long learning and professional development. It enables health professionals to maintain and enhance knowledge, skills and competency for effective and continuous practice in meeting the health care of the patients and the community.

Since January 2008, the CPD Program has been compulsory to the Medical Officer, Dental Officer and Pharmacist, as the credit points accumulated by attending CPD activities has been used as the replacement for the evaluation of competency level (PTK) for the specific component (PTK-Khusus) which is known as PTK-CPD for all those three categories of staff. After successfully implementing the PTK-CPD for two years, beginning January 2010 the program has been extended to other service schemes in MoH which includes Engineers, Researchers, Nurses, Assistant Medical Officer and Allied Health Personnel. By end of 2010, the total number of user registered with MyCPD was 88,457.

In 2010, the Competency Development Devision received 85,489 CPD reports from candidates involved in PTK-CPD. Out of those, 78,567 (91.9%) staff passed and 6,922 (8.1%) staff failed the PTK-CPD assessment.

TABLE 36
CONTINUOUS PROFESSIONAL DEVELOPMENT (CPD) ACTIVITIES, 2010

Year	Total Allocations (RM)	Expenditure (RM)
Overseas Training	4,000,000.00	4,859,256.38
Local Training	21,000,000.00	20,666,122.12
Total	**25,000,000.00**	**25,525,378.50**

Source: Medical Professional Development Section, Medical Development Division, MOH

Housemanship Program

The Housemanship Program is a period of compulsory apprenticeship after graduation from medical schools before new medical graduates are given full registration to practice independently as doctors. The program is formulated in such a way as to ensure that medical graduates gain the appropriate knowledge, skills and experience as well as to groom them to have the right attitude to meet the standards of the profession. After completing a medical degree, a new graduated medical student will be appointed as a house officer and were mandated to undergo the program at accredited MoH or university hospitals.

The number of medical graduates appointed as a house officer increased significantly from 1,059 in 2006, to 2,319 (2008), to 3,058 (2009) and subsequently to 3,252 (2010). It is anticipated that there

will be more graduates in the coming years from the local public and private medical schools and also returning from the foreign universities such as United Kingdom, United States, Australia, Indonesia, Middle East, Russia, and India. Since they graduated from various universities and colleges with various background and facilities, the clinical exposure and clinical experiences varies, especially among those graduated from foreign universities.

In 2010, there were two new hospitals that were accredited as Housemanship Training Hospitals; Hospital Kuala Krai and Hospital Tanah Merah. MoH is looking forward for more hospitals to be accredited for housemanship training. In total, currently there are 41 Housemanship Training Hospitals, inclusive of 3 university hospitals.

To further enhance the housemanship training, the training period was extended from one year to two years since 2008, with at least four monthly rotation in the six major disciplines – Internal (General) Medicine, Paediatrics, Surgery, Obstetric and Gynecology, Orthopaedics, and either Emergency Medicine or Anesthesiology. With the extension, it provides more opportunity for House Officers in hands-on training, clinical tagging, clinical ward work, clinical clinic work, on-call duty, and to be involved in CPD & teaching activities; all under the supervision by a specialist of respective departments. At the moment, all new house officers are employed by the government on the grade of UD 41. Upon successful completion of the training, they will be promoted to grade UD 44, subjected to fulfilment of other criteria.

MALAYSIAN MEDICAL COUNCIL (MMC)

The MMC, which is headed by the Director-General of Health as the ex-officio President and elected or nominated registered medical practitioners as the Council members and appointed by MoH, is established under section 3 of the Medical Act 1971 and functions mainly to maintain the quality of medical education, register the medical practitioners and to ensure the safe and ethical practice among the registered medical practitioners. The Council will continuously serve to uphold the integrity and the regulation of the registered medical practitioners in this country to ensure that the quality and standards of patient care will always be met and practiced and not compromised with the increasing number of registered medical practitioners graduating and working in the country.

Registration

- **Temporary Registration**

  The total number of temporary registration has increased by 3.4% from 3,150 in 2009 to 3,257 in 2010.

TABLE 37
NUMBER OF PROVISIONAL REGISTRATION APPROVED AND ISSUED, 2007 - 2010

Type of Registration	2007	2008	2009	2010
Provisional Registration	1,534	2,527	3,150	3,257

Source: Malaysian Medical Council, MoH

- **Full Registration**

  A total of 2,386 and 206 medical practitioners were registered under section 14 and subsection 14(3) of the Medical Act 1971 respectively in 2010 (Table 38).

TABLE 38
NUMBER OF PRACTITIONERS GRANTED FULL REGISTRATION, 2007 - 2010

Type of Registration	2007	2008	2009	2010
Full registration according to section 14*				
• Malaysians – completing housemanship locally	1,604	1,793	361	2306
• Malaysians – completing housemanship overseas	122	89	97	80
Total	1,726	1,882	458	2,386
Full registration according to section 14(3)				
• Foreigners – completing housemanship locally	18	26	3	20
• Foreigners – completing housemanship overseas	182	317	152	186
Total	200	343	155	206
Grand Total	**1,926**	**2,225**	**613**	**2592**

*Note: *refers to the provisions on persons entitled to full registration*
Source: Malaysian Medical Council, MoH

- **Annual Practising Certificate (APC)**

  The total number of APC issued had increased by 3.1%, from 22,355 in 2009 to 23,055 in 2010 (Table 39), contributed mostly by the increasing number of doctors completing their housemanship training.

TABLE 39
NUMBER OF ANNUAL PRACTICING CERTIFICATES ISSUED ACCORDING TO STATE AND SECTOR, 2007-2010

State	2007		2008		2009		2010	
	Public	Private	Public	Private	Public	Private	Public	Private
FT Kuala Lumpur	2,239	1762	2,590	1,881	2,797	1,952	2,856	1,958
FT Labuan	18	16	12	17	12	17	21	16
FT Putrajaya	254	9	257	10	294	10	364	13
Johor	612	981	752	1041	933	1072	957	1085
Kedah	446	458	484	483	580	482	646	482
Kelantan	637	209	784	207	926	218	1005	222
Melaka	306	378	322	363	374	406	364	408
Negeri Sembilan	354	341	401	401	532	372	524	398
Pahang	340	355	440	378	489	385	587	350
Penang	514	874	559	938	683	960	702	975
Perak	662	803	759	835	924	854	903	871
Perlis	95	28	120	28	139	38	142	37

State	2007		2008		2009		2010	
	Public	Private	Public	Private	Public	Private	Public	Private
Selangor	1,198	2,337	1,393	2,508	1,692	2,624	1,791	2,738
Terengganu	260	166	266	182	335	193	357	204
Sabah	462	342	592	358	696	379	690	390
Sarawak	471	357	543	378	605	382	596	403
Total	**8,868**	**9,416**	**10,274**	**10,008**	**12,011**	**10,344**	**12,505**	**10,550**
Grand Total	**18,284**		**20,282**		**22,355**		**23,055**	

Source: Malaysian Medical Council, MoH

- **Letter of Good Standing**

  In 2010, 604 Letters of Good Standing were issued upon request to registered medicals practitioner wishing to register with medical councils or professional registering bodies abroad compared to 473 in 2009.

Approval and Accreditation

As of 31st December 2010, 17 local undergraduate institutes of higher learning or medical undergraduate programmes, including eight from the public sector were accredited for the training of medical undergraduate (Table 40).

In addition, 17 more local undergraduate institutes of higher learning or medical undergraduate programmes are still awaiting accreditation (Table 41). Only one foreign medical training institution, i.e. Peninsula Medical School of the Universities of Exeter and Plymouth was approved in September 2010 by MoH and listed in the Second Schedule of the Medical Act 1971.

TABLE 40
LIST OF ACCREDITED LOCAL INSTITUTES OF HIGHER LEARNING/MEDICAL UNDERGRADUATE PROGRAMMES (AS OF 31st DECEMBER 2010)

No.	Institute
Public	
1.	University of Malaya (UM)
2.	National University of Malaysia (UKM)
3.	Science University of Malaysia (USM)
4.	University of Malaysia, Sarawak (UNIMAS)
5.	Putra University, Malaysia (UPM)
6.	International Islamic University Malaysia (IIUM)
7.	MARA Technology University (UiTM)
8.	University of Malaysia, Sabah (UMS)
Private	
9.	Penang Medical College

No.	Institute
10.	Melaka-Manipal Medical College
11.	Royal College of Medicine, Perak (University of Sheffied Programme)
12.	Royal College of Medicine, Perak (MBBS Malaya Programme)
13.	Asian Institute of Medicine, Science and Technology (AIMST) University
14.	Allianze College of Medical Sciences (ACMS) (Universitas Sumatera Utara – International Class Programme)
15.	Monash University Sunway Campus
16.	UCSI University
17.	Cyberjaya University College of Medical Sciences

Source: Malaysian Medical Council, MoH

TABLE 41
LIST OF APPROVED LOCAL INSTITUTES OF HIGHER LEARNING/MEDICAL UNDERGRADUATE PROGRAMMES AWAITING ACCREDITATION (AS OF 31ST DECEMBER 2010)

No.	Institute	Degree/ Programme	Year Established	Year to be Accredited
Public				
1.	Islamic Science University of Malaysia (USIM)	Own/Own	2004	2011
2.	National University of Malaysia (Twinning with Universitas Padjadjaran, Indonesia – International Class Programme)	Own/Own	2006	2011
3.	Management and Sciences University (MSU), International Medical School, Bangalore	Own/Own	2006	2011
4.	Royal College of Medicine, Perak (Kuala Lumpur University)	Own/Own	2007	2012
5.	MSU, Shah Alam Campus	Own/Own	2008	2013
6.	Sultan Zainal Abidin University	Own/Own	2009	2014
7.	UKM with ACMS	Own/Own	2009	2014
8.	Kuala Lumpur University - Royal College of Medicine, Perak with Vinayaka Mission's University, Salem, India	Own/Own	2009	2014
Private				
9.	National University of Ireland (NUI), Galway and University College, Cork (UCC) with ACMS	NUI and UCC/ NUI and UCC	2009	2014
10.	Taylor's University College (Own Programme)	Own/Own	2010	2015
11.	Malaysian Allied Health Sciences Academy (MAHSA) University College	Own/Own	2009	2014
12.	Melaka-Manipal Medical College – Manipal Campus	Own/Own	2010	2015

No.	Institute	Degree/ Programme	Year Established	Year to be Accredited
13.	SEGi University College	Own/Own	2010	2015
14.	Tunku Abdul Rahman University	Own/Own	2010	2015
15.	Perdana University – John Hopkins University School of Medicine (JHUSOM)	Own/JHUSOM	2010	2015
16.	Perdana University – Royal College of Surgeons Ireland (RCSI)	Own/RCSI	2010	2015
17.	USM with KLE University Belgaum, Karnataka, India	Own/Own	2009	2014

Source: Malaysian Medical Council, MoH

Complaints and Disciplinary Problems

The total number of complaints received by MMC had reduced by 5.9% from 119 (2009) to 112 (2010) and corresponded with the decrease in the number of complaints per registered medical practitioners as shown in Table 42.

TABLE 42
TOTAL COMPLAINTS RECEIVED PER 1000 REGISTERED MEDICAL PRACTITIONERS, 2008 - 2010

No.	Year	Total No. Of Complaints Received	Total No. of APCs Issued	No. of Complaints per 1000 registered medical practitioners
1.	2008	87	20,280	4.29
2.	2009	119	22,423	5.31
3.	2010	112	23,055	4.86

Source: Malaysian Medical Council, MoH

There were 15 disciplinary inquiries completed in 2010, a decrease from 22 disciplinary inquiries in 2009 under the Medical Act 1971. The majority of cases meted with punishment continued to relate to issues of neglect and disregard of professional responsibilities as the previous years. Table 43 depicts the outcome of Council disciplinary inquiries between 2006 and 2010.

TABLE 43
OUTCOME OF COUNCIL DISCIPLINARY INQUIRIES, 2006 - 2010

No.	Type of Punishment	2006	2007	2008	2009	2010
1.	Charge dismissed and registered medical practitioner not found guilty	12	10	11	11	4
2.	Name of registered medical practitioner struck off from the Medical Register	2	0	2	2	0
3.	Name of registered medical practitioner suspended from the Medical Register	8	6	7	7	4
4.	Registered medical practitioner reprimanded	6	8	5	2	7
Total		**28**	**24**	**25**	**22**	**15**

Source: Malaysian Medical Council, MoH

MALAYSIAN OPTICAL COUNCIL (MOC)

The MOC is a corporate body established in 1 February 1992 by virtue of section 3 of the Optical Act 1991 [Act 469] and is responsible for the registration of optometry practitioner, namely the opticians and optometrists and monitoring of optometry services and practices in Malaysia to ensure high standard of professional service to the public including safety in delivery of care is maintained.

Registration

By end of 2010, the number of registered optometry practitioners under section 18 and section 19 of the Optical Act 1991 had increased by 5.7% from 3,493 in 2009 to 3,693 optometry practitioners.

- **Opticians**

  Similarly, the total number of opticians was also observed to be 3.8% higher in 2010 compared to 2009 (Table 44).

TABLE 44
NUMBER OF OPTICIANS GRANTED FULL REGISTRATION ACCORDING TO SECTIONS, 2009 - 2010

No.	SECTION	No. of Opticians (Cumulative)		Increment from 2009 to 2010 (%)
		2009	2010	
1.	18(1) *	982	1083	10.3
2.	18(2)(a) †	1730	1732	0.1
3.	18(2)(b) ‡	1	1	0
4.	18(3) ¥	1	0 (removed)	-
Total (Cumulative)		**2714**	**2816**	**3.8**

Note:
**refers to any person who holds the qualifications specified in the First Schedule on registrable qualifications for opticians.*
†refers to any person who holds has been practising for a period not less than one year immediately prior to the coming into force of the Act.
‡refers to any person who holds a qualification which is not specified in the First Schedule but is deemed suitable by the Minister.
¥refers to any person who attends a course which includes practical training leading to any of the qualifications specified in the First Schedule.

Source: Malaysian Optical Council, MoH

- **Optometrists**

  The number of optometrists had also increased by 12.6% from 779 (2009) to 877 (2010) (Table 45).

TABLE 45
NUMBER OF OPTOMETRIST GRANTED FULL REGISTRATION ACCORDING TO SECTIONS, 2009 - 2010

No.	SECTION	No. of Optometrists (Cumulative)		Increment from 2009 to 2010 (%)
		2009	2010	
1.	19(1) *	779	854	9.6
2.	19(2) †	0	23	-
Total (Cumulative)		**779**	**877**	**12.6**

Note:
**refers to any person who holds the qualifications specified in the Second Schedule on registrable qualifications for optometrists.*
†refers to any person who holds a qualification not specified in the Second Schedule.

Source: Malaysian Optical Council, MoH

- **Contact Lens Practitioners**

  The number of contact lens practitioners in 2010 had increased by 0.2% and 12.6% for opticians and optometrists respectively from 2009 (Table 46).

TABLE 46
NUMBER OF CONTACT LENS PRACTITIONERS, 2009 - 2010

No.	SECTION	No. of Contact Lens Practitioners (Cumulative)		Increment from 2009 to 2010 (%)
		2009	2010	
1.	Opticians	559	560	0.2%
2.	Optometrist	779	877	12.6%
Total (Cumulative)		**1338**	**1437**	**7.4%**

Source: Malaysian Optical Council, MoH

Annual Practicing Certificate

A total of 3023 (81.9%) optometry practitioners had renewed their annual practising certificates for 2010 and the Malaysian Optic Council had sent reminders to the remaining 670 optometry practitioners to apply for renewal (Table 47).

TABLE 47
TOTAL NUMBER OF REGISTERED OPTOMETRY PRACTITIONERS WHO HAD RENEWED THEIR ANNUAL PRACTISING CERTIFICATES (APC), 2000 - 2010

Item	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Registered practitioners	1,910	2,004	2,069	2,240	2,549	2,660	2,847	2,992	3,200	3,493	3,693
Registered practitioners with APC renewed	1,749	1,605	1,674	1,674	1,977	2,077	2,220	2,443	2,496	2,707	3,023
APC renewed (%)	91.6	80.1	80.9	74.7	77.6	78.1	78.0	81.7	78.0	77.5	81.9

Source: Malaysian Optical Council, MoH

Guidelines on Approval and Accreditation of Optometry and Opticianry Programmes in Higher Education Institutions

Guidelines on Approval and Accreditation of Optometry and Opticianry Programmes in Higher Education Institutions, developed by MoH and MOC in collaboration with the Malaysian Qualifications Agency (MQA), were launched on 8th March 2010 and will be used as a guide in the accreditation assessment process for the Optometry and Opticianry Programs in Institutions of Higher Learning in Malaysia.

Standard Operating Procedure (SOP) for Optometry Services

The SOP for Optometry Services was launched on 5th April 2010 and will be used as to guide optometry practitioners in delivering optometry services and care. A four-day workshop was also organised in July 2010 to develop the Audit Manual which will enable MoH to perform audit on optometry services based on the standard operating procedure.

Contact Lens Examinations

Contact lens examinations for the registered opticians under Section 30(5) Optical Act 1991 were conducted two times in May and November 2010. A total of five candidates sat for the examination in 2010 and only one had passed and given the Contact Lens Prescribing and Dispensing Permit.

Training

To enhance the knowledge on enforcement among selected MoH personnel, MOC had organised an Optical Act 1991 Enforcement and Surveillance Audit Workshop in July 2010 for four days.

MEDICAL ASSISTANTS BOARD

The Medical Assistants Board is the only national organization that represents assistant medical officers (previously known as medical assistants) and Estate Hospital Assistants in terms of recognition, training, credentialing, accreditation and discipline by virtue of the Medical Assistants (Registration) Act 1977 and its regulations and Estate Hospital Assistants (Registration) Act 1965 and its regulations.

Registration

As of 31st December 2010, a total of 12,468 assistant medical officers have been registered with the Medical Assistants Board since 1974 and in 2010 alone, 1,033 new assistant medical officers who graduated from four public and one private institutions of higher learning were registered (Table 48).

TABLE 48
NEW REGISTRATION OF ASSISTANT MEDICAL OFFICERS, 2010

No.	Name of Institution	No. of New Graduates
Public		
1.	Medical Assistants College (Alor Setar)	214
2.	Medical Assistants College (Ulu Kinta)	284
3.	Medical Assistants College (Seremban)	190
4.	Allied Health and Sciences College (Kuching)	190
Private		
5.	Science and Technology College (KIST) (Bachok)	155
Total No. of New Graduates		**1,033**

Source: Medical Assistant Board Secretary Report

Annual Renewal Certificate

A total of 9,902 annual renewal certificates were issued in 2010 where 3,002 (30.3%) applications were made after September 2010 and surcharged. The total revenue for both annual renewal certificates and surcharges were RM 25,305.

Training and Continuous Medical Education

In continuously improving the knowledge and skills of the assistant medical officers in MoH via education, the Medical Assistants Board had conducted six courses and one workshop.

Mandatory Placement Program

Since the introduction of mandatory placement program on 21st April 2008, a total of 1,459 newly graduated assistant medical officers had undergone and completed this programme which included 524 new graduates in 2010 (Table 49).

TABLE 49
NUMBER OF NEWLY GRADUATED ASSISTANT MEDICAL OFFICERS WHO HAD UNDERGONE AND COMPLETED MANDATORY PLACEMENT PROGRAMME, 2008 - 2010

No.	Group/ Session	Period/Duration		No. of New Graduates
		Starts On	Completed	
1.	01/2008	21 April 2008	20 October 2008	299
2.	02/2008	18 September 2009	17 March 2009	353
3.	01/2009	10 March 2009	09 September 2009	283
4.	02/2009	14 September 2009	13 March 2010	267
5.	01/2010	17 February 2010	16.August 2010	257
Total No. of New Graduates				**1459**

Source: Medical Assistant Board Secretary Report

Monitoring

In collaboration with the Malaysian Qualifying Agency (MQA), the Secretariat of the Medical Assistants Board had undertaken the role in accreditation of the Medical Assistant Diploma Programme in the private institutions of higher learning involved in the training of assistant medical officers (Table 50).

TABLE 50
LIST OF PRIVATE INSTITUTIONS OF HIGHER LEARNING OFFERING MEDICAL ASSISTANT DIPLOMA PROGRAMME, AS OF 31ST DECEMBER 2010

No.	Name of Institution	Date of Operation
1.	Science and Technology College (KIST) (Bachok)	January 2005
2.	Management and Science University (MSU) (Shah Alam)	April 2009
3.	I System College (Kuching)	February 2009
4.	I System College (Klang)	Januari 2010
5.	Shahputra University College (Kuantan)	Mei 2010
6.	Murni College (Nilai)	July 2010

Source: Medical Assistant Board Secretary Report

Legislation

The Secretariat of the Medical Assistants Board collaborated with the Medical Legislation Section of the Medical Practice Division in the amendment of the Medical Assistants (Registration) Act 1977 and its regulations and had proposed for the promulgation of a new Bill to regulate practices of assistant medical officers, in addition to the existing registration exercise.

QUALITY IN MEDICAL CARE SECTION

There are several more approaches to Quality Improvement utilized by the Patient Care Services QAP, besides the traditional "problem-solving by using indicators" approach or "QA", utilized in the mid-1980s, when the QAP (which then consisted of the NIA and HSA) was launched. Significantly, these additional approaches to quality such as clinical (peer-review) audit, clinical governance and risk management, externally-conducted organizational audit of Quality Management Systems (QMS) and increasingly importantly, the assessment and improvement of inter-personal quality, have also gained prominence in the years following the launch of the QAP in 1985.

These multiple approaches have been undertaken to realize the goal for technical and inter-personal quality, which is internalizing and institutionalizing Quality so that both clients and patients will receive high quality "curing and caring" as well as attain good health outcomes.

National Indicator Approach (NIA) & Key Performance Indicators (KPI)

In 2010, a surveillance programme undertaken by the Medical Care Quality Section involved 108 indicators for the Medical Programme (excluding the Indicators for Hospital Directors and State Health Office (Medical). The surveillance programme consists of 17 NIA indicators, 50 KPI indicators and 41 NIA/KPI Indicators. Compared with 2009, the total number of NIA indicators that were under surveillance still remained the same (i.e. 58 indicators). From the surveillance, 16 out of 58 indicators were SIQs (Shortfall in Quality). Compared with the 2009 performance, there was a 68.62% reduction of indicators with SIQs in 2010 (in 2009, 51 NIA indicators had SIQs). The "top 10" clinical indicators with the most number of hospitals having SIQs are as in Table 51.

Hospital Accreditation

From 1998 to 2010, out of 137 MoH hospitals, 99 hospitals had been accredited by the Malaysian Society of Quality in Health (MSQH), the national accrediting body. Out of the 99 accredited hospitals, 45 hospitals still have current (or valid) accreditation status with 43 hospitals having achieved "Full Accreditation" for 3 years and two hospitals having achieved "Partial Accreditation" for 1 year. As of 31st December 2010, seven hospitals were awaiting the results of their "Full Survey" while 2 hospitals were awaiting the results of their "Focus Survey". On May 2010, a contract agreement was signed between the Government of Malaysia and the Malaysian Society for Quality in Health (MSQH) for the purpose of accreditation and training of MoH hospitals, for a period of 2 years from 1/1/2010 to 31/12/2011.

TABLE 51
THE "TOP 10" NIA AND NIA/KPI INDICATORS WITH SIQs, 2010

No.	TYPE	INDICATOR	2010			
			STD	Avg. Perf	Hosp. with SIQ	SIQ INDEX
1	KPI/NIA	Percentage of patients with waiting time of <3 days for fixation of long bone closed fracture	≥75%	65.72%	25	0.86
2	NIA	Occurrence of physical contamination of food served to patients	Sentinel Event	26.00	22	0.65
3	NIA	Percentage of medical reports prepared within the stipulated period: • State hospital <4 weeks • Other hospitals <2 weeks	>95%	80.85%	20	0.61
4	NIA	Percentage of medical records that were dispatched within 72 working hours of discharge	>95%	93.83%	12	0.36
5	NIA	Percentage of stroke patients with Improvement of ADL (Activities of Daily Living) Independence after ADL intervention	≥75%	73.38%	11	0.38
6	KPI/NIA	Paediatric patients who were readmitted to hospital for acute exacerbation of asthma within 28 days of discharge	Sentinel Event	11.00	9	0.26
7	NIA	Incidence of Recurrent Eclamptic Fits Occurring after Hospital Admission	Sentinel Event	3.00	7	0.21
8	KPI/NIA	Percentage of Patients With Waiting Time of ≤3 months for Major Elective Surgery (will be dropped from 2011 onwards)	≥90%	89.26%	6	0.25
9	KPI/NIA	Mortality rate of Very Low Birth Weight (VLBW) infants in hospitals WITH neonatologist(s)	≤15%	18.85%	5	0.36
10	KPI/NIA	Death due to acute gastroenteritis (AGE)	Sentinel Event	3.00	4	0.11

Note: STD: Standard, Avg. Perf.: Average Performance for 2010
Source: Quality in Medical Care Section, Medical Development Division, MoH

MS/ISO Certification

The Medical Programme successfully achieved ISO Certification in 2008, for a period of 3 years until 2010. It will go through re-certification in July 2011. Since 2008, the Medical Programme has endeavoured to improve on its Quality Management Systems regularly. Currently, 70 hospitals (51% of all MoH hospitals) had successfully attained ISO certification. 12 hospitals (8%) will undergo ISO certification this year. Only 47 hospitals (34%) did not have ISO certification while 6 hospitals (4%) were unable to obtain re-certification for a number of reasons.

Peri-Operative Mortality Review (POMR)

The method of data collection for peri-operative deaths has been improved to an electronic data collection system whereby the data are stored centrally. For 2011, the existing Computerized Operating Theatre Documentation System will be incorporated into the e-POMR. Hands-on training will be carried out before the end of 2011, involving hospitals without any existing documentation system i.e. hospitals with Hospital Information System (HIS). The 4th National POMR Conference was successfully conducted in October 2010 in Melaka. It was attended by all levels of MoH staff and included a number of international speakers.

Pain as the 5th Vital Sign

This program was implemented following the Director-General's Circular in 2007. One of the objectives is to ensure that patients suffering from pain receive adequate pain relief, with minimal side effects. This effort brings about multiple benefits to the patients, and the organization. Importantly it promotes nurse-patient interaction, doctor-patient interaction and will eventually improve the patient's delight. This program has been implemented in 134 MoH Hospitals, and the National Report is expected to be published in 2011.

Pain-Free Hospital

This is an effort to integrate the surgical services, pain management services and Traditional and Complementary Medicine (TCM) to provide a comfortable and safe experience for patients undergoing surgery in MoH Hospitals. It is meant to exceed the expectations of our patients and attain "patient delight". The components of a Pain Free Hospital are as follows:

- Minimally-invasive surgery
  - Based on "less wound, less pain" concept
  - Faster recovery
  - Creates high standards and skill in surgery
- "Peri-operative" Pain management
  - Pre-emptive analgesia
  - Use of Regional Anaesthesia where appropriate
  - Appropriate post-operative pain management
- Use of acupuncture to supplement analgesia

In 2010, a proposal paper was presented in the Mesyuarat Khas KPK and the Mesyuarat JDPKK. The paper was approved in the two meetings. Activities will start in 2011, depending on the financial support by the Ministry. Financial requisition papers are being submitted to secure sufficient funding to achieve what has been planned in this program.

Malaysian Registry of Intensive Care (MRIC)

This is an audit of clinical practices in selected Intensive Care Units (ICU) and by 2010, a total of 37 MoH hospitals participated in this program. Among the objectives of the MRIC are: (1) to establish

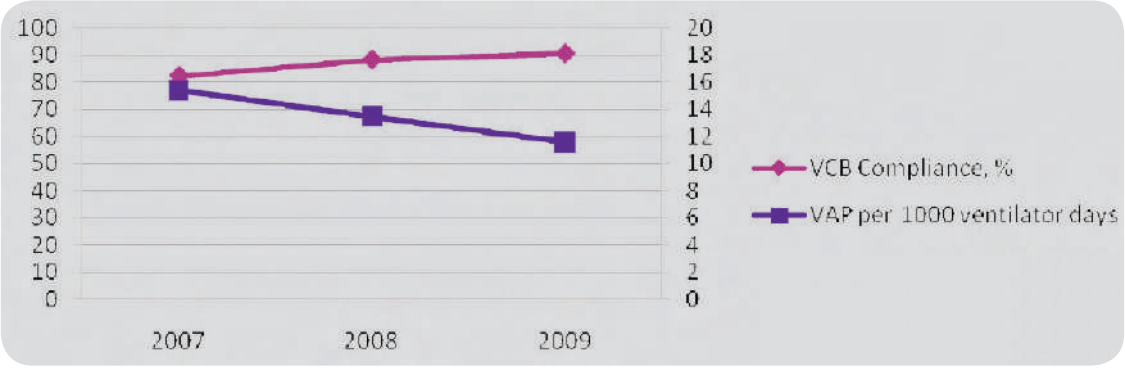
a database of patients admitted to the adult ICUs, (2) to review the clinical practices of intensive care, (3) to determine clinical outcomes, (4) to determine the resources and delivery of intensive care service, (5) to evaluate the impact of quality improvement measures on patient care, (6) to provide comparisons of performance of participating centres against national and international standards, and (7) to conduct health care research related to intensive care.

The 2009 Report was successfully published in 2010. Data were collected prospectively from 31 participating ICUs (with a total of 330 beds). 21,226 cases were analysed, with a reporting rate of 89%. It was noted that the percentage of "denied ICU admissions" due to lack of beds had declined from 56.5% to 40.0% in the last four years. Head injury, sepsis and community-acquired pneumonia were the three most common diagnoses leading to ICU admission in MoH hospitals (they have remained so for the past 7 years) and the mortality rate was 27.0% for head injury, 62.2% for sepsis and 46.3% for community-acquired pneumonia. The average SAPS II score was 35.8, which carries a predicted risk of in-hospital mortality of 28.0%. The incidence of Ventilator-associated pneumonia (VAP) has decreased by more than half in the last 7 years, from 28.0 to 11.6 per 1000 ventilator days.

Ventilator Care Bundle (VCB)

In a study conducted by a group of anesthetist in 14 MoH Hospitals in 2004, one of the recommendations made was to implement evidence-based practices to prevent or control the occurrence of VAP. This effort was first implemented nationally in 2006 following a multiple one day prevalence study on Ventilator Acquired Pneumonia (VAP) in ICU. VCB is a group of evidence-based practices that, when implemented together for all patients on mechanical ventilation, result in dramatic reductions in the incidence of VAP. Implementation of the VCB began in 2006 and has managed to attain a significant reduction in the incidence of VAP, which coincided with an increase in the compliance rate to the VCB.

FIGURE 11
VCB COMPLIANCE AND VAP RATE, 2007 - 2009



Source: Malaysian Registry of Intensive Care Report for 2009

Patient Safety

During the Patient Safety Council of Malaysia meetings in 2010, 17 Patient Safety Goals for implementation by both the public and private sectors were deliberated. In addition, an Incident Reporting and Learning System involving both the hospitals as well as Primary Care Clinics were mandated to be implemented for 2011. Training workshops in Root Cause Analysis (RCA) Training, the back-bone of incident reporting will need to be enhanced so that lessons learnt from them will be utilized to design better safety systems for patient care. The use of safety Solutions was also promulgated by the Safety Council.

- **The 2nd WHO Global Patient Safety Challenge: "Safe Surgery Saves Lives"**

  A "Safer Surgery through Better Communication" Checklist, an adaptation of the WHO Safe Surgery Check-list, was developed for Malaysia. This initiative was established to improve the safety of surgery and eliminate incorrect surgeries as well as foreign bodies being left in patients. The checklist was piloted in 2009 and was later officially launched for national implementation in late 2009 by the Director of Medical Development, Y. Bhg. Dato' Dr. Azmi bin Shapie. It is now being implemented in all MoH hospitals and a review meeting was held in late 2010 to discuss methods for improving the checklist.

\• **Incident Reporting**

Incident reporting is a very important patient safety learning tool. Table 52 shows the top 10 most common incidents in MoH hospitals in 2010 out of the 30 type of incidents being monitored. In 2011, a new set of Incidents to be monitored by hospitals and primary health care clinics will be tested for implementation. RCA Training to support incident reporting will also be intensified.

TABLE 52
TOP 10 MOST COMMON INCIDENT IN MOH HOSPITALS, 2010

Rank	Incident
1.	"At Own Risk" Discharge
2.	Poor APGAR Score
3.	Death of fetus weighing >800grams or >28 weeks gestation
4.	Adverse Drug Reaction
5.	Elective Surgery Cancelled in OT
6.	Complaints by patients and relatives
7.	Adverse Transfusion Reaction
8.	Patient falls (in ward)
9.	Needle stick injury to staff
10.	Medication error

Source: Quality in Medical Care Section, Medical Development Division, MoH

Complaints Management

In 2010, there were a total number of 318 complaints received by MoH, of which 149 cases were complaints received through the media (newspapers and "sms" columns) while the other 169 came from various sources. Prompt action was taken upon receipt of the complaints with State Health Departments and Hospitals being notified of the relevant cases and ordered to investigate and submit the report within 3 working days. Following notification to the Director of Medical Development Division, feedback was given to the State Health Directors and Hospital Directors so that corrective action and improvement could be made. A monograph on the complaints received is expected to be published in 2011.

Occupational Safety and Health

A number of safety and health activities were carried out in 2010:

a) The First Annual Occupational Safety and Health Seminar for MoH Hospitals

The Seminar was held at Putrajaya, with the theme "Forging Ahead for Better Occupational Safety and Health in MoH Hospitals". 255 participants attended this event. The Guidelines on Chemical Management in Health Care Facilities, intended to provide guidance on safe practices when handling chemicals in the workplace, was launched during this Seminar.

b) Training on Chemical Management

Training modules were developed from the Guidelines on Chemical Management. Training was conducted using these modules in Perak and Sarawak in 2010. It is hoped that eventually, all MoH staff will be trained.

c) Health Day

A Health Day, organized for staff members working in Block E1 of the MoH HQ, was attended by 232 people. Activities included check-up for blood pressure levels, body mass index, random blood sugar, blood cholesterol levels, pap smears, and the provision of advice and counseling by medical and dental officers as well as dietitians and psychologists.

d) Workers Satisfaction Survey

A workers satisfaction survey was carried out for medical staffs in Block E1 of MoH HQ.

e) Risk assessment

Risk assessment of the workplace, which looked into the hazards and exposures at the workplace and the existing controls, was conducted in six hospitals and in Block E1 of MoH HQ.

f) Basic Life Support

A Basic Life Support course was held for members of the Emergency Response Team in preparation for any event/disaster.

Hospital Infection Control

Encouragingly, the trend of Healthcare Associated Infection (HCAI) and Methicillin Resistant Staphylococcus Aureus (MRSA) in hospitals has shown a decline, based on data compiled from State hospitals. The national HCAI prevalence rate over the 7 years has shown progressive reduction from 5.44% in March 2004 to 2.69% in September 2010. The national trend of MRSA rates has also shown a reduction from 0.27% in 2004 to 0.14% in 2010. The reduction is nearly 50% when compared to rates in 2004. However, national ESBL rates, over the 6-year span, seem to be mildly fluctuating in a range of 0.16% in 2004 to 0.12% in 2010.

Infection control is very much related to the practice of hand hygiene. From January to October 2009, the national average for hand hygiene compliance rates in the State hospitals was 65.35%. Encouragingly, it increased to 68.48% for the same period in 2010. Enhancement of medical staff knowledge and competency in infection control were encouraged through courses related to the policies and procedures on infection control, conducted in 4 zones from June to July 2010 involving all MoH hospitals. In addition, a course on updates in infection control surveillance systems was also conducted in September 2010.

Star Rating Assessment by MAMPU In 2010

Under the STAR rating assessment program, the Office of the Director-General of Health Malaysia was assessed by MAMPU on 5-14 October 2010. We are pleased to report that in December 2010, the Office of the Director-General of Health Malaysia was again awarded as one of the public sector agencies that received the 5 STAR Award for the second time running.

MALAYSIAN HEALTH TECHNOLOGY ASSESSMENT SECTION (MaHTAS)

MaHTAS has been reappointed as the WHO Collaborating Centre for Evidence-based Health Care Practice for the Asia Pacific Region (2008 - 2012). The main functions of this section include conducting Health Technology Assessments (HTA) and rapid reviews known as Technology Reviews (TR), developing Clinical Practice Guidelines (CPG) and also conducting related evidence-based training to health care providers.

In 2010, three HTA reports and seven CPGs were produced by this section (Table 53). From the 31 TR produced, four technologies were recommended for use, thirteen technologies can be used in research environment and fourteen technologies were not recommended to be used (Table 54). All reports and CPGs can be accessed through the MoH website.

TABLE 53
HTA REPORTS AND CPG PRODUCED IN 2010

Reports / Guidelines	
Health Technology Assessment Reports	
i.	Antiseptics for skin preparation prior to procedure
ii.	Nasopharyngeal carcinoma screening
iii.	Prostate cancer screening
Clinical Practice Guidelines	
i.	Hormone Therapy during Menopause in Malaysian Women
ii.	Management of Stable Angina Pectoris
iii.	Management of Cancer Pain
iv.	Management of Breast Cancer
v.	The Use of Growth Hormone in Children and Adults
vi.	Management of Avulsed Permanent Anterior Teeth in Children (2nd Edition)
vii.	Management of Dengue in Adults (Revised 2nd Edition)

Source: Health Technology Assessment Section, MoH

TABLE 54.
TECHNOLOGY REVIEW REPORTS PRODUCED IN 2010 BASED ON RECOMMENDATIONS

	Recommended Technologies
•	Prolotherapy
•	Nucleic Acid Technique Testing (NAT) - An update
•	Pathogen inactivation in donated blood
•	Deep Brain Stimulation
	Technologies Recommended for Research Purpose
•	SpineMED® Decompression System
•	Nocospray-Nocolyse - A new generation airborne surface disinfection
•	Ceretom® Portable CT scanner - An Update
•	Autologous conditioned plasma for Achilles Tendinitis
•	Syrijet Mark-II: Needleless Injector
•	Buccal Mucosal Epithelium for treatment of Ocular Surface and Corneal Reconstruction
•	Mobetron ® 1000
	Technologies Recommended for Research Purpose
•	G. Tec System (G.USB Amp. G. TRIGbox, G. PAH) for New Born Hearing Screening
•	Folic acid supplementation and cancer
•	Early communication screening in children below 2 years
•	Versajet
•	Cyrus Infection Control Unit
•	Extracorporeal shockwave therapy for chronic plantar fascitis
	Not Recommended Technologies
•	Haemoperfusion Rapid Drug Detoxification with Single use haemoperfusion
•	Stem Cell Therapeutic Centre
•	Zazen Far Infrared Ray (FIR) Thermal System
•	STERIS SYSTEM 1 Low - Temperature Strerilizer
•	Osprey Deep clean Dry Steam Vapour (DSV) Cleaning technology
•	Filterqueen Indoor Air Quality System (Majestic 360° and Defender 360°)
•	Anti-viral Bio Mask
•	GUAA disinfection
•	BioNano Clean and VioNano Care (Sanitiser and Disinfectant Spray)
•	Routine use of Acetominophen following childhood immunization
•	Osmos Mosquito Repellant Wristbands
•	Complete Systematic Decontamination and Treatment on Heating, Ventilating, Air Conditioning Equipment (HVAC) System
•	Rydair electronic air cleaner and UVC Lamps
•	Environmental Friendly chemical: Emulgen

Source: Health Technology Assessment Section, MoH

Achievements of the section in 2010 were (1) Training, (2) Strengthening and capacity building activities among MaHTAS staffs, (3) CPG Implementation activities, and (4) Research and evaluation activities.

MaHTAS has conducted annual training on Health Technology Assessment and Clinical Practice Guidelines development and implementation. In 2010, one HTA course for health care professionals in the Eastern Region and three trainings on Systemic Reviews for Evidence-based CPG Development and Implementation for CPG development group members were conducted. MaHTAS also collaborate with other divisions to train MOH personnel on Evidence-based Medicine. In 2010, two Evidence-Based Medicine courses were conducted with the National Pharmaceutical Control Bureau.

A Pharmaco-economics for beginner course was conducted on 22nd September 2010 to increase the capability of MaHTAS staffs and other officers from Medical Program to understand and appraise economics papers. Weekly internal training on critical appraisal was started in November 2010. The aim of the training was to improve the appraisal skills of all the junior technical staff members and hopefully will improve the quality of reports produced.

Three CPGs were launched in 2010 namely Management of Dementia (2nd Edition), Management of Transfusion Dependent Thalassaemia and Management of Chronic Obstructive Pulmonary Disorder (2nd Edition). The aim of the launch was to increase awareness of the CPGs among the target users. Five Quick References (QR) on Management of Dementia (2nd Edition), Management of Transfusion Dependent Thalassaemia, Management of Hypertension (3rd Edition), Management of Cancer Pain and Management of Dengue Infection in Adults (Revised 2nd Edition) were developed and disseminated to the public and private health care providers.

Training Modules on Management of Schizophrenia in Adults, Management of Dementia (2nd Edition) and Management of Cancer Pain were developed and used for training of the core trainers. Patient Information Leaflet on Management of Dementia was developed based on the related CPG. Two CPG articles entitled “Tackling the blues” based on CPG on Management of Major Depressive Disorder and “Look out for warning signs” based on CPG on Management of Dengue Infection in Adults (Revised Second Edition) were featured in the New Strait Times on 15th June 2010 and 5th October 2010 respectively. It is hoped that these articles will help the public to understand more about depression and dengue, and indirectly increase the utilisation of and adherence to the CPGs.

A continuous survey on utilisation of HTA and Technology Review reports was continued using MaHTAS user feedback forms. All recipients of the reports were given this form. The analysis of the feedback received for two HTA reports revealed that 87.1% of the respondents used the report and 93.9% of the respondents felt that the quality of the reports were excellent or good. A survey on utilization of QR on Management of Major Depressive Disorder was conducted on selected hospitals and health clinics. The results showed that the overall percentage of QR utilisation was 38.3%. Few strategies have been proposed to increase the utilisation such as improving the mechanism of QR dissemination.

PRIVATE MEDICAL PRACTICE CONTROL

The Private Medical Practice Control Section undertakes the role to implement the Private Healthcare Facilities and Services Act 1998 [Act 586] which has come to its fourth year of implementation in 2010. The regulation and control of private healthcare facilities and services under this Act include registration, approval, licensing, handling of complaints, enforcement activities and matters relating to the private healthcare facilities and services.

Registration

By end of 2010, 6,442 private medical clinics and 1,512 private dental clinics were registered with the Ministry of Health. There were 153 private medical clinics and 33 private dental clinics registrations disposed in 2010 mainly due to relocation or cease of operation.

Approval and Licensing

Licensing of private hospitals and other private healthcare facilities other than private clinics consisted of two stages; (1) approval to establish or maintain and (2) license to operate or provide. By end of 2010, 594 approvals were given and 487 private healthcare facilities were licensed as listed by state in Table 55.

TABLE 55
NUMBER OF LICENSED PRIVATE HEALTHCARE FACILITIES AND SERVICES OTHER THAN THE PRIVATE CLINICS IN MALAYSIA AS OF 31st DECEMBER 2010

No.	State	Number of Licensed Private Healthcare Facility or Service			
		Private Hospitals	Private Haemodialysis Centres	Others*	Total
1.	Johor	30	29	8	67
2.	Kedah	10	11	0	21
3.	Kelantan	3	3	2	8
4.	Melaka	4	14	1	19
5.	Negeri Sembilan	8	8	1	17
6.	Pahang	8	6	1	15
7.	Pulau Pinang	23	21	7	51
8.	Perak	15	23	1	39
9.	Perlis	0	0	1	1
10.	Selangor	56	42	26	124
11.	Terengganu	1	6	2	9
12.	Sabah	6	5	1	12
13.	Sarawak	13	6	7	26
14.	FT** (KL)	40	17	21	78
15.	FT** (Labuan)	0	0	0	0
Total		**217**	**191**	**79**	**487**

Note:
**Others include private maternity home, private nursing home, private hospice, private ambulatory care centre, private blood bank and private community mental health centre.*
***FT refers to Federal Territory*

Source: Private Medical Practice Control Section, MoH

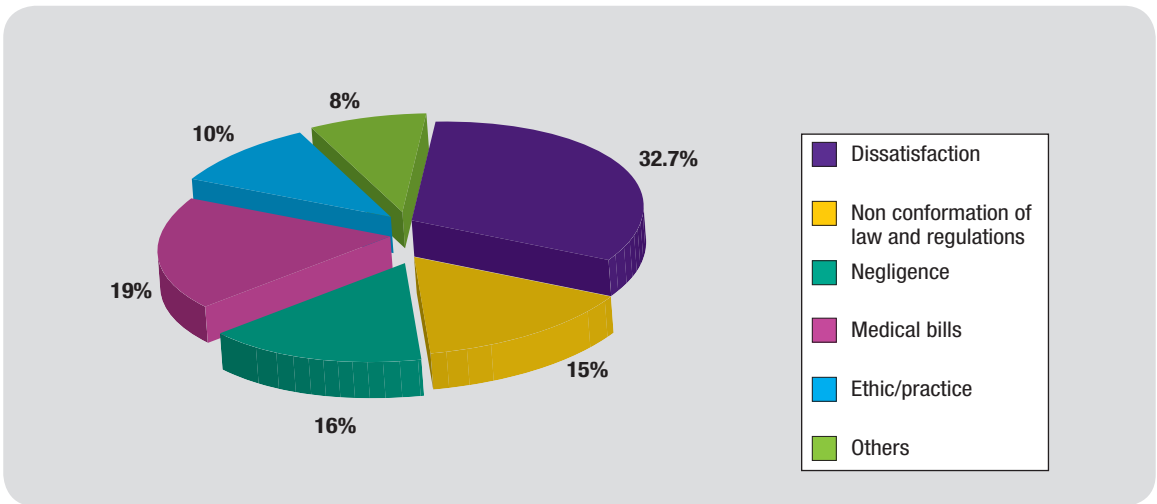
Managed Care Organizations

The number of managed care organisations entered into the Register of Managed Care Organisation remained at 27 compared to 2009. The Private Medical Practice Control Section had drafted a guideline for manage care organizations and healthcare professionals to facilitate the implementation of Part XV on managed care organizations of the Private Healthcare Facilities and Services Act 1998 which is still under discussion.

Complaints

Management of complaints related to private healthcare facilities and services had been placed under the care of the Private Medical Practice Control Section starting 2009. Complaints received in 2010 had increased by 21.1% to 333 from 275 in 2009. Figure 12 depicts the categories of complaints in percentage.

FIGURE 12
CATEGORIES OF COMPLAINTS RECEIVED (%), 2010



Source: Private Medical Practice Control Section, MoH

Enforcement

Enforcement activities under the Private Healthcare Facilities and Services Act 1998 were also monitored by the Private Medical Practice Control Section since 2009. In 2010, 16 raids had been conducted, similar to 2009 in which were mainly contributed by raiding of unregistered or unlicensed premises and premises engaging the services of bogus doctors (Table 56).

TABLE 56
NUMBER OF AND REASONS FOR RAIDING ACTIVITIES ON PRIVATE HEALTHCARE FACILITIES AND SERVICES, 2008 - 2010

No.	Reasons for Raid	No. of Raids		
		2008	2009	2010
1.	Unlicenced Premises	3	4	5
2.	Unregistered Premises	5	3	5
3.	Illegal Abortion	0	2	0
4.	Bogus Doctor	6	6	6
5.	Seroconversion	0	1	0
Total		**14**	**16**	**16**

Source: Private Medical Practice Control Section, MoH

Extended Responsibilities

In addition to its core functions, the Private Medical Practice Control Section was appointed as Secretariat for the preparation or development of the following:

- **Board of Visitors**

  The Notification of Allowance for Attendance at Meetings of the Board of Visitors and Travelling Expenses for the Member of the Board was drafted and gazetted on 18 November 2010 and to facilitate the appointment and function of the Board of Visitors in the private hospitals, the Guideline on Appointment and Function of the Board of Visitors of the Private Hospitals was aptly developed.

- **Director-General's Directive**

  The Director-General's Directive on the Implementation Reporting of Unforeseeable or Unanticipated Incidents and Assessable Death in Accordance with the Provisions of the Private Healthcare Facilities and Services Act 1998 and related manuals and forms were developed and finalised in 2010. Following its implementation, all private healthcare facilities and services licensed under paragraph 19(a) of the Private Healthcare Facilities and Services Act 1998 are obliged to comply with the Directives.

- **Fee Schedule**

  The exercise to review and amend the Thirteenth Schedule of the Private Healthcare Facilities and Services (Private Hospitals and Other Private Healthcare Facilities) Regulations 2006 was placed under the Private Medical Practice Control Section, and initiated starting September 2010 after several series of meetings with the stakeholders and approval from the Cabinet. This exercise is expected to be completed and finalised in 2011.

- **Drafting and Amendment of Regulations**

  The Private Medical Practice Control Section had begun drafting the Private Healthcare Facilities and Services (Compoundable Offences) Regulations which had been finalised and expected to be gazetted in 2011. In addition, the Private Medical Practice Control Section also assumed the task to review and amend the regulations to the Private Healthcare Facilities and Services Act 1998 in 2010, and the amendment draft of the Private Healthcare Facilities and Services (Private Medical Clinics or Private Dental Clinics) 2006 is expected to be completed and finalised in 2011.

MEDICAL LEGISLATIONS

The Medical Legislations Section is made up of (1) the Legislation Unit which is responsible for drafting, amending and providing professional views on medical legislations under the purview of the Medical Programme of the Ministry of Health and matters related to the legislations and (2) the Globalization Unit which functions as the technical secretariat for the liberalisation of healthcare services sector.

In 2010, the Section has seen a positive progress in both promulgation and amendment of medical legislations as well as the provision of technical inputs in the ASEAN Framework Agreement on Services (AFAS) and other bilateral agreements.

Gazettement of New Legislations

The Mental Health Regulations were gazetted on June 15th, 2010 which enables the enforcement of the Mental Health Act 2001 starting on the same date.

Drafting of New Legislations including Guidelines

Several Bills and Regulations were drafted and some finalised and sent to the Attorney General's (AG) Chambers for approval and these include the following:

a) Allied Health Professions Bill and Regulations

Allied Health Professions Bill which will regulate 24 allied health professions is already in its final stage of drafting and work on preparing its regulations is currently in the initial phase.

b) Pathology Laboratory Regulations

The draft of the Pathology Laboratory Regulations which has been submitted to the Legal Adviser's Office of MoH for review is awaiting the go-ahead from the Office to be sent to the AG Chambers.

c) Assisted Reproductive Technique Bill

The drafting of the Assisted Reproductive Technique Bill is in the final stage and will incorporate issues pertaining to reproductive human cloning.

d) Aesthetic Guidelines for Registered Medical Practitioners

The booming growth of the aesthetic industry amongst the registered medical practitioners has mooted MoH to hold a meeting with the stakeholders on December 10th, 2010 and a decision has been made to develop a guideline for Aesthetic Medical Practices to regulate the registered medical practitioners and their practices for patients' safety.

Amendment of Existing Legislations

In addition to drafting of new legislations, several existing Acts and Regulations were also reviewed and amended and are as follows:

a) Medical Act 1971 (Amendment)

The draft amendment to the Medical Act 1971 was finalised and submitted to the AG for review.

b) Human Tissue Act 1974 (Amendment)

Discussion on the draft amendment to the Human Tissue Act 1974 revealed the deficiency of the Act to address issues on organ transplantation and had led to a decision to incorporate all provisions under the Act into a new bill on organ transplantation.

c) Medical Assistants (Registration) Act 1977 and its Regulations (Amendment)

Upon review of the Medical Assistants (Registration) Act 1977 and its regulations, the Committee had come to an agreement to incorporate all matters relating to registration and practises of medical assistants who are currently known as assistant medical practitioners into a new Bill.

Liberalisation Activities

a) ASEAN Coordinating Committee on Services (CCS) and Healthcare Services Sectoral Working Group (HSSWG)

Although three Mutual Recognition Arrangements (MRAs) on the medical practitioners, dental practitioners and nursing practices were signed in February 2009, the discussion on its implementation is still ongoing throughout 2010 where three meetings were held in the Philippines, Brunei and Thailand. Concurrent to the CCS meetings, three meetings on healthcare HSSWG were also organized.

b) ASEAN Framework Agreement on Services (AFAS)

Continuous improvements were made in 2010 for commitments in the private hospital services under AFAS eight packages in terms of foreign equity and trade barriers which correspond with the ASEAN Roadmap of Liberalisation of Healthcare Services subsector on private hospitals and specialised medical services.

c) Free Trade Agreements – Malaysian-India Comprehensive Economic Cooperation Agreement (MICECA)

Commitments in terms of foreign equity and trade barriers for MICECA were submitted to the Ministry of International Trade and Industry (MITI) in October and will be concluded by 2011.

d) Transpacific Partnership (TPP) Agreement

Besides the ongoing negotiation on TPP Agreement which is an Asia-Pacific regional trade agreement in 2010 between the United States and eight other partners which, in addition to Malaysia, include Australia, Brunei, Chile, New Zealand, Peru, Singapore, and Vietnam, the negative listings of commitments in healthcare services were also prepared by the Globalisation Unit and submitted to MITI in October.

Training in Drafting

The Medical Legislation Section successfully conducted a three day workshop on “The Basics of Legislation Drafting” from June 14-16th, 2010 which was attended by 40 participants and steered by speakers from the AG Chambers which focused on the essence and technical aspect of drafting as well as speakers from the Pharmaceutical Enforcement Division and the Medical Legislation Section who shared their experiences on enforcement and drafting of legislations respectively.

Road Shows

In preparation for the enforcement of the Mental Health Act 2001 and Mental Health Regulations 2010, five road shows were organised in 2010 to promote the Act and its regulations among various stakeholders to facilitate the implementation.

MEDICO LEGAL SECTION

Medico Legal Section is responsible for handling, investigating, coordinating and act as a referral centre for both potentially medico legal complaints and medico legal cases laid against the healthcare facilities and healthcare professionals and para professionals working under the Ministry of Health. Apart from this, the section also collaborates with the Judicial and Legal Training Institute (ILKAP) and other related agencies in organizing courses on medico legal awareness for healthcare personnel in MoH.

For 2010, a total of 12 Ex Gratia meetings had been held to consider 112 potentially medico legal cases for Ex Gratia payment.

Management of Complaints

In general, complaints received by the Medico Legal Section from 2006 showed an increasing trend, up to 1,109 in 2010. However, the significant low prevalence of medico legal cases from 2006 to 2008 as compared to 2009 (51.7%) and 2010 (62.4%) were contributed by the segregation of complaints related to private healthcare facilities and services which were placed under the Private Medical Practice Control Section since 2009 (Table 57).

TABLE 57
THE NUMBER OF COMPLAINTS RECEIVED AND THE PERCENTAGE OF POTENTIALLY MEDICO LEGAL COMPLAINTS, 2006 - 2010

No.	Year	No. of Complaint Received	No. of Potentially Medico Legal Complaints	% of Potentially Medico Legal Complaints
1.	2006	169	28	16.6
2.	2007	205	48	23.4
3.	2008	266	78	29.3
4.	2009	267	138	51.7
5.	2010	202	126	62.4
Total		**1109**	**418**	**37.7**

Source: Medico Legal Section, MoH

Independent Inquiry Committee

In 2010, 126 technical investigations had been carried out via the Independent Inquiry Committee where the members were selectively appointed by the respective State Health Departments, and were also responsible for coordinating the meetings for potentially medico legal and medico legal cases which involve letter of demands (Table 58).

TABLE 58
NUMBER OF INDEPENDENT INQUIRY COMMITTEE MEETINGS BY STATE, 2010

No	State	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1.	Perlis	0	0	0	0	0	0	1	0	0	0	0	0	1
2.	Kedah	1	1	0	2	0	0	1	0	0	0	1	1	7
3.	Pulau Pinang	0	1	0	0	0	0	3	0	1	0	0	0	5
4.	Perak	2	0	0	1	2	1	1	4	2	0	3	1	17
5.	Selangor	4	1	3	2	0	2	2	0	2	2	1	2	21
6.	FT Putrajaya	0	0	0	0	1	0	0	0	0	0	1	0	2
7.	FT K.Lumpur	1	0	1	0	0	0	0	1	1	0	1	1	6
8.	N. Sembilan	0	1	2	1	0	0	0	0	2	2	1	1	10
9.	Melaka	1	1	0	0	1	2	0	2	1	0	2	0	10
10.	Johor	1	1	1	5	1	1	0	0	2	3	4	6	25
11.	Pahang	0	0	1	0	1	0	0	1	0	0	0	0	3
12.	Terengganu	0	0	0	0	0	0	1	1	0	0	0	0	2
13.	Kelantan	1	0	0	0	0	1	0	1	0	0	1	0	4
14.	Sabah	1	0	0	1	3	0	1	0	1	0	2	2	11
15.	Sarawak	0	0	1	0	0	0	0	0	1	0	0	0	2
	Total	**12**	**6**	**9**	**12**	**9**	**7**	**10**	**10**	**13**	**7**	**17**	**14**	**126**

Source: Medico Legal Section, MoH

Court Order and Ex Gratia Payment

The total amount of compensation payment from 2006 to 2010 was RM1 2,919,083.12 with RM 2,184,406.21 paid out via ex gratia offers for potentially medico legal cases. There was a noticeable increase in the amount of payment made in 2009 from RM 2,848,914.00 to RM 6,558,608.12 in 2010. This was due to the increase in payment for court cases after a directive was issued in 2009 by the Government to all courts to expedite clearance of backlog cases. This had resulted in the increase from RM 2,000,969.00 in 2009 to RM 5,652,242.91 in 2010 for the amount of payment for court cases (Table 59).

TABLE 59
AMOUNT OF COMPENSATION PAID BY COURT ORDER AND OUT OF COURT (EX GRATIA PAYMENT), 2006 - 2010

No.	Year	Payment for Court Cases (RM)	Payment for Ex Gratia Cases (RM)	Total (RM)
1.	2006	1,224,990.00	25,000.00	1,249,990.00
2.	2007	1,084,212.00	0.00	1,084,212.00
3.	2008	772,263.00	405,096.00	1,177,359.00
4.	2009	2,000,969.00	847,945.00	2,848,914.00
5.	2010	5,652,242.91	906,365.21	6,558,608.12
Total		**10,734,676.91**	**2,184,406.21**	**12,919,083.12**

Source: Medico Legal Section, MoH

Medico Legal Training and Courses

The increasing number of potentially medico legal cases and medico legal cases every year has led to awareness on the need of medico legal awareness training and courses among MoH personnel. In cooperation with the Judicial and Legal Training Institute (ILKAP), three medico legal courses were organised for medical specialists, medical officers (clinical and administrators) and medical supporting personnel in 2010. At the end of 2010, the total cumulative number of MoH personnel who participated in the medico legal awareness courses was 470 (Table 60). A sharp decrease in the number of nurses trained in 2010 compared to 2009 was also noted; which was due to the initiatives taken by the nursing professions to organise their own training courses in medico legal awareness, focused namely on nursing management and skills.

TABLE 60
NUMBER OF PERSONNEL TRAINED IN MEDICO LEGAL AWARENESS COURSES, 2006 - 2010

No.	Year	Category of Personnel				Total
		Medical Specialist	Medical Officer	Assistant Medical Officer	Nurses	
1.	2006	8	52	28	6	94
2.	2007	18	55	27	6	106
3.	2008	10	14	23	39	86
4.	2009	22	21	13	49	105
5.	2010	24	26	21	8	79
Total		**82**	**168**	**112**	**108**	**470**

Source: Medico Legal Section, MoH

NURSING

The Division has been restructured into two sections namely Practice and Regulatory. Both sections are sub-divided into units as follows:

A. Nursing Practice

i. Hospital Service and Public Health Service.
ii. Research and Quality
iii. Professional Development

B. Regulatory Section (Comprising the Nursing Board and the Midwives Board in accordance with the Nurses Act 1950 and the Midwives Act 1966)

i. Registration
ii. Annual Practicing Certificate (APC)
iii. Temporary Practice Certificate (TPC).
iv. Retention of Names
v. Examination and Curriculum
vi. Private Nursing Practice

Nursing Practice

- **Hospital and Public Health Services**

  A total of 25 Nursing Practice guidelines comprising of Ophthalmology, ENT, O&G, Haematology, Plastic Surgery, Nephrology, Intensive Care Unit (ICU), Oncology, Perioperative, Urology, Psychiatry, Neuromedicine, Burns, Geriatric, Cardiothoracic, Neurosurgery, CSSU, Orthopaedic, Dermatology, General Surgery, General Medicine, Neonatology, Cardiac Care Unit (CCU) and Paediatric disciplines were developed and distributed to all public hospitals. This was to enhance the nursing service delivery by addressing issues related to nursing practice, ethics, facilities and human resources. Monitoring and surveillance of hospitals and health facilities were also carried out to ensure that nursing care providers comply with the policies and procedures, and the Standard Guideline issued to hospitals which adheres to the Nurses Acts 1950 and the Midwifery Acts 1965. Adherence to these policies and procedures is important for provision of quality nursing care services to the clients.

TABLE 61
LIST OF VISITS AND SUPERVISION CARRIED OUT AT HOSPITALS & HEALTH CLINICS IN 2010

Month	State Visited	Health Facilities	
		Hospital	Health Clinic
January	Negeri Sembilan	Hosp Tg Jaafar, Seremban Hosp Tg Najihah, Kuala Pilah	KK Nilai KD Kuala Sawah, Kuala Pilah.
March	Sarawak	Hosp Bau Hosp Serian Hosp Umum Sarawak	KK Sg, Bau KK Krokong KK Mentu KK Seangan
April	FT Labuan	Hosp Labuan	-
	Sabah	Hosp Lahat Datu Hosp Kunak Hosp Tawau	KK Labuan KK Tambisan Lahat Datu KK Felda Sahabat, Lahat Datu KD Bukit Kalam
May	Kedah	Hosp Pakar Kulim Hosp Sultanah Bahyah	KK Taman Selasih, Bdr Baru Kulim KD Suka Menanti, Kota Star
June	Pahang	Hosp Cameron Highland Hosp Kuala Lipis Hosp Raub	KK Cameron Highland Pos Orang Asli Kg Layar KD Betau, Kuala Lipis KK Jeruas, Raub KD Gali Hilir Raub
July	Johor	Hosp Mersing Hosp Kota Tinggi	KD Kg Sri Pantai Perkampungan Orang Asli Kg Tanah Abang KD Batu 4 KD Tg Serindit Kota Tinggi KD Prasak KD Linting
August	Pahang	Hosp Jerantut Hosp Jengka	KD Feri Jerantut KK Sg Tekam, Jerantut
November	Kedah	Hosp Langkawi	KK Padang Mat Sirat KK Air Hangat KK Kuah KK Kedawang KD Bayas
	Kelantan	Hosp Pasir Putih	KK Wakaf Baru KK Bachok KK Selinsing KKIA Pasir Putih KD Pintu Gerbang
	Terengganu	-	PKD Kuala Terengganu KK Kuala Besut KK Seberang Takir KD Tempias. KD Gong Tok Nasik

Month	State Visited	Health Facilities	
		Hospital	Health Clinic
December	Selangor	-	KK Tjg Karang KK Ijok KD Puncak Alam
	Negeri Sembilan	-	PKD Tampin KK Tampin KK Tebung

Note: PKD = District Health Centre, KK = Health Clinic, KKIA = Women & Child's Clinic, KD = Community Clinic

Source: Nursing Division, MoH

- **Research Development and Quality**

  In 2010, the Division received the MS/ISO: 2008-9001 certification by SIRIM (Standard Industrial Research Institute of Malaysia). Plans and strategies were developed to improve nursing services through research, nursing audits, reviewing & updating the Nursing Practice Guidelines, promoting creativity & innovations in nursing practice, and enhancing competency through accreditation.

  The National Nursing Audit Group had audited the four main indicators for hospital procedures which are: Administration of Oral Medication, Administration of Intravenous Infusion, Aseptic Wound Dressing, and Blood & Blood Component Transfusion. A standard conformance was set at 90% upon agreement made during the National Nursing Audit committee meeting held on March 11th, 2010. Corrective measures were done pertaining to the results. Quality care was reinforced and improved via Technical Meeting with State Matrons, and the audit results were sent to the Health Administrators, Hospital Administrator, State and Hospital Matrons. Hospitals with achievements below the intended target were called for meeting. Continuous monitoring with scheduled and ad hoc supervisions was carried out. Tables 62 to 66 listed below showed the results of the National Nursing Audit Conformity regarding the four indicators carried out in the sixteen state hospitals throughout the year 2010.

TABLE 62
ADMINISTRATION OF ORAL MEDICATION AUDIT, 2010

No	Element	Total of Samples	Conformity	Shortfall In Quality
1	Overall Performance	22711	88.8%	11.2%
2	Soft Skill	22711	93.6%	6.4%
3	Technical Skills	22711	93.6%	6.4%

Source: Nursing Division, MoH

TABLE 63
ADMINISTRATION OF INTRAVENOUS INFUSION AUDIT, 2010

No	Element	Total of Samples	Conformity	Shortfall In Quality
1	Overall Performance	30837	84.5%	15.5%
2	Soft Skill	30837	94.0%	6.0%
3	Technical Skills	30837	87.8%	12.2%

Source: Nursing Division, MoH

TABLE 64
ASEPTIC WOUND DRESSING AUDIT, 2010

No	Element	Total of Samples	Conformity	Shortfall In Quality
1	Overall Performance	15737	83.0%	17.0%
2	Soft Skill	15737	92.0%	7.8%
3	Technical Skills	15737	89.5%	10.5%

Source: Nursing Division, MoH

TABLE 65
BLOOD & BLOOD COMPONENT TRANSFUSION AUDIT, 2010

No	Element	Total of Samples	Conformity	Shortfall In Quality
1	Overall Performance	5339	92.2%	7.8%
2	Soft Skill	5339	96.1%	4.0%
3	Technical Skills	5339	94.2%	5.9%

Source: Nursing Division, MoH

TABLE 66
NURSING AUDIT (PUBLIC HEALTH), 2010

No	Indicators	Total Sample	% Conformance
1	Management of High Risk Mother – Colour Coding	33361	75.6
2	Management of High Risk Mother – Anaemia in Pregnancy	8080	47.9
3	Management of High Risk Mother – Gestational Diabetes	4071	55.4
4	Management of High Risk Mother – Pregnancy Induced Hypertension	2510	54.2
5	Management of High Risk Mother – Heart Case	274	57.8
6	Post Natal Home Nursing – Mother	2486	77.3
7	Post Natal Home Nursing – Neonate	2491	84.8
8	Child Immunization	2784	85.1
9	Maintenance of Cold Chain	2309	85.8
10	Child Growth and Development Evaluation	4223	82.6
11	Preparation of Vision Test Among School Children	1070	96.3
12	Performed Vision Test Among School Children	1212	94.6
13	Nursing Leadership and Clinical Governance	928	68.7
14	Management of Human Resource Under Primary Health Care	914	67.0

Source: Nursing Division, MoH

- **Professional Development**

  a) CPD Credit Points

  As the Division emphasized on the need for continuous enhancement of knowledge and skills (competency) for all nursing personnel, the CPD Credit Points system was established as a mandatory requirement for application of the Annual Practicing Certificate by all nurses in the public and private sectors. In 2010, the CPD Credit Points System was improved, whereby all nurses can enter CPD points online to the MyCPD. In line with Professional Development, several training programs, conferences, seminars and workshops was organized in 2010 (Table 45). CPD points were also awarded to all participating nursing institutions that organize training for their nursing personnel and also training the trainers.

TABLE 67
LIST OF COURSES, CONFERENCES, SEMINARS AND WORKSHOPS ORGANIZED IN 2010

No	Courses / Workshops	Date	No. of Participants
1	Management and Disposal of Files Workshop	5 – 6 April	21
2	National Nursing Auditor 2010 Workshop	11-14 April	30
3	Effective Nursing Leadership Course	25 -27 April	58
4	Talks of Management Employment of Foreign Workers	28 April	27
5	Effective Nursing Leadership Course	17 – 19 May	57
6	Management and Disposal of Files Workshop	24 – 25 May	20
7	Quality, Innovative and Creative Workshop	25 May	20
8	Correspondence, Memos, Minutes of Meetings and Filing Course	5 – 6 July	28
9	Effective Human Relationship at Workplace Course	11 – 13 July	50
10	Effective Nursing Leadership Course	13 – 14 July	70
11	ISO Workshop	27 – 28 Sept	25
12	Training of Nurse Auditor From Private Hospital	22 Oct	60
13	Effective Human Relationship at Workplace Course	6 – 10 Oct	56
14	Correspondence, Memos, Minutes of Meetings and Filing Course	20 – 21 Oct	25
15	Effective Nursing Leadership Course	24 – 26 Oct	60
16	Overview Quality Assurance (QA) Workshop	25 – 27 Oct	38
17	Disaster Nursing	24 – 25 Oct	30
18	Disaster Nursing	8 – 10 Nov	84
19	Disaster Nursing	22 – 23 Nov	50
20	Disaster Nursing	23 – 24 Nov	45
21	Effective Human Relationship at Workplace Course	14 – 16 Dec	50

Source: Nursing Division, MoH

b) Development of Nursing Practice Guidelines

As mentioned earlier, 25 Nursing Practice Guidelines comprising of various disciplines was developed and distributed to all public hospitals to adhere. Another activity of this unit includes Recruitment Campaigns were also organized to increase applications in the nursing profession from the non-Malay ethnicity. The approaches include talks, dissemination of brochures and short documentary films on the Nursing Profession.

Regulatory Section

- **Registration of Nurses**

  Graduates from the Nursing and Midwifery programs, Assistant Nurses and Community Health Nurses intending to practice nursing in Malaysia are required to register with the Nursing Board of Malaysia and the Midwives Board of Malaysia in accordance with the Nurses Act 1950 and the Midwives Act 1966. In total, there were a total of 69,110 nurses in the whole country, with a proportion of 1:410 to population, in which they have to register themselves prior providing services. Table 68 shows the number of newly registered Nurses from 2008 to 2010. For 2010, there are 43,346 (Staff) Nurses, 19,266 Community Nurses, 1,606 Assistant Nurses, and 406 Division II Midwives in MoH. The unit also endorses training transcripts and verification of registration for Nurses and Midwives who wish to pursue tertiary education or practice abroad. Table 69 shows the number of transcripts endorsed and verified.

TABLE 68
NUMBER OF NEWLY REGISTERED NURSES, 2008 - 2010

Categories of Nurses	2008	2009	2010
Staff Nurses	5,332	6,995	9,162
Community Nurses	1,226	1,176	2,617
Assistant Nurses	119	109	103
Public Health Nurses	82	91	167
Mental Health Nurses	1	19	26
Midwives Division 1	938	884	867
TOTAL	**7,698**	**9,274**	**12,942**

Source: Human Resource Division and Medical Nursing Board, MoH

TABLE 69
NUMBER OF ENDORSED & VERIFIED REGISTRATIONS AND TRANSCRIPTS, 2008 - 2010

Activities	2008	2009	2010
Retention of Name	1,792	2,304	3,262
Verification of Registration	280	572	732
Verification of Transcripts	460	636	732
TOTAL	**2,532**	**3,512**	**4,726**

Source: Nursing Division, MoH

- **Annual Practicing Certificate (APC)**

  Every registered nurse must have a valid APC to practice nursing in Malaysia. The APC form can be downloaded from the MoH portal. Table 70 shows the number of APC issued for nurses in both public and private sectors.

TABLE 70
NUMBER OF APC ISSUED FOR NURSES IN PUBLIC & PRIVATE SECTORS, 2008 - 2010

Categories of Nurses	2008		2009		2010	
	Public	Private	Public	Private	Public	Private
Basic Diploma Nurse	38,575	15,633	45,478	14,414	56,291	21,118
Community Nurse	16,230	406	18,083	500	17,621	167
Assistant Nurse	2,289	2,327	1,781	2,488	771	957
Total	**57,094**	**18,366**	**65,342**	**17,402**	**74,683**	**22,242**

Source: Nursing Division, MoH

- **Temporary Practice Certificate (TPC)**

  The Nursing Board approved applications and has issued TPC to foreign nurses who intend to practice nursing in Malaysia either for the purpose of work, teaching or attachment. In 2010, a total of 1,037 TPC were issued to foreign nurses as listed in Table 71.

TABLE 71
LIST OF TPC ISSUED TO FOREIGN NURSES, 2008 – 2010

COUNTRY	2008	2009	2010
India	861	1,012	780
Myanmar	83	91	78
Philippines	100	135	84
Indonesia	40	55	70
Vietnam	3	3	4
Singapore	2	2	1
Pakistan	1	1	1
Bangladesh	1	1	1
Australia	1	1	0
Zimbabwe	2	3	4
United Kingdom	2	1	3
Taiwan	2	2	1
USA	3	3	1
Iran	2	1	0
Ireland	2	2	2
Hong Kong	1	0	0
Germany	0	1	0
Netherlands	0	1	0

COUNTRY	2008	2009	2010
Britain	0	2	3
Poland	0	0	1
China	0	0	1
Japan	0	0	1
Nigeria	0	0	1
TOTAL	**1,106**	**1,317**	**1,037**

Source: Nursing Division, MoH

- **Examination and Curriculum**

  The Examination Unit under the Regulatory Section establishes conditions and procedures in implementation of final examinations. Other functions include logistics preparation, setting the examination calendar, developing and editing examination questions, and conducting the examination as a requirement for registration in accordance to the General Registry, the Nurses Act 1950 and the Midwives Act 1966.

  Examination results were announced within one month of the Education and Examination Committee Meeting. Table 72 shows the results of the final examination for diploma and pre-registration from various institutions, while Table 73 displays the results of the final examination for all categories of nurses in 2010.

TABLE 72
RESULTS OF FINAL EXAMINATION FROM MOH, IPTA & IPTS 2010

Institutions	No. of Candidates		Passed	Percentage	Ethnic Composition				
					M	C	I	O	Total
Ministry of Health	March	34	28	82%	25	0	1	2	28
	June	1,573	1,547	98%	1,210	29	40	268	1,547
	Dec	1,214	1,202	99%	1,048	13	31	110	1,202
	Total	**2,821**	**2,777**	**98%**	**2,283**	**42**	**72**	**380**	**2,777**
Higher Learning Institutions (Public)	March	3	2	66%	2	0	0	0	2
	June	613	591	96%	545	22	3	21	591
	Dec	57	44	77%	44	0	0	0	44
	Total	**673**	**637**	**94%**	**591**	**22**	**3**	**21**	**637**
Higher Learning Institutions (Private)	March	989	678	68%	350	10	140	178	678
	June	3,635	2,552	70%	1,660	315	257	320	2,552
	Dec	3,611	2,556	70%	1,855	117	369	215	2,556
	Total	**8,235**	**5,786**	**70%**	**3,865**	**442**	**766**	**713**	**5,786**
Grand Total		**11,729**	**9,200**	**78%**	**6,739**	**506**	**841**	**1,114**	**9,200**

Note: M = Malay, C = Chinese, I = Indian, O = Others
Source: Nursing Division, MoH

TABLE 73
RESULTS OF FINAL EXAMINATION FOR ALL CATEGORIES OF NURSES, 2010

Categories Of Nurses	No of Candidates	Passed	Percentage (%)
Community Nurse (Certificate)	1,532	1,531	99%
Midwifery Part 1 Nurse (Certificate)	936	901	96%
Assistant Nurse - Private Sector Certificate)	103	103	100%
Basic Diploma(MOH)	2,821	2,777	98%
Basic Diploma(Public Sector i.e. IPTA)	673	637	94%
Basic Diploma (Private Sector)	8,235	5,786	70%
Total	**14,300**	**11,735**	**82%**

Source: Nursing Division, MoH

a) Approval and Accreditation of Nursing Programme

The Nursing Board and Midwifery Board determine the Professional Guidelines on Standards & Criteria for the Approval and Accreditation of Nursing Programs offered locally by public and private nursing institutions. The Nursing Board and the Midwifery Board in-cooperation with the Ministry of Higher Education, Malaysian Qualifying Agency and Public Service Department, is responsible for the assessment, approval and accreditation of all Nursing Programs offered by private and public nursing institutions.

- **Private Nursing Practice**

The objectives of this unit are to improve nursing services by monitoring and conducting surveillance together with MQA and the Ministry of Higher Education in all public healthcare facilities and private institution of higher learning, to ensure conformance to the Nurses Act 1950 and Midwives Acts 1966, and corrective actions were taken. Surveillance activities also ensured the Code of Professional Conduct is practiced by all nurses. This unit also conducts investigation in health facilities regarding complaints and the non-conformance to the Nurses Act 1950. Besides that, it collaborates with other units within the Nursing Division to ensure adherence to stipulated guidelines.

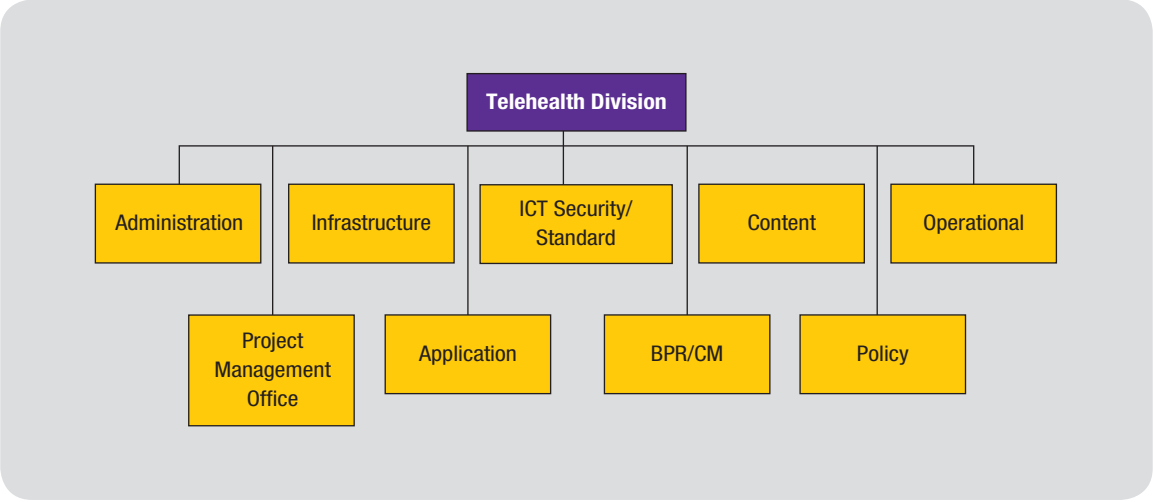
In line with the mission to display professionalism and excellence in its services, the Nursing Division is in the process of reviewing CPD policies and log book to make it user friendly and easily accessible. Nursing Division is also updating the SPJM (Nursing Information Management Systems) to improve and facilitate the issuance of APC via an online system. The Division has also stipulated that effective from July 2010, all candidates enrolling into the Diploma Program must meet an entry requirement of minimum 5 credits. This was implemented as an effort to enhance the quality of nursing profession.

In addressing the growing needs for improvement in human capital in terms of knowledge, innovation, and nurturing 1st class mentality, the Nursing Division will continue its effort in addressing persistent nursing issues constructively and productively by instilling positive values and continuing to cooperate and collaborate closely with the Central Agencies, the Ministry of Higher Education, both public and private institutions of higher learning, and other related agencies.

TELEHEALTH

The Telehealth Division is responsible to facilitate in the planning, implementation and monitoring of the Health ICT initiatives in MoH. There are eight units under the Telehealth Division as shown in Figure 13.

FIGURE 13
TELEHEALTH DIVISION ORGANISATION CHART



Source: Telehealth Division, MoH

Project Management Office (PMO)

The PMO unit was established in 2009 to provide comprehensive support services in the Health-IT project management. This is achieved by providing assistance to raise the quality standard of Health-IT projects towards excellence, providing documentation and references in project management methodologies adopted by the Telehealth Division; and ensuring the staff in the Division is trained, capable, competent, skilled and knowledgeable in order to provide project management services Health-IT encompassing aspects of IT and technical domains.

The PMO Unit played an active role in providing guidelines in planning and implementation of Health-IT to project managers in the Telehealth Division, developing and implementing project management methodologies that are consistent with Health-IT and refers to the standards adopted by the Division. The Unit also has assisted in the document review and financial management of all Telehealth Projects, providing document references for projects under the Division in the form of hard copy and soft copy, as well as conducting training programs in Health-IT project management methodology used by the Division.

The Division also acts as the Secretariat for MoH's Information Technology Strategic Plan (PSTM) 2011-2015 Project beginning on 13th August 2010 and due on 28th February 2011. For this purpose, a PSTM 2011-2015 Early Workshop Summary Study was held on 19-21 November 2010.

Infrastructure

This unit is responsible for the planning and infrastructure preparation for division projects, and also responsible in making sure the infrastructures provided were used by every project and system.

Application

This is responsible for the planning and development of application systems for division projects, and also to make sure the systems can be integrated with other application system as needed.

ICT Security / Standard

This unit is responsible for developing and ensuring compliance with policy and security control of all telehealth-related projects, and responsible for the operation and maintenance of systems that has been implemented. It is also responsible for implementation of the necessary health informatics standards. For this purpose, the Division is closely working together with the Health Informatics Centre, which is responsible for the governance of all health informatics standards on all Health-IT systems that are being developed. The Division has been involved various activities in 2010, which are:

a) Privacy and Confidentiality Audit of the HIS/CIS system in MoH healthcare facilities in the Klang Valley on 3-16h December 2010
b) Team Member for the Testing and Acceptance Sessions of the HISPRO Hospital Information System (HIS) Project at Hospital Sultan Hj. Ahmad Shah, Hospital Sultanah Nur Zahirah, and Hospital Bintulu.
c) Codes for File Classification in the Telehealth Division (Pre-requisite for the Ministry for successful implementation Electronic Records Management System (ERMS)

    i. Develop a complete classification and comprehensive file ERMS implementation
    ii. Delivery of the workshop report on 21st March 2011.
    iii. Provided CME for the Division staffs on 8th April 2011.
    iv. Establishment of files classification on 8th April 2011.

d) Preparing Work Procedure Manual and Desk File for the Telehealth Division.
e) User Access Control Policy Project

    i. Workshop on "HIS/CIS User Access Control Policy" for MoH healthcare facilities was conducted on 4-6 October 2010.
    ii. A discussion session to address the issue of privacy, confidentiality and security of patient data in HIS of Hospital Putrajaya was held on 2nd November 2010.

Policy

The Policy Unit was established in 2008 to act as a domain support for the Telehealth Division to develop, review and monitor implementation of policies to ensure the success of telehealth-related projects. This is done by (1) providing policies and guidelines for the units and projects, (2) reviewing, updating and strengthening national policies and guidelines for the Division, as well as (3) preparing, managing, implementing and monitoring the implementation of projects and projects under the auspices unit involved.

A survey of public acceptance & confidence on the patient information sharing in healthcare facilities was conducted on 18-22 January 2010. The ICT Security Audit was held at Hospital Putrajaya, Putrajaya Health Clinic, Hospital Tuanku Ja'afar, Tebrau Health Clinic, and Kuala Kubu Bharu Dental Clinic from 20-29 January 2010. A Workshop on Privacy, Confidentiality and Security of Patient Data was held on 25th May 2010, involving the same healthcare facilities mentioned earlier. Discussions and follow-up visit from the feedback on privacy improvement, confidentiality and security of patient data held on 9-12 July 2010 in three (3) facilities, namely the Family Health Development Division, Hospital Putrajaya and the Putrajaya Health Clinic. A Workshop on Evaluating and Updating of the National Telehealth Policy from 2-4 August 2011 was held at the Avillion Hotel, Malacca.

Business Process Reengineering (BPR) / Change Management (CM)

The BPR/CM Unit is responsible to provide advice and consultation relating to Change Management in telehealth-related projects, planning and assistance in implementing the Change Management activities, and Teleconsultation (TC) Services. The primary objective of TC Services is to extend specialist-level medical care to remote health clinics and health centres through teleconsultation links between secondary/tertiary hospitals and the primary care facilities, and thus improving health outcomes. The locations of TC Services in Malaysia are as listed in Tables 74 and 75. Further information regarding the TC Services is available at http://www.tc.moh.gov.my

A Workshop on Change Management Programme for the provision of the facilities – MyHIX Project, was held at the Putrajaya International Convention Centre on 5-6 and 9-10 August 2010. A Meeting on Updating the Standard Operating Procedure (SOP) for Teleconsultation Services (TeleCardiology, TeleDermatology, TeleNeurosurgery and TeleRadiology) in Malaysia was held on 16th December 2010 for. During this meeting, the General Module is included in addition to the existing modules.

TABLE 74
LOCATIONS OF TELECONSULTATION SERVICES IN MALAYSIA (HEADQUARTERS)

No.	Facility	Location	Description
1.	MoH Data Centre	MyLOCA	Equipments in Data Center
2.	Telehealth Division, MoH	Level 2, Block E1, Parcel E, Presint 1, Putrajaya	Work station for Network Operating Center (Monitoring)

Source: Telehealth Division, MoH

Operation & Content

This unit is responsible in assisting the operation of all projects and activities in the Division, to reinforce and strengthen content (information) as well as presentation of Health-IT projects and activities in the Division, to plan and carry out health promotion activities related to Health-IT projects and activities in the Division, and to prepare and publish health promotion materials and documents relating to the Division. The unit is also responsible to monitor and manage the MyHEALTH portal, which aims to provide health education and information to the public via the internet access (www.myhealth.gov.my).

Administration/Operational

This unit is responsible to manage general administration, administrative service for staff, financial management and asset handling of the Division. The Division was also given the task to manage the Inhouse Clinic Service of the Medical Programme service, which was meant to provide health service to civil servants at the MoH HQ.

TABLE 75
LOCATIONS OF TELECONSULTATION SERVICES IN MALAYSIA (HOSPITALS)

No	Hospital	Neurosurgery		Radiology		Cardiology		Dermatology		No. of Workstation			Location
										Receiver			
		Receiver	Sender	Receiver	Sender	Receiver	Sender	Receiver	Sender	Neurosurery & Radiology	Cardiology & Dermatology	Sender	
PERLIS													
1.	Hospital Tuanku Fauziah		√				√					2	Cardiology Clinic (S) ED (S)
KEDAH													
2.	Hospital Sultanah Bahiyah		√				√					2	Cardiology Clinic (S) ED (S)
3.	Hospital Langkawi		√									1	ED (S)
4.	Hospital Sultan Abdul Halim		√									1	ED (S)
PULAU PINANG													
5.	Hospital Pulau Pinang	√				√				1	1		Cardiology Clinic (R) Neurology Clinic (R)
6.	Hospital Seberang Jaya		√									1	ED (S)
PERAK													
7.	Hospital Grik				√							1	Radiology Dept. (S)
8.	Hospital Ipoh			√						1			Radiology Dept. (R)
9.	Hospital Taiping						√					1	Cardiology Clinic (S)
SELANGOR													
10.	Hospital Sungai Buloh	√								1			Neurology Clinic (R)
11.	Hospital Tengku Ampuan Rahimah		√									1	ED (S)
12.	Hospital Ampang		√									1	ED (S)
13.	Hospital Selayang		√									1	ED (S)
14.	Hospital Serdang		√									1	ED (S)
NEGERI SEMBILAN(													
15.	Hospital Tuanku Jaafar		√									1	ED (S)

No	Hospital	Neurosurgery		Radiology		Cardiology		Dermatology		No. of Workstation			Location
										Receiver			
		Receiver	Sender	Receiver	Sender	Receiver	Sender	Receiver	Sender	Neurosurery & Radiology	Cardiology & Dermatology	Sender	
MELAKA													
16.	Hospital Melaka		√									1	ED (S)
JOHOR													
17.	Hospital Batu Pahat		√									1	ED (S)
18.	Hospital Pakar Sultanah Fatimah		√									1	ED (S)
19.	Hospital Sultanah Aminah	√								1			Neurology Clinic (R)
20.	Hospital Kluang		√									1	ED (S)
PAHANG													
21.	Hospital Sultan Hj Ahmad Shah		√									1	ED (S)
22.	Hospital Tengku Ampuan Afzan		√									1	ED (S)
KELANTAN													
23.	Hospital Raja Perempuan Zainab II			√						1			Radiology Dept. (R)
24.	Hospital Gua Musang				√							1	Radiology Dept. (S)
SABAH													
25.	Hospital Beluran				√				√			2	Radiology Dept. (S) Dermatology Clinic (S)
26.	Hospital Duchess of Kent		√	√			√			1		2	Radiology Dept. (R) Cardiology Clinic (S) ED (S)
27.	Hospital Kudat				√				√			2	Radiology Dept. (S) Dermatology Clinic (S)
28.	Hospital Queen Elizabeth	√		√		√				2	1		Cardiology Clinic (R) Neurology Clinic (R) Radiology Dept. (R)
29	Hospital Ranau				√				√			2	Radiology Dept. (S) Dermatology Clinic (S)

No	Hospital	Neurosurgery		Radiology		Cardiology		Dermatology		No. of Workstation			Location
										Receiver			
		Receiver	Sender	Receiver	Sender	Receiver	Sender	Receiver	Sender	Neurosurery & Radiology	Cardiology & Dermatology	Sender	
30.	Hospital Keningau		√						√			2	ED (S) Dermatology Clinic (S)
31.	Hospital Tawau		√				√		√			3	ED (S) Clinic of Cardiology Dermatology Clinic (S)
SARAWAK													
32.	Hospital Bintulu		√		√							2	Radiology Dept. (S) ED (S)
33.	Hospital Kapit				√							1	Radiology Dept. (S)
34.	Hospital Mukah				√							1	Radiology Dept. (S)
35.	Hospital Miri		√	√						1		1	Radiology Dept. (R) ED (S)
36.	Hospital Saratok				√							1	Radiology Dept. (S)
37.	Hospital Marudi				√							1	Radiology Dept. (S)
38.	Hospital Limbang				√							1	Radiology Dept. (S)
39.	Hospital Kanowit				√							1	Radiology Dept. (S)
40.	Hospital Sibu		√	√						1		1	Radiology Dept. (R) ED (S)
41.	Hospital Umum Sarawak	√								1			Neurology Clinic (R)
FEDERAL TERRITORIES													
42.	Hospital Putrajaya		√									1	Neurology Clinic (S)
43.	Hospital Kuala Lumpur	√						√		1	1		Neurology Clinic (R) Dermatology Clinic (R)
TOTAL		**6**	**23**	**6**	**12**	**2**	**5**	**1**	**5**	**12**	**3**	**45**	

Note:
(S)= Sending Station, (R)= Receiving Station
Utilizing existing DICOM Viewer Equipment in the hospitals through integration process for the facility listed below;
1.Hospital Sungai Buloh – Neurosurgery Receiver
Source: Telehealth Division, MoH

Continuing Professional Development (CPD)

- **Online CPD Services**

  Online CPD Services is a program designed to assist various categories of MoH staff members to have equal opportunities and access to various up-to-date CPD activities and materials. Online CPD Services comprises of Online Monitoring of Continuing Professional Development (myCPD) and Virtual Library.

- **MyCPD**

  The MyCPD system has been operational since February 2008. Initially, only 3 categories of MoH staff members (Medical Officers, Dental Officers, and Pharmacists) were required to record all their CPD activities through this online system. Since 2010 it has been extended to include 6 other categories; Engineers, Researchers, Nurses, Assistant Medical Officer, Tutors, and Allied Health Personnel. As of 31st December 2010, there were 98,007 MoH staffs registered in MyCPD (Table 76).

TABLE 76
NUMBER OF MOH HEALTHCARE PROVIDERS REGISTERED IN THE MyCPD SYSTEM (AS OF 31ST DECEMBER 2010)

Category of service scheme	No. of post filled (as of)	No. registered with MyCPD	Percentage (%)
Doctors	19,307	14,497	75.09
Dentists	1,721	1,882	109.36
Pharmacists	4,598	4,035	87.76
Nurses	65,702	64,712	98.49
Assistant Medical Officers	9,093	8,010	88.09
Engineers	195	111	56.92
Researchers & Assistant Researchers	149	198	132.86
Tutors	941	972	103.29
Allied Health Personnel	2,706	3,590	132.67

Source: Telehealth Division, MoH

MyCPD functions as an online logbook which allows MoH staff members to plan, record and track their CPD activities. CPD credit points have been used as an evaluation competence development tool for MoH staff. It replaces both the functional and generic component of the competency level assessment (PTK). Hence, it is now possible to provide a comprehensive mechanism to evaluate competency of MoH staff more appropriately and objectively.

MyCPD implementation is under the jurisdiction of the Medical Development Division since 1 June 2009 and is supported by the Competency Development Division for PTK-CPD evaluation. Starting from 2011, application and renewal of APC for healthcare providers will require CPD points. This is enabled by integration between MyCPD and APC which will done in phases starting with the Dental Officers. It will then be extended to healthcare providers in the private sector.

CHALLENGES AND WAY FORWARD

With the rapid advancement in medical and information technologies, and an increasingly sophisticated clientele, the Medical Programme is expected to face greater challenges moving forward. The phenomenal increase in the breadth and depth of medical knowledge has resulted in an increasing demand for specialization and sub-specialization in virtually every field of medicine, and this demand is coming not only from the medical fraternity itself but also from patients expecting a higher level of care closer to home.

This has in turn resulted in the Medical Programme having to grapple increasingly with the problems of ensuring an adequate supply of such highly skilled medical personnel from our institutions of higher learning and training hospitals; proper and timely recruitment and placement of these personnel in our hospitals together with the necessary supporting staff; ensuring and maintaining a proper skill-mix in our hospitals; appropriate service development namely putting in place the required infrastructure, equipment, funding, policies, process, standard and guidelines for the specialty/subspecialty services to function optimally; retaining these personnel to the public sector against the more attractive pull of the private sector; and finally ensuring continuing professional development so that these highly skilled personnel remain competent and relevant with the times.

Thus, there is a need for endless planning, implementation, coordination, monitoring and evaluation efforts not only among all sections and divisions of the Medical Programme but also with other Programmes in the Ministry of Health. Moreover, a well integrated medical service will necessitate clear integration policies not only among the various levels of care but also among the various sectors of the health care system. Existing organizational and service policies therefore need to be reviewed from time to time to ensure smooth interphasing of medical care and to overcome obstacles in the provision of medical services to the population.

CONCLUSION

The Medical Programme strives to provide high quality and improved medical care through the development of the medical services as well as human resources and regulation of medical practices. In addressing the growing needs for improvement in human capital in terms of knowledge, innovation, and nurturing 1st class mentality, the Programme will continue its effort in addressing persistent issues constructively and productively.

5 Research & Technical Support

INTRODUCTION

The Research and Technical Support (R&TS) Programme, established since 1991, has four Divisions which carries out four main activities; Health Planning & Development; Engineering Services; Traditional and Complementary Medicine, and Research. Its latest division, the Medical Devices Division, a spin off from the Engineering Services Division, was established in 2007 to further strengthen implementation of the activities under the Programme. Activities of the R&ST Programme are aimed at providing technical and support services to the other Programmes within the Ministry of Health (MoH). The Programme now consists of the following Divisions; Planning & Development, Engineering Services, Traditional & Complementary Medicine, Medical Devices and the National Institutes of Health (NIH).

The Planning and Development Division focuses on several crucial activities such as the formulation of the Health Sector Transformation Plan, improvement of the data quality within the Health Information Management Systems (HIMS) and implementing development projects as planned in the Ninth Malaysian Plan (9MP). The Division also develops a framework for the evaluation of the 9MP towards the preparation of the 10th Malaysian Plan (10MP).

The Engineering Services Division started as the Environmental Health and Engineering Unit under the Health Division in 1968. It consisted of the Public Health Engineering Unit and Radiation Protection Unit then. It was upgraded to being a Division in 1981 and today comprises of three different branches, namely, the Regulatory Branch, the Services Branch and the Planning Branch. The Division now boasts of a multi-disciplinary team of engineers and scientists. Its core business includes Public Health Engineering, Healthcare Facility Engineering and Radiation Protection and Safety.

With the role of regulating medical device and its industry players in Malaysia, Medical Devices Control Division has two important objectives which are to protect the public health in terms of safety, and to ensure that new technology is made available for use for patients in a timely manner while at the same time facilitating trade in the medical devices industry. A comprehensive regulatory control framework is currently being developed which comprise of various activities to regulate the medical devices industry. The Medical Device Bill has been drafted to provide the legal support for the control program and it is now being finalized before it is tabled in the Parliament.

The Traditional and Complementary Medicine Division (T&CMD) was gazetted under the Research & Technical Support Programme in February 2004. From December 2004, the division was divided into three sections - Administration & Finance; Policy & Development; and Practise, Registration and Training Sections. In 2007, the division expanded into having a Research Unit and Inspectorate & Enforcement Section to coordinate surveillance activities in traditional and complementary medicine practices. T&CMD concentrated in its activities in regulating and registering TCM services and premises in ensuring that the delivery of T&CM services to the Malaysian public is safe and effective.

The National Institutes of Health (NIH) which comprises of the Institute for Medical Research (IMR); Institute for Public Health (IPH); Network of Clinical Research Centres (CRCs); Institute for Health Management (IHM); Institute for Health Systems Research (IHSR) and Institute for Health Behavioural Research (IHBR) continue their activities in research, training, consultancy and diagnostics services in supporting the Programmes of the MoH. Each institute continues to focus its research to addresses the Ninth Malaysia Plan (9MP) Health Research Priority Areas as well as in the core research areas of each institute thus further strengthening their functions as Centres of Excellence for health research.

The NIH Secretariat continues to provide research management and support for the NIH Institutes. In strengthening the process of research management, the NIH developed a web portal system called the National Medical Research Register (NMRR) for the purpose of research registration, submission and approval. The prototype developed was tested successfully and the system will be further developed

to cover all research aspects and procedures.

The Institute for Medical Research (IMR) is the research arm of MoH and its main function is to carry out research to identify, elucidate, control and prevent diseases and health issues prevalent in the country. Its mission is to improve health by 1) carrying out quality biomedical research to address national health priorities, 2) providing specialised diagnostic services and 3) building national capacity through technology transfer and consultative services.

Institute for Public Health (IPH) was founded on 1st July 1966, and is the foremost health institution in Malaysia where it covers health research, training and consultation services to the agencies in and outside the IPH. IPH is also involved in public health research that contributes to the improvement of management and provision of public health service. Among the major projects that have been carried out are National Health Morbidity Survey I (1986), II (1996) and III (2006), National Ear and Hearing Disorders Survey, Food Premise Survey (2008-2009) and National Iodine Deficiency Disorders (IDD) Survey 2008. Public health research is aims at improving the quality of life of population. It indicates a population-level approach with a likelihood of society-wide benefits. Institute for Public Health (IPH), as one of the research institutes under the NIH, is focusing in public health research. In line with the restructuring of health care system of Malaysia towards 1Care 1Malaysia, IPH will strengthen its research capacity and will continue to support the Ministry of Health for the planning of health care for the country.

The CRC consists of six research units, which are the Clinical Epidemiology Unit (CEU), the Patient Registry Unit (PRU), the Healthcare Statistics Unit (HSU), the Clinical Trial Unit (CTU), One Stop Centre, and the Research Management Unit. As means to achieve the "to improve patients' health outcomes through ethical and quality clinical research" mission, the CRC assists government clinicians in establishing research protocol, research project planning, project management and publication. The CRC also organizes research consultation clinics and conduct research-related training courses such as good clinical practice (GCP), research ethics and research methodology. Since its inception, the CRC has multiplied to 17 branches in all major public hospitals throughout Malaysia.

The idea to establish Institute for Health Management (IHM) was conceived during the 6th Malaysia Plan (1991-1995). Construction of the building was started in 1997 and the Institute became operational at the end of 2000. IHM was established to be the Center of Excellence in Health Management, and more specifically to enhance managerial capability in MoH. The core functions of IHM are research, training and consultation in health management. It also provides consultancy on health management in the public sector. IHM has been awarded MS ISO 9001:2008, UKAS (UK) and Cofrac (France) accreditation in Oct 2005 to enhance its standing as a centre of excellence in its area of work. As such, the roles of IHM are to develop a strong and effective system in health research management, to develop a health management training program that is appropriate and current, capacity building in research and training in health management, to strengthen faculty members in the area of research methodology and training, to develop a comprehensive Reference Library of health management and related areas for the National Institutes of Health, to foster networking and smart partnership between individuals, institutions and organizations in the public and private sector for greater collaborative efforts, and to build capacity in giving input, feedback, views and proposals to MoH in strategic planning and evaluation of health plans.

The Institute for Health Systems Research (IHSR) was designated as a WHO Collaborating Centre for Health Systems Research in 1988. It was later upgraded into a WHO Collaborating Centre for Health Systems Research and Quality Improvement from January 2001 till the current period. The Institute's general area of research includes research in health care services, health outcomes, quality improvement, health policy, and health economics and financing.

IHBR has established beneficial research collaboration both outside and within the Ministry of Health Malaysia. IHBR has broadened and deepened its capacity and functions which now includes research, training, advisory and consultancy services in the field of health behaviour. This directly provides an effective health promotion service that caters to the needs of the focus group.

ACTIVITIES AND ACHIEVEMENTS

HEALTH PLANNING AND DEVELOPMENT

Policy and Health Plan

The process of 9MP Evaluation was conducted to ensure the proposal for improvements is taken into consideration in the formulation of Tenth Malaysia Health Plan. The Evaluation utilized the triangulation methods comprising health documents review, focus group discussion, workshop and questionnaires. Officers from MoH and State Health Departments, hospital directors and district health officers were involved in this evaluation process. Questionnaires were distributed only to the private sector. In general, over 700 health indicators identified and analysed.

Several proposals for the 10MP included enhancement of the optimal use of resources e.g. increased public-private integration, equity for those in need and improvement in the health information management system. The role of the public health needs to be strengthened particularly in combating non-communicable diseases such as diabetes and hypertension.

- *Formulation of 10MP*

The 10MP Conference was successfully held in Holiday Villa Hotel, Subang from 2-4 Feb 2010. This conference was officiated by the honourable Minister of Health, YB Dato' Sri Liow Tiong Lai. The participants consists of MoH and other public agencies officials and representatives from private sectors and non-governmental organisations.

Three Key Result Area (KRA) has been identified for the 10MP which is to be implemented during 2011-2015 period. The three KRAs are:

KRA 1 : Health sector transformation towards a more efficient & effective health systems in ensuring universal access to healthcare services.
KRA 2 : Health awareness and healthy lifestyle
KRA 3 : Empowerment of individual and community to be responsible for their own health

The health sector transformation will involve plan to restructure healthcare delivery system that will see a strengthened public system and better integration between public and private healthcare sector to improve access and increase coverage of the healthcare services. The plan also aspire to enhance the stewardship and governance role of the MoH. An affordable, equitable and sustainable healthcare financing mechanism will be proposed to facilitate the restructuring of the delivery system. This whole transformation plan is called 1Care for 1 Malaysia. In addition, several physical development projects will be carried out to built new facilities such as hospitals and health clinics and upgrading of existing dilapidated facilities.

As individual income increases, citizens' lifestyle changes as they are now more vulnerable to lifestyle related diseases and health conditions. Strong emphasis will be given to encourage and support people to modify their unhealthy lifestyle. Healthy Lifestyle Campaign and behaviour modification program targeting high risk groups and general population will be intensified using effective, appropriate, innovative and user-friendly approaches. Adequate supports and appropriate tools would be given to individuals and communities to empower them to be more responsible about their own health.

More conducive environment will be created to enable them to assess their own health and choose appropriate preventive or self-care interventions that suit their needs with the help of healthcare providers.

Health Facility Planning and Development

In the 9MP, a development allocation of RM 10.176 billion was approved for MoH to finance the development of 1644 projects. However, MoH allocation was reduced to RM 10.016 billion in the Mid Term Review, prompting MoH to reduce its total number of development projects to 1073. The allocation was further reviewed in 2009 with the introduction of the second economic stimulation package (PRE2) on 10th March 2009 (MoH received RM 565.962 million) and an additional allocation of RM 134.274 million for Variation of Price (VOP) to support the cost increase in construction materials and petrol. Overall, the revised MoH allocation for the 9MP period is RM 10.716 billion (Table 1).

TABLE 1
HEALTH FACILITY PROJECT AND DEVELOPMENT ALLOCATION FOR THE 9MP

Project Detail	Facilities	No. of Projects	Allocation (RM '000)	%	Expenditure (RM '000)	%
001	Training	23	1,237,018	11.54%	1,211,411	97.93%
002	Public Health	386	1,809,282	16.88%	1,627,911	89.98%
003	Upgrading of Hospital Facilities	166	2,302,150	21.48%	2,209,239	95.96%
004	New Hospitals	31	1,853,468	17.29%	1,824,086	98.41%
005	Research & Development (R&D)	2	178,000	1.66%	174,748	98.17%
006	Upgrading & Maintenance	5	508,500	4.74%	507,433	99.79%
007	Land Acquisition & Maintenance	1	366,000	3.41%	360,709	98.55%
008	ICT	15	634,980	5.92%	587,532	92.53%
009	Staff Facilities / Quarters	95	483,206	4.51%	420,574	87.04%
010	Promotion	1	16,400	0.15%	16,331	99.58%
011	Equipment & Vehicles	342	1,330,917	12.42%	1,316,256	98.90%
Total		**1,067**	**10,719,921**	**100%**	**10,256,241**	**95.67%**

Source: Planning and Development Division, MoH

TABLE 2
DEVELOPMENT ALLOCATION AND EXPENDITURE FOR HEALTH FACILITIES PROJECT, 2010

Project Detail	Facilities	Allocation (RM '000)	%	Expenditure (RM '000)	%
001	Training	354,877	9.9%	354,456	99.88%
002	Public Health	586,031	16.35%	582,075	99.33%
003	Upgrading of Hospital Facilities	778,967	21.73%	777,097	99.76%
004	New Hospitals	682,228	19.05%	681,982	99.96%
005	Research & Development (R&D)	29,025	0.81%	28,961	99.78%
006	Upgrading & Maintenance	157,536	4.4%	157,009	99.67%
007	Land Acquisition & Maintenance	56,811	1.59%	56,703	99.81%
008	ICT	163,253	4.55%	163,293	100.02%
009	Staff Facilities/Quarters	175,048	4.88%	174,941	99.94%
010	Promotion	1,368	0.04%	1,368	100.00%
011	Equipment & Vehicles	599,119	16.72%	591,382	98.71%
Total		**3,584,264**	**100%**	**3,569,269**	**99.58%**

Source: Planning and Development Division, MoH

The overall project expenditure for the 9MP (from 1 January 2006 to 31 December 2010) was RM 10.256 billion, which accounted to 95.67% of the total allocation for the 9MP (Table 1). MoH was allocated RM 3.584 billion for 2010 which is about 33.46% of the total 9MP allocation. The total expenditure for 2010 was RM 3.569 billion, which accounted to 99.58% of the year allocation (Table 2).

Despite 2010 being the last year of the 9MP, construction activities of major development projects were still at intensive phase including projects initially scheduled for completion by end of the 9MP. Various factors contributed to the unfavourable progress of related projects ranging from technical reasons like decanting problems, alignment of project's cost and scope, issues of compliance to local authorities' and statutory bodies' new requirements, to contractors issues such as inexperience in health building construction, poor financial strength and lack of coordination among consultants in resolving technical issues and so on.

Nevertheless, all major projects have moved into construction stage which includes Ambulatory Care Centres (ACC) for Hospital Kuala Lumpur and Hospital Raja Perempuan Zainab II (Kota Bharu, Kelantan), upgrading of Central Services Block Hospital Taiping, Phase 1 of the Obstetric Complex for Hospital Tengku Ampuan Rahimah (Klang, Selangor), Women and Child Complexes for Hospital Tuanku Jaafar (Seremban) and Hospital Sultanah Nur Zahirah (Kuala Terengganu, Terengganu), and the new Tower Block of Hospital Queen Elizabeth, Sabah. Design and negotiation of the National Cancer Institute (NCI) has been concluded, and construction was underway in 2010 with completion expectation by 2013. With the addition of the NCI, construction of a cancer centre in Sabah (an extension of Women and Children Hospital Likas) initially scheduled for completion in early 2011, was delayed and granted extension to a new completion date of December 2011.As for development of health clinics, majority of projects have progressed into construction phase and few have been completed including Type 2 clinics individually designed by consultants like KK Senawang and KK Seremban in Negeri Sembilan, KK Air Itam in Penang and KK Buntong in Ipoh. However majority

of health clinics are Type 3 clinic using Standard Plan designed by Public Work Department (JKR) and the construction were scheduled for completion in 2011. The delay in implementation was partly due to the requirements to change structural design to suit the Industrialised Building System (IBS) method of construction as a new policy introduced and enforced by government for construction of government projects. The design progress of the new standard plans for 6 types of Health Clinics developed together with the Public Works Department (JKR) have been completed in 2010 and ready to be presented to the Economic Planning Unit, Standard and Cost Section for approval of the concept and estimated cost before officially launch for implementation for the 10th MP projects.

In view of many major projects will only be able to be completed in the 10th MP, substantial amount of the 10th MP allocation will be incurred fund the constructions of those projects. As such it is expected that there will be less opportunity for MoH to propose more new projects to be implemented in the 10th MP as required to match the services development program.

In terms of continuing professional development activities several seminars and workshops were organised in collaboration with the Public Works Department (JKR) as well as the University. Among them were a three-day workshop to develop a comprehensive Post Occupancy Evaluation (POE) questionnaires format for health buildings, and a one-day seminar on Hospital Design by Professor Dr Alan Delani, a renowned architect/medical planner from Sweden.

Malaysia National Health Accounts (MNHA)

In 2010 the importance of NHA data was highlighted through the use of MNHA expenditure data as one of the evidence to support financial non-sustainability of the health system in the country. Currently, MoH is undertaking the development of 1Care for 1Malaysia blueprint that involves both health care delivery as well as financial reform for the health sector, which requires both detailed and reliable expenditure data that can support policy changes. Thus, in response to expenditure data needs of highest possible reliability and accuracy by various stakeholders in health, the MNHA Unit commenced work on detailed revision of previous records on expenditure data for the time series 1997-2008. A dual reporting system of health expenditures under the MNHA and System of Health Accounts (SHA) framework was developed. This work was to improve standardization in data collection and analysis so as to allow the production of expenditure trend charts of good comparability over a time period. At the same time similar analysis approach was used in the production of 2009 health expenditure data. In addition, there was also the need for disaggregated MOH expenditure data and out-of-pocket (OOP) expenditures which represents the largest source of funding in the public and private sectors respectively. This led to work on MoH sub-account and OOP sub-account.

The revision of previous MNHA data and the production of two new sub-accounts were carried out with international consultancy under World Health Organization (WHO) assistance. However, due to the extended scope of work with limited resources and local expertise in the relatively newly established MNHA Unit, the target dates for 2010 were carried forward. The new target dates for the three major work, that is, revision of MNHA data for time series 1997-2008 and 2009, MoH sub-account and OOP sub-account were extended into 2011.

In addition to the production of expenditure data for policy makers and stakeholders in health, Malaysia was involved in related international NHA activities both at regional and global levels. As an active member, Malaysia contributed through participation and presentations during the 6th Technical Workshop and Regional National Health Accounts Meeting of NHA Experts in Asia-Pacific Region involving Asia Pacific National Health Accounts Network (APNHAN), WHO, Organization of Economic Cooperation and Development (OECD) and OECD-Korea. In early 2010, MNHA Unit shared experiences on institutionalization of NHA at the regional level through a study visit by an Indonesian NHA team to the unit. At the end of 2010 Malaysia was also invited to a consultative meeting organized

by World Bank on the Global Strategic Action Plan (GSAP) on Institutionalization of NHA. During this meeting Malaysia was one of the four selected countries who shared with 35 other countries the success stories towards institutionalization of NHA. There is further ongoing collaborative work in this area involving World Bank. MNHA continues to add value to financial policy decisions at national, regional and international levels.

National Health Financing (NHF)

In 2010, the main functions of the Unit for National Health Financing (NHF) were to conduct all activities related to the preparation of the 1Care for 1Malaysia (or in short 1Care) follow-up document to H.E. the Prime Minister and the Economic Council, as well as the subsequent work to prepare the blueprint for 1Care.

After the presentation and acceptance of the 1Care for 1Malaysia follow-up document by the Economic Council, the main activities of NHF for 2010 relate to planning, spearheading, coordinating and monitoring the development of the blueprint for 1Care by 10 technical working groups that were formed. NHF worked collaboratively with various government agencies such as the Central Bank of Malaysia (Bank Negara Malaysia), the Economic Planning Unit and the Performance Management & Delivery Unit (PEMANDU) of the Prime Minister's Department, in efforts related to 1Care and the Subsidy Rationalisation Lab. NHF also formed collaborative efforts for health sector transformation planning with international agencies such as the World Health Organisation (WHO), World Bank and the United Nations Development Programme (UNDP). This was to support the need for capacity building and research to be conducted for evidence-based policy formulation. Out of 8 research areas that have been identified, 1 that is the review of related laws and regulations had been completed and 6 more proposed were ear-marked for partial funding by UNDP. These include the Mapping of health facilities and services and Community profiling; Community perception of health services; Costing of health care services; Reviewing flow of funds and mechanisms of health care financing; and Analysis of equity and health care demand in Malaysia.

At the same time, NHF was involved in significant communication efforts regarding 1Care through 86 presentations and dialogues with various stakeholders. Communication of this transformation plan both to national and international arena was expedited through the preparation of the Honourable Minister's and other senior officials' speeches, newspaper articles and other publications. Even though the budget for consultant assistance for health system transformation may only be available in 2011, NHF explored various consultancy options through discussions with the World Bank, WHO, McKinsey & Co., Johns Hopkins University, the Boston Consulting Group and the Harvard School of Public Health.

In 2010, 2 major achievements were accomplished. On 22nd March 2010, H.E. the Prime Minister and the Economic Council were presented with the follow-up report for 1Care which included the 3 studies that were requested as well as a phased approach to the 1Care health system transformation. They agreed with the request of MoH to develop a blueprint for 1Care implementation to be completed in 2 years. Working with PEMANDU in the Subsidy Rationalisation Lab, NHF officers together with an officer from the Pharmacy Division and one from Finance Division of MoH developed various strategies, conditions, stipulations and implementation time line to improve targeting of government health subsidies for those who are unable the pay for health care in government facilities and to improve financial risk protections while allowing for revenue retention in MOH to improve quality of care and health facilities for all. These recommendations, which were approved by MoH top management, were then reviewed and accepted by H.E. the Prime Minister, Cabinet Ministers and senior government officials on 8th April 2010. MoH's Finance Division is now looking into the implementation process for the subsidy rationalization initiatives that had been accepted.

Moving forward and working in collaboration with the Policy and Health Plan Unit (PDPK), NHF will continue to develop the blueprint for 1Care, focusing particularly in the area of health financing reforms. Since this is a cross-cutting issue affecting all levels of the health system, NHF will also be collaborating with the 10 Technical Working Groups which have been set up. NHF will be actively securing expert and experienced consultants who can assist in the complex areas of service delivery, organisation and financial reforms in health system. To this end also, NHF will continue to build capacity among stakeholders, MoH officers, TWG members and others to ensure that the development of blueprint is evidence-based and policies are relevant to Malaysia.

The output of NHF for 2010 has a very important and crucial impact on the health system in Malaysia. It received tremendous support from the senior most echelon of the Government and central government agencies as it is in line with government policies of making Malaysia a high income economy by 2020, through the Government and Economic Transformation Programmes (GTP and ETP).

Health Informatics

The Information and Documentation System (IDS) Unit was established in 1981, replacing the Medical Records and Health Statistic Unit, and the Operations Research Unit. Subsequently in 2007, the Health Informatics Centre (HIC) was established under the 9MP to replace the IDS unit, as an entity to manage the national Health Information Management System (HIMS). HIC are responsible to develop an integrated and uniform health information system in line with information technology advancement, in order to be the national health data warehouse.

In 2010, the International Statistical Classification of Disease (ICD) Malaysia Committee was established to supervise the ICD standard in Malaysia. 2010 was also the initiation year for a national certification of ICD10 coders organized by the HIC, whereas the ICD10 coding validation workshop was conducted for the second time, with enhancement on the methodology for validating ICD10 codes based on hospital discharge diagnosis recorded in the Sistem Maklumat Rawatan Pesakit (SMRP) and the PPT2 database. These activities were done as part of the monitoring and evaluation process of the data entry quality into the HIMS.

The HIMS E-Reporting was further strengthened and improved in 2010. HIC continues to produce several reports and annual publications such as the MoH Annual Report, Health Facts, Indicators for Monitoring and Evaluation for Strategy for Health for All, and HIMS reports by subsystem. Towards the end of 2010, HIC is working with the Information Management Division and the MoH Library towards online publishing.

Focus was also given to the Health Informatics Standard development, and HIC has taken part in the annual WHO ISO/TC 215 meetings. ISO/TC 215 is the International Organization for Standardizations' Technical Committee on health informatics, which emphasized on the compatibility and interoperability between independent systems. HIC was also the secretariat for the first Seminar and Workshop on Benchmarking and Interoperability of Hospital Information System conducted in the Putrajaya International Convention Centre, in which it delved on matters relating to data interoperability and standards such as HL7 and SNOMED-CT. International and expert local speakers were invited to share their expertise in this event.

Source: Health Informatics Centre, MoH

ENGINEERING SERVICES

Project Implementation

Under the 9MP, the Engineering Services Division (ESD) has several project implementation activities where upgrading and construction of new hospitals, replacement of hospitals and clinics, renovation of hospitals, and also upgrading and replacing engineering systems were the main activities in 2010. Among the projects managed by ESD were the construction of Hospital Kuala Lipis, Hospital Permai and the new Hospital Kluang, which are scheduled for completion in 2011 with an estimated cost of RM 1 Billion. A total of 130 projects have been planned to upgrade existing hospital buildings and facilities with a budget allocation of RM 1.5 billion. In addition, a total of 86 projects to build or replace clinics (KD2G) have been completed in 2010 and a total of 49 new projects for the KD2G in the 10MP are under implementation.

Hospital Support Services (HSS)

The Hospital Support Services (HSS) consists of five services, namely, Facility Engineering Maintenance Services (FEMS), Biomedical Engineering Maintenance Services (BEMS), Clinical Waste Management Services (CWMS), Cleansing Services (CLS) and Linen & Laundry Services (LLS). The HSS has been privatised in MoH hospitals and institutions since January 1st,1997.

Clinics Support Services

On July 1st, 2010, Engineering Division has implemented one Pilot Project involving 10 numbers of Type 3 Health Clinics in the State of Pahang. This project involves Planned Preventive Maintenance (PPM) and Corrective Maintenance (CM) of support services and equipment in these clinics for a period of 1 year. The outsourcing of Clinics Support Services provide a positive impact towards healthcare services in all facilities involved and provide a guarantee to the quality of patient treatment and customer satisfaction.

Rural Water Supply

The program incorporates simple technological principles that emphasized on simple design, construction and maintenance. The requirement for the system is that to deliver sufficient quantities of water that meets the basic health and hygiene requirement at minimum cost. The types of systems installed throughout rural area in Malaysia are gravity-feed system, sanitary well, sanitary well with house connection and rainwater collection system.

The development of rural water supply in the water supply and rural environmental sanitation program was planned according to the Five Year Malaysia Plan. A total of 2,417 of various types of systems were installed in 2010. These systems provided service to 6,388 houses. The overall status of rural water supply coverage is about 95.79% that represented 1,711,474 rural houses.

Sanitary Latrines

Sanitary latrine is to be constructed for every household in rural area. The most effective and cheap method for disposal of excreta in rural areas is by pour-flush latrine. Population densities, soil conditions, cultural habits, the depth of water table and the availability of water to flush the bowl are the criteria considered for the system to operate satisfactorily. The system eliminates odours, flies and generally provides a more aesthetic environment.

The construction of sanitary latrines provides the means to initiate the effort to educate rural people on the use of more comfortable and hygienic method for disposal of excreta. In 2010, MoH has constructed a total of 2,788 of pour flush latrines. The coverage of sanitary latrines at the end of 2010 was 97.67% that represented 1,745,112 of rural houses.

Sullage and Solid Waste Disposal

In the early stage of the BAKAS programme, the installation of sullage and solid waste disposal was given lower priority due to urgent needs for water supply and sanitary latrines. As the coverage of water supply and sanitary latrines is almost 100% achieved the installation of sullage and solid waste disposal has been given a higher priority. In 2010 a total of 1,367 sullage disposal systems and 1,326 solid waste disposal systems were constructed and this represent a total household coverage that represent the total coverage of 65.49% (1,170,127) and 70.92% (1,267,125) respectively.

National Drinking Water Quality Surveillance Programme (NDWQSP)

The principal objective of NDWQSP is to raise the standards of health by ensuring the safety and acceptability of drinking water provided to the public falls within the standard stipulated, thereby reducing the incidence of water-borne diseases or intoxication associated with poor quality of public water supplies through effective surveillance. This program ensures that public health and water work personnel will be alerted in time if the quality of drinking water deteriorates. This will enable them to take preventive or remedial measures before occurrence of any major outbreak of disease or poisoning.

To further enhance the effectiveness of the program, a Quality Assurance Program (QAP) for NDWQSP was launched in December 1992 and implemented by all states in Malaysia in January 1993. Since 2004, the QAP standards are set based on five performance indicators; i.e. violation rates for residual chlorine, E-coli, combined residual chlorine and E-coli, turbidity and aluminium content.

Environmental Health Protection Program

The PEKA program includes activities such as Environmental Health Impact Assessment (EHIA), sewage, solid waste management, and indoor air quality. The program was developed to ensure environmental health aspects related to sewage, solid waste management, and indoor air quality is being monitored. All new projects requiring Environmental Impact Assessment (EIA) to be carried out will also be required to include studies on impact to public health through EHIA since it was introduced by the Division in 1997.

In 2010, Engineering Services Division continued with the development of National Environmental Health Action Plan (NEHAP) to address major environmental health issues in the country. NEHAP was introduced to the state of Sabah and Sarawak this year because it was necessary to take into consideration the minor differences in administration between the Central Government and the State Governments of Sabah and Sarawak.
This would also ensure that the environmental health issues in East Malaysia are included in the development of NEHAP. The NEHAP documents were in the process of finalization in the 2010 before they are submitted to the MoH's top management for agreement and endorsement.

Licensing under the Atomic Energy Licensing Act, Act 304

A total of 930 licenses were issued to the private sector from 1st January 2010 until 31st December 2010. These comprise of 99 new licenses and 831 for renewal of licenses. There were a total of 3,221 premises comprising 786 registered government locations and 2,435 private centers. There were also a total of 5,830 irradiating apparatus in both the government and private sectors.

Monitoring & Enforcement under Act 304

These activities include inspection visits, monitoring of complaints, compliance with the quality assurance program requirements and enforcement of licensing activities. Enforcement activities were carried out on all government and private clinics/hospitals with ionizing radiation facilities, which include inspections, investigations, raids and prosecutions, are carried out on all licensed premises to ensure maximum compliance with the Act 304. A total of 624 premises were inspected in 2010, out of

which 501 (80.3%) premises complied with all licensing requirements while 123 (19.7%) did not fully comply with all licensing requirements. 96 warning letters were issued and 27 x-ray machines were sealed in premises that did not fully comply with the licensing requirements.

Quality Assurance Programme (QAP) & Medical Physics Advisory Services

This service is designed for all MoH hospitals and clinics where ionizing radiation is used for medical purposes. It is aimed to ensure that the diagnostic images produced are of sufficiently high quality so that they consistently provide adequate diagnostic information at the lowest possible cost and with the least possible exposure of the patient to radiation. Vetting and evaluation, inspection and monitoring, and surveillance activities are also carried out to ensure that MoH hospitals conform to regulatory requirements under Act 304.

Development of Codes & Standards

The activities carried out to develop Codes & Standards included:

i. Conducting studies related to the safety of ionizing radiation and non-ionizing radiation usage
ii. Planning and developing manuals/guidelines/guidance notes for the safe usage of ionizing radiation and non-ionizing radiation activities. These include:
iii. Participation in the committee for reviewing Radiation Protection (Licensing) Regulations 1986. Still in the early discussion stage of the committee under Atomic Energy Licensing Board (AELB).
iv. Participation in the committee for reviewing draft Radiation Protection (Medical, Dental & Veterinary Usage of Radiation) Regulations. Still in the early discussion stage of the committee.
v. Being a contributing member of the International Advisory Committee (IAC) for International Electromagnetic Fields (EMF) Project developed by the World Health Organization (WHO). Report for Malaysia (2010) has been prepared and submitted to the WHO.

Engineering Support and Technical Advice

The Division undertakes to evaluate and assess the conditions of the hospitals and health clinics and identify the need in the Five Year Malaysia Plan for upgrading, refurbishment and replacement of the engineering systems and facilities It also assist in the procurement of new and/or replacement of medical equipment. The Division also develops and establishes national policies, guidelines, legislation and standards in relation to environmental health engineering, healthcare facility engineering, medical physics and radiation health and safety, hospital and clinic support services.

MEDICAL DEVICES CONTROL

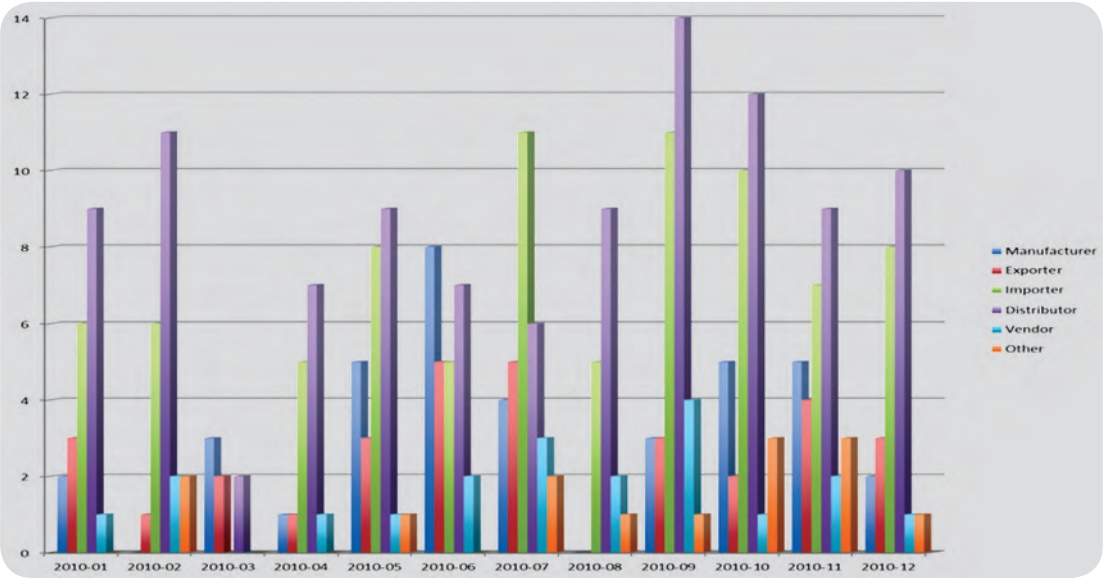
With the role of regulating medical device and its industry players in Malaysia, Medical Devices Control Division (MDCD) has two important objectives i.e. to protect the public health in terms of safety and to ensure that new technology is made available for use for patients in a timely manner and at the same time facilitating trade in the medical devices industry. A comprehensive regulatory control framework is currently being developed which comprise of various activities to regulate the medical devices industry. The Medical Device Bill has been drafted to provide the legal support for the control program and it is expected to be tabled in the Parliament by June 2011.

Voluntary Registration Scheme for Establishments Dealing with Medical Devices (MeDVER)

Registration of establishment and their medical devices is considered to be the most basis level of regulatory control of devices in the market. It will identify the devices, the responsible party and will facilitate any regulatory activity. MeDVER is a voluntary registration scheme for medical devices establishment in Malaysia. It is a web-based system and registration can be made on-line. Only relevant information on the establishment and the devices will be required for this scheme.

Implementation of MeDVER is the first step and important milestone in the development and implementation of medical devices regulation in Malaysia. It is a confidence building stage prior to the full implementation of the medical devices regulation in Malaysia. This scheme was launched on 12th January 2006. By the end of 2010, 1160 establishments dealing with medical devices participated in this scheme. The breakdown of registered establishments is as shown in Figure 1. Approximately 60,000 medical devices have been listed in MeDVER. Table 3 shows number of establishments registered for each month in 2010.

FIGURE 1
MEDVER REGISTERED ESTABLISHMENTS ACCORDING TO ESTABLISHMENT, 2010



Source: Medical Devices Control Division, MoH

TABLE 3
TOTAL NUMBER OF ESTABLISHMENT REGISTERED EACH MONTH IN 2010

Month	Manufacturer	Exporter	Importer	Distributor	Vendor	Other
January	2	3	6	9	1	0
February	0	1	6	11	2	2
March	3	2	0	2	0	0
April	1	1	5	7	1	0
May	5	3	8	9	1	1
June	8	5	5	7	2	0
July	4	5	11	6	3	2
August	0	0	5	9	2	1
September	3	3	11	14	4	1
October	5	2	10	12	1	3
November	5	4	7	9	2	3
December	2	3	8	10	1	1

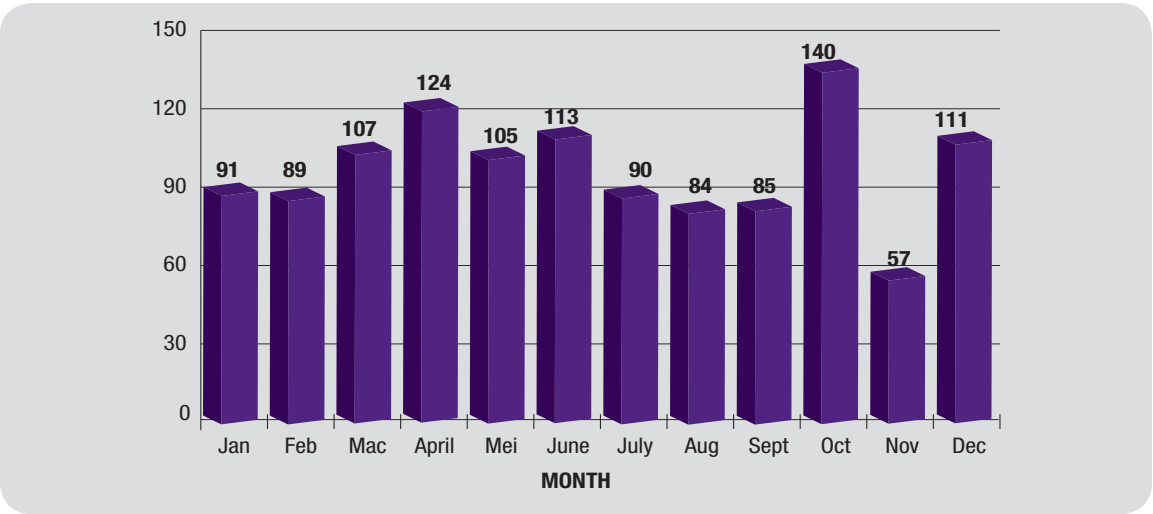
Source: Medical Devices Control Division, MoH

Industry Assistance

The medical devices industry is one of the new growth areas targeted for promotion and development by the Government in the Third Industrial Master Plan (IMP3). MDCD is actively involved in the implementation activities to achieve the goals set for IMP3.

One of the activities undertaken by the Division is the issuance of manufacturing and free-sales certificates. The purpose of this activity is to facilitate local manufacturers to export their medical device products to other countries that require such certificates. In 2010 (as shown in Figure 2), a total of 1169 certificate of Free-Sales were issued to local manufacturers who exported their products to these countries. Table 4 shown total number of CFS issued for each month in year 2010.

FIGURE 2
NUMBER OF CFS ISSUED IN 2010



Source: Medical Devices Control Division, MoH

TABLE 4
TOTAL NUMBER OF CFS ISSUED IN 2010 BY MONTH

Month	Total
January	91
February	89
March	107
April	124
May	105
June	113
July	90
August	84
September	85
October	140
November	57
December	111
Total	**1169**

Source: Medical Devices Control Division, MoH

Post Market Surveillance and Vigilance

Post market surveillance is introduced to monitor safety and performance of medical devices on the market. Surveillance and vigilance activities are mainly done through the monitoring of medical devices competent authorities' web page from US, Canada, UK, Australia, Hong Kong and Singapore that publish and provide safety information such as alert, recall and field safety corrective actions on medical device products manufactured and sold in such countries. Vigilance activities are usually based on reports by manufacturers or complaints by users of the defective medical device or adverse incidents occurred during usage.

Audit Visit to Manufacturing Facilities

One of the important activities carried out by the Division is audit visits to multinational company as well as to local manufacturing facilities. The aim of this activity is to ensure that medical device manufacturers comply with the standards for safety and performance of their products. The audit is also carried out to ensure continued performance and to identify issues and trends in order to highlight priority areas for the medical devices market. The audit and visits that has been carried out were based on the standard ISO 13485:2003, Certificate of Free Sale (CFS) requirements and MoH Adoption Scheme.

Audit conducted to multinational manufacturer and local manufacturer that manufactured encompasses a broad range of product and equipment comprising of rubber-based product mainly examination and surgical glove, condom and catheter. Other product involve such as surgical instruments such as suture, IVD product and orthopedic products. In 2010, the Division has visited a total of 10 multinational and local manufacturing facilities.

MoH has participated in various international organizations including the ASEAN Medical Device Product Working Group (MDPWG) and Asian Harmonization Working Party (AHWP). These organisations are working towards harmonisation of medical device regulations in each region. Malaysia has been given the responsibility for the second time to chair the ASEAN MDPWG. Both organisations are now

coming meeting in 2012. Development of common submission dossier template (CSDT) for medical

implements the CSDT for product approval in their country. Both organisations have also implemented the framework for post market alert system for defective and unsafe medical devices.

For 2010, the Traditional & Complementary Medicine Division (T&CMD) has established two T&CM Units in two government hospitals (Integrated Hospital).The hospitals are Hospital Port Dickson, Negeri Sembilan, and Hospital Sultanah Bahiyah, Alor Setar, Kedah. These units are managing chronic pain cases and post stroke patients.

The conference was held on 2nd March 2010 at the One World Hotel, Petaling Jaya, Selangor. It was

Rahman, on behalf of the Director General of Health, Malaysia. This conference is a collaborative effort between T&CMD, Malaysian Association of Traditional Indian Medicine (MATIM) and the Department of AYUSH of the Ministry of Health & Family Welfare, India.

A total of 175 local and foreign participants participated in this conference. Apart from that, 8 internationally recognized speakers from India, Britain and Malaysia presented lectures on various topic in Ayurveda, Siddha and Unani Medicine. The Malaysian speaker was Dr. Ramli bin Abd Ghani, Director of T&CMD. There were 5 advertisement booths in which T&CMD took up a booth for promotion of T&CMD activities. A gala dinner was held later in the evening.

The seminar was held on the 31st of July 2010 at the Brisdale Hotel, Kuala Lumpur with the theme "Pemurnian Amalan Pengubatan Islam dan Perubatan Tradisional Melayu". It was meant to give exposures of concept and information regarding the Islamic Medicine and the Malay Traditional

of Health (Research and Technical Support), and was attended by 175 participants, comprising of practitioners and non-practitioners. Ten topics and two papers were presented during this seminar. Upon reviewing participants' feedback, it was concluded that the seminar was a huge success and

The conference was held on 3 - 4 April at the Grand Seasons Hotel, Kuala Lumpur in collaboration

Maimunah A. Hamid, the Deputy Director General of Health (Research and Technical Support), and was attended by 143 participants. The total number of participants has exceeded the initial target by 43%. Apart from local participants, participants from Australia, New Zealand, China, Singapore, Taiwan and Hong Kong also took part in the conference. All the Malaysian T&CM practitioner bodies also showed their support by participating in this conference.

The conference's objective was to share current information on practices of acupuncture & Malay massage, to exchange latest technology on the practice of acupuncture, to establish networking and collaboration, as well as to discuss further issues on research in acupuncture. Talks were given by speakers from local, international and T&CMD. There were 14 papers presented on topics which covers broad spectrum of acupuncture practices, including the latest practices such as laser acupuncture

participants was encouraging as many stated that they would like more similar conferences to be held in the future.

WITHOUT DRUGS

His Excellency, Dr Chen Zhu and his delegation made a working visit to Malaysia from 15 - 20 July 2010. His Excellency also took the opportunity to visit the T&CM unit at Hospital Putrajaya.

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NATIONAL INSTITUTES OF HEALTH (NIH)

Institute for Medical Research (IMR)

In 2010, IMR staff members were engaged in 83 projects. The Institute published 103 scientific papers and produced 8 reports. The reports were generally prepared to meet specific requests made by various government departments and agencies. In addition, IMR staffs were also involved in 191 presentations at local and international seminars.

- **Allergy and Immunology Research Centre (AIRC)**

  In 2010, the AIRC was reorganised into four Units, namely the Allergy Unit, Autoimmune Disease Unit, Immunogenetics Unit and the Primary Immunodeficiency Unit. The Allergy Unit continues to focus on using a proteomic approach for identifying the major allergens in food. The Autoimmune Disease Unit is exploring the role of autoantibodies in foetal loss, celiac disease and paraneoplastic syndrome. Studies are also on-going to determine the gene-environment interaction in rheumatoid arthritis. The Unit coordinates the National QAP for Antinuclear Antibody Testing (ANA). The Primary Immunodeficiency Unit is continuing its research into the genetic abnormalities associated with Chronic Granulomatous disease, the genetics of neutrophil functional disorders and B cell defects in Primary Immunodeficiency Disease. The Immunogenetics Unit was engaged in research on HLA association with aplastic anaemia and in determining the frequency of HLA alleles in the local population. A collaborative study on the role of immune parameters in the pathogenesis of dengue and severe dengue was also started in the Centre.

- **Cancer Research Centre (CaRC)**

  The Haematology Unit carried out research using high-resolution Array Comparative Genomic Hybridization (aCGH) technique to discover submicroscopic chromosomal aberrations in unexplained syndromic patients. This technology offers clinical geneticists a powerful new tool for genome wide screening and confer important implications in genetic counseling and the quality of patient health care in future.

  The Molecular Pathology Unit of CaRC continued to carry out studies on cancer and genetics, with a particular emphasis on nasopharyngeal carcinoma (NPC), a major cancer in Malaysia. The unit studied the role of several genes of the Epstein-Barr Virus on nasopharyngeal carcinoma cells. In another study, metal compounds were found to potently and selectively kill cancer cells when compared to their non-cancer counterparts. The unit also carried out a preliminary study to identify and characterize cells with stem like properties in NPC. Members of the unit were also involved in the establishment of a biospecimen bank to collect specimens for research.

  The Stomatology unit's clinicopathological research this year was on congenital epulis, a fairly rare soft tissue tumour that occurs exclusively on the alveolar ridge of newborns and a clinicopathologic study of neurilemmomas (Schwannomas) of the orofacial region.

- **Cardiovascular, Diabetes & Nutrition Research Centre (CDNRC)**

  The main research activities in the Cardiovascular and Diabetes Mellitus Unit are in areas of diabetes and natural products with emphasis in compounds that affect the endocrine systems. The current research is the Metabolic Syndrome Study in Malaysia; studies on Labisia pumila var alata; LPva, (Kacip Fatimah) extract with phytoestrogenic effects, and Biomarkers for Diabetic Nephropathy in Malay with Type II Diabetes Mellitus.

  The Nutrition unit research activities focus on the area of functional food and analytical food chemistry. The current project is on the Malaysian Edible Bird's nest nutritional values and its effect

on certain important cells in the body. Other projects on food safety research are the utilization of commercial sanitizers against native microflora of mung bean and sprouts; determination of biogenic amines levels and microbial contamination in local fish-based food; and identifying best manufacturing practices to reduce biogenic amines levels and analysis of lead, cadmium, copper and zinc in vegetables and fruits samples using Polarography technique. Since the unit is now focused on research, routine diagnostic tests such as vitamin A and E in food and serum samples and proximate tests are no longer offered to the public and hospitals. All specialised tests provided are for research purpose only.

- **Environmental Health Research Centre (EHRC)**

  EHRC research activities broadly encompass two main disciplines; (1) health risk assessment with regards to air and water pollution and food quality and safety issues; and (2) Occupational health issues. The following projects received the MoH grant under the 9MP: qualitative microbial risk assessment of drinking water, assessment of private water supply, coastal recreational water quality, risk assessment of selected pesticide residues in food, air pollution modelling using remote sensing, environmental survey and quantification of carcinogenic pollutants, environmental and reproductive risk factors of breast cancer and cervical cancer, and linkage of congenital anomalies to the environment. The Occupational Health Unit is currently conducting three main researches: (1) Risk of tuberculosis infection among government hospital workers in the Klang Valley, (2) Prevalence of silicosis among quarry workers in Peninsular Malaysia, and (3) Collaborative research with Engineering Services Division on indoor environmental quality which includes physical, chemical and comfort parameters of indoor working environment as well as health care workers' perception on indoor environment of government hospitals in Malaysia.

  EHRC continued its role in supporting IMR as a member of National Committee on Green Technology and Climate Change. It also contributed in preparing the draft document on National Environmental Health Action Plan (NEHAP) which will be tabled in Parliament in 2011. The EHRC continued as the secretariat for National Advisory Committee on Environmental Health and had organised the annual Environmental Health Forum with the theme "Indoor Environmental Quality" which had 180 participants from government agencies, local councils and universities. The Centre continued to maintain its Environmental Management System MS ISO 14001:2004 which had been certified since 2003. EHRC play a role as assessor for Chemical Health Risk Assessment for all the laboratories in IMR.

- **Herbal Medicine Research Centre**

  The Information Unit continues its role in coordinating and managing the 'Global Information Hub on Integrated Medicine' (GlobinMed) to present up-to-date and evidence-based material, from both local and international partners, and also the GlobinMed Content Management Team members. The Information Unit in partnership with universities, research institutions and government agencies is also involved in the documentation of the Malaysian Herbal Monograph information which focuses on the therapeutic potential of the medicinal plant species.

  The Phytochemistry Unit continues to provide phytochemical analysis in herbal research which focuses on the preparation of extract towards the development of antimalarial and anticancer drugs.

- **Infectious Diseases Research Centre (IDRC)**

  Research in the Acarology Unit was focused on 3 main areas: the use of PCR to detect pathogens in acari, establishment of a PCR based blood meal identification assay (BMIA), and control of acari pests of public importance. The Unit continued evaluating various commercial pest control

products to be used for the control of dust mites that caused allergies in humans.

The Bacteriology Unit continues to provide diagnostic services to government and private hospitals in Malaysia. These include identification for bacteria and fungi, TB-PCR, melioidosis and Chlamydia serology and laboratory diagnosis of leptospirosis. The Unit is the referral centre for verification of antibiotic resistance and also assists in the investigation of food borne outbreaks and nosocomial infections by DNA fingerprinting technique. The Unit is also the National Referral Centre for Salmonella serotyping, and microagglutination test (MAT) for leptospirosis. The researches carried out by the Unit were mainly focused on Tropical diseases such as tuberculosis, brucellosis, leptospirosis, melioidosis and pertussis using molecular techniques.

The Medical Entomology Unit conducted the world's first evaluation of genetically sterile RIDL Ae.aegypti strains under confined semi-field conditions inside a state-of-the-art, fully-contained field house facility, and limited field release trials of male mosquito of the RIDL-SIT Technique. However, to apply such technology to control dengue in the near future, one of the pre-requisites is the capability to mass produce the genetically modified mosquito in the laboratory before release. To do so would require research on the life history parameters of the transgenic mosquito, and the susceptibility of the mosquitoes to dengue and chikungunya virus. Continued research on Aedes pheromones has isolated twenty three pheromone-like compounds from Aedes aegypti, 8 compounds were grouped into high interest compounds and 2 compounds from this group are novel compounds. Other studies involved the IMR-autocidal trap device, vertical dispersal of Aedes (Stegomyia) spp., permethrin resistance in Aedes aegypti, and insecticidal Olyset® nets. In the context of forensic entomology to further strengthen the practice of medico-legal entomology, a preliminary study of forensic insect diversity in a high rise building was researched. In addition to forensic entomology, implications of maggot infestation in industry have also been studied seeding an idea of Industrial forensic in forensic science.
The Parasitology unit emphasizes on both research and diagnostic services especially in the field of malaria, leishmania, toxoplasmosis, and intestinal parasites. Currently, the laboratory is evaluating the usefulness and efficacy of the following test methods: Commercial immunoassays for detection of extra-intestinal amoebiasis; Commercial immunoassay for diagnosis of toxoplasmosis and multiplex PCR for Malaria.

The Virology Unit focused on research pertaining to locally important medical viruses, aiming to determine the epidemiology of the viruses and the development of new technology for rapid diagnosis of these viruses. In 2010, the Unit was actively involved in investigating several outbreaks in Malaysia including dengue, HFMD and Influenza A (H1N1) pandemic. The Unit also continues to monitor oseltamivir resistance and genetic mutation of the pandemic H1N1 virus. In 2010, the National Japanese Encephalitis laboratory received full accreditation by WHO.

The programme of HIV sero-surveillance continues with the Unit serving as the National AIDS Reference Laboratory (NARL) for the study of cases with difficult or unresolved serology. The Unit also carried out surveillance program on circulating dengue virus serotype, Nipah, JE, influenza and hand, foot and mouth diseases (HFMD) for MoH. The dominant circulating dengue serotype for 2010 was still Dengue 3 and as for influenza, A/California/7/2009-like virus and B/Brisbane/60/2008-like strains were found to be the predominant strains for influenza A and B respectively.

- **Specialised Diagnostic Centre (SDC)**

  In 2010, the Biochemistry Unit has successfully set up and evaluated 5 more biochemical genetics testing. These include multiplex enzymes screening assay using Tandem Mass Spectrometry in dried blood spot which is able to screen 5 lysosomal storage diseases simultaneously. The

deficient enzyme in Mucopolysaccharidosis Type II can now be assayed in our laboratory. Urinary carnitine is now being offered to diagnose patients with carnitine uptake defect. Sialic acids disorder will be diagnosed in Malaysia after the Unit has established the total and free sialic acid determination in urine.

Various method improvements to replace the old methods were also undertaken. Improvement of method for screening of mucopolysaccharidosis has been completed as well as new rapid chromatographic method for analysis of urinary 5-Aminolevulinic acid. Qualitative analysis of urinary organic acid analysis may be replaced by quantitative analysis when the Unit completed the normal reference ranges for organic acids for local population.

The Molecular Diagnostics and Protein Unit marked a significant increase of 81% in the molecular diagnostics workload in 2010. The contributing factor to this is the development and introduction of several new molecular diagnostics tests for genetic disorders including Inborn Error in Metabolism (IEM) in Malaysia. These tests are mutation analysis of MMAA, MMAB and MUT genes for Methylmalonic Aciduria disorder, GCDH gene for Glutaric Aciduria Type 1 disorder, UBE3A gene for Angelman syndrome, SUOX gene in Sulfite Oxidase deficiency, Jag1 gene for Alagille syndrome, and GLDC gene for Non-Ketotic Hyperglycinemia (NKH). The introduction of long-range PCR made it possible now to detect large deletion in CPEO gene associated with mitochondrial disorders. A relatively new technology, Multiple Length Probe Amplification (MLPA) has also been introduced as molecular screening tests to detect deletion and duplication of genes in diseases such as Alagille syndrome, Spinal Muscular Atrophy (SMA) and Ornithine Transcarbamylase deficiency (OTC).

- **Medical Resource Research Centre (MRRC)**

The Medical Research Resource Centre (MRRC) consists of 8 units, namely Biotechnology, Biomedical Museum, Epidemiology & Biostatistics, Information Technology, Laboratory Animal Resource, Electron Microscopy, Library & Information Resource, and Medical Photography & Audio Visual.

In addition to providing support for research in IMR and MoH, the centre was also involved in several research projects. They include the study on epidemiology and risk factors assessment of Chikungunya infection (CHIKV) in the state of Kelantan, clinical features of Malaysian rheumatoid arthritis (RA) patients and their differences in relation to anti-cyclic citrullinated peptide expression and population-based survival analysis of breast and cervical cancer patients.

The Occupational Safety and Health (OSH) Unit continues its role in carrying out activities in the workplace with the aim of protecting and promoting workers' safety, health and well-being, as well as improving working conditions. The functions of this unit include management of workplace occupational health risks, management of workers' health, participating in emergency response and disaster management and providing clinical services.

- **Diagnostic services**

Being the referral laboratory for MoH, IMR continues to provide and improve clinical laboratory tests. IMR provides specialized and referral diagnostic tests, and tests that are not done in other laboratories. In 2010, IMR provided about 206 different tests conducted by 14 different units/ laboratories. There were 19 new tests introduced in the fields of Autoimmune Disease, Primary Immunodeficiency, diagnosis of human brucellosis and genetic diseases. In keeping with the IMR policy, the Cardiovascular and Diabetes Mellitus Unit offered very specialised tests such as Thyroglobulin, Dehydroepiendrosterone Sulphate (DHEAS), Sr. Testosterone, Growth Hormone, Insulin like growth factor (IGF-1), 17-OH Progesterone (17-OHP) and Intact Parathyroid Hormone

(iPTH). A total of 283,576 tests were performed in 2010 compared to 339,934 in 2009. The drop in number of tests performed in 2010 was due to the reduction in H1N1 cases since the outbreak subsided in late 2009 and less cases were seen in 2010.

- **Consultative services**

  IMR staff provided advisory and consultative services to MoH, other government departments, as well as international organizations. Most units of the Institute also serve as referral centres to MoH Laboratories throughout the country. During the year, 73 staff members provided consultative services at the national level, while 18 staff members provided such services at the regional / international level.

- **Scientific and Technical Training Programs**

  Training activities carried out by the Institute comprise regular courses offered annually as well as ad hoc training programs and attachments to various units for industrial training. The regular training courses include the SEAMEO-TROPMED postgraduate courses namely, the Diploma in Applied Parasitology and Entomology and the Diploma in Medical Microbiology courses. However, the Diploma in Medical Microbiology course was not offered in 2010.

  The ad hoc programs provided training opportunities for 82 scientists, medical doctors and allied personnel from other departments and local and foreign institutes. There were 216 undergraduates from local tertiary institutions who received training through attachments at the various units of the Institute. The Institute also conducted 46 training workshops, 11 seminars and 32 courses during the year.

- **Conferences And Staff Development**

  In 2010, 110 staff members of the Institute attended 85 conferences/scientific meetings, whilst 597 staff members attended 418 short courses/workshops to improve their knowledge and skills. There were 21 staff who had training overseas under the in service training (*Latihan Dalam Perkhidmatan*, LDP) scheme and 583 staff who attended the 286 local training courses. 13 officers are studying for their Master degrees while 22 are pursuing their PhDs.

Institute for Public Health (IPH)

Public health research is aims at improving the quality of life of population. It indicates a population-level approach with a likelihood of society-wide benefits. IPH, as one of the research institutes under the NIH, is focusing in public health research. As a research institute which focused towards public/ population health, the aim was to support MoH in providing optimum health care to the Malaysian population based on two stages:

i. Planning stage; data and information for the planning of health care services and resource allocation.
ii. Implementation stage; data and information in the monitoring and evaluation of the services.

The above mentioned information will be gathered through Primary Research, particularly nation-wide survey, and Secondary Research.

- **Niche Areas**

  PH is striving to be the Centre for Epidemiological Survey Research for MoH. The vision was to be the authority and leader in the epidemiological survey research, as well as the reference centre for survey research. Meanwhile, the mission was to provide information on population health to

stakeholders and policy makers for evidence-based policy making through:

i. Leading in national epidemiological survey research
ii. Providing training related to epidemiological survey research
iii. Being a reference centre for epidemiological survey research
iv. Creating smart partnership and collaboration with national and international organizations

- **Research Projected in Progress**

a) Population-Based Research/Survey

i. National Health and Morbidity Survey (NHMS) 2011-2014
ii. MoH Health Facility Survey: When GIS Really Works (for the development of the first layer of the GIS project, in collaboration with Health Informatics Centre)
iii. Second Malaysia Burden of Disease and Injury Study

b) Research in Area of Interests

i. Systematic Review: Bacillus Calmette-Guerin (BCG) revaccination and protection against Tuberculosis 2010-2011.
ii. Health Status of National Service Trainees in Malaysia, 2010.
iii. Collaborative Research Projects with PKD Muar in 2010
iv. An Exploratory Study to Assess Implementation of the Safety and Health Committee (SHC) and the Perception of the SHC Members within the Healthcare Facilities in the Ministry of Health, Malaysia
v. Status of Neurobehavioural Effects Among Ministry of Health Staffs Exposed to Neurotoxic Chemicals in Hospital Pathology Laboratories in the State of Perak
vi. (Knowledge-Attitude-Practice) KAP Study among Environmental Health Officers and Assistant Officers towards the Enforcement of Public Health Law
vii. Evaluation of the Partner Notification, Contact Tracing and Case Holding of Human Immunodeficiency Virus (HIV) Positive Patients in the Bentong Health District
viii. To Determine the Proficiency of PL Microscopists Detecting Pulmonary Tuberculosis in Selected Primary Health Care Facility
ix. Depression, Anxiety and Stress in Type II Diabetics attending Government Primary Health Care Facilities in the Klang Valley
x. Smoking Behaviour among Assistant Environmental Health Officers (AEHO) Trainees
xi. Epidemiology of Unintentional Deaths in 2008 in Malaysia
xii. A Study on Knowledge, Attitude and Practice of HIV/STI among Secondary School Children in Malaysia
xiii. Measles Trend (1993-2008)
xiv. Effects of the Pictorial Health Warnings on Cigarette Packages on Smokers Behaviour and Perception
xv. Comparison of child growth using WHO 2006 standard and NCHS 1977 reference with clinical assessment in Perak and Pahang
xvi. Food Factory Census 2010 (East Zone)
xvii. Evaluation on KENDIRI programs for Food Handlers in Pahang State
xviii. Nutritional Status & Food Practices of Breast Cancer Patients Before and After Chemotherapy Treatment in Selected Government Hospitals – Phase 1

- **Consultancy Activities**

a) Scientific Study & Research Publication– Hospital Pakar Sultanah Fatimah, Muar
b) WHO/UN Consultant: Millenium Development Goals 4 & 5 Reports 2010
c) Penyemakan Kurikulum Sarjana Pemakanan Masyarakat (with or without) Universiti

Kebangsaan Malaysia by Rusidah Selamat

d) Member of FAO/Government Cooperation Programme. Strengthening ASEAN Risk Assessment Capacities: Food Consumption Data, FAO-International Life Science Institute (ILSI) Project by Rusidah Selamat

e) Developing Medical Nutrition Therapy (MNT) for Children with Failure to Thrive (FTT) by Noriati Ujang.

f) Canada Asia Regional Emerging Infectious Disease (CAREID) – providing technical consultation on Risk Communication during outbreaks for Cambodia and Laos (through Video and Teleconferencing)

g) State Health Department of Terengganu – Managing Outbreaks (from Outbreak Management to Report Writing)

- **Trainings and Courses organized in 2010**

a) Research-Related & Biostatistics Courses

i. Research Methodology Part II - Writing Up for Publication
ii. Biostatistics Course
iii. Research Methodology in Dietetics & Food Service
iv. Research Methodology in Nutrition
v. Research Methodology Part II - Data Management
vi. Basic Data Management Using SPSS
vii. Intermediate Data Analysis Using SPSS
viii. Data Analysis Using Stata
ix. Microsoft Access 2007
x. Advanced Data Analysis Using SPSS
xi. Data Analysis Using Complex Sample Design
xii. Surveillance System Evaluation and Scientific Writing

b) Public Health Courses

i. Training of Trainers: Engaging the Adolescent Using HEADSS Framework
ii. National Workshop and Gender and Rights on Maternal and Reproductive Health
iii. Advanced in Epidemiology & Presentation for Outbreak Investigation
iv. ICD 10 Training for Professional in Health Science
v. Dengue and Malaria Management Course
vi. TB Management for State TB Team and Eastern District Zone
vii. HIV/AIDS Management Course
viii. STI Management Training
ix. Outbreak Case Study Development Workshop
x. Major Project & Manuscript Writing for Publication
xi. Substance Abuse Training
xii. Adolescent and Children Mental Health Training for Primer Staff
xiii. National Evaluator Training for 'Rakan Bayi' Hospital
xiv. Monitoring of Marketing Code of Ethics on Infant Nutrition and Related Product
xv. Food Toxicology
xvi. Stress, Ergonomic and Backache at Workplace
xvii. Workshop on Reproductive Health
xviii. Occupational Safety and Health Act (OSHA) 1994
xix. Risk Assessment at Workplace

- **Information Dissemination**

a) Completed Technical Reports

i. Validity Study of the Adolescent Health Screening Tool
ii. National Ear & Hearing Disorder Survey
iii. DG Technical Report – National Ear & Hearing Disorder Survey
iv. Employee Job Satisfaction in a Research Institute
v. Employee Job Stress in a Research Institute
vi. H1N1 Technical Report (2009-2010)
vii. Developing competencies for Applied Epidemiology, DG Technical Report 2008-2009
viii. ILI Surveillance Evaluation Report

b) Publications

i. Wan Nazaimoon WM & Rusidah S. *Malaysia Need Wider Coverage With Iodized Salt.* International Council for the Control of Iodine Deficiency Disorders (ICCIDD) Newsletter Volume 35 Number 1 February 2010. Switzerland.
ii. Rusidah S, Wan Nazaimoon WM, Ahmad Ali Z, Norsyamlina CAR, Suhaila AG, Tahir A. *Iodine Deficiency Status and Iodised Salt Consumption in Malaysia: Findings from A National Iodine Deficiency Disorders Survey*. In press. Asia Pacific Journal of Clinical Nutrition.
iii. M Fadhli, Marina M, Norlen M, A Sani Mohamed, M Razif, Mazita A, IIhamah O & Azlan I. *Obstructive Sleep Apnoea among Express Bus Drivers in Malaysia: Important Indicators for Screening.* Volume 11, Issue 6, 2010, Page 594-599 Traffic Injury Prevention.
iv. NT Amplavanar, K Gurpreet, M S Salmiah & N Odhayakumar. *Prevalence of Cardiovascular Disease Risk Factors among Attendees of the Batu 9, Cheras Health Centre, Selangor, Malaysia*. Volume 65, No 3, September 2010. Med J Malaysia.
v. Poh BK, Safiah MY, Tahir A, Siti Haslinda MD, Siti Norazlin N, Norimah AK, Wan Manan WM, Mirnalini K, Zalilah MS, Azmi MY & Fatimah S. *Physical Activity Pattern and Energy Expenditure of Malaysian Adults: Findings from the Malaysian Adult Nutrition Survey* (MANS). Volume 16, Issue 1, 2010, Page 13 – 37. Mal J Nutr.
vi. Fatimah S, Siti Saadiah HN, Tahir A, Hussain Iman MI & Ahmad Faudzi Y. *Breastfeeding in Malaysia : Results of the Third National Health and Morbidity Survey* (NHMS III) 2006. Volume 16, Issue 2, 2010, Page 195 – 206. Mal J Nutr.
vii. Goh PP, Omar MA & Yusoff AF. *Diabetic Eye Screening In Malaysia: Findings from The National Health and Morbidity Survey 2006*. Volume 51, Issue 8, 2010, Page 631 – 634. Singapore Med J.
viii. GR Letchuman, WM Wan Nazaimoon, WB Wan Mohamad, LR Chandran, GH Tee, H Jamaiyah, MR Isa, H Zanariah, I Fatanah & Y Ahmad Faudzi. *Prevalence of Diabetes in the Malaysia National Health Morbidity Survey III 2006*. Volume 65, No 3, September 2010, Page 173 – 179. Med J Malaysia.
ix. Rosidah SS, Roslinah A, Mohd Idris O, Mohd Azahadi O, Haliza AM, Leela S, Rahmah MA, Hamidon BB, Rohana J, Evi Diana O, Roslan Johari MG and Magesiwaran MH. *Pre-Hospital Delay and Its Associated Factors among Stroke Patients in Klang Valley*. Volume 8, No 1, 2010. Page 59 – 66. Journal of Health Management, IHM.
x. Roslan Johari MG, Azahadi O, Ang KT & Evi Diana O. *Meeting Patient Expectation at Dental Clinic in Peninsular Malaysia*. Volume 8, No 1, 2010. Page 23 – 33. Journal of Health Management, IHM.
xi. Nordin S, Maimunah AH, Tahir A. *Health Research Systems in Malaysia – Challenges and the Way Forward*. World Health Organization.
xii. Y Fadhli, MB Marina, M Norlen, MY Razif, O IIhamah, A Mazita & A Sani. *Prevalence of Obstructive Sleep Apnoea among Commercial Bus Drivers In Malaysia*. BMJ Journal.
xiii. Norlen M, Mohamad Fadhli MY, IIhamah O, Noradrenalina I, Wahida AB & Noor Faradila P. *Short-Term and Long-Term Effects of The Enhance Enforcement Programmes on Seatbelt Wearing among Front Occupants in Malaysia*. Volume 16, No 2, 2010. Page

47 – 56. Journal of Community Health.

xiv. WM Wan Nazaimoon & S Rusidah. *Malaysia Needs Wider Coverage With Iodized Salt.* Volume 35, No 1 February 2010. IDD Newsletter.

c) Presentations

i. Noor Ani A, Nik Rubiah AR, Nurakmar AR, Jasvindar K, Fuad H. *Sexual Behaviour of the Adolescents* (Poster) presented at 13th NIH Scientific Meeting Incorp 4th NCCR 2010 on 2-4 Jun 2010, Kuala Lumpur.

ii. Jasvindar K, Noor Ani A, Fuad H. *Maternal Mortality Ratio: A Trend Analysis.* (Poster) presented at 13th NIH Scientific Meeting Incorp 4th NCCR 2010 on 2-4 Jun 2010, Kuala Lumpur.

iii. Fuad H, Nurul AM, Noor Ani A, Jasvindar K. *Health Screening among Staff of Institutes, 2009*. (Poster) presented at 13th NIH Scientific Meeting Incorp 4th NCCR 2010 on 2-4 Jun 2010, Kuala Lumpur.

iv. K Gurpreet, Arifin S & Apriandi P. *Incidence and Predicators of Acute Diarrhoeal Disease in Malaysia – A Population Based Study*. (Oral Presentation) presented at the 42nd APACPH Conference on 24 – 27 November 2010, Bali, Indonesia.

v. GH Tee, K Kurpreet, Amal NM, R Paramesarvathy. *Health Seeking Behaviour among Malaysians with Acute Diarrhea Disease*. (Oral Presentation) presented at the 42nd APACPH Conference on 24 – 27 Nov 2010, Bali, Indonesia.

vi. Fadhli Y, Norlen M, Ilhamah O, Adi O & Latfi H. *Development of Emergency Response Model For Ambulance Services*. (Poster) presented at 13th NIH Scientific Meeting Incorp 4th NCCR 2010 on 2-4 Jun 2010, Kuala Lumpur.

vii. Rusidah S, Puspawati M, Rafidah Y, Ahmad Ali Z & Suhaila A G. *Iodine deficiency status in Sabah after 10 years implementation of universal salt iodization*. (Poster) presented at 26th Scientific Conference of Nutrition Society of Malaysia, on 24-25 March 2011, Kuala Lumpur.

Network of Clinical Research Centre (CRC)

CRC has been operational since August 2000 and functions as the clinical research arm of the MoH. In 2010, CRC has 20 branches located among the major MoH hospitals and is headquartered at the Hospital Kuala Lumpur (HKL). Prior to 1st October 2010, Dr. Goh Pik Pin was the acting director of CRC. She was later officially appointed as the Director of CRC on 1st October 2010, pursuant to the departure of the former Director of CRC, Dr. Lim Teck Onn. This transition in leadership was officially announced by the Director-General of Health, Malaysia, Y. Bhg. Tan Sri Dato' Seri Dr. Hj. Mohd. Ismail Merican.

The vision of the CRC is to become a leading clinical research organisation in Asia. As a research organisation in the MoH public healthcare system, as well as a government research institute, CRC has a dual mission. As part of the MoH, CRC has a broad public health mission: "To improve patients' health outcomes through ethical and quality clinical research". As a Government Research Institute (GRI), we also share responsibility for Malaysia's critical national mission to become a developed nation status by 2020. Specifically, CRC shall contribute to the development of the contract research outsourcing industry to make Malaysia a favourite clinical trial site in Asia, as envisioned in Malaysia's Third Industrial Master Plan 2006-2020 (IMP3). This is our contract research mission to contribute to our national wealth.

The National CRC (NCRC) leads the development of clinical research in MoH by facilitating the establishment of Hospital Clinical Research Centres (HCRC), providing technical supports to the network of HCRCs; promoting and supporting the conduct of Investigator Initiated Research among MoH staffs. NCRC also conduct the Industry Sponsored Research at MoH facilities and establish collaboration with local, regional and international research organisations. NCRC also establish and

maintain clinical database for MoH.

Hospital CRC (HCRC) supports and facilitates research activities in hospitals by providing database of clinicians interested in research and to track records of Industry Sponsored Research (ISR) or Investigator Initiated Research (IIR) and research publications. HCRC also gives technical support such as statistical analysis, administrative supports such as providing research assistants and study coordinators, facility support such as IT, statistical software, and others including work station. HCRC also assist in the registration of research protocol in the NMRR (National Medical Research Register) and application of grants for research, participate in clinical trials and other research initiated or coordinated by the national CRC and promote research through capacity building. Examples of these include conducting courses like Good Clinical Practice (GCP), Good Research Practice (GRP), research methodology and biostatistics, HCRC conducts regular in-house Continuous Professional Development (CPD) and also research clinics, which provides detailed consultation on research methodology, study design, protocol and statistical analysis. Last but not least, HCRC also provide mentoring program for clinicians and other medical professionals interested in research.

- **Activities/Events**

The Journal Club and Continuous Medical Education (CME) programs aimed to provide quality sharing learning opportunities that is hope to improve competency, support performance and preparedness and increase the vitality and efficiency of staffs practice by providing learning opportunity, up-to-date, and learner-driven to enrich their continued professional education and development that will improve research skill. Throughout 2010, NCRC has conducted 7 Journal club morning talks and 21 CME talks, which were attended by 326 participants. These were short 1-2 hours talks. No monetary budget was allocated for these activities. Positive feedbacks were received from the participants and thus the programs were continued till present. CRC also organized various training courses, as shown in Table 5.

Accomplishments by CRC in 2010:

a) Editor choice paper from British Journal of Ophthalmology March 2010
b) Troutman prize from Cornea J. of Cornea and External Disease July 2010
c) Completed Phase 1 MOA with Veeda Clinical Research Management (CRM)
d) Key Performance Indicator (KPI) achieved: 65 journal papers and 16 reports published and 166 abstracts presented in 2010
e) Successfully completed 15 research projects (Table 6), and 33 research projects are still ongoing. (Table 7)

CRC has been entrusted as an enabler to the Healthcare National Key Economic Area (NKEA) Entry Point Project 2 (EPP2), CRM. The EPP2 is to encourage and coordinate ISR projects. The key performance indicator (KPI) for EPP2 is 1000 projects for ISR by 2020. We are working toward making Malaysia the preferred one-stop centre for contract research.

TABLE 5
TRAINING (SEMINARS, WORKSHOP, SCIENTIFIC MEETING, CONFERENCE, PROMOTIONAL) CONDUCTED BY CRC IN 2010

No	Date	Venue	Event	Speaker/Organiser	No. of Participants	Source of Budget
1.	Throughout 2010	Throughout Malaysia	Good Clinical Practices (13 GCP workshops)	CRC / BiotechCorp / ACRPM Sdn Bhd / Crest Evendz Sdn Bhd	616	Training Budget
2.	20 April 2010	Hospital Kuala Lumpur (HKL)	Launching of Nilai-Nilai Budaya Korporat	Directors of HKL and CRC	100	Training Budget
3.	2 May 2010 - 4 April 2010	The Royale Chulan, Kuala Lumpur	13th NIH Scientic Meeting / 4th National Conference for Research 2010 - Advancing Medical Research: The Next Stage	CRC, in collaboration with NIH / ACRPM Sdn Bhd	200	Training Budget
4.	7 June 2010	Hospital Selayang's Specialist' Office	Learner's Autonomy - Understanding the Roles' Learner Autonomy Plays in the Lifelong Learning and Research Experiences of Physicians and Other Healthcare Professionals	Prof. Gary Confessore	20	Training Budget
5.	16 July 2010	Hospital Selayang's Auditorium	Selangor Research Day	CRC of Hospital Selayang	284	Training Budget
6.	6-8 October 2010	The Melia Hotel, Kuala Lumpur	Basic Research & Methodology Workshop	NCRC	70	Training Budget
7.	22-26 November 2010	The Magellan Sutera Harbour, Kota Kinabalu, Sabah	Clinical Trial Magnifier (CTM) 2010 Conference	Clinical Trial Centre, University of Hong Kong / Clinical Trial Magnifier / ACRPM Sdn Bhd	63	Training Budget
TOTAL					**1353**	

Source: CRC, MoH

TABLE 6
COMPLETED RESEARCH PROJECTS IN 2010

No	Research Title	Principal Investigator	Duration		Funding Agency
			From	To	
1.	Validation Anthropometry Validity & Reliability of Measurement for NHMS III	Dr Jamaiyah Haniff	2006	2010	MoH
2.	Validation of the Adolescent Coping Scale (ACS)	Dr Fauzi Ismail	2007	2010	MoH
3.	Validation of the Family Environmental Scale (FES)	Dr Ramli	2007	2010	MoH
4.	Effectiveness of Highly Active Antiretroviral Therapy (HAART) in HIV patients in Hosp. Sg Buloh	Professor Awang Bulgiba Awang Mahmud	2008	2010	UM
5.	A Phase II, randomized controlled trial of Foscan®-mediated Photodynamic Therapy in patients with Recurrent or Persistent Nasopharyngeal Carcinoma	Dr Yap Yoke Yeow	2008	2010	MoH
6.	Paediatric H1N1 Study	Dr Hussain Imam Hj Muhammad Ismail	2009	2010	MoH
7.	Pneumoccocal Study	Dr Tan Kah Kee	2009	2010	MoH
8.	Spinal Cord Injury- An Epidemiology Study in HKL, Malaysia	Dr Hajah Asiah Ibrahim	2009	2010	IIR
9.	Cancer survival in Malaysia	Dr Gerard Lim Chye	2009	2010	MoH
10.	Weight and body fat changes in relation to glucose control before and 3 months after diabetes camp in children with Type 1 and Type 2 Diabetes Mellitus	Dr. Muhammad Yazid	2010	2010	UM
11.	Incidence rate for colorectal cancer in Kedah & Perlis	Dr Ramli	2010	2010	MoH
12.	Erytroderma: A Retrospective study of 124 patients with special emphasis on prognosis	Dr Peter	2010	2010	MoH
13.	Glycaemic control, frequency of self-monitoring blood glucose and diabetes knowledge in type1 diabetes children before and after attending diabetes camp pneumoccocal study	Dr. Muhammad Yazid	2010	2010	UM
14.	Laser endoureterotomy for ureteric stricture (8 years experience in a singular center)	Dr Han	2010	2010	MoH
15.	Outcome of Gastric Cancer in Hospital Sultanah Aminah, johor Bahru (HSAJB)	Dr Vigia	2010	2010	MoH

Note: UM = University Malaya
Source: CRC, MoH

TABLE 7
ON-GOING RESEARCH PROJECTS IN 2010

No	Title of Project	Principal Investigator	Duration		Funding agency
			From	To	
1	National Renal Registry (NRR): Malaysian Dialysis & Transplant Registry	Dr Lim Yam Ngo	1996	On-going	MSN
2	National Trauma Database (NTrD) / Road Injury Surveillance	Dr Jamaiyah Haniff / Dr. Sabariah Faizah Jamaluddin	2003	On-going	MIROS
3	National Neonatal Registry	Dr Irene Cheah	2003	On-going	Perinatal Society of Malaysia
4	National Transplant Registry	Dr Lela Yasmin Mansor	2004	On-going	Malaysian Society of Transplant
5	National Liver Registry	Dr Tan Soek Siam	2004	On-going	MoH
6	National Suicide Registry Malaysia (NSRM)	Dr. Norhayati Ali	2005	On-going	IHBR
7	National Cardiovascular Disease Database (NCVD): Acute Coronary Syndrome (ACS) / Percutaneous Coronary Intervention (PCI)	Prof Dr Sim Kui Hian	2006	On-going	National Heart Association Malaysia
8	Validation of the Children Depression Inventory (CDI)	Dr Fauzi Ismail	2007	On-going	MoH
9	Validation of the Diabetes Quality of Life (DQoL)	Dr Fauzi Ismail	2007	On-going	MoH
10	Validation of the Summary of Diabetes Self-Care Activities (SDSCA)	Dr Fauzi Ismail	2007	On-going	MoH
11	Validation of the Berlin Questionnaires (Berlin OSA)	Dr Ashaari	2007	On-going	MoH
12	The Summary Diabetes Self-Sare Activities	Dr. Muhammad Yazid	2007	On-going	UM
13	Diabetes Quality of Life	Dr. Muhammad Yazid	2007	On-going	UM
14	National Eye Database	Dr Goh Pik Pin	2007	On-going	ISR
15	National Dermatology Registry: Psoriasis Registry	Dr Chang Chong Chor	2007	On-going	Leo Pharma Sdn Bhd
16	National Cancer Patient Registry (NCPR): Oncology	Dr Gerard Lim Chin Chye	2007	On-going	ISR
17	NCPR : Colorectal Cancer	Dato' Muhammad Radzi	2007	On-going	Cotra Enterprise Sdn Bhd
18	Audit of Diabetes Clinical Management	Dr Jamaiyah Haniff	2007	On-going	Malaysian Endocrine and Metabolic Society
19	National Rheumatoid Arthritis Registry (NIAR)	Dr Azmillah Rosman	2008	On-going	ISR

No	Title of Project	Principal Investigator	Duration		Funding agency
			From	To	
20	Economic Evaluation : Cost effectiveness of Living Related and Cadaveric Renal Transplantation in Ministry of Health Hospitals	Dr Sunita Bavanandan	2009	On-going	MoH
21	Malaysian Registry of Renal Biopsy	Dato' Dr. Wan Sha'ariah Md Yusuf	2009	On-going	MSN
22	Road Traffic Injury Prevention Study (R-TRIPS)	Hizal Hanis Bin Hashim	2010	On-going	MoH
23	Community-based Cardiovascular Risk Factors Intervention Strategies (CORFIS)	Dr Goh Pik Pin	2010	On-going	MoH
24	Clinical Research Situational Analysis (CRSA)	Dr Jamaiyah Haniff	2010	On-going	MoH
25	Cancer Survival	Dr Gerard Lim Chin Chye	2010	On-going	MoH
26	Clinical features and outcome of acute liver failure associated with dengue infection	Dr Tan Sok Siam	2010	On-going	MoH
27	Value of shock Index in prognosticating the short term outcome of survival for patients presenting with severe sepsis and septicaemic shock in an Emergency Department	Dr Shah Jahan	2010	On-going	MoH
28	Choledochal Cyst – A 10-year Experience in Hospital Selayang	Dr Valen	2010	On-going	MoH
29	Death certification	Tassha Hilda	2010	On-going	MoH
30	National Health Statistics Initiative (NHSI). A family of healthcare survey to strengthen the statistical capacity to support evidence-based healthcare policymaking and research in Malaysia. 1. National Medicine Use Survey (NMUS) 2. National Medical Device Survey (NMDS) 3.National Healthcare Establishment and Human Workforce Survey 4.National Medical Care Survey	Datuk Dr Noor Hisham Abdullah / Dr. Sheamini Sivasampu	2010	On-going	MoH
31	Transplantation of cultivated corneal epithelial sheet in patients with ocular surface disease.	Dr. Thiageswari Umapathy	2010	On-going	MoH
32	National Stem Cell Therapy Patient Registry: A Patient Registry / Clinical Database To Evaluate The Health Outcomes of Patients Undergoing Stem Cell Therapy in Malaysia.	Dr. Sarojini Svanandam / Dr. Loke Seng Cheong	2010	On-going	MoH
33	Strategic Alliance for the Development of Diagnostic Biomarker Panels for Hepatitis and Liver Cancer.	Dr. Haniza Omar	2010	On-going	MoH

Note:

- *MSN = Malaysian Society of Nephrology*
- *ISR = Industry-sponsored Research*
- *MIROS = Malaysian Institute of Road Safety Research*
- *UM = University Malaya*

Source: CRC, MoH

Institute for Health Management (IHM)

- **Training**

Training is a major activity of IHM. It conducts in-service training for all levels of health management personnel from the clinics, hospitals, district and state health departments, and the MoH headquarters. In addition, it also collaborates with Government agencies and international partners in conducting courses for Malaysians and overseas participants. Among the courses conducted are:

a) Executive Leadership Training

i. Effective Leadership Styles in Healthcare: Creating Futuristic Leadership
ii. Strategic Succession Planning to Ensure Uninterrupted Excellent in Service
iii. Leading in Turbulent Times
iv. Six Thinking Hats

b) Management Training

i. Management For Heads Department (Clinical)
ii. Credentialing For Hospital Director / District Health Officers / District Health Officers / Dental Health Officers
iii. Middle Level Management Training for Nurse, Assistant Medical Officer and Allied Health Professional
iv. Effective Supervision
v. Program Performance Evaluation

c) International and Collaboration Course

i. Epidemiological Intelligence and Management Program (MTCP-EIMP) under the Malaysian Technical Cooperation Program where participants come from developing countries from around the world. This is carried out in collaboration with other partners in MoH, namely, the Disease Control Division, IMR and IPH. The MTCP was inaugurated in 2007 with participants from 15 nations in the first training program.
ii. The Transfers of Technology Training (TTT) under Asian Collaborative Training for Malaria was designed to train healthcare personnel in managing Malaria in the ASEAN region. It is organized by the ASIAN Collaborative Training (ACT) Malaria Foundation Inc. supported by WHO.

A total of 71 courses were conducted in 2010, with more than 2500 participants comprising of healthcare personnel from all levels of management and facilities in MoH.


OPENING
CEREMONY

- **Research**

  IHM conducts studies on Efficiency, Effectiveness, Quality and Leadership in health management, in collaboration with other healthcare professionals in MoH and from local Universities. IHM has published 5 books (Table 8) where nine articles were published in its Journal of Health Management and other journals in 2010 (Table 9), while five posters were presented at the 4th National Conference for Clinical (NCCR)/13th NIH Scientific Meeting in June 2010 (Table 10).

TABLE 8
BOOK PUBLICATIONS BY INSTITUTE FOR HEALTH MANAGEMENT, 2010

No	Title
1.	*Buku Kerja : Menangani Sifat Marah*
2.	Review of Outpatient Management of Type II Diabetes Mellitus Patients at MoH Hospitals and Health Centres: A Comparative Study between 2005 & 2008
3.	Trainer's Guide for Action Research (Revised Edition 2010)
4.	*Buku Panduan Kumpulan Inovatif dan Kreatif*
5.	Trainee's Guide for Action Research (Revised Edition 2010)

Source: Institute of Health Management (IHM), MoH

TABLE 9
HEALTH MANAGEMENT JOURNAL PUBLICATIONS, 2010

No	Title	Journal
1.	Role of Primary Care Providers in Dengue Prevention And Control in the Community	Malaysian Medical Journal, Vol.65(1): Mar 2010; 58-62
2.	The SCIDOTS Project: Impact of An Integrated Tobacco Cessation Intervention in Tuberculosis Care on Treatment Outcomes and Quality of Life	Malaysia J Public Health DOI 10.1007/ s10389-009-0302-5
3.	Feasibility Study on Population Based Colorectal Cancer Screening in Malaysia	Buletin NCCR
4.	The Practice of Corporate Culture Values in the Ministry of Health	Journal of Health Management Vol 7: 2/2009
5.	Qualities Junior Doctors Look For in Their Role Models	Journal of Health Management Vol 7: 2/2009
6.	The Level of Satisfaction at Outpatients Clinic in Ministry of Health Hospitals in Peninsular Malaysia	Journal of Health Management Vol 7: 2/2009
7.	*Sejauh Manakah Pengamalan Nilai-Nilai Murni Di Kalangan Anggota KKM?*	Journal of Health Management Vol 8: 1/2010
8.	Meeting Patient Expectation at Dental Clinic in Peninsular Malaysia	Journal of Health Management Vol 8: 1/2010
9.	Pre-Hospital Delay and Its Associated Factors Among Stroke Patients in Klang Valley	Journal of Health Management Vol 8: 1/2010

Source: Institute of Health Management (IHM), MoH

TH

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No	
1.	The Level of Patient Satisfaction in Private Hospitals
2.	Utilisation of Specialist Services in Malaysia
3.	Staff Perception on the ICT Usage in Public Hospitals
4.	Pre-Hospital Delay and Associated Factors Among Stroke Patients in the Klang Valley
5.	The SCIDOTS Project: Impact of An Integrated Tobacco Cessation Intervention in Tuberculosis Care on Treatment Outcomes and Quality of Life in Malaysia

Among the areas where IHM provides consultancies are:

a) Action Research
b) Implementation of SERVQUAL (Service Quality) studies
c) Soft-skills development in health service provision
d) Innovation and Creativity projects (Projek Kumpulan Inovatif dan Kreatif, KIK)

IHM has given consultancy to 38 organizations within MoH pertaining to health management issues. IHM has opened its doors to institutions within and outside of MoH, as a result of which collaboration activities with 351 agencies. Besides that IHM is a focal point for UNICEF Collaborating Center until 2010.

IHM received two international delegates from Brunei (4th February 2010) and Indonesia on 27 December 2010.

Institute for Health Systems Research (IHSR)

- **Research**

a) Improving Patient Safety Projects

This three-year project began in 2008. Research activities on Improving Patient Safety commissioned to provide evidences for policy makers were:

i. Medication Safety - Medication Safety Processes in Selected MoH Facilities.
This study is to review the magnitude, types and severity of medication errors in selected MoH facilities through review of medical records. It is in the final stage of report writing.

ii. Culture - A Study on Safety Culture among Elective Surgical Operative Patients Admitted into Selected MoH Hospitals.
The study objective is to assess perception of patient safety culture among elective surgical operative patients. This study has just been completed.

iii. Blood Safety - Safety Level in Pre-transfusion Testing among Government Hospital Blood Bank 2007-2009.
This study aimed to identify errors and to design, implement and evaluate an intervention to reduce errors in the transfusion process. It is in the report writing stage.

iv. Laboratory Safety - Critical/Panic Values in Laboratory Results, Policies and Procedures in Selected MoH Hospitals.
The study aims to identify laboratory tests to be included in the critical/panic value list and results for immediate notification and also to outline the procedures and processes for this notification. It is in the report writing stage.

v. Dental Safety - Improving Safety in Dental Health Setting.
This is to identify sterilisation procedures and costs involved in the dental outreach teams. The study has completed.

vi. Patient Falls:

a. Falls in Older Patients in Selected MoH Hospitals.
It is to identify types, ratios, severity and contributory factors of fall incidences among elderly patients. It is in the report writing stage.

b. Audit on the Safety of Wheelchairs used in Selected MoH Hospitals.
This is to audit the safety of wheelchairs used in selected MoH hospitals. It is in the report writing stage.

The list of research (new as well as continuity from the previous year) activities under EVIPNet commissioned to the institute is as follows:

i. Utilization & Modeling of Health Demand Analysis for Health Sector Reform.
ii. System change in process of notification of Critical Laboratory Value for improving patient care in Hospital Kuala Lumpur.
iii. Reducing Shortfalls in the Management of Babies with Severe Neonatal Jaundice (SNNJ) admitted to the Paediatric Department of Hospital Kulim.
iv. Cost analysis of Delivering Outpatient Services in Public Hospitals.
v. Evaluation of implementation of 1Malaysia Clinic (1MC).
vi. Development of a competency matrix for health researchers.
vii. Costing of Ministry of Health Primary Care Services (COMPRICASE).
viii. Costing of MoH Putrajaya Health Clinic (COMPHEC).
ix. Evaluation of the MoH Quality Assurance Programme.
x. Evaluation of Private Sector Involvement in Delivery of Primary Care Services.

Besides the research projects listed above, which were spearheaded by the Institute, the institute had also been collaborators of projects such as the following:

i. Cost analysis of delivering outpatient services in public hospital
ii. Analysis of financial arrangement and expenditure in health in Malaysia
iii. Assessment of the One Malaysia Clinics
iv. Dialyser reuse for people on haemodialysis

- **Training**

Overall, the Institute had conducted 21 training courses in 2010. Training was conducted in fields related to research such as systematic reviews, research methods, statistics, and quality improvement.

In terms of staff development, the Institute had sent five officers for international courses in areas such as systematic reviews, qualitative research, and monitoring & evaluation processes. Other than that, 72 different local courses had been attended by officers of IHSR which included courses on statistics, quality improvement, soft skills, literature search & reviews, project management, data analysis as well as conferences in various areas.

The Institute had also had the pleasure of visits from:

a) Four delegates from the Department of Policy and Planning, Ministry of Health, Brunei Darussalam on 11 February 2010;
b) Dr. Corrine Martine Monique Capuano, WHO Malaysia on 18 February 2010;
c) The ex-Director of the Institute of Public Health, Iceland who is currently attached to the Monash University in Kuala Lumpur on 27 April 2010; and
d) Four visitors from the Center for Applied Health Technology and Clinical Epidemiology, Indonesian National Institute of Health Research and Development, visited IHSR on 27 December 2010. Their objective was to learn about the advancing clinical research and clinical epidemiology.

- **Consultancy**

In strengthening the Centre's technical staff competency in systematic reviews, four courses had been conducted by the following experts:

a) Prof. Jacqueline Ho, Penang Medical College
b) Prof Dr Daniel D Reidpath, Monash University, Malaysia
c) Dr. Lai Nai Ming, Monash University, Malaysia

The technical staff of the Centre had provided more than 20 technical supports to State Health Departments, Hospitals, District Health Offices as well as postgraduates' university students.

The Centre's Director was also invited to provide 2 consultancies abroad. They are as follows:

a) Consultancy on Implementation of Planned Quality Improvement provided to the Ministry of Health, Brunei Darussalam, 14-22 June 2010.
b) International Technical Assistance on the Adoption and Training of WHO (QA/QI) modules on Measuring and Managing Quality of Health Care for China Rural Health Development Project in Nanjing, Jiangsu Province of China, 8-12 November 2010.

- **Presentations and Publications**

While research, training and consultancy are the core activities of the institute, the main output of the activities will always be presentations and publications. In 2010, the Institute had carried out

51 presentations at various national and international forums. The institute had also produced 27 publications in the form of journal articles, technical reports, and journal abstracts.

In its continuous strive to strengthen knowledge translation, the Centre had on its own as well as jointly, prepared research highlights for policymakers and other stakeholders. In 2010, 25 research highlights had been produced for distribution to policymakers and stakeholders.

Institute for Health Behavioural Research (IHBR)

Activities organised by IHBR in 2010 is as listed in Table 11. As one of the research institutes under the NIH Secretariate, outputs of IHBR are measured by publication and presentations. There were five scientific papers and seven research reports by IHBR published in 2010, whereas the Institute was involved in eight presentations.

- **Publications**

a) Scientific Papers; Published

i. Norimah A.K., Hwong C.S., Liew W.C., Ruzita A.T., Siti Sa'adiah H.N. & Ismail M.N. 2009. *The Understanding of Five Key Messages of the Newly Proposed Malaysian Dietary Guidelines (MDG) Among Adults in Kuala Lumpur*. Malaysian Journal of Nutrition.
ii. Fatimah S., Siti Sa'adiah H.N., Tahir A., Hussein Imam M.I. & Ahmad Faudzi Y. 2009. *Breastfeeding in Malaysia: Results of the Third National Health and Morbidity Survey* (NHMS III, 2006). Malaysian Journal of Nutrition.
iii. Mohammad Zabri J., Sulaiman C.R., Zawaha I., Edawaty U. & Siti Sa'adiah H.N. 2010. *Corporate Culture in Ministry of Health Malaysia: The Inside Perspective of Two FGD's in Klang Valley*. IHBR. Journal of Health Management.
iv. Dayang Rusnah Wati Z., Kaswandi M.A., Mohammad Zabri J. & Wong Y.Y. 2010. *Application of Precede and Health Belief Model Constructs In Pre-Intervention Study of Self-Monitoring of Blood Glucose in Hospital Melaka*. IHBR. Journal of Health Management.
v. Norazilah M.R., Ismarulyusda I. & Mohammad Zabri J. 2010. *Pengujian Kognitif Terhadap Instrumen Kajian Tingkahlaku Kesihatan Berisiko Kebangsaan*. Journal of Health Management (Vol. 9).

b) Research Reports; Approved and Published

i. A Study on Social, Economic and Emotional Impacts and Level of Stigma of Both Treated and Untreated Childhood Psychiatric Disorders on Patient and Their Family.
ii. Pre-testing of Main Key Messages for the National Dietary Guideline 2010.
iii. Public Perception on Influenza A H1N1 (Phase I).
iv. Public Perception on Influenza A H1N1 (Phase II).
v. Food Poisoning Risk Factors in Kelantan School Canteens 2007.
vi. Foreign Domestic Workers in Malaysia: Exploring the Intersection of Gender, Migration and Health. (Collaboration with University of Ottawa, University of Singapore and University Malaya).
vii. Determinants of Health amongst Diabetes Mellitus Patients in Bandar Tun Razak Health Clinic, Kuala Lumpur.

TABLE 11
ACTIVITIES ORGANISED BY IHBR IN 2010

No.	Course Title	Date	Venue	Participants	Objective
1.	Health Promotion Planning: Intervention Mapping Approach.	21-24 June 2010	Empress Hotel, Sepang	22 participants among Health Education Officers all over Malaysia.	1. To explain rationale systematic approach in planning health intervention program. 2. To explain ecological approach in health promotion 3. To discuss mapping concepts 4. To explain 6 steps of "Intervention Mapping"
2.	Behaviour Change: Applying Theory To Practice.	8-11 December 2010	Institut Alam Sekitar Malaysia (EiMAS), UKM Bangi	18 participants among Health Education Officers all over Malaysia.	By end of session, the participants will be able to: 1. Discuss the importance of behaviour level change theories in Health Promotion. 2. Describe theories for individual, group and population level change. 3. Apply behaviour level change theories for Health Promotion.
3.	Risk Communication	21-24 July 2010	Hotel Le Paris, Port Dickson.	14 participants among Health Education Officers all over Malaysia.	1. To identify crisis situation. 2. To explain concept and process of risk communication. 3. To practice message principles in handling pre crisis, during crisis and post crisis. 4. To perform situational analysis and public risk perception and to evaluate the effectiveness of risk communication messages. 5. To frame the risk communication action plan.
4.	Helping Community Change (Community Mobilization)	9-12 November 2010	Empress Hotel, Sepang	17 participants among Health Education Officers all over Malaysia.	1. To give exploration among participants about latest techniques and theories in mobilizing community. 2. To share experience with the successful community in controlling dengue 3. Hands on experience among participants in doing community diagnosis

Source: Institute for Health Behavioural Research (IHBR), MoH

- **Presentations**

a) Oral

i. *Cognitive Testing on National Youth Behaviour Risk Factor Surveillance System Research Instrument*; by Norazilah Roslan at the National Scientific Conference
ii. *High Risk Health Behaviour among National Service Trainees*; by Hjh Zawaha Hj Idris at the National Scientific Conference
iii. *Diagnosis of Safety Climate in the Petrochemical Industry of Malaysia*; by Dr. Ahmad Shahrul Nizam Isha at the National Scientific Conference
iv. *Exploring the Psychosocial Aspect and Worker Well being in Malaysian Petrochemical Industries*; by Dr. Ahmad Shahrul Nizam Isha at the Australian-Malaysian Research Colloquim.

b) Poster

i. *Association of Socio-Demographic Factors, Family History and Diabetic Profile with Glycaemic Control among Type 2 Diabetes Patients at a Health Clinic in Kuala Lumpur;* by Hasimah Ismail, Prof. Muhamad Hanafiah, Siti Sa'adiah Hassan Nudin, Dr. Tahir Aris, Dr. Salmiah & Dr. Huda at the National Scientific Conference
ii. *An Evaluation of the Improved Food Premise Assessment;* by Hjh Zawaha Hj Idris & Norrafizah Jaafar at the National Scientific Conference
iii. *Risk Behavior in Food Consumption Pattern and Physical Activity among Adults in Kuala Lumpur*; by Hjh Zawaha Hj Idris at the 25th Nutrition Society National Scientific Conference
iv. *Kajian Intervensi Pendidikan Kesihatan Terkawal dalam Pengesahan Awal Tibi di Rumah Panjang Nanga Teluas, Lubok Antu, Sarawak;* by Hjh Zawaha Hj Idris at the Sarawak State Research Day 2010

WAY FORWARD

Under the 10MP, the Planning and Development Division will focus on activities to crystallise the concept of 1Care for 1Malaysia and develop its blueprint for implementation. Facility planning and development will be actively done since it is the beginning of 10MP. Efforts will also be stepped up to further improve the quality of data at HIC and MNHA Units so as to meet global standards. Capacity building is crucial at all levels in order to meet the challenges raised for the health system in the concerted effort to become a high income nation.

In view of the expanding services in the provision of healthcare to the patients and public, and protecting the public health, the roles of engineers and scientists in the Engineering Services Division have become more prominent in assisting the medical team to realize MoH's vision. There is a need for a long-term commitment to continuously train the personnel to improve their knowledge, skills and competencies. A system for a fast, efficient and effective processing and delivery of information and services is necessary thus the Division will need to optimise the use of available infrastructure, equipment and technology in its daily work processes.

The Institute for Medical Research will continue to identify and implement strategic initiatives and alliances that will strengthen the core activities of the Institute so as to meet the aspirations and expectations of MoH and other stakeholders. Existing ties with funding agencies, academia as well as national and international organisations shall be strengthened while new partnerships and networking shall be sought and established.
The Institute will step up efforts to establish facilities and train more researchers in advanced investigative technologies such as next generation sequencing, array-based approaches, bioinformatics and others so as to enhance research skills and competencies to remain relevant and competitive.

As a partner and player in the implementation of the national Entry Point Project on high value herbal products, the IMR is committed to attaining Good Laboratory Practice (GLP) compliance to enable more extensive pre-clinical toxicological testing of herbal products, a pre-requisite for such clinical trials. In addition, the IMR with her expertise and experience in herbal medicine is set to play a prominent role in the national effort for the monograph development of Malaysian herbal plants. Meanwhile the Institute will also continue to actively contribute to building national capacity through her technology transfer, training and consultancy programs.

Aspiring to be the centre of excellent in clinical research, CRC conducts National Conference for Clinical Research as an annual event, will conduct more medical writing workshops, will help clinicians to convert their abstract or poster or power point slides presented at scientific meetings to manuscripts for publications in peer-reviewed journals. This will certainly increase the number of publications in peer-reviewed journals. In responding to MoH focus or non-communicable disease (NCD), CRC will conduct review in NCD management at primary care and testing the one-care concept (public-private partnership).

2010 has been an eventful year of training activities. As we 10MP, IHM will realign its functions with the national health agenda of 1Care and the national research priorities, contributing towards nation building and capacity building in leadership and health management for MoH with the oncoming health sector transformation in the country. Greater linkages with be forged with local, regional and international partners to position IHM as a preferred centre for health management training and research in the region and the world.

Institute for Public Health will be the reference centre for the epidemiological survey research in Malaysia. The National Health and Morbidity Study is going to be a continuous survey with 4-year cycles and annual data collection and reports. This survey will look for trends of selected health problems with additional prioritised topics. The Burden of Disease Study will also be a continuous study with annual report. The institute will continue its training in research methodology and statistical analysis by our expert officers. The institute will also entertain consultancy in both areas and other area of interest of its staff. Institute for Public Health, as the centre for epidemiological survey research, is focusing in population-based research while providing training and consultancy in research methodology and statistical analysis.

IHBR is determined to become a leading institute in the field of health behavioural research, health promotion, risk communication and health communication. This is to ensure that the institute increases its capacity by strengthening its newly established divisions, as well as recruiting more skilled staff. In addition, the institute also plans to collaborate with a wide range of agencies and organizations in conducting research and getting consultancy from WHO and Health Promotion agencies from developed countries to assist in its operations. These efforts have also met the challenges of MoH to form smart partnership with other agencies outside of MoH.

The Centre will continue to forge and strengthen existing partnerships and collaborations with national and international organizations to reinforce its role and functions as the WHO Collaborating Centre for Health Systems Research and Quality Improvement. The Centre's immediate future plans will be:

i. To seek extra-mural funding for research projects.
ii. To educate policy makers to enhance utilisation of research findings
iii. To strengthen documentation in the utilisation of research findings and products by introducing a tracking mechanism of request.
iv. To enhance the utilisation of research findings by identifying platforms and sharing of research at various technical meetings in the Ministry of Health
v. To continue consultancy work in the field of HSR and QA/QI at international level specifically Western Pacific Region.

CONCLUSION

The Research & Technical Programme will continue to support all programmes and activities within the MoH and also other sectors towards achieving the best in all health related endeavors and play an important role in ensuring that MoH activities are geared towards achieving national objectives.

Research activities will continue in supporting the other programmes and providing evidence for policy making and improving public health services and health delivery systems.

Oral Health 6

INTRODUCTION

The goal of the Oral Health Programme is to ensure our population enjoys an enhanced quality of life through optimal oral health. Towards this end, our service is strongly committed to improve the oral health status of the population through the delivery of preventive, promotive, curative and rehabilitative dental services with special emphasis given to priority groups. In order to deliver its commitments, the Oral Health Programme has intensified its efforts, maximizing the productivity of all of resources - physical, financial, information technology and human resource in the pursuit of quality and safer oral healthcare for all.

ACHIEVEMENTS AND ACTIVITIES

Professional Development

The Oral Health Division (OHD) has made significant strides towards achieving and maintaining an optimal supply of competent oral health care providers. Various initiatives have also been proposed to improve their career pathway towards better job satisfaction. These include recruitment and retention initiatives to strengthen and stabilise the workforce and education and training programs to better prepare oral health professionals for practice.

- **Recognition of Post Graduate Dental Qualifications**

  i. In 2010, 63 officers were gazetted under General Orders F27(a) and F27(b). The gazettement process was subsequently halted due to administrative requirements. Subsequently, two proposal papers were later submitted to the Director-General of Health for approval to continue the gazettement process :

     a. "Permohonan Kelonggaran Syarat Pewartaan sebagai Pakar Pergigian Kesihatan Awam di KKM" (presented at the Special Medical Committee on the 23rd of July 2010)
     b. "Permohonan Pewartaan Sebagai Pakar Pergigian Kesihatan Awam di Kementerian Kesihatan Malaysia Menggunakan Mekanisma Sendiri" (presented at Special Medical Committee on the 20th of November 2010)

  ii. A draft of "Guidelines on the Gazettement of Dental Public Health Specialists at MoH" was also prepared

- **Post Graduate/Post-basic Training**

  A total of 53 scholarships were offered to dental officers for post graduate training programs. As for dental auxiliaries, 23 dental nurses completed their post-basic training in Paediatric Dentistry at the Children's Dental Centre and Dental Training College Malaysia in Penang. Besides this, discussions on degree programs for dental nurses and technologists are ongoing.

Career Pathways and Scheme of Service Improvement

Efforts were taken towards improving the career pathway of dental auxiliaries. The proposal papers prepared include:

i. "Penambahbaikan Skim Pembantu Pembedahan Pergigian" - for upgrading of Dental Surgery Assistants' Scheme of Service
ii. "Skim Bersepadu Juruteknologi Pergigian" - for upgrading of Dental Technologists' Scheme of Service
iii. "Kelonggaran Syarat Lantikan Sebagai Pengajar di Kolej Latihan Pergigian Malaysia" - to facilitate the appointment of Dental Auxiliaries with various degrees as tutors at the Dental Training College Malaysia.

- **Continuing Professional Development (CPD)**

  In order to facilitate in-service training opportunities both locally and abroad, resources were allocated under the 9th Malaysian Plan whereby both Dental Professionals and Auxiliaries participated in various courses, seminars and training programmes (Table 1).

TABLE 1
IN–SERVICE TRAINING FOR DENTAL OFFICERS AND AUXILIARIES, 2010

In-Service Training	No. of Courses	No. of Dental officers & Dental Auxiliaries involved	Expenses (RM)
Local	306	12,433	1,825,000
Overseas	15	32	1,175,000

Source: Oral Health Division, MoH

Facility Development

By end of 2010, five out of the six dental projects approved under the 9th Malaysia Plan for 2010 were completed. These projects involves the procurement of mobile dental clinics to states of Kedah (2 units), Terengganu (2 units) and Sarawak (4 units). However, one mobile dental clinic project for Kelantan was cancelled because the supplier was unable to deliver within the time frame given.

Review of the Brief of Requirement (BOR) and norms for new and existing facilities were done and this includes the Non-Hospital-Based Oral Health Specialist Centre which was put up for the first rolling plan of the 10th Malaysia Plan. The standard list of equipment for dental facilities in health clinics and hospitals was also reviewed for 10th MP and this includes the school mobile dental teams, preschool mobile dental teams and school dental clinics.

Besides this, mapping of facilities was reviewed to include the distribution of dental laboratories as well as clinics with resident dental officers and visiting dental officers. The mapping of visiting dental clinics and full time dental clinics is to look into the possibilities of upgrading visiting dental clinics into clinics with resident dental officers. The utilisation of dental equipment in dental facilities was also monitored to ensure compliance to specifications developed by the Specification Committee of OHD, MoH.

Oral Health Promotion

- **Health Promotion Activities**

  Efforts were continued to empower the public on the importance of oral health in enjoying a better quality of health. The Oral Health Division participated in Healthy Lifestyle Campaigns and took part in Smart Kids 2010, an education fair in collaboration with the Health Education Division, MoH at the Putra World Trade Centre Kuala Lumpur. In addition exhibition booths were put up at the following events:

  i. "17th MDA/FDI Scientific Conference & Trade Exhibition" at the Sunway Convention Centre, 16-17th of January 2010
  ii. "Kempen Kurangkan Pengambilan Gula Peringkat Institut Pengajian Tinggi" at the Universiti Putra Malaysia (UPM), 6th of February 2010
  iii. "Workers' Health Day" at the MoH Headquarters, 8-9th of February 2010
  iv. "1Malaysia Oral Health Awareness" at the Tropicana City Mall, 28th of February 2010
  v. The "Use Less Sugar Campaign", organised by the MoH at the Jaya Jusco Metro Prima, Kepong, 21st of March 2010

vi. The "One is Enough, Less is Better" Seminar at the Parcel E Auditorium, 13th of May 2010
vii. "Malaysia Professional Connect" in the Malaysian Tourism Centre (MATC), Kuala Lumpur, 15-16th of May 2010
viii. The "FDI/MDA Scientific Conference" & "67th MDA AGM & Trade Exhibition" at KLCC, 12-13th of June 2010
ix. Oral Health Education, donations, dental screening and dental treatment at Ti-Ratana Welfare Home, 10th of June 2010
x. "National Consumerism Month 2010" at the Public Services Department Auditorium, Putrajaya
xi. The "Oral and Mouth Health Promotion" at the Prime Minister's Department, Putrajaya on 14-15th of December 2010.

- **Development and Dissemination of Oral Health Information**

  Three media talks on Oral Health topics were planned together with the Health Education Division, MoH. Several health promotion materials were also produced, which includes 6 oral health promotion posters, 9 pop-up exhibits and 8 roll-up banners, which are then produced and distributed to the various states. In addition, thirteen units of check-up booths were commissioned and 12 of these were supplied to Perlis, Kedah, Penang, Perak, Selangor, FTKL, Negeri Sembilan, Melaka, Johor, Pahang, Terengganu and Kelantan.

- **Training**

  Training sessions were conducted to enhance capacity building among personnel. There were two seminars on "Community Participation in Oral Health Promotion" conducted in 2010 for dental officers. Besides this, two courses on Tobacco Cessation were also conducted.

- **Monitoring and Evaluation of Oral Health Promotion Activities**

  Dental officers and dental nurses in the country carried out a total of 614,716 oral health promotion activities in 2010 (Table 2). Most activities show increased output notably Dental health talks, role play activities, toothbrush drills and also exhibitions and campaigns.

TABLE 2
ORAL HEALTH PROMOTION ACTIVITIES, 2006 – 2010

Type of Activity	2006	2007	2008	2009	2010
Toothbrushing Drill	183,131	188,286	196,412	206,221	237,910
Dental Health Talk	174,373	178,597	202,654	238,548	282,135
In-service Training	683	344	525	497	473
Role Play	35,917	41,240	28,338	33,769	36,023
Puppet Show	2,658	1,954	2,770	3,036	3,507
Exhibition/Campaign	2,389	2,323	2,683	2,754	3,370
TV/Radio Programme (Mass Media)	497	148	122	44	53
Community Service	598	884	579	1,789	658
Others	10,129	10,109	16,728	30,448	50,587
Total	**410,375**	**423,885**	**450,811**	**517,106**	**614,716**

Source: Health Informatics Centre, MoH

Besides this, other activities monitored are:

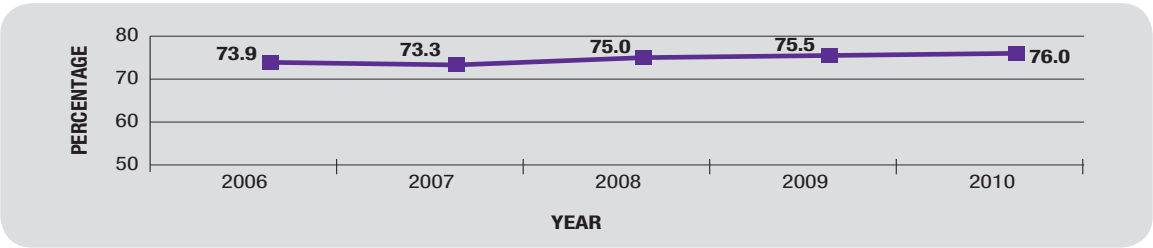
- Oral Health Seminars for preschool teachers
- Tobacco Cessation activities
- Oral Health Program for trainee teachers

Community Oral Healthcare

- **Water Fluoridation Program**
  Fluoridation of public water supplies is a safe, effective, economical¸ practical and socially equitable means for the prevention and control of dental caries. The estimated population receiving fluoridated water increased from 75.5% in 2009 to 76.0% in 2010 (Figure 1). Compared to 2009, all states had maintained population coverage receiving fluoridated water except for Terengganu, Sarawak and Pahang (Figure 2).

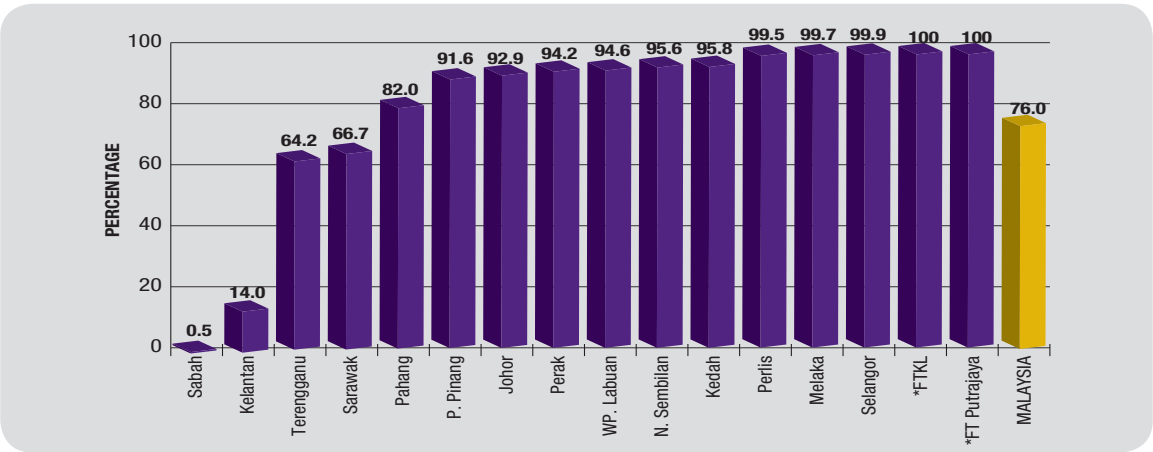
  In Sabah, the fluoridation programme that initially started in 1985 was neglected as it was not supported by the state government. Approval to re-activate the programme, however, was received from the State Cabinet Committee on the 6th of October 2010. Under the 1st Rolling Plan of the 10th Malaysia Plan, a sum of RM 7.5 million was approved for the water fluoridation programme of which RM 2.5 million was allocated for Sabah.

FIGURE 1
POPULATION COVERAGE FOR WATER FLUORIDATION PROGRAMME, 2006 - 2010



Source: Oral Health Division, MoH

FIGURE 2
POPULATION RECEIVING FLUORIDATED WATER BY STATE, 2010

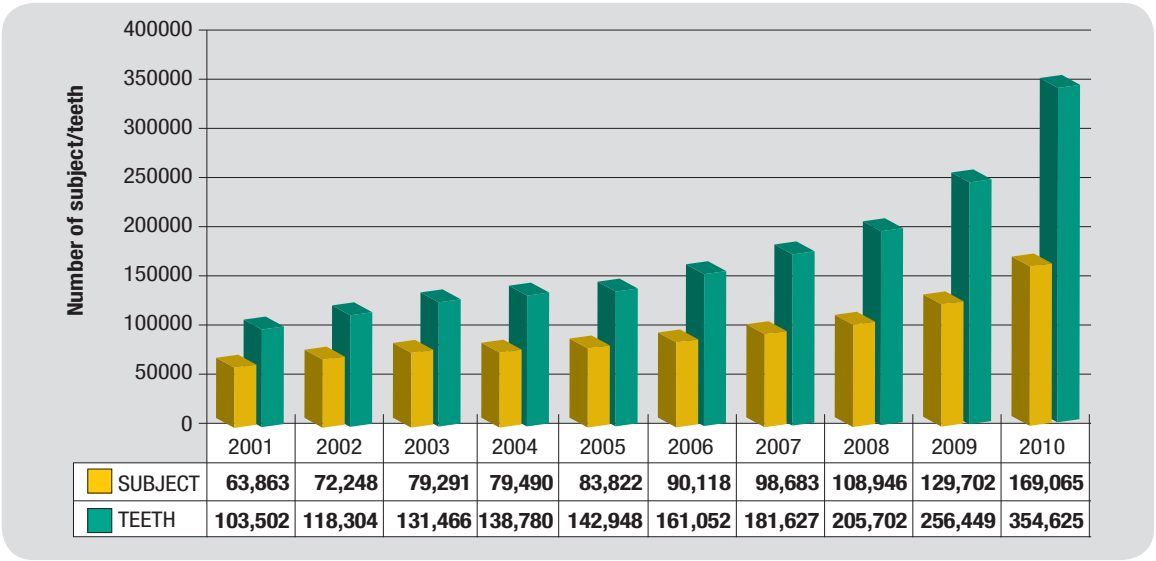


Source: Oral Health Division, MoH

- **School Based Fissure Sealant (FS) Program**

  In contrast to water fluoridation which acts at a population level, pit-and-fissure sealants are used for caries prevention on an individual basis for at-risk populations. Generally, school-based FS program has been shown to be effective in preventing dental caries. There is an increasing trend of subjects and teeth provided with FS from year 2001 to 2010 (Figure 3). In 2010, approximately 93% of schoolchildren needing FS were rendered FS under the program, which equates to 90.7% sealing of teeth indicated for fissure sealants.

FIGURE 3
NUMBER OF SUBJECT/TEETH RENDERED FISSURE SEALANTS, 2001 - 2010



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
SUBJECT	63,863	72,248	79,291	79,490	83,822	90,118	98,683	108,946	129,702	169,065
TEETH	103,502	118,304	131,466	138,780	142,948	161,052	181,627	205,702	256,449	354,625

Source: Oral Health Division, MoH

- **Primary Prevention and Early Detection of Oral Pre-cancer and Cancer Program**

  Oral cancer remains a major health concern in Malaysia. OHD continues its emphasis on primary prevention and early detection. Continuous collaboration with community leaders, agricultural plantation authorities, and relevant agencies is important for the Primary Prevention & Early Detection of Oral Pre-Cancer & Cancer program.

  In 2010, two hundred and fifty nine (259) identified villages/estates for high risk were visited and 5,813 residents, aged >20 were screened for oral lesions under the program. A total of 13,438 participants also received dental health education (Table 3).

TABLE 3
ORAL CANCER AND PRE-CANCER SCREENING AND PREVENTION PROGRAMME, 2010

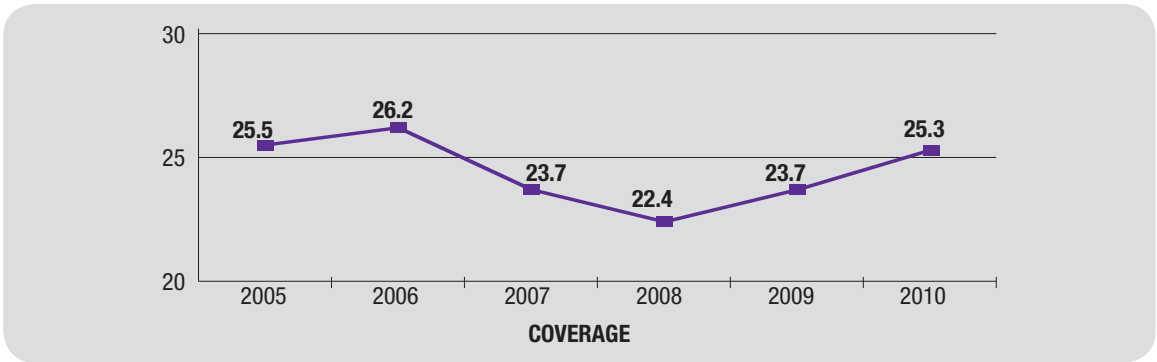
No. of estate/ villages visited		No. of patients screened	No. of exhibitions held	Dental Health Talks	
New	Repeat			No. of talks	No. of given participants
185	74	5,813	362	1064	13,438

Source: Oral Health Division, MoH

Primary Oral Healthcare

Primary oral healthcare plays a central role in achieving and maintaining optimum oral health of the community. It acts as the first point of consultation as well as the provision of the widest scope of oral healthcare for the community. In 2010, there is an overall increase in the utilisation of primary oral healthcare to 25.3% compared to 24.1% in 2009 (Figure 4).

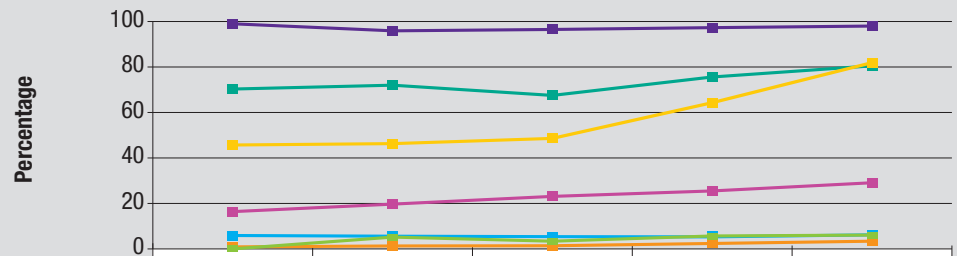
FIGURE 4.
PERCENTAGE OF POPULATION GIVEN PRIMARY ORAL HEALTH CARE, 2005 – 2010



Source: Health Informatics Centre, MoH

Primary oral healthcare, the thrust of the oral health service, is provided to the population via structured programmes for identified target groups such as toddlers, preschool children, school children, children with special needs, antenatal mothers, adults and the elderly. Figure 5 shows the utilization of primary oral healthcare by the various target groups. The table shows an increasing trend for the percentage of preschool, primary and secondary school children, while the coverage of toddlers seems to be rather low as a structured programme for this target group as only started in 2008.

FIGURE 5
PRIMARY ORAL HEALTHCARE UTILISATION BY CATEGORY, 2006 - 2010

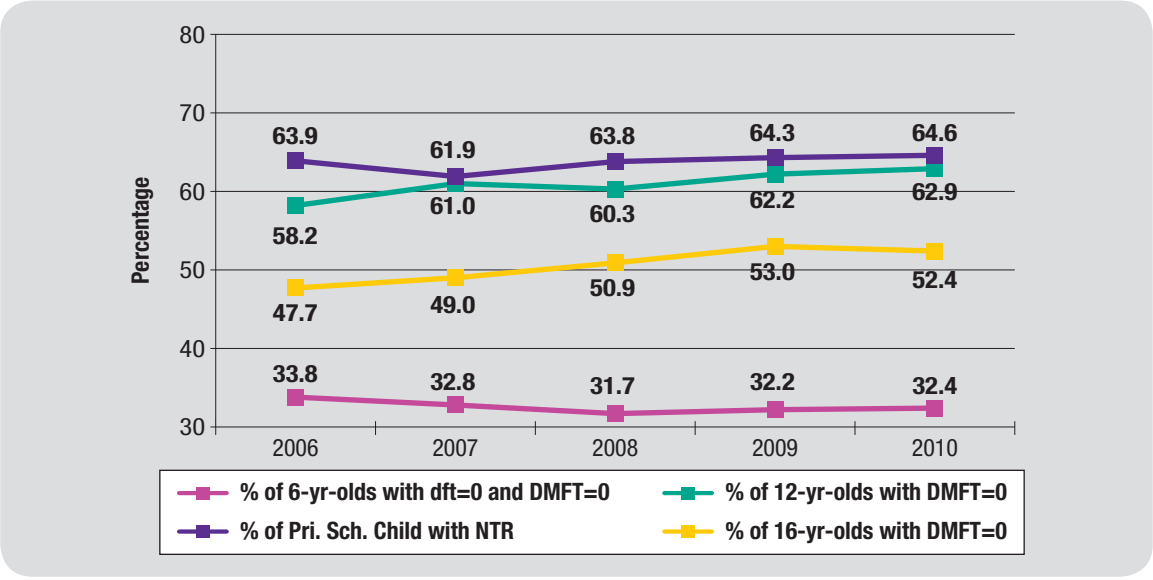


	2006	2007	2008	2009	2010
Toddler[1]	0.9	1.3	1.4	2.4	3.4
Pre School[2]	45.7	46.3	48.6	64.3	81.9
Primary School[2]	99.0	95.9	96.5	97.3	98.0
Secondary School[2]	70.3	72	67.5	75.6	80.5
Antenatal[2]	16.4	19.7	23.1	25.5	29.1
Adult[2]	5.9	5.6	5.4	5.3	6.2
Elderly[2]	0.0	5.2	3.4	5.7	6.1

Source: [1]Oral Health Division and [2]Health Informatics Centre, MoH

Impact indicators are used to monitor the oral health status of schoolchildren-, 6 year-old, 12 year-old and 16 year-olds (Figure 6). The percentage of caries free children among 6, 12 and 16 year olds has not changed much over the years; a slight reduction noted in the mean DMFT score for 16 year olds.

FIGURE 6
IMPACT INDICATORS FOR SCHOOL DENTAL SERVICES, 2005 – 2010



Source: Oral Health Division, MoH

Specialist Oral Health Care

- **Dental Specialist Services**

  The clinical Dental Specialist disciplines available in MoH are Oral Surgery, Orthodontics, Paediatric Dentistry, Periodontics, Oral Pathology & Oral Medicine, Restorative Dentistry and Forensic Odontology. Complementing the service delivery by clinical dental specialists are the Dental Public Health Officers who provide specialist services to the community mainly through the provision of clinical preventive care and management of oral healthcare programs. In 2010, the number of clinical dental specialists in the MoH had increased to 163 (Table 4) and the number of Dental Public Health Officers remained at 129.

  Development of Centres for the Management of Specific Dental Conditions is an ongoing activity. This includes training, procurement of equipment, materials, staffing, and renovations of the identified centres. Planning for the first two Non-Hospital-Based Specialist Centres was initiated in 2009 and continued in 2010. Planning for the Centre in Alor Setar was made 2010 and development will begin in 2011. The Centre in Seremban started operation in 2010 and upgrading of the infrastructure will be made in 2011.

TABLE 4.
DENTAL SPECIALISTS BY DISCIPLINE IN MoH, 2004 - 2010

Discipline \ Year	Number of Specialists						
	2004	2005	2006	2007	2008	2009	2010
Oral Surgery	34	34	36	42	45	48	52
Orthodontics	31	28	26	31	30	33	37
Paediatric Dentistry	13	16	20	21	23	25	28
Periodontics	10	12	17	19	18	19	21
Oral Pathology & Oral Medicine	5	4	6	6	6	8	9
Restorative Dentistry	2	3	9	10	15	15	16
Total Clinical Specialists	95	97	114	129	137	148	163
Forensic Dentistry	0	0	0	0	0	1	1
Dental Public Health	124	120	118	118	123	129	129

Source: Oral Health Division, MoH

- **Development of Clinical Practice Guidelines (CPG)**

  The following CPGs were reviewed in 2010:

  i. "Management of Severe Early Childhood Caries"
  ii. "Management of Avulsed Permanent Anterior Teeth in Children" was presented and approved by the CPG Council on the 4th of November 2010
  iii. "Antibiotic Prophylaxis for Oral Surgical Wound Infections" will be continued in 2011 following the completion of the report from the health systems research study.
  iv. "Management of Chronic Periodontitis" and "Management of Periodontal Abscess" were commenced in 2010 and will be continued in 2011.

  New topics for CPGs in 2010 included:

  i. "Management of Hypodontia"
  ii. "Management of Perio-Endo Lesions"

- **In-service Training**

  To have a continuous update on knowledge, improvement in skills and to be current in their fields, Dental Specialists in MoH were sent for additional training. In 2010, a total of 25 dental specialists were sent for various courses in the country and overseas (Table 5).

TABLE 5
IN-SERVICE TRAINING FOR DENTAL SPECIALISTS, 2007 - 2010

Year	Oral Surgery	Oral Pathology/ Medicine	Orthodontics	Paediatric Dentistry	Periodontics	Restorative Dentistry	Denntal Public Health	Total
2007	5	0	2	3	2	0	-	12
2008	6	1	2	1	1	0	-	11
2009	5	0	2	5	2	1	-	15
2010	6	1	5	5	3	0	5	25

Source: Oral Health Division, MoH

Oral Health Epidemiology and Research

Various projects at national and programme level have been undertaken throughout the year. Several new research projects were started in 2010, while uncompleted projects in 2009 were continued.

- **National Level Research Projects**

  i. National Health and Morbidity Survey 2006 (NHMS III)

  - "Household out-of-pocket expenditure" - The journal article was completed and approval obtained for publication in the international peer-reviewed Community Dental Health Journal.

  ii. Young Adults Survey

  - The "Oral Health Knowledge, Perception and Behaviour between Trainees and Employed Young Adults in Federal Territory Kuala Lumpur" survey was completed
  - The "Oral Health Utilisation between Trainees and Employed Young Adults in Federal Territory Kuala Lumpur" survey was completed

  iii. Collaborative Project on the Orang Asli Programme under Jabatan Hal Ehwal Orang Asli (JHEOA)

  - Data analysis and report writing were completed in 2010.

  iv. National Healthcare Financing Mechanism (NHFM)

  - Report writing which was initiated in 2010 will be continued in 2011.

  v. Project on Patient Safety (with Institute of Health Systems research, IHSR)

  - OHD, in collaboration with IHSR, deliberated in this project since 2008 and the report was completed in 2010.

  vi. Collaborative Project on "An Evaluation of the Referral of Diabetic Patients to the Dental Clinic"

  - The protocol for the study was finalised and submitted at the end of 2010 for ethical approval to conduct the study.

vii. National Health and Morbidity Study 2011-2014

- OHD collaborated with the Institute of Public Health (IPH) for this study, and the development of the questionnaire will be continued in 2011.

viii. 2nd National Burden of Disease Study

- This study, led by IPH, was started in 2010 and it will be continued in 2011 with priority of mortality report completion, followed by morbidity report.

- **Programme Level Research Projects**

i. National Oral Health Survey of Preschool Children (NOHPS) 2005

- Data analysis on the Knowledge, Perception and Behaviour of Kindergarten Teachers/ Assistants was carried out in 2009, and preparation of the publication draft report was carried out in 2010.

ii. National Oral Health Survey of Schoolchildren (NOHSS) 2007

- The final report for the 6-year-olds was completed in 2009, while both the 12- and 16-year-old reports were completed in 2010.

iii. National Oral Health Survey of Adults (NOHSA) 2010

- Preparation for NOHSA 2010 began in the final quarter of 2008 and was continued in 2009 and 2010.

iv. The "High Incidence of Caries in Kelantan" Study

- The questionnaire and data entry file were finalised and data collection was completed in July 2010.

v. The "Dental Practitioners' Perception on the Utilisation of Dental Therapists in Private Dental Practice in Malaysia" Study

- Data collection was completed in October 2010. Data entry, data cleaning and analysis will be continued in 2011.

vi. The WHO Hand Hygiene Moment 1 Survey at the Cahaya Suria Dental Clinic

- This study, focusing on the hand hygiene protocol was completed in May 2010.

vii. "An Analysis of Training Needs of Personnel in the Oral Health Division, MoH"

- The report for the survey was completed in April 2010 and the findings were presented to the Division staff members.

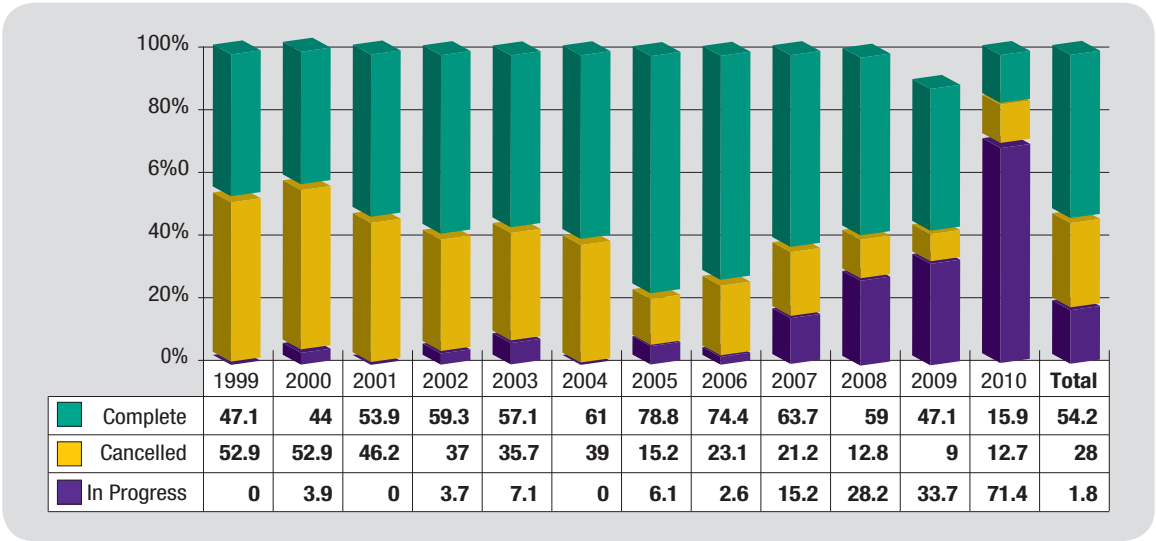
- **Health Systems Research (HSR) for Oral Health**

In its efforts towards inculcating a research culture in the organization, the following activities took place in year 2010 in the area of health systems research:

a) Monitoring of Health Systems Research (HSR) Projects

Monitoring of Health Systems Research Projects conducted by the States begun in 1999 and continued through the years (Figure 7).

FIGURE 7
STATUS OF ORAL HEALTH RESEARCH PROJECTS, 1999 – 2010



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
Complete	**47.1**	**44**	**53.9**	**59.3**	**57.1**	**61**	**78.8**	**74.4**	**63.7**	**59**	**47.1**	**15.9**	**54.2**
Cancelled	**52.9**	**52.9**	**46.2**	**37**	**35.7**	**39**	**15.2**	**23.1**	**21.2**	**12.8**	**9**	**12.7**	**28**
In Progress	**0**	**3.9**	**0**	**3.7**	**7.1**	**0**	**6.1**	**2.6**	**15.2**	**28.2**	**33.7**	**71.4**	**1.8**

**Note: Revised Figures*

Source: Oral Health Division, MoH

b) Human Resource Development

The following training activities contributed towards capacity building for oral health research in 2010:

i. "Getting Research into Policy and Practise (GRIPP) Course" in Hotel Avillion Legacy, Melaka from 17-21th of May 2010.
ii. "Basic Statistics Course" at the Universiti Sains Malaysia (USM), Kelantan from 2-5th August 2010
iii. "6th National Workshop on Scientific Writing (NWSW) 2010 and Post Workshop: Endnote" organised by USM, Kelantan, on 11-13th of October 2010
iv. "Use of Fluorosis Index: Standardisation and Calibration" from 22-30th of September 2010 in Thailand

Oral Healthcare ICT

- **Oral Health Clinical Information System (OHCIS)**

This project which kicked off in January 2008 went 'live' with an overall 99% of system implementation accomplished by the end of December 2009. In 2010, integration activities such as user requirement studies, installation and testing were planned. These include:

i. OHCIS and TPC through the MyHIX integration engine tested on 23 March 2010
ii. OHCIS with the Electronic Guarantee Letter (e-GL) i.e. integration engine of the government Human Resource Management Information System (HRMIS) initiated in May 2010 and User Acceptance Test (UAT) was done in 16 June 2010
iii. Integration of OHCIS with eKL was completed by end of 2009 and proceeded with implementation in 2010

Continuing training sessions were undertaken for selected OHD and Information Management Division (IMD) staff. As the project contract ended in 2010, there was close monitoring to ensure

completeness of all activities and deliverables. The project will be under a one-year warranty period until end of 2011.

- **Dental Practitioners Information Management System (DPIMS)**

  The Malaysian Dental Council Dental Practitioners Information Management System (DPIMS) project developed in 2009 was tested on 1 March 2010 after the completion of the system interface design and the development of Phase I modules, namely the registration, Annual Practicing Certificate (APC), and Letter of Good Standing (LOGs) modules. Data migration from the old standalone system and selected end-user training was also done.

  The system went on a trial run with bug fixing and stabilisation of the system. Report generation in Phase II was initiated and the output is expected in 2011. Phase III of DPIMS which is the development of the Temporary Practicing Certificate Module began with the completion of a user requirement study in 2010.

- **Oral Health Division Website**

  The OHD Website (http://ohd.moh.gov.my) was upgraded and improved in May 2010. The website was updated twice weekly. Linkages have been added to the Malaysian Dental Council and the Malaysian Dental Association websites. The majority of visitors were from Malaysia (72%) followed by Australia, New Zealand, United Kingdom, USA, Russia and Thailand.

- **ICT Training**

  Continual training sessions on ICT applications were conducted for a total of 70 OHD staff as follows:

  i. Intermediate Microsoft Power Point 2007 held on 17-19 August 2010
  ii. Intermediate Microsoft Excel 2007 held on 20-22 October 2010
  iii. Basic Microsoft Access 2007 held on 14-16 December 2010

Quality Assurance Programme (QAP)

The Quality Assurance Programme (QAP) of the MoH's oral health services strives to attain, maintain and continually improve the quality of oral healthcare services so as to ensure optimum achievable benefits to the patient, family and community. For 2010, there were 5 National Indicator Approach (NIA) Indicators to gauge performance of the oral health services measuring performance of primary and community care programmes (Table 6).

- **National Indicator Approach (NIA)**

  There is an achievement of 80% with 4 out of the 5 NIA Indicators achieving their targets. Most states showed better performance in 2010 compared to 2009.

TABLE 6.
NIA INDICATORS, 2010

Indicators	Standards		Achievement
	2009	2010	
Percentage of primary schoolchildren maintaining orally fit status	≥55%	≥65%	64.9%
Percentage of secondary schoolchildren maintaining orally fit status	≥70%	≥80%	77.2%
Percentage of 16-year-olds free from gingivitis	≥85%	≥95%	95.7%
Percentage of non-conformance to fluoride level <0.4ppm at reticulation points	≤25%	No change	19.6%
Percentage of non-conformance to fluoride level >0.6ppm at reticulation points	≤7%	No change	2.5%

Source: Oral Health Division, MoH

- **District Specific Approach (DSA)**

  DSA indicators are developed based on needs at state and district levels. Monitoring of the performance for the antenatal services was the most commonly adopted indicator by all states except Johor and Sarawak. Other DSA indicators commonly used relates to oral health services for preschool, primary and secondary schoolchildren.

  Besides this, DSA indicators specific to certain states include:

  i. Percentage of special needs children treated (Perlis)
  ii. Percentage of needle stick injury cases reported (Selangor)
  iii. Percentage of coverage of private kindergartens (Johor)
  iv. Percentage of fissure sealants rendered in primary schoolchildren (Penang, Johor)
  v. Percentage of permanent tooth loss due to caries (Sarawak).
  vi. Percentage of redo x-rays and percentage of toddlers who received fluoride varnish application (Terengganu)

- **MS ISO 9001: 2000**

  As of 2010, a total of 15 states having converted to the new version to MS ISO 9001:2008. A total of fourteen states (except Sarawak) have adopted state wide multi-sites certification; a unique top-down (state level) and bottom-up (clinic level) certification. As for the ISO interactive system, a total of seven centres were using this interactive software.

  Several other states have also expanded their scope to include more facilities. Kedah has a new district making a total of 11 districts. All states with multi-sites certification achieved 100% coverage of districts (97 districts) and 87.3% of clinics. Sarawak (with a total of 11 districts/divisions) is the only state that still holds on to the original district certification approach. Nationwide, a total of 475 dental clinics (85.7%) out of 554 dental clinics are ISO certified.

- **Other Quality Improvement Activities**

  i. Innovation

  Oral health personnel throughout the country are active in developing innovation projects.

A total of 51 innovation projects were developed in 2010. Several of these projects have received awards at state, zone and national level. Three dental innovation projects took part in the MoH National Innovation Awards, 2010.

a) Kotak Penstoran Serbaguna (KPS)/The Friendly Box - Dental Clinic, Putrajaya
b) Eureka Safety Bin - Specialist Dental Clinic, Sarawak General Hospital
c) Pameran Kesihatan Pergigian Berkumpulan - State Health Deputy Director's Office (Dental), Pahang

The Eureka Safety Bin from Specialist Dental Clinic of Sarawak General Hospital won the third place (technical category) at the MoH National Innovation Awards 2010.

ii. Key Performance Indicators

The number of KPIs monitored by the Programme remained at 19 in 2010. Although three KPIs did not achieve their targets, the attained level was still more than 90% of the targets set for 2010 (Table 7). The three were related to:

a) Percentage of dental clinics with MS ISO certification (85.7% vs. target of 90%),
b) Employee satisfaction index (67.7% vs. target of 70%), and
c) Percentage of emergency dental cases given prompt treatment (96.8% vs. target of 100%)

Professional Dental Practice

- **Laws and Regulations**

The Amendments to the Dental Act 1971 were completed and presented to the Malaysian Dental Council. The amendment to the Dental Regulations is ongoing. The amendments to the 13th Schedule of the Private Healthcare Facilities and Services Act 1998 (PHFSA '98) began in 2010 and will be continued in 2011. The meetings for revision of the dental fee schedule were coordinated by OHD.

- **Registration of Private Dental Clinics**

In 2010, 68 applications for registration of private dental clinics were received. Of these 65 were inspected and 63 clinics were approved for registration. Efforts are ongoing to ensure that the remaining 5 clinics comply with the regulations to enable registration. Since the implementation of the PHFSA '98 in 2006, a total of 1,600 private dental clinics have been registered. However, some have ceased operations and have withdrawn registration. Hence, the number of clinics operating in each state does not always equal the number of clinics that have been registered.

- **Globalisation and Liberalisation of Oral Healthcare Services**

The Oral Health Division developed an improved offer for the "8th Package of Commitments under the ASEAN Framework Agreement on Services (AFAS) for dental services, with foreign equity of not more than 70%". A "Roadmap/Action Plan for the Liberalisation of Health Services (Specialised Dental Services) in Malaysia" was also developed in 2010. In addition, a "Review of Domestic Regulations" relevant for liberalisation of Dental Services was undertaken in 2010.

The Division also developed a liberalisation offer on "Involvement of Dental Services in the Malaysia-India Comprehensive Economic and Co-operation Agreement (MICECA)" especially for "Dental Specialists in Institutions of Higher Learning".

TABLE 7
KEY PERFORMANCE INDICATORS, ORAL HEALTH PROGRAMME, MoH, 2010

KPI		Target	Achievement	
		2010	2009	2010
1.	Percentage of population utilising MoH oral healthcare facilities	25%	24.1%	24.9%
	• No. of new patients		6,814,453	7,021,909
	• Total attendances		9,624,646	10,008,627
2.	Percentage of primary schools treated under incremental dental care	98%	98.2%	98.3%
3.	Percentage of primary schoolchildren treated under incremental dental care	95%	97.3%	98.0%
4.	Percentage of primary schoolchildren rendered orally-fit	95%	94.3%	95.2%
5.	Percentage of secondary schools treated under incremental dental care	85%	84.0%	88.0%
6.	Percentage of secondary school children treated under incremental dental care	75%	75.6%	80.5%
7.	Percentage of secondary school children rendered orally-fit	70%	69.6%	74.7%
8.	Percentage of 6-year-old school children with caries-free dentition	30%	32.2%	32.4%
9.	Percentage of 12-year-old school children with caries-free permanent dentition	60%	62.2%	62.9%
10.	Percentage of 16-year- old school children with caries-free permanent dentition	50%	53.0%	52.4%
11.	Percentage of population receiving fluoridated public water supply	75%	75.5%	76.0%
12.	Percentage of outpatients treated within 30 minutes by dental officer	≥55%	73.3%	75.7%
13.	Percentage of appointments treated within 30 minutes by dental officer	≥60%	80.7%	84.0%
14.	Percentage of clinics with wait list for dentures exceeding 3 months	≤50%	23%	16.8%
15.	Percentage of customers satisfied with services received	90%	95.1%	95.04%
16.	Percentage and number of dental clinics with MS ISO certification	90%	88.3%	85.7%
17.	Percentage of PTJ (state and OHD) achieving performance rating of ≥90%	90%	93.8%	93.8%
18.	Percentage of satisfied responses from employees (monitored locally)	70%	70.4%	67.7%
19.	Percentage of emergency dental cases given prompt treatment	100%	-	96.8%

Source: Oral Health Division, MoH

There was continued involvement in consultations on strategic implementation of the Mutual Recognition Arrangements (MRA) on Dental Practitioners under AFAS. The Oral Health Division also participated in the ASEAN Joint Coordinating Committee on Dental Practitioners (AJCCD) meetings and the Healthcare Services Sectoral Working Group (HSSWG) meetings. There was also participation in the Free Flow of Skilled Labour Study under the ASEAN Australia Development Cooperation Program Phase ll (AADCP ll).

- **Accreditation of Dental Degree Programs**

Verification and validation for different levels of accreditation including approval of new dental programs and the monitoring progress of dental programmes was ongoing in 2010. The first monitoring surveillance accreditation visits were conducted for the following institutions:

i. International Medical University (IMU) - Bachelor of Dental Surgery program, on 8-9th of March 2010
ii. Winfield International College (WIC) - Dental Surgery Assistant Certificate program, on 30th of August 2010
iii. Melaka-Manipal Medical College (MMMC) - Bachelor of Dental Surgery program, on 8-11th of December 2010 (Manipal campus) and 20-21th of December 2010 (Melaka campus)

The second monitoring surveillance accreditation visits were conducted for:

i. Universiti Teknologi Mara (UiTM) - Bachelor of Dental Surgery program, on 3rd of February 2010
ii. Universiti Sains Islam Malaysia (USIM) - Bachelor of Dental Surgery program, on 15-16th of November 2010

All programs were allowed to continue the programs following the surveillance visits. Evaluation visits were also undertaken to consider an application for increase in student intake received from MAHSA University College (KUMAHSA) for the Dental Technology Diploma program on 18th of January and 1-2 September 2010. However, the increase in student intake for KUMAHSA was not allowed.

The following new dental programs were approved for accreditation in 2010:

i. SEGi University College (KUSEGi) - Dental Surgery Assistant Certificate program was evaluated on 24-25th of February 2010 and 21st of September 2010. Accreditation was granted for 3 years effective from 23rd of March 2010.
ii. AIMST University (AIMST) - Bachelor of Dental Surgery program on evaluated on 27-28th of April 2010. Accreditation was granted for 3 years effective from 13th of August 2010.
iii. MAHSA University College (KUMAHSA) - Dental Technologist Diploma program was evaluated on 1-2 September 2010 and 27th of September 2010. Accreditation was granted for 3 years effective from 1st of November 2010.
iv. The 2+3 program in Collaboration with VMU (Vinayaka Mission University), Penang International Dental College (PIDC) - Bachelor of Dental Surgery program was evaluated on 6-8th of August 2010. Accreditation was granted for 3 years effective from 1st of November 2010.
v. Universiti Technologi Mara (UiTM) - Bachelor of Dental Surgery program was evaluated on 6-8th of October 2010. Accreditation was granted for 3 years effective from 1st of November 2010.

WAY FORWARD

With the continuing adverse economic situation facing the country, there is a need for us to tighten our belts and be more innovative in optimizing limited resources and work towards achieving the best possible results, benefits and outcome.

- **Policy Development**

  In preparation of the restructuring of the Malaysian Health System, 1Care for 1Malaysia, the Division has to identify and propose appropriate benefit packages for oral health services. Besides this a suitable gate keeping mechanism has also to be developed to streamline referral from primary care to secondary care. In addition, the Division will also need to follow through with an organisational consolidation of the Oral Health Programme at both the Ministry and state levels.

- **Human Resource Development**

  It is anticipated that the targeted dentist to population ratio of 1: 4000 will be achieved by 2016. Despite the targeted numbers being achievable, the quality of education has raised a cause for concern, especially due to the sudden mushrooming of dental schools lately; 8 new schools were set up from year 2005 to 2009. Currently there is an acute problem in the training capacity in these newly established dental schools, and therefore this situation calls for a temporary moratorium on the opening of new dental schools in the near future in order to focus on the development of their academic strength.
  Existing problem of dentist misdistribution also need to be resolved, as it currently ranging from 1:2,303 in FTKL to 1:19,597 in Sabah. Therefore, efforts need to be directed towards reviewing the existing distribution of manpower and ensuring a fairer distribution of dental officers and dental specialists in the spirit of ensuring universal access to oral healthcare.

- **Oral Health Promotion**

  There is a need to focus on capacity building to reduce the knowledge-practice gap in improving oral health and also to enhance oral health literacy. Emphasis has to be directed into consolidation of efforts to address the high levels of caries among preschoolers and toddlers. In addition, oral cancer has been established as a new area of concern; a high proportion being detected at a late stage. There is also a need to strengthen oral health promotion activities in targeted areas for example tobacco cessation, fluoride use and preventive visits.

- **Oral Health Services Improvement and Quality Initiatives**

  There is a need to strengthen our institutional and implementation capacity in the delivery of quality and safe primary oral healthcare, specialist oral healthcare and community oral healthcare services. The focus needs to be on evidence based practice to ensure favourable outcomes. In line with this, appropriate clinical practice guidelines need to be developed to minimize variations in practice. At the same time, existing guidelines need also to be updated periodically to include current evidence. As we are approaching the end of the 9MP, it is also timely that we embark on reviewing the standards and norms of various oral health facilities in preparation for the upcoming 10th Malaysia Health Plan.

- **Information Communication Technology (ICT)**

  There is a need to continue to facilitate improvements in the electronic delivery system in line with the ICT Strategic Plan (ISP) of MoH by providing input and support of the e-government projects and ICT projects of MoH. Efforts need to be directed into operationalising, implementing and strengthening the Oral Health Clinical Information System (OHCIS), Dental Practitioner's Information Management System (DPIMS) and eKL-KKM. This includes improving the IT

infrastructure in oral health facilities, enhancing IT literacy amongst oral health personnel and also expanding the scope of OHCIS in preparation of the 10th Malaysia Plan.

- **Research**

  Research will need to be strengthened to facilitate its application for evidence-based improvement of oral health status and for the enhancement of the oral healthcare delivery system. Thus we will need to focus on identifying research needs in oral health to assist in policy formulation, program justification and strengthening of current oral health activities. Research also has to be targeted to address the challenges faced in the delivery of oral healthcare. Dissemination of research findings has to be given equal importance. Research findings also need to be translated into policies and practice.

- **Practice of Dentistry**

  The Division needs to continue its endeavour in ensuring dentistry is practiced to the highest attainable standards. This includes streamlining and strengthening the process for accreditation of institutions for higher education for dental professionals and dental auxiliaries. There is also a need to streamline procedures for credentialing of dental professionals and also for the gazettement of dental specialists. Besides this, there is also a need to strengthen the enforcement under the Dental Act 1971 and Private Healthcare Facilities and Services Act 1998.

CONCLUSION

The Oral Health Programme continues to ensure provision of high quality and safe oral healthcare by a competent workforce through endless planning, implementation, monitoring and evaluation efforts not only through integration within the programme but also through intersectoral collaboration with other programmes.

Pharmacy 7

INTRODUCTION

The Pharmacy Programme of the Ministry of Health (MoH) is the lead agency in ensuring quality medicines for the nation. This programme is responsible in ensuring all pharmaceutical and health products in the market are of quality, safe, efficacious and regulated according to relevant legislations and used rationally. The programme comprises of four main activities;

I. Pharmacy Management

Responsible for ensuring that pharmacy services strategic plan and policies are implemented accordingly, ensuring effective distribution of human resources, ensuring relevant and continuous trainings are carried out, ensuring the practice of quality system at all levels of services and ensuring administrative and financial matters are according to rules and guidelines.

II. Pharmacy Regulatory (National Pharmaceutical Control Bureau, NPCB)

Ensures the quality, efficacy and safety of pharmaceutical products as well as the quality and safety of traditional products and cosmetics marketed in the country.

III. Pharmacy Enforcement

Plays an important role to ensure that pharmaceutical, traditional, and cosmetic products that are available in the market are genuine in terms of registration and notification. It also acts to ensure that the link of supply and marketing, advertising of the products (including the medical services) and its usage are managed by complying the provisions of existing legislation.

IV. Pharmacy Practice and Development

Responsible for ensuring optimised drug therapies and provides comprehensive pharmaceutical care by ensuring efficient selection, procurement, distribution of pharmaceuticals and promoting rational and cost-effective use of medicines through effective up-to-date clinical and professional pharmaceutical services in tandem with the current global development.

PROGRAMME RESOURCES

The manpower for the Pharmacy Programme according to category and activity is as shown in Table 1 and Table 2.

ACTIVITIES AND ACHIEVEMENTS

I. PHARMACY MANAGEMENT

Training and Continuous Professional Development Activities

- **Allocation**

  The Pharmacy Programme was awarded an allocation of RM 3,000,000.00 in 2010 for In-Service Training activities under the 9th Malaysia Plan. The distributions of the development allocation to the states / institutions are shown in Table 3.

TABLE 1
PHARMACIST MANPOWER, 2010

Category / Activity	Grade	Number of Posts	Filled
Senior Director	JUSA A	1	1
Pharmacy Regulatory (NPCB)	JUSA C	1	1
	U54	9	9
	U52	17	8
	U48	37	21
	U44	23	23
	U41	153	46
	U41/U44/U52/U54*	115	33
Pharmacy Practice & Development	JUSA C	1	1 **
	U54	26	25
	U52	108	51
	U48	191	186
	U44	390	354
	U41	3459	2659
	U41/U44/U52/U54*	1417	600
Pharmacy Enforcement	JUSA B	1	1 #
	U54	9	9
	U52	16	4
	U48	60	34
	U44	63	61
	U41	362	236
	U41/U44/U52/U54*	104	87
Pharmacy Management	U54	13	13
	U52	3	1
	U48	2	2
	U44	2	2
	U41	13	13
	U41/U44/U52/U54*	71	9
Total		**4960**	**3759**

*Note: * Flexi Post filled by Pharmacist Grade U44/U48/U52/U54 through career pathway promotion*
*** Post filled by Pharmacist Grade JUSA B (KUP) : Director of Pharmacy Practice & Development*
 # Post filled by Pharmacist Grade JUSA C (KUP) : Director of Pharmacy Enforcement
Source: Pharmaceutical Services Division, MoH

TABLE 2
PHARMACIST ASSISTANT MANPOWER, 2010

Category / Activity	Grade	Number of Posts	Filled
Pharmacy Regulatory (NPCB)	U36	2	2
	U32	8	8
	U29	70	69
Pharmacy Practice & Development	U40	12	9
	U38	37	30
	U36	111	84
	U32	441	372
	U29	2781	2707
Pharmacy Enforcement	U36	3	3
	U32	10	7
	U29	9	7
Total		**3484**	**3298**

Source: Pharmaceutical Services Division, MoH

TABLE 3
DISTRIBUTIONS OF DEVELOPMENT ALLOCATION, 2010

Distribution	Allocation (RM)
Local Training	
• Pharmaceutical Services Division (Headquarters)	1,144,106.00
• National Pharmaceutical Control Bureau / State Pharmaceutical Services Division / Kuala Lumpur Hospital	856,000.00
Overseas Training	999,894.00
Total	**3,000,000.00**

Source: Pharmaceutical Services Division, MoH

- **Training**

  i. Local Training

  A total of 500 courses, conferences and workshops were conducted by the Pharmacy Programme in 2010.

  ii. Overseas Training

  A total of 19 courses comprising 28 pharmacists have been held in 2010 and they have been sent abroad for courses, workshops and study visits. Among the countries involved for training purposes are the United States, Australia, Belgium, Finland, France, Netherlands, New Zealand, Singapore, Switzerland and Thailand.

  iii. Expenditure

  The actual expenditure for organising the courses, conferences and workshops in 2010 was RM 1,874,872.60 or 93.74% of the training allocation (Table 4).

TABLE 4
LOCAL AND OVERSEAS TRAINING EXPENDITURES, 2010

Training	Allocation (RM)	Expenditure (RM)	Expenditure (%)
Local Training	2,000,106.00	1,874,872.60	93.74
Overseas Training	999,894.00	732,961.77	73.30
Total	**3,000,000.00**	**2,607,834.37**	**86.93**

Source: Pharmaceutical Services Division, MoH

- **Continuous Professional Development (CPD) Activities**

  CPD achievements for the Pharmacy Programme is as listed in Table 5.(Next page)

National Medicines Policy (NMP / DUNAS)

- **Monitoring DUNAS Indicators**

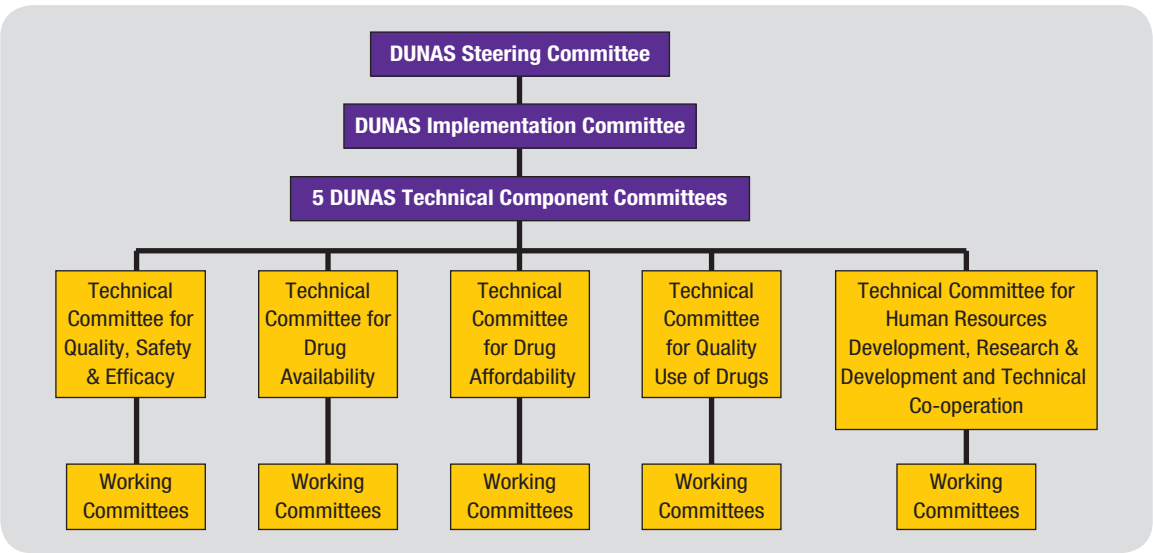
  i. New DUNAS indicators

  26 new country-specific indicatorshave been identified from the DUNAS Mid-Term Review Workshop (July 2009) and the practice manuals have been developed. These new indicators were chosen based on priority and planned to be monitored effective year 2011.

  ii. World Health Organization (WHO) indicators

  23 background indicators, 42 structural indicators, 16 process indicators and 3 outcome indicators were monitored.

FIGURE 1
DUNAS TECHNICAL COMPONENT COMMITTEES



Source: Pharmaceutical Services Division, MoH

TABLE 5
CPD ACHIEVEMENT FOR PHARMACY PROGRAMME, 2010

States / Institutions	No. of Pharmacist	No. of Pharmacist Assistant	To achieve the minimum points		Percentage achieved minimum points	
			Pharmacist	Pharmacist Assistant	Pharmacist (40 points)	Pharmacist Assistant (30 points)
Pharmaceutical Services Division (Headquarters)	110	6	110	6	100.0%	100.0%
National Pharmaceutical Control Bureau (NPCB)	151	73	145	68	96.03%	93.15%
Hospital Kuala Lumpur	140	119	129	64	92.14%	53.78%
Perlis	63	40	63	23	100.00%	57.50%
Kedah	246	208	227	121	92.28%	58.17%
Pulau Pinang	180	147	166	95	92.22%	64.63%
Perak	279	320	279	207	100.00%	64.69%
Selangor	370	304	360	178	97.30%	58.55%
Negeri Sembilan	118	124	118	88	100.00%	70.97%
Melaka	95	98	95	56	100.00%	57.14%
Johor	194	296	193	198	99.48%	66.89%
Pahang	150	224	150	166	100.00%	74.11%
Terengganu	100	166	100	136	100.00%	81.93%
Kelantan	164	180	164	122	100.00%	67.78%
FT Kuala Lumpur & Putrajaya	120	65	120	44	100.00%	67.69%
FT Labuan	18	12	18	12	100.00%	100.00%
Sabah	263	436	253	205	96.20%	47.02%
Sarawak	238	376	237	213	99.58%	56.65%

Note: New pharmacist (PRP and FRP) who are less than one year in service at the end of 2010 are excluded from the above statistic.

Source: Pharmaceutical Services Division, MoH

Five DUNAS Technical Component Committees and their respective Working Committees have been established to ensure the implementation of DUNAS objectives and plan of actions. The chart below (Figure 1) shows the all the committees established for the smooth implementation of DUNAS.

The DUNAS unit has successfully organized 3 courses on the Malaysian National Medicines Policy (DUNAS) for the Peninsular Middle Zone, Peninsular Eastern Zone and East Malaysia (Sabah, Sarawak and Labuan) in year 2010. These courses aim to provide DUNAS awareness, to train participants to disseminate information on DUNAS as well as to increase the commitment of health care providers towards the success of DUNAS.

DUNAS COURSES

The Innovation Unit is a new unit under the Policy Section which functions to coordinate and

(QAP) / National Indicator Approach (NIA), Key Performance Indicators (KPIs), Star Rating

Pharmaceutical Services Division was involved in an innovation exhibition for the

2010 organized by the Ministry of Science, Technology and Innovation (MOSTI), from 24th to 26th November 2010 at the Bukit Jalil National Sports Complex. The festival, which was inaugurated by the Prime Minister of Malaysia, Dato' Sri Mohd Najib Tun Razak was joined by various Ministries, NGOs and private sectors.

In line with the theme “Celebrating Creativity”, the Pharmaceutical Services Division exhibited innovative services related to SMS & Take, Drive-Thru Pharmacy and Medicine By Post (UMP1 Malaysia). Participation in this festival has given a platform to the Pharmacy Programme to promote these value added services to the public.

Since the introduction of drug registration, a cumulative total of 70,819 applications for product registration have been received (Table 6). Out of this number, a total of 43,814 products were registered by the DCA until December 2010 (Table 7).

TABLE 6
NUMBER OF APPLICATIONS RECEIVED FOR PRODUCT REGISTRATION, 1985 - 2010

Year	Prescription Products	Non-prescription Products	Traditional Products	Veterinary Products^	Cosmetics*
1985-1990	9,166	5,935	-	-	-
1991	481	305	-	-	42
1992	150	60	3,973	-	145
1993	376	111	7,059	-	51
1994	400	168	4,080	-	31
1995	440	239	288	-	58
1996	617	671	415	-	130
1997	532	635	668	-	123
1998	587	606	938	-	277
1999	796	789	1,347	-	610
2000	427	444	1,523	-	262
2001	578	487	1,154	-	150
2002	509	448	1,603	-	214
2003	263	266	1,471	-	26,177
2004	529	720	2,220	-	30,630
2005	703	645	1,807	-	28,632
2006	465	630	1,526	-	24,558
2007	555	560	1,325	-	25,534
2008	604	483	1,120	570	-
2009	492	381	902	1,924	-
2010	402	268	671	312	-
Total	**19,072**	**14,851**	**34,090**	**2,806**	**-**

Note: *^Applications for registration of veterinary products are only received since August 2007*
**Notification of cosmetic products started in January 2008*

Source: Pharmaceutical Services Division, MoH

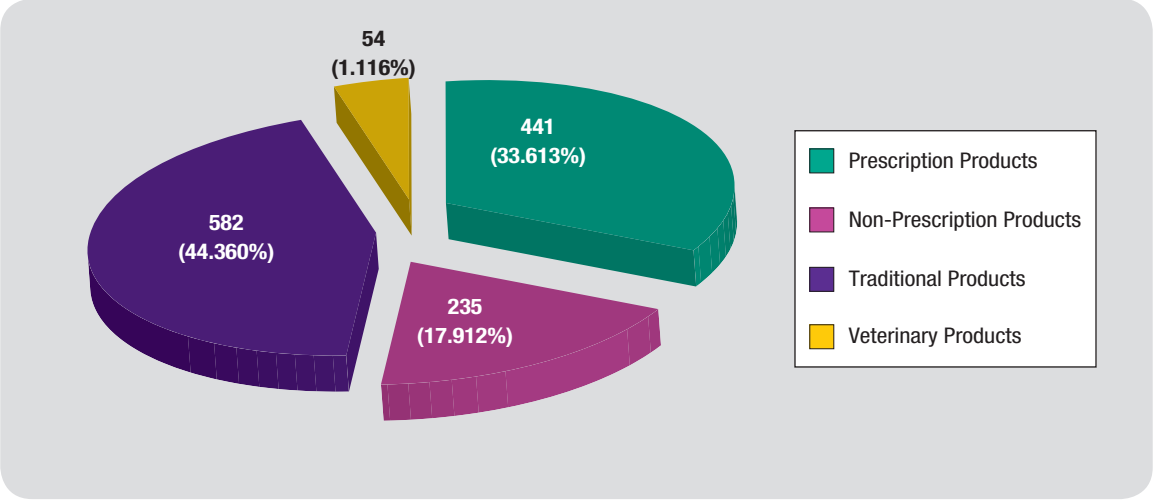
TABLE 7
CUMULATIVE NUMBER OF REGISTERED PRODUCTS, 2005 - 2010

Year	Prescription Products	Non-prescription Products	Traditional Products	Veterinary Products	Total
2005	10,823	7,989	15,129	-	33,941
2006	11,356	8,685	16,858	-	36,899
2007	11,805	9,098	18,200	-	39,103
2008	12,214	9,370	19,153	-	40,737
2009	12,626	9,683	20,193	-	42,502
2010	13,067	9,918	20,775	54	43,814

Source: Pharmaceutical Services Division, MoH

A total of 1,312 products were registered in 2010. Based on these, the number of prescription products, non-prescription products, traditional products and veterinary products registered by the DCA were 441 (33.6%), 235 (17.9%), 582 (44.4%) and 54 (4.1%) respectively (Figure 2).

FIGURE 2
NUMBER OF PRODUCTS REGISTERED BY THE DCA, 2010

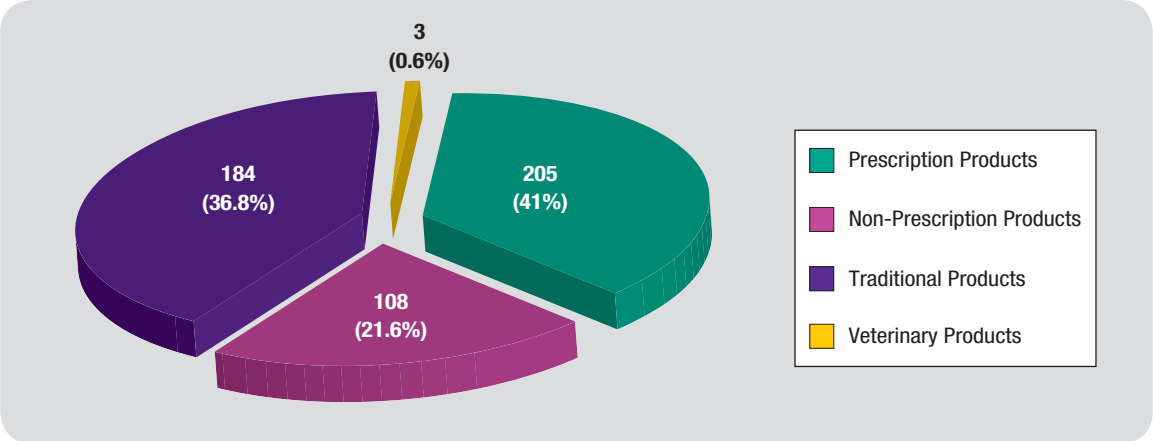


Source: Pharmaceutical Services Division, MoH

In 2010, a total of 500 applications for product registration were rejected by the DCA due to various reasons. There were 205 (41%) prescription products, 108 (21.6%) non-prescription products, 184 (36.8%) traditional products and 3 (0.6%) veterinary products (Figure 3).

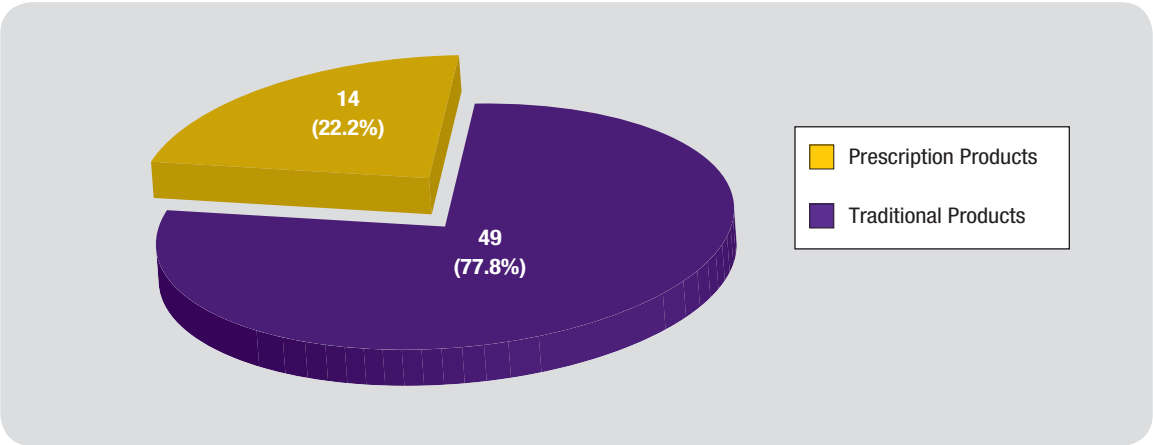
Meanwhile, the registration of 63 products were cancelled by the DCA in 2010, which included 14 (22.2%) prescription products and 49 (77.8%) traditional products due to cancellation of agreement for contract manufacturing and adulteration issues (Figure 4). Apart from that, the registrations of 14 products were suspended by DCA due to specific reasons.

FIGURE 3
NUMBER OF PRODUCT REGISTRATION APPLICATIONS REJECTED BY THE DCA, 2010



Source: Pharmaceutical Services Division, MoH

FIGURE 4
NUMBER OF PRODUCT REGISTRATIONS CANCELLED BY THE DCA, 2010

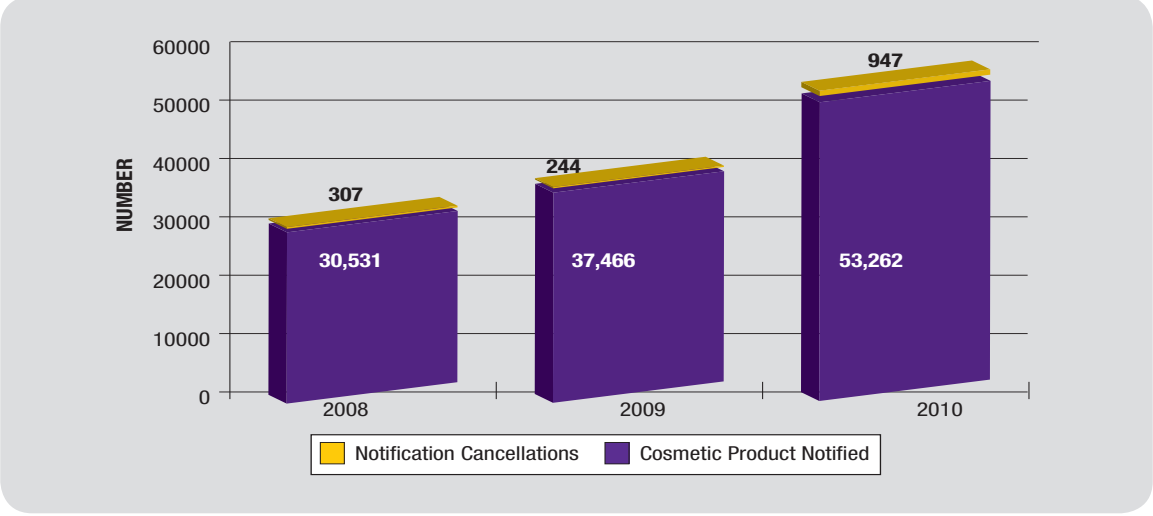


Source: Pharmaceutical Services Division, MoH

- **Cosmetics Notification**

  In line with the cosmetic harmonisation scheme, Malaysia has implemented the notification procedure for cosmetics through ASEAN Cosmetic Directive (ACD) since January 2008. In 2010, a total of 53,262 cosmetic products were notified with NPCB which was an increment of 42.2% compared to 2009 (Figure 5). After the screening of product formula and information, 947 notifications were cancelled.

FIGURE 5
NUMBER OF COSMETIC PRODUCTS NOTIFIED, 2008 - 2010



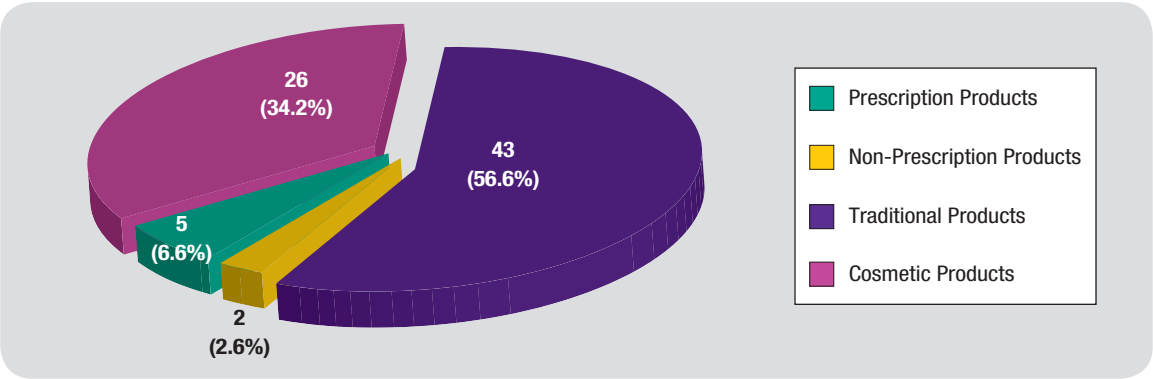
Source: Pharmaceutical Services Division, MoH

- **Post Registration of Products**

  To ensure that the registered products in local market maintain the safety, efficacy and quality requirements, monitoring of registered products in the market is done as part of the regulatory process. Under the Post Market Surveillance (PMS) Program, a total of 2,897 registered products were sampled in 2010.

  Based on the outcome of laboratory testing of product sampled, 76 product batches were subjected to Degree III Product Recalls (i.e. within 30 days) due to quality issues. The recalls involved 5 (6.6%) prescription products, 2 (2.6%) non-prescription products, 43 (56.6%) traditional products and 26 (34.2%) cosmetics (Figure 6). The notifications of 12 cosmetics were cancelled as the samples tested were found to be adulterated with scheduled poisons.

FIGURE 6
NUMBER (PERCENTAGE) OF PRODUCT BATCHES SUBJECTED TO DEGREE III PRODUCT RECALLS, 2010



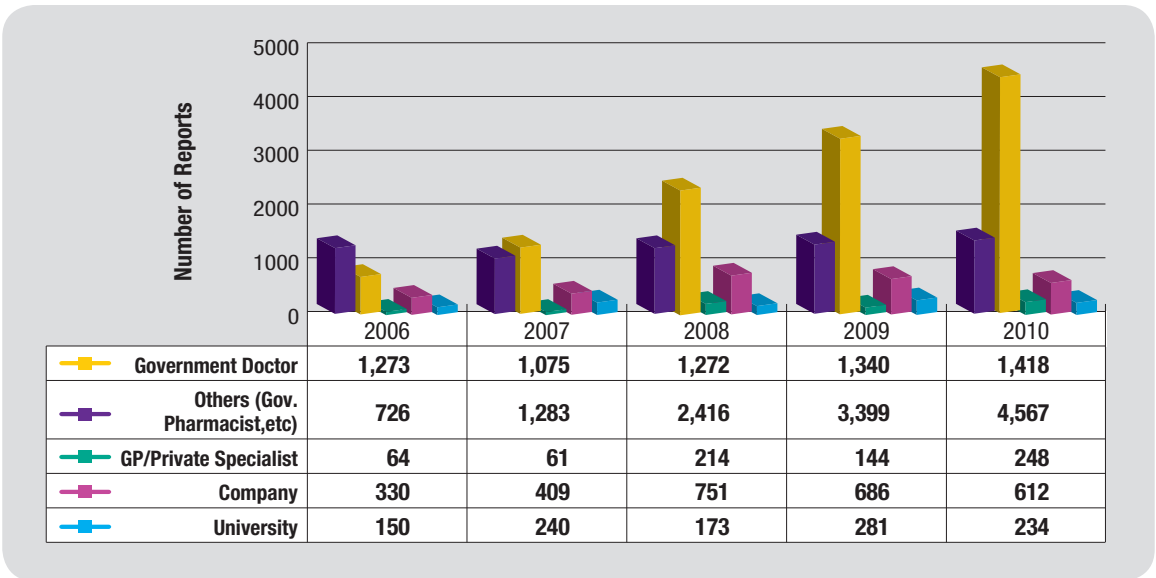
Source: Pharmaceutical Services Division, MoH

A total of 1,316 labels and package inserts were also checked under this program. Warning letters were issued for 267 products which were found to be non-compliant with the labeling requirements.

The NPCB also investigated 751 product complaints submitted by health professionals and the public which subsequently led to punitive actions taken such as the directive for product recalls.

The total number of ADR reports received per year has been increasing steadily throughout these few years due to the effort in promoting ADR reporting, as workshops and talks were held from time to time. In 2010, the Malaysian Adverse Drug Reaction (ADR) Monitoring Program had received a total of ADR 7,079 reports. This is a 21% increase as compared to 2009. Subsequently 6,278 reports were submitted to the WHO ADR Monitoring Centre in Uppsala, Sweden. An analysis of the submitted ADR reports showed that majority of the reports (about 84.5%) were from pharmacists and doctors in the government sector (Figure 7).

FIGURE 7
NUMBER OF ADVERSE DRUG REACTION (ADR) REPORTS BASED ON THE CATEGORY OF REPORTERS, 2005 - 2010

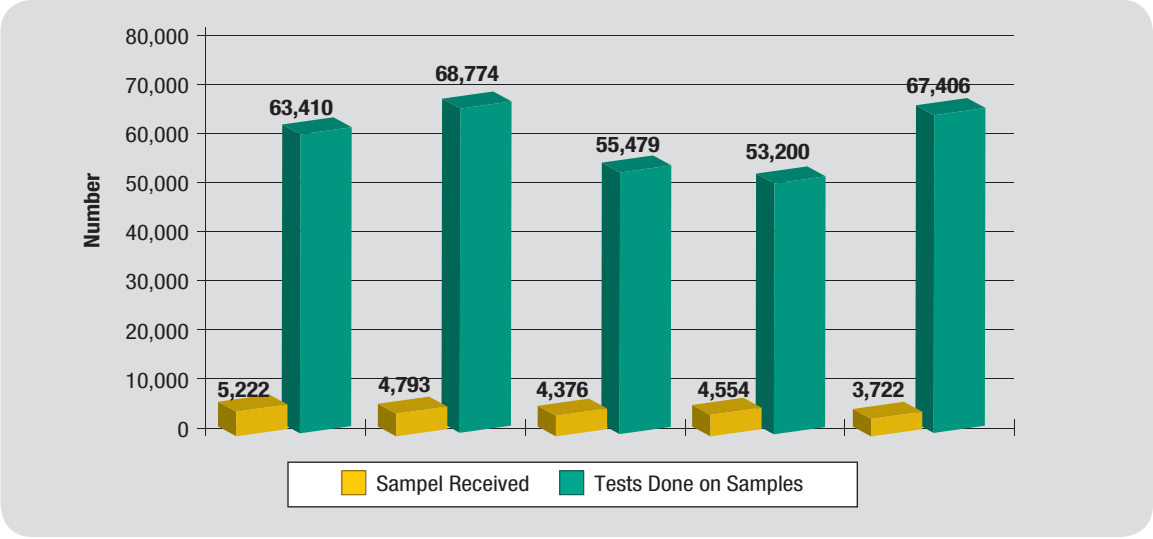


	2006	2007	2008	2009	2010
Government Doctor	1,273	1,075	1,272	1,340	1,418
Others (Gov. Pharmacist,etc)	726	1,283	2,416	3,399	4,567
GP/Private Specialist	64	61	214	144	248
Company	330	409	751	686	612
University	150	240	173	281	234

Source: Pharmaceutical Services Division, MoH

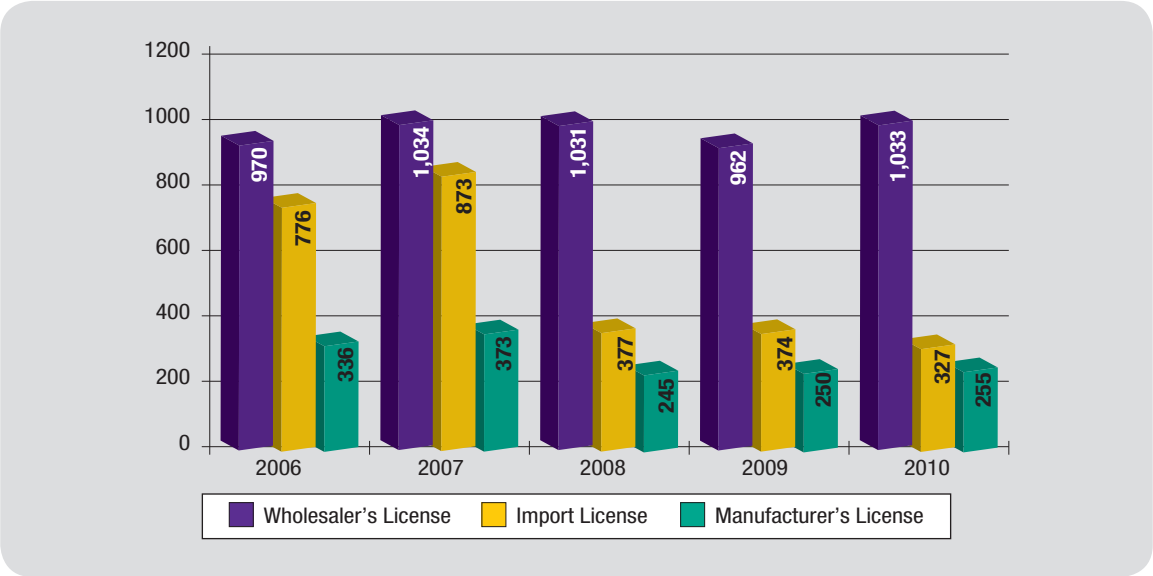
- **Quality Control**

  As for the aspect of quality control, a total of 67,406 tests were carried out on 3,722 samples received, from which 748 (20.1%) were for registration samples, 2,190 (58.8%) were surveillance samples, 116 (3.1%) from product complaint samples and 660 (17.7%) samples were from enforcement activities (Figure 8).



In 2010, 255 manufacturer's licenses were issued of which 68 (26.7%) were for pharmaceutical manufacturers and 187 (73.3%) were for traditional manufacturers. Besides that, 327 import licenses were also issued. As for the wholesaler's licenses, 1,033 licenses were issued including wholesalers' licenses for products containing scheduled poison and wholesalers' licenses for dealing with non-poisons, traditional products and cosmetics (Figure 9).

FIGURE 9
STATISTICS ON LICENSES ISSUED, 2006 - 2010



Source: Pharmaceutical Services Division, MoH

International Involvement

NPCB continues to play an active role in the harmonisation efforts through the ASEAN Consultative Committee for Standards and Quality (ACCSQ), Pharmaceutical Products Working Group (PPWG), ASEAN Cosmetic Committee (ACC) as well as the Traditional Medicines and Health Supplement Product Working Group (TMHS PWG). NPCB is also involved in the Pharmaceutical Inspection Cooperation Scheme (PIC/S) activities such as conferences and meetings. As a WHO Collaborating Centre for regulatory control of pharmaceuticals, NPCB was also invited to take part in the WHO/ Korea Food and Drug Administration (KFDA) Workshop on Implementing WHO Guidelines in August 2010 and the WHO-Health Sciences Authority (HSA) Training Course on Basic Pharmacovigilance in June 2010.

Visits and Training of Visitors from Overseas

In 2010, NPCB received a total of 23 international visitors from countries such as Singapore, Maldives, India, Taiwan, Hong Kong, Ireland, Botswana, Tanzania and Nigeria. The trainings provided were designed specifically to gratify the needs of the individual fellows. Training given was in the aspect of quality control, product registration, good manufacturing practices and licensing or pharmacovigilance and surveillance activities.

III. PHARMACY ENFORCEMENT

Intelligence, Operation and Audit

- **Intelligence and Operation**

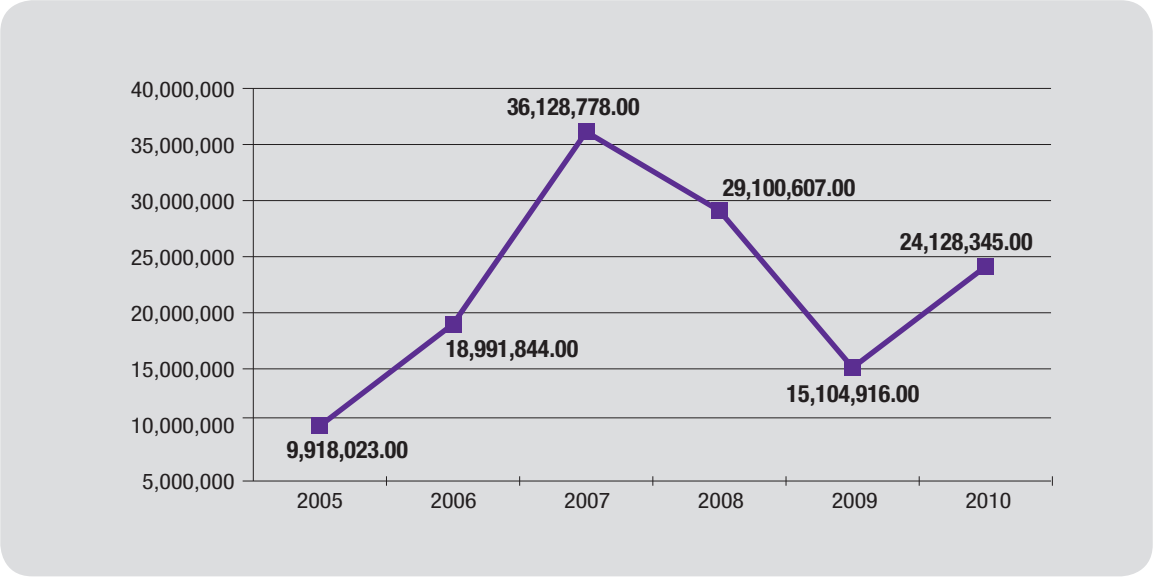
  Raids were carried out to curb the distribution, manufacturing and possession of unregistered, adulterated and counterfeit products as well as abuse of psychotropic substances by clinics and pharmacies. This section is supported by other Sections of Pharmacy Enforcement Division headquarters and State Pharmacy Enforcement Branches (CPF) as well as other law enforcement

agencies in carrying the mission. The raids were conducted throughout the year across the country.

The information gathered by the Pharmacy Enforcement Officers through intelligence activities or complaints received ware analyzed and the results ware disseminated to all state enforcement divisions for the subsequent actions. These centrally driven activities have resulted to successful raidings. Among the products seized were unregistered products, adulterated products (containing steroid, slimming agent and sex stimulant), psychotropic substances and cosmetics.

With reference to Figure 10, it is noticeable that there is a declining trend in term of seized value since 2007 until 2009 and an increase again in 2010 mainly due to the seizure of food based product adulterated with controlled substances.

FIGURE 10
VALUE OF ITEM SEIZED, 2005 - 2010



Source: Pharmaceutical Services Division, MoH

Table 8 shows the value of items seized through raiding, inspection of premises and inspection at entry points. The breakdown for these value seized is shown in Figure 11.

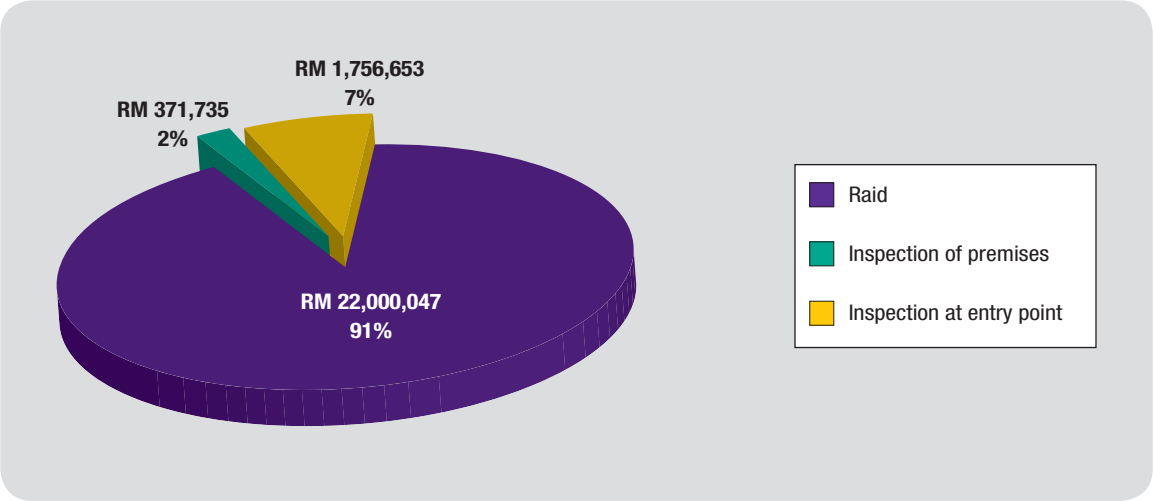
From the seizure value of RM 22,000,047.00 through raids done in 2010, a total value of RM 15,941,748.55 (72.27%) was contributed by 26 integrated raids that were centrally driven by the headquarters' Intelligence and Operation Section.

TABLE 8
VALUE OF ITEMS SEIZED ACCORDING TO STATES, 2010

States	Registered Product		Unregistered Product		Other Item		Total	
	Figure	Value (RM)	Figure	Value (RM)	Figure	Value (RM)	Figure	Value (RM)
Headquarters	0	0	0	0	0	0	0	0
Johor	196	190,161	3,850	1,212,768	12	162,291	4,058	1,565,220
Kedah	1,349	87,871	260	288,204	0	0	1,609	376,075
Kelantan	282	38,781	1,340	1,025,798	0	0	1,622	1,064,579
Melaka	62	107,561	779	438,999	0	0	841	546,560
N. Sembilan	47	77,466	488	98,510	0	0	535	175,976
Pahang	24	16,456	939	125,372	0	0	963	141,828
Perak	234	133,155	1,276	569,520	15	2,776	1,525	705,451
Perlis	394	45,142	301	113,204	3	88	698	158,434
Pulau Pinang	127	83,174	2,064	1,056,016	1	800	2,192	1,139,990
Sabah	245	47,514	6,444	854,732	0	0	6,689	902,246
Sarawak	581	109,655	1,629	774,476	8	332	2,218	884,463
Selangor	885	1,178,828	3,651	9,799,273	6	3,320	4,542	10,981,421
Terengganu	99	62,130	963	184,525	0	0	1,062	246,655
WP KL	120	169,334	675	4,964,855	0	0	795	5,134,189
WP Labuan	227	38,891	193	63,058	1	3,309	421	105,258
Total	**4,872**	**2,386,119**	**24,852**	**21,569,310**	**46**	**172,916**	**29,770**	**24,128,345**

Source: Pharmaceutical Services Division, MoH

FIGURE 11
VALUE SEIZED ACCORDING TO RAID, INSPECTION OF PREMISES AND ENTRY POINT FOR YEAR 2010



Source: Pharmaceutical Services Division, MoH

- **Audit and Compliance**

  The Audit and Compliance Section was recently established at the end of 2010 and placed under this branch. Prior to that, this section served as an inspection and audit unit under the Licensing Branch. In line with the desire to improve the performance and monitoring of controlled substances and psychotropic substances, this section was later given a new lease of life with more specific tasks.

  Audit activities are usually done with the cooperation of pharmacy enforcement officers from the respective CPF state with a view to enhance the effectiveness as well as to project the image of the Pharmaceutical Services Division. In some cases, the section plays a role as a watchdog. If there are signs of an increase in the use or sale of a controlled substance or psychotropic substances, this section will then give instructions to the CPF state involved to conduct the audit of a clinic or premise. The possibility of diversion and abuse can occur if the quota is not monitored or audited on an ongoing basis.

  In 2010, an audit study related to the use of controlled substances in registered private medical clinics and pharmacy licensed premises have been conducted. The study involved a total of 154 clinics and 115 pharmacies throughout the country. The study focuses on the use of controlled substances such as Dextromethorphan, Pseudephedrine and Ephedrine. In general, it shows that there is an excessive use of these products from the purchase records of most clinics (Table 9).

  This section also had the opportunity to conduct audits on several clinics in Perak last year, covering the areas around Sitiawan, Pantai Remis and Teluk Intan. This activity marks the beginning of the new format of clinical audit which was later extended to the following year, in order to reduce the abuse of psychotropic substances.

  More auditing will be done to reduce diversion and abuse of controlled substances and psychotropic substances by medical practitioners. In addition, emphasis will also be given to eradicate the diversion of precursor materials such as Pseudoephedrine and Ephedrine.

The section is also responsible for creating awareness and giving advice to rectify the situation if there are little mistakes done by medical practitioners that involves storing, recording and using of controlled substances and psychotropic substances. However, if the item is found to violate the law and the parties concerned should be brought to justice, then this process will continue. In general, most medical practices do not have a recording system of medicine that is considered good. Severe and frequent cases of abuse must be checked and action taken if it is found to violate the act and regulations enforced. Such actions are taken to safeguard the image, status and integrity of the Pharmaceutical Services Division in particular, as well as the MoH.

TABLE 9
NUMBER OF PREMISES INVOLVED IN THE AUDIT STUDY REGARDING USE OF CONTROLLED SUBSTANCES IN CLINIC AND PHARMACY, BY STATE, 2010

State	Clinic	Pharmacy	Total
Johor	15	7	22
Kedah	8	10	18
Kelantan	18	12	30
Malacca	27	7	34
N. Sembilan	10	17	27
Penang	7	10	17
Pahang	21	8	29
Perak	9	13	22
Perlis	2	8	10
Sabah	14	4	18
Sarawak	9	9	18
Selangor	4	7	11
Terengganu	2	1	3
FT Kuala Lumpur	9	8	17
FT Labuan	3	1	4
TOTAL	**154**	**115**	**269**

Source: Pharmaceutical Services Division, MoH

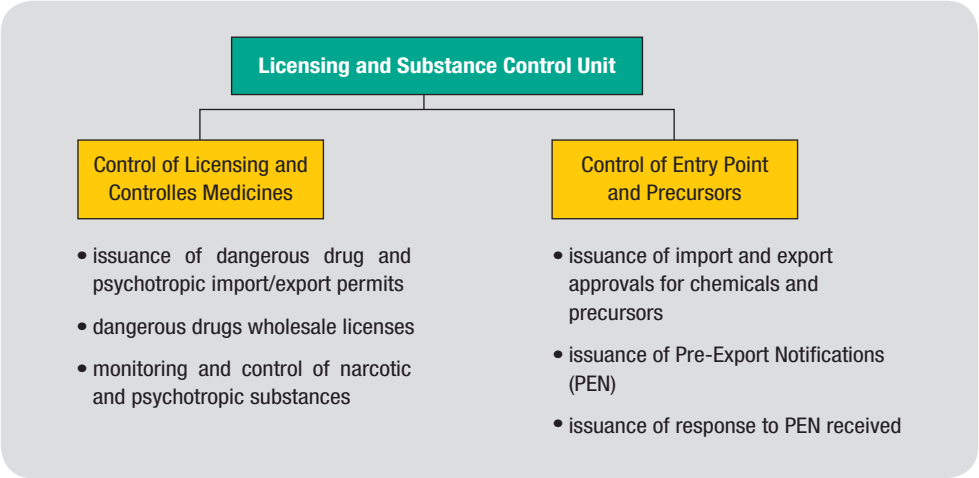
Licensing and Substances Control

The main licensing activities of the Pharmaceutical Services Division (PSD) are the issuance of import and export authorizations for narcotic drugs, psychotropic substances and precursor chemicals in accordance with the national legislation and international convention. This task is mainly carried out by the Licensing and Substances Control Unit, and the main functions of this unit are summarized as in Figure 12.

- **Licensing**

  Most of the licenses issued are in accordance with the Poisons Act 1952 and bulks of these are issued by the respective State Enforcement Branch. The types and number of licenses/permits issued by the states in 2008, 2009 and 2010 are shown in Table 10 while the breakdown of licenses issued by state in 2010 is shown in Table 11.

FIGURE 12
LICENSING AND SUBSTANCES CONTROL UNIT



Source: Pharmaceutical Services Division, MoH

TABLE 10
NUMBER OF LICENCES AND PERMITS ISSUED, 2008 - 2010

License and Permit	2008	2009	2010
Poison License Type A	3,055	3,000	3,187
Poison License Type B	1,554	1,484	1,668
Poison License Type D	8	7	9
Poison License Type E	18	28	30
NaOH Permit	1,937	1,931	1,987
Total	**6,572**	**6,450**	**6,881**
Total Number of Pharmacy Premises (Retail, Retail & Wholesale, Wholesale)	**2,026**	**2,170**	**2,178**

Source: Pharmaceutical Services Division, MoH

TABLE 11
LICENSES AND PERMIT ISSUED BY STATE, 2010

State	Type A License	Type B License	Type D License	Type E License	NaOH Permit
Perlis	19	6	1	0	5
Kedah	154	106	6	0	51
P. Pinang	344	232	1	1	204
Perak	212	92	0	6	141
Selangor	949	438	0	8	450
WP KL	466	78	0	0	42
N. Sembilan	94	60	0	0	107
Melaka	93	68	0	0	88
Johor	228	234	0	11	424
Pahang	67	56	1	0	140
Terengganu	28	34	0	0	48
Kelantan	86	20	0	0	19
Sabah	213	97	0	0	107
Sarawak	226	126	0	4	151
WP Labuan	8	21	0	0	10
Total	**3,187**	**1,668**	**9**	**30**	**1,987**

Source: Pharmaceutical Services Division, MoH

- **Control of Narcotics & Psychotropics**

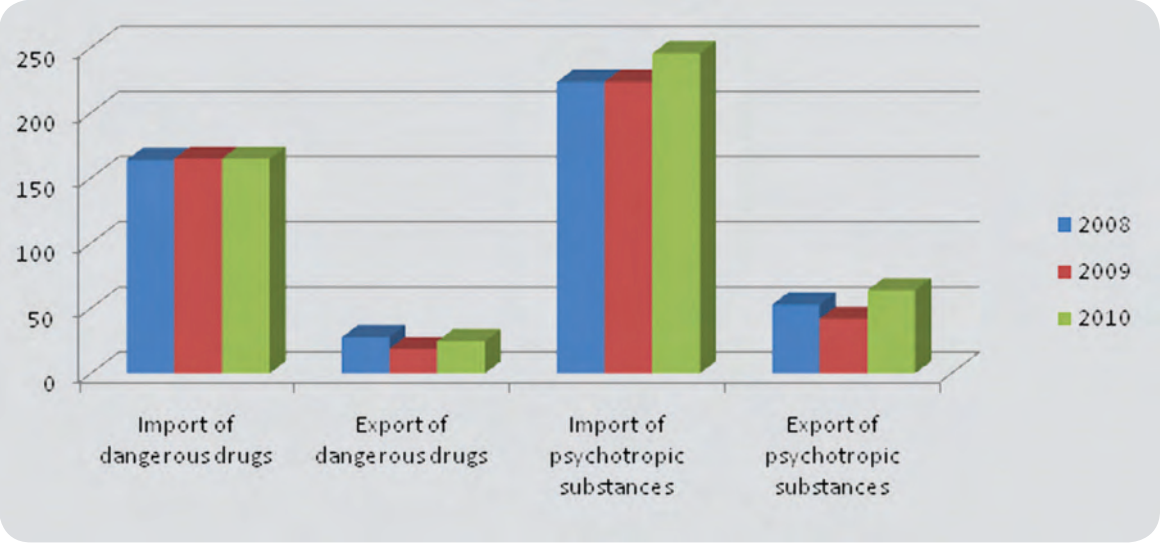
  PSD, MoH is the competent authority responsible for the control of import and export of narcotic drugs and psychotropic substances as scheduled under the Single Convention on Narcotic Drugs 1961 and the Convention on Psychotropic Substances of 1971. These substances are controlled under the Dangerous Drugs Act 1952 and the Poisons Act 1952.

  The Pharmacy Enforcement Branch of the PSD, MoH is also responsible for reporting all information related to seizures, imports and use of the narcotic and psychotropic substances to the International Narcotic Control Board (INCB), United Nations. The number of approvals for import and export are listed in Figure 13.

- **Control at Entry Point**

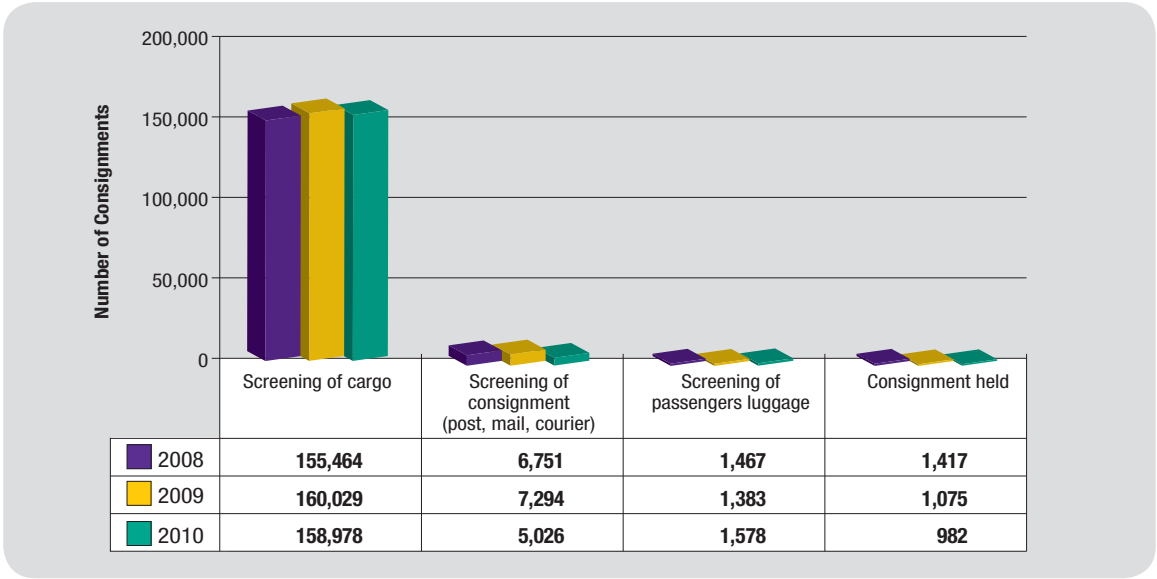
  The State Enforcement Branches are responsible for the screening of imported pharmaceutical products, cosmetics, veterinary products, industrial chemicals and precursor chemicals at major customs entry points (Figure 14). These activities are closely coordinated and monitored by the PSD, MoH.

FIGURE 13
NUMBER OF APPROVALS ISSUED FOR IMPORT AND EXPORT OF DANGEROUS DRUGS AND PSYCHOTROPIC SUBSTANCES, 2008 - 2010



Source: Pharmaceutical Services Division, MoH

FIGURE 14
SCREENINGS AT THE ENTRY POINT, 2008 - 2010



	Screening of cargo	Screening of consignment (post, mail, courier)	Screening of passengers luggage	Consignment held
2008	**155,464**	**6,751**	**1,467**	**1,417**
2009	**160,029**	**7,294**	**1,383**	**1,075**
2010	**158,978**	**5,026**	**1,578**	**982**

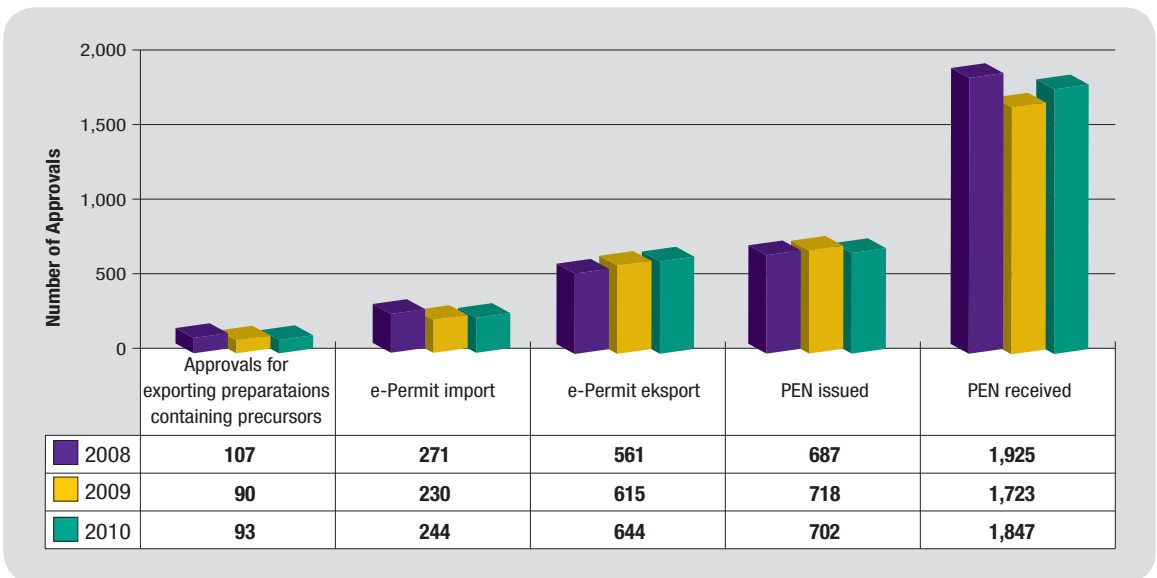
Source: Pharmaceutical Services Division, MoH

- **Control on Import and Export of Precursors**

  The PSD is the competent authority for precursor control under Article 12, the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances 1988. Most precursor chemicals, besides being scheduled poisons, are also listed under the Customs (Prohibition of Import) Order and Customs (Prohibition of Export) Order 2008. In conjunction with international agreement, we practise a system of issuing Pre-Export Notification (PEN) to the competent authority of the importing countries whereby these chemicals are only exported if there is no objection from the importing country (approval by way of acknowledgement). The PEN system is an online web-based system provided by the INCB. Currently, Malaysia also receives PEN from exporting country who wishes to export precursor chemicals to Malaysia. PEN received are vetted for its authenticity and approval is given by way of PEN online.

  The Pharmacy Enforcement Branch, MoH is also responsible in the issuance of Approval Permit (AP) for import and export through the e-permit system provided by the Customs Department in compliance with Customs (Prohibition of Import) and Customs (Prohibition of Export) Order. The number of approvals for Precursors and Controlled Chemicals requiring APs from 2008 to 2010 are as shown below (Figure 15).

FIGURE 15
NUMBER OF APPROVALS FOR PRECURSORS AND CONTROLLED CHEMICALS, 2008 - 2010



	Approvals for exporting preparataions containing precursors	e-Permit import	e-Permit eksport	PEN issued	PEN received
2008	107	271	561	687	1,925
2009	90	230	615	718	1,723
2010	93	244	644	702	1,847

Source: Pharmaceutical Services Division, MoH

- **Diversion Control of Registered Products containing Pseudoephedrine**

  PSD, MoH has implemented several measures to overcome the problem of diversion of pharmaceutical products containing pseudoephedrine and ephedrine into the illicit market that produces ATS drugs, especially methamphetamine. The measures implemented are as follows:

  i. Limiting the quantity that can be supplied to private clinics and pharmacies for the purpose of medical treatment up to a maximum of 480 grams per month/outlet.
  ii. Controlling pseudoephedrine and ephedrine products under the Customs Prohibition Order.
  iii. Limiting to only 3 wholesalers for pseudoephedrine and ephedrine products. One each in Peninsular Malaysia, Sabah and Sarawak.
  iv. Impose more detail recordings for the sale and supplies of these products.

Legislation

- **Prosecution Achievements**

  A total of 951 cases were completely prosecuted in 2010 with the total collection of RM 2,173,090 in fine imposed on the accused. The breakdown of prosecution completed within the period according to the acts enforced and the respective states are tabled in Table 12.

TABLE 12
PROSECUTION (COMPLETED) BASED ON ACT AND STATES, 2010

No.	State	Poison Act 1952	Poison Act 1952 (Pscyhotropic Substances)	Sale of Drugs Act 1952	The Medicines (Advertisement and Sale) Act 1956	Number of cases & percentage	Total fines collected (RM)	Percentage of fines collected (%)
1.	Perlis	5	3	22	0	30 (3.15)	71,950	3.31
2.	Kedah	16	3	17	0	36 (3.78)	61,900	2.84
3.	Pulau Pinang	18	2	26	2	48 (5.05)	91,100	4.19
4.	Perak	16	7	34	1	58 (6.10)	101,850	4.68
5.	Selangor	42	11	30	9	92 (9.67)	376,720	17.33
6.	FT Kuala Lumpur	55	13	42	10	120 (12.62)	278,550	12.81
7.	Negeri Sembilan	26	2	18	0	46 (4.84)	58,350	2.68
8.	Melaka	9	0	14	2	25 (2.63)	87,720	4.03
9.	Johor	41	8	54	6	109 (11.46)	143,750	6.62
10.	Pahang	21	0	11	3	35 (3.68)	48,450	2.23
11.	Terenganu	8	11	10	0	29 (3.05)	91,900	4.23
12.	Kelantan	16	2	34	3	55 (5.78)	128,250	5.90
13.	Sarawak	40	0	48	0	88 (9.25)	330,000	15.18
14.	Sabah	52	1	93	6	152 (15.99)	263,400	12.12
15.	FT Labuan	2	1	3	0	6 (0.64)	18,500	0.85

No.	State	Poison Act 1952	Poison Act 1952 (Psychotropic Substances)	Sale of Drugs Act 1952	The Medicines (Advertisement and Sale) Act 1956	Number of cases & percentage	Total fines collected (RM)	Percentage of fines collected (%)
16.	FSD, MoH	1	19	0	2	22 (2.31)	21,700	1.00
Total		**368**	**83**	**456**	**44**	**951**	**2,173,090**	
Total fine collected (RM) & Percentage (%)		**456,370 (21.00)**	**169,200 (7.79)**	**1,506,270 (69.31)**	**41,250 (1.90)**			

Source: Pharmaceutical Services Division, MoH

Fines collected for offences under the Sale of Drugs Act 1952 gives the highest collection total with RM 1,506,270 (69.31%) followed by offences under Poisons Act 1952 with RM 456,370 (21.00%). The high collection of fines under Sale of Drugs Act is mainly due to high penalty imposed by section 12(1) of the Act with the maximum fine of RM 25,000 for individual offenders and by Section 12(2) with a maximum fine of RM 50,000 for corporate offenders. Furthermore, the total number of cases that completed prosecution within this act was the highest with the total of 456 cases compared to the number of cases under Poisons Act 1952 which was only 368 cases.

The low collection in fines for offences committed under Medicines (Advertisement and Sales) Act 1956 was due to a few numbers of cases being prosecuted and the low penalty imposed by the Act, with a maximum fine of RM 3,000. Fines collected by Selangor showed the highest with a total amount of RM 376,720 (17.33%) followed by Sarawak with a total collection of RM 330,000 (15.18%) for the period. Kuala Lumpur also gave a high figure in fine collection in 2010 with an amount of RM 278,550 (12.81%).There was an increase in total fine for the year 2010 compared to 2009, where the total fine collected was RM 1,419,950.

- **Drafting / Publication**

  The current legislations are reviewed from time to time to ensure its relevancy. In 2010, a few drafts had been sent to the Attorney General Chamber via MoH's Legal Adviser whichs are as follows:

  i. Two drafts on the amendments of the Poisons List, the Poisons Act 1952
  ii. An amendment on the Second Schedule of the Poisons Act 1952
  iii. Two amendments on the First Schedule of the Registration of Pharmacists Act 1951
  iv. Amendments to the Poisons Regulations 1952 relating to authorization of certain person to prescribe poison for medical treatment.

  The total amendments involved 5 regulations and 53 items in the Schedule. A total of 5 Government Gazettes have been published in the year 2010.

  New officers have been appointed to enforce the pharmacy legislations. In 2010, the followings documents were issued:

  i. 81 Pharmacy Enforcement Cards
  ii. 72 Authorizations as Authorised Officer by the Minister under the Medicines (Advertisement & Sale) Act 1956
  iii. 81 Authorizations as Drug Enforcement Officer issued by the Senior Director of Pharmaceutical Services under the Poisons Act 1952

iv. 72 Authorizations issued by the Deputy Public Prosecutor to prosecute under section 377(b) Criminal Procedure Code

v. 11 Authorizations issued by the National Registration Department to inspect identity card

- **Exemption for Unregistered Products**

For the purpose of importing unregistered products for treatment of life-threatening illnesses, 978 exemptions were issued to government hospitals and 1192 exemptions were issued to the private hospitals. Exemptions of unregistered products were also provided for the purpose of importing, packing and re-export of medicines, where 141 permissions were issued.

- **Poisons Board**

The Poisons Board, as an advisory board has been empowered to assess the classification of medicine/chemical substance and thereby to advice the Minister in accordance to the provisions of the Poisons Act 1952. The Board met for its 70th meeting on 22nd June 2010 and 71st meeting on 30th November 2010 and decided on the following:

i. Classification of poisons
The Board has agreed with the classification of twenty six (26) chemicals as listed in Table 13.

TABLE 13
CLASSIFICATION OF NEW CHEMICAL ENTITIES

No.	Name of Drug / Chemical Entity	Group
1.	4-Hydroxy-3-nitrophenylarsonic Acid (Roxarsone)	C
2.	Praziquantel	C
3.	Febantel	C
4.	Closantel sodium	B
5.	Morantel Tartrate	B
6.	Saxagliptin	B
7.	Udenafil	B
8.	Pazopanib hydrochloride	B
9.	Liraglutide	B
10.	Carbadox	A
11.	Dimetridazole	A
12.	Ipronidazole	A
13.	Olaquindox	A
14.	Ronidazole	A
15.	Teicoplanin	A
16.	Hydrogen Bromide	Part II
17.	Piperazine	Part II
18.	Tocilizumab	B

No.	Name of Drug / Chemical Entity	Group
19.	Methoxy polyethylene glycol-epoetin beta	B
20.	Ustekinumab	B
21.	Sevelamer Carbonate	B
22.	Sugammadex	B
23.	Corifollitropin Alfa	B
24.	Asenapine	B
25.	Dronedarone	B
26.	Azaperone	B

Source: Pharmaceutical Services Division, MoH

ii. Amending the classification of Poisons

a. Phosphorus Yellow or White is amended to Phosphorus.
b. Caffeine in product which is registered under the Control of Drugs and Cosmetics Regulations 1984 is exempted as poison.
c. Poisons not allowed for food-producing animals

The Board has agreed with the reclassification of six (6) poisons as listed Table 14.

TABLE 14
CLASSIFICATION OF POISONS

Name	Part I				Part II	Exempt
	Group A	Group B	Group C	Group D		
Colchicine	All preparations unless Group C		All products registered under the Control of Drugs and Cosmetics Regulations 1984			
Chloroform	Veterinary preparations for food-producing animals		Strengths of 10% and over unless Group A			Strengths under 10% unless Group A
Chlorpromazine	Veterinary preparations for food-producing animals	All preparations unless Group A				
Dapsone and other substances structurally derived therefrom; their salts	Veterinary preparations for food-producing animals	All preparations unless Group A				

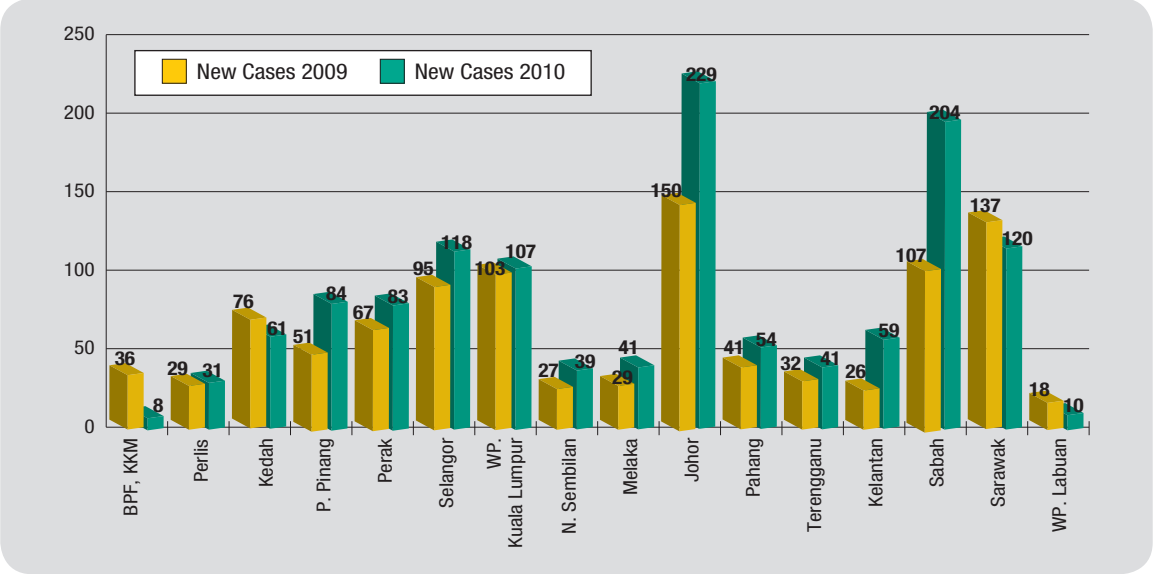
Name	Part I				Part II	Exempt
	Group A	Group B	Group C	Group D		
Metronidazole	Veterinary preparations for food-producing animals	All preparations unless Group A				
Vancomycin	All preparations unless Group B and Group D	All products registered under the Control of Drugs and Cosmetics Regulations 1984		Preparations for laboratory use		

Source: Pharmaceutical Services Division, MoH

- **Investigation Achievements**

  Investigation activities are carried out for all cases that contravene the Acts enforced by the Pharmacy Enforcement Division. The Acts are Poisons Act 1952, Sale of Drugs Act 1952, Medicines (Advertisement and Sale) Act 1956, Registration of Pharmacists Act 1951 and Dangerous Drugs Act 1952. Every State Pharmacy Enforcement Branch investigates their own cases under the said Acts in their respective states. In 2010, a total of 795 cases were investigated compared to 908 cases in 2009. A number of 1289 new cases were received in 2010 as compared to 1020 new cases in 2009 (Figure 16).

FIGURE 16
COMPARISON NEW CASES OF INVESTIGATION PAPER BETWEEN THE STATE ENFORCEMENT, 2009 - 2010



Source: Pharmaceutical Services Division, MoH

Advertisement and Innovation

- **Medicine Advertisement Board**

  Advertising is an important source of information for medicinal products and medical services; however their significant impact on health means that they should not be treated as any ordinary commodity. It is therefore essential that advertising is carried out responsibly and complies with the relevant legislation.

  The Medicines (Advertisement and Sale) Act 1956 provides for the control of advertisements pertaining to medicines, appliances, remedies and healthcare services. The Act also provides for the formation of the Medicine Advertisements Board (MAB) which is responsible for regulation of the said advertisements.

  Statistics on the applications for advertisement approval from MAB in 2010 are as shown in Table 15 whereas comparisons across 2008 to 2010 are shown in Table 16.

TABLE 15
ADVERTISEMENTS APPLICATIONS FOR 2010

Advertisements	Applications Received	'Fast Track' Approvals	Non 'Fast Track' Approvals	Not Approved	Approval Not Required	Fees Collected
Product	1,228	1,049	53	25	39	122,800
Medical Services	374	278	38	18	18	37,400
Total	**1,602**	**1,327**	**91**	**43**	**57**	**160,200**

Source: Pharmaceutical Services Division, MoH

TABLE 16
ADVERTISEMENT APPROVALS, 2008 - 2010

Description / Year	2008	2009	2010
Total number of applications	1,607	1,951	1,602
Total number of approvals	1,374	1,712	1,418
Total number of 'Fast Track' approvals	1,103 (80.30%)	1,499 (87.60%)	1,327 (93.60%)
Fees Collected	RM 160,700	RM 195,100	RM 160,200

Note: Total number of applications processed is not the same as total number of applications received because several applications are withheld or closed automatically if there is no response from the applicant after the given dateline.
Source: Pharmaceutical Services Division, MoH

- **Advertisement Monitoring**

The monitoring program involves screening all advertisements published in the mass media including printed and electronic media such as newspaper, magazine, radio and television. Other advertising media such as internet, promotional kit, pamphlet, poster and bunting are also being monitored. Apart from that, action and further investigation will take place on every complaint of advertisement received which is suspected of breaching the Medicine (Advertisement and Sale) Act 1956.

The monitoring program is to ensure that products and services advertisement have been approved by Medicine Advertisement board (MAB) and does not breach any of the MAB guideline and/or policy. Further investigation is also done to ensure that advertisements published follow the format which has been approved and complies with advertisement ethics to ensure a level playing field. Action will be taken towards advertisements that contravene the regulation, such as issuance of warning letter or referral to other relevant agency. Legal actions are also taken towards recalcitrant offenders. Throughout 2010, actions that have been taken based on the monitoring program are shown in Table 17.

TABLE 17
ADVERTISEMENT ACTION, 2010

	Reminder / warning	Legal action (PSD, MOH, State Enforcement Branch)	Refer to other agency (FSQ, MCMC, MOHA etc)	Intelligence / Operation action	Total
Total	**171**	**102**	**117**	**21**	**411**

Source: Pharmaceutical Services Division, MoH

Warning letters are issued to either advertiser or publisher when advertisement which is not approved by MAB is published. Table 18 shows proportions of warning letters issued.

TABLE 18
ISSUANCE OF WARNING LETTERS, 2010

Receiver of warning Letters	Number of Warning Letters Issued
Publisher	17
Advertiser	154
Total	**171**

Source: Pharmaceutical Services Division, MoH

Realising the usage of new modus operandi such as the internet for illegal drug sales transaction and publication of unapproved advertisements, PSD in collaboration with Malaysian Communications and Multimedia Commission (MCMC) are monitoring that media avenue to block website that contravene the law, especially websites based overseas. Table 19 shows the advertisement monitoring action taken on websites and prohibited stick-on advertisement.

The outreach approach through dialogue sessions and discussions are organised regularly to encourage self regulation and educate the advertisers and publishers. Throughout 2010, 21 dialogue sessions had been participated together with product advertising companies, mass media (printed and electronic), industrial societies and other government agencies. Awareness from all parties is very important to ensure that all published advertisements are valid and factual without misleading the consumer.

TABLE 19
MONITORING AND ACTION FOR ADVERTISEMENT IN WEBSITE AND PROHIBITED STICK-ON ADVERTISEMENT ON THE ROAD, 2010

	Warning	Legal action under MASA 1956	Intelligence	Refer MCMC	Total
Website	18	5	2	14	39
Prohibited Stick-on Advertisement	-	-	-	9	9

Source: Pharmaceutical Services Division, MoH

- **Innovation**

The Innovation Unit is responsible to compile and analyse statistics provided by the state enforcement branches. It also monitors data or information regarding the Quality Assurance Programme Indicator (QAP), Key Perfomance Indicator (KPI) and National Medicines Policy (DUNAS) for Enforcement Division in order to improve the services provided by this Division.

TABLE 20
QAP ACHIEVEMENTS FOR PHARMACY ENFORCEMENT, 2008 - 2010

No.	QAP Indicator	Standard	Achievement 2008	Achievement 2009	Achievement 2010
1.	Response to complaint within 2 weeks	90%	99.0% (482/487)	97.0% (580/598)	97.0% (679/700)
2.	Pre-operation intelligence completed within 2 months	95%	96.0% (432/450)	94.4% (456/483)	98.8% (557/564)
3.	Successful collection of relevant evidence in a raid	100%	99.7% (733/735)	99.6% (826/829)	100% (1,102/1,102)
4.	Completion of investigation paper within 4 months	80%	71.0% (298/419)	77.7% (300/386)	72.1% (597/828)
5.	Follow-up actions taken after inspection of premises within 3 months	90%	99.0% (418/423)	99.6% (776/779)	95.7% (941/983)

Source: Pharmaceutical Services Division, MoH

TABLE 21
KPI ACHIEVEMENTS FOR PHARMACY ENFORCEMENT, 2009 - 2010

No.	KPI	Standard	Achievement (%) 2009	Achievement (%) 2010
1.	Issuance of License/ Permit (under Poison Act 1952) within 10 working days	90%	91.2% (1,079/1,183)	97.7% (1,342/1,374)
2.	Intelligence samples tested positive for prohibited substances	70%	56.0% (196/350)	62.1% (266/428)
3.	Successful raids resulting in legal actions	75%	94.4% (832/881)	94.5% (1,088/1,151)
4.	Licensed premises complying with relevant regulation	90%	90.7% (3,672/4,049)	92.5% (3,879/ 4,195)

Source: Pharmaceutical Services Division, MoH

Prevention and Consumer Awareness

Prevention and Consumer Awareness activities aim to protect consumers from drugs that are not registered with the MoH focusing on the dissemination of public information and education about the control, use and sale of medicines and cosmetics in the market and how to make a wise choice.

- **Consumer protection**

  Continuing education activities were carried out to consumers in urban and rural areas to empower consumers with knowledge and information on the use of drugs and cosmetics wisely.

  In 2010, information on medicine was presented to the public through 381 talks, 512 exhibitions and 42 dialogues (Table 22) with government and non government agencies. Total activities of 935 showed a substantial increase for 2010 compared to 642 in 2009 and 525 in 2008 (Figure 17).

  A collaboration with the Ministry of Education (MOE) was established in conveying information about the use of registered medicines and quality use of medicines to high school students and primary school. This cooperation extended to external agencies such as FELDA and RELA in the eradication of unregistered medicines in the market. Cooperation with other government agencies such as the Ministry of Domestic Trade, Cooperatives and Consumer Affairs (KPDNKK), Puspanita, Department of Islamic Development Malaysia (JAKIM) and the Employees Provident Fund (EPF) is also expanded with the increase in the talks and the exhibition held at the institutions.

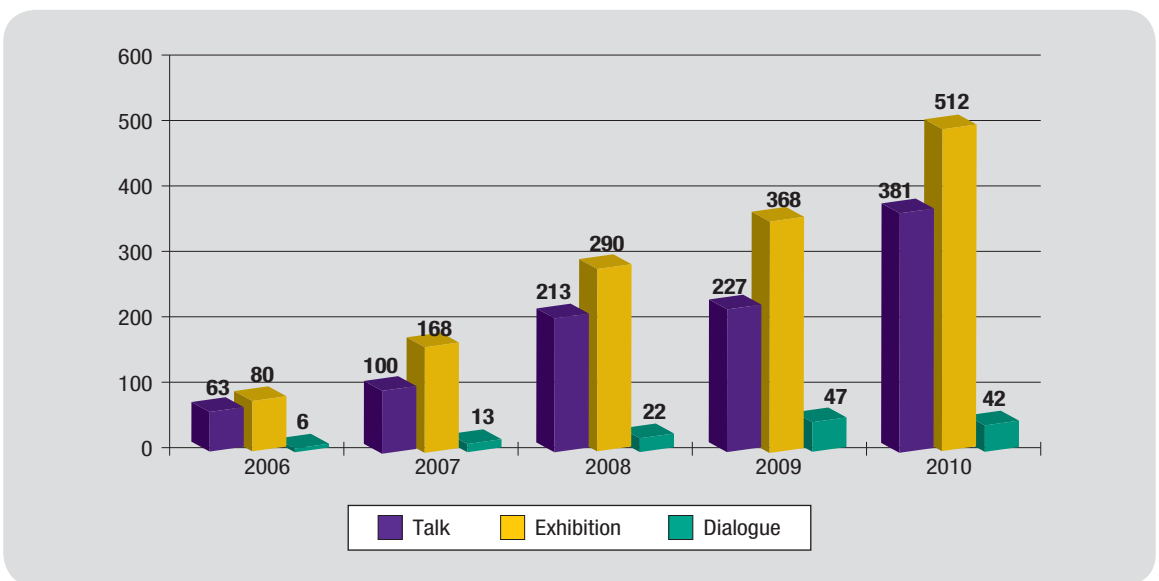
  The Consumer Protection Unit has also collaborated with the Pharmacy Practice and Development Division in the video message published on the use of Meditag and medical advertising which are prohibited. The video is posted on the My Health Portal website, Ministry of Health as a reference to the public.

TABLE 22
ACHIEVEMENTS ON DISSEMINATION OF INFORMATION VIA TALKS, EXHIBITIONS AND DIALOGUES, 2010

Item	Jan - Dec 2010
Dissemination of 2011 Calendars	32,000's
Dissemination of notebook postcards	16,000's
Dissemination of Post Cards	32,000's
Dissemination of campaign kits	
- canvas bag	16 000's
- pencil case	16 000's
- key chain	16 000's
School bus advertisement (for 6 months)	25 bus
Full body advertisement at Rapid KL bus	4 bus
Talks	381
Exhibitions	512
Dialogues	42

Source: Pharmaceutical Services Division, MoH

FIGURE 17
NUMBER OF TALKS, EXHIBITION AND DIALOGUES, 2006 - 2010



Source: Pharmaceutical Services Division, MoH

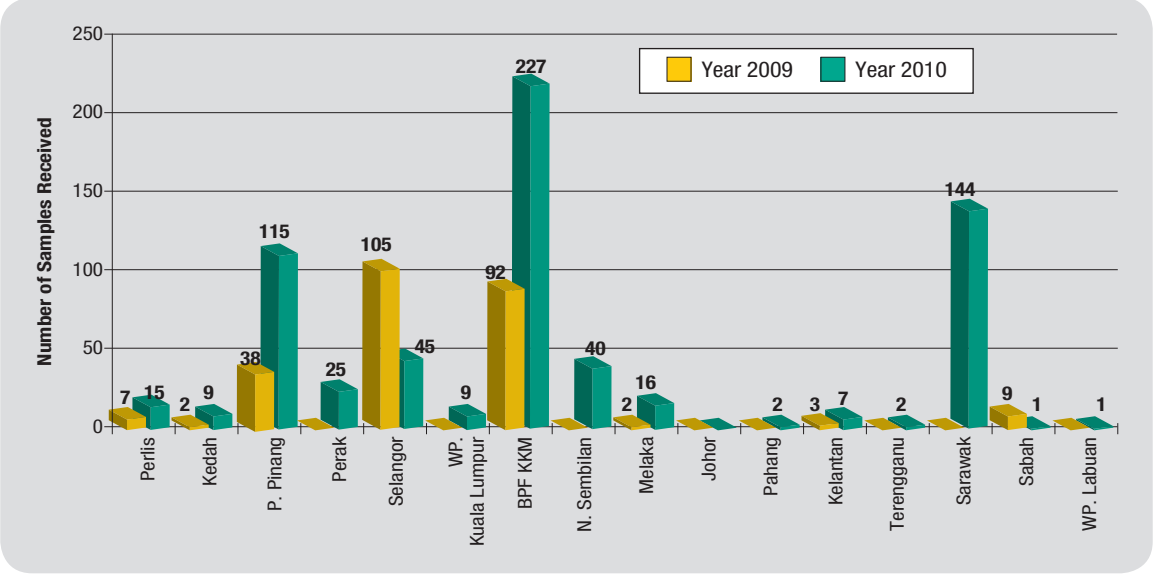
In conjunction with the visit of the Health Minister of Malaysia, Dato' Liow Tiong Lai to the PSD, an exhibition was held in the foyer of the Board of Pharmacy, the PSD on August 5th, 2010. The exhibition aimed to highlight issues related to enforcement of pharmaceutical products and food supplement drinks that are mixed with the controlled substances and scenarios of unregistered medicines in the market.

- **Forensic Lab**

  Health products containing prohibited substance under the Act and Regulations are a key issue for consumers in Malaysia. Thus, one of the main activities of the Pharmacy Enforcement Division is to obtain information relating to the products in the market through intelligence activities. To increase the efficiency of the intelligence activities, product samples are taken and tested for banned substances. Therefore, forensic laboratories have been developed and it began its operations in March 2009. To date, this laboratory has the capacity to analyze samples by means of High Performance Liquid Chromatography (HPLC), Thin Layer Chromatography (TLC) and Fourier-Transform Infrared spectroscopy (FTIR).

  In 2010, 665 samples were received with an average of 55 samples received every month, and this showed an increase of 155.7% over 2009 to total number of samples received. These samples consist of pharmaceutical samples, health food and drinks in the market as a result of consumer complaints and the samples obtained through "post-market surveillance".

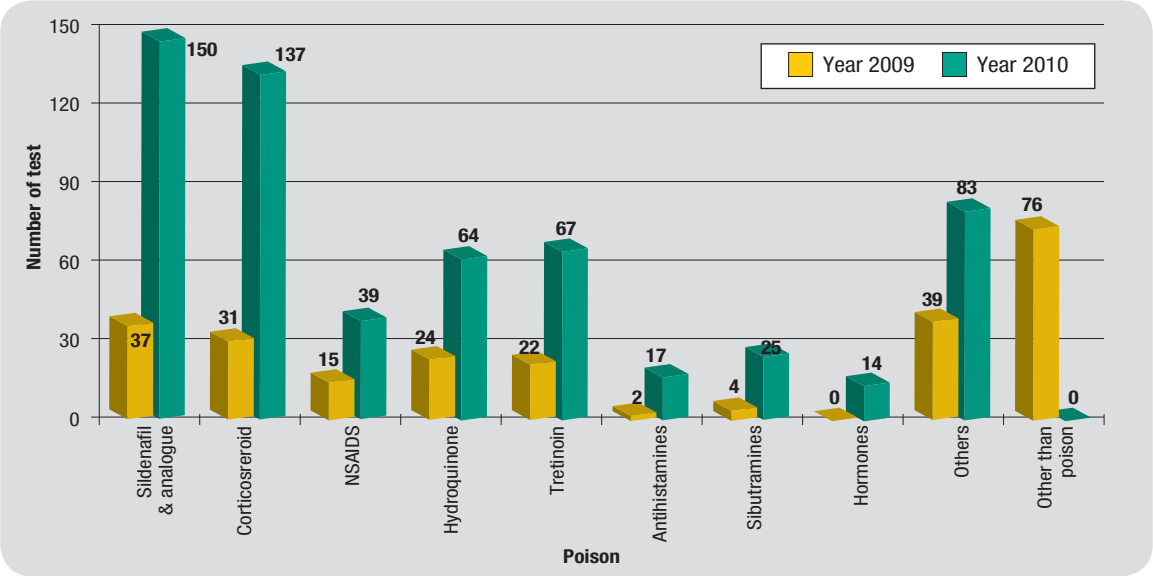
FIGURE 18
NUMBER OF SAMPLES RECEIVED FOR ANALYSIS, 2009 - 2010



Source: Pharmaceutical Services Division, MoH

Of the 665 samples received in 2010, a total of 396 samples or 60% of samples tested have been completed in the same year and the remaining 269 samples were brought forward to the year 2011 for testing. There is a backlog of untested samples in the same year received because laboratory capacity for testing is limited in terms of equipment and human resources. However, improvements to increase efficiency and laboratory equipment are made from time to time. An increase in tests to identify the contents of sildenafil and analog, steroids, tretinoin and hydroquinone occurs because the product which is mixed with such materials is usually in high demand in the market.

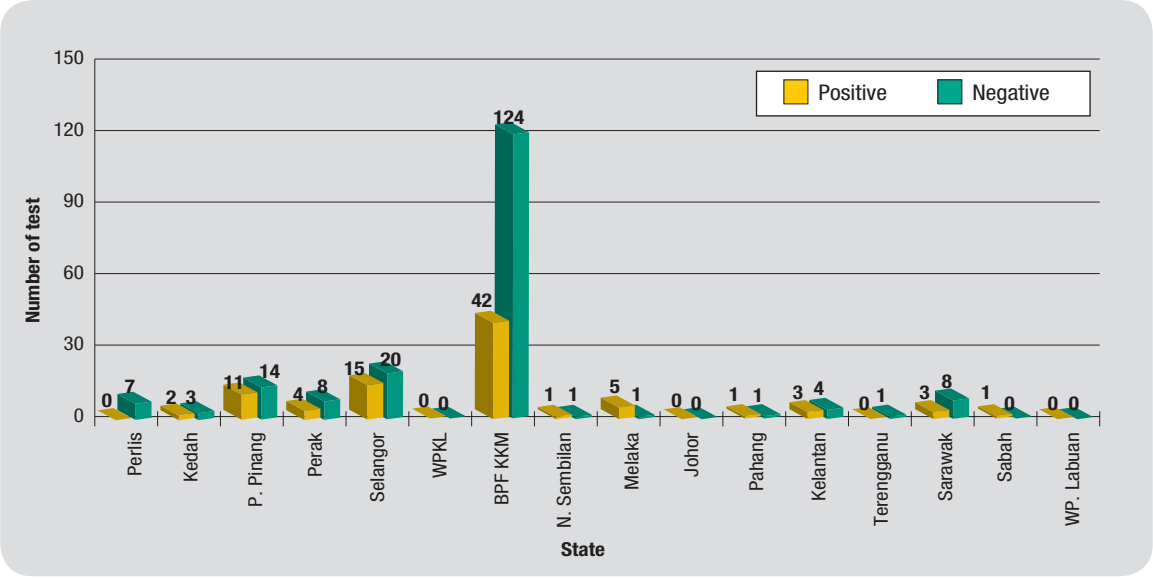
FIGURE 19
THE NUMBER AND TYPES OF POISON BEING TESTED, 2009 - 2010



Source: Pharmaceutical Services Division, MoH

Throughout 2010, a total of 280 samples were tested. Out of these, 88 of these samples tested positive, while 192 samples tested negative. Figure 20 shows the lesser number of positive samples compared to negative samples. However, the samples are composed of samples which are taken at random and intelligence samples. As for that reason, there is a need for enforcement officers to enhance the intelligence samples to ensure the success of the intelligence activities.

FIGURE 20
RESULTS OF SAMPLE TESTED, 2010



Source: Pharmaceutical Services Division, MoH

IV. PHARMACY PRACTICE AND DEVELOPMENT

Malaysia Pharmacy Board

The Malaysia Pharmacy Board was established according to the provisions of Section 3 of the Registration of Pharmacists Act 1951.

- **Members of the Pharmacy Board**

  The Pharmacy Board consists of 17 members from public and private sectors, including two ex-officio members: the Director General of Health and the Senior Director of Pharmaceutical Services. Members of the Pharmacy Board are as follows:

  i. President, Director General of Health – Ex-officio
  ii. Senior Director of Pharmaceutical Services – Ex-officio/Registrar
  iii. Eight Registered Pharmacists in public service
  iv. Three Registered Pharmacists from universities
  v. Two Registered Pharmacists not in public service
  vi. Three Registered Pharmacists not in public service and nominated by the association representing pharmacists in private practice.

- **Functions**

  The Pharmacy Board is responsible for regulating the profession and pharmacy practice through the following activities:

  i. Registration and deregistration from Register of Pharmacists
  ii. Registration and deregistration from Register of Body Corporate
  iii. Registration of Provisionally Registered Pharmacists
  iv. Recognition of Pharmacy Degree
  v. Approval of training premises for Provisionally Registered Pharmacists

vi. Preparation of guidelines and standardisation of issues related to the recognition of pharmacy programmes and pharmacy practice
vii. Managing Pharmacist Jurisprudence Examination
viii. Conducting investigation on reports of unethical practices by pharmacist

- **Registration of Pharmacist, Body Corporate and Provisionally Registered Pharmacist (PRP)**

  In 2010, a total of 739 pharmacists were registered and this was an increase from 2009. A summary of the number of registrations done by the Pharmacy Board according to year is shown in Table 23.

TABLE 23
NUMBER OF REGISTRATIONS BY PHARMACY BOARD, 2005 - 2010

Description	Year					
	2005	2006	2007	2008	2009	2010
Number of Newly Registered Pharmacists	379	437	534	617	705	739
Number of Provisionally Registered Pharmacists	420	529	614	722	813	925
Number of Registered Body Corporate	87	107	98	43	48	48
Number of Pharmacist Annual Retention Certificates	3,965	4,292	4,422	5,924	5,507	8,852
Number of Body Corporate Annual Retention Certificates	218	270	414	371	445	663

Source: Pharmaceutical Services Division, MoH

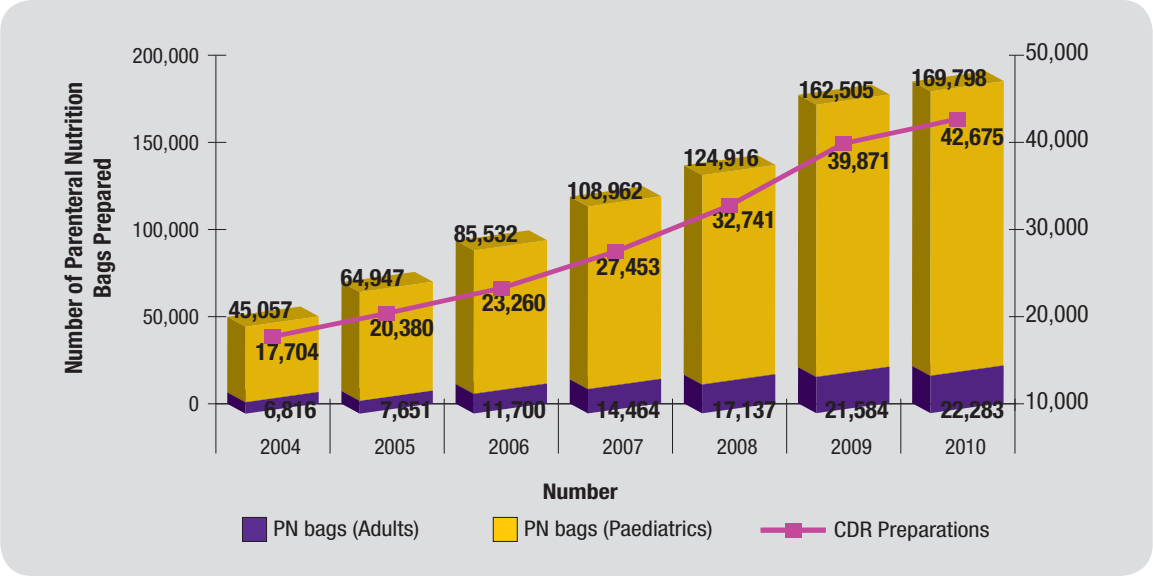
Pharmacy Clinical and Technical

The pharmaceutical services in hospitals and health clinics under MoH aims to provide comprehensive patient-centric pharmaceutical care.

Pharmacy Ambulatory Services stresses on quality use of medicines, promotion of healthy lifestyles and provision of innovative services to give a po¬sitive impact in line with patients' perspectives and expectations. Various activities and drug delivery systems have been introduced to minimize medication errors, promote patients' compliance and assist patients in getting access to their medications.

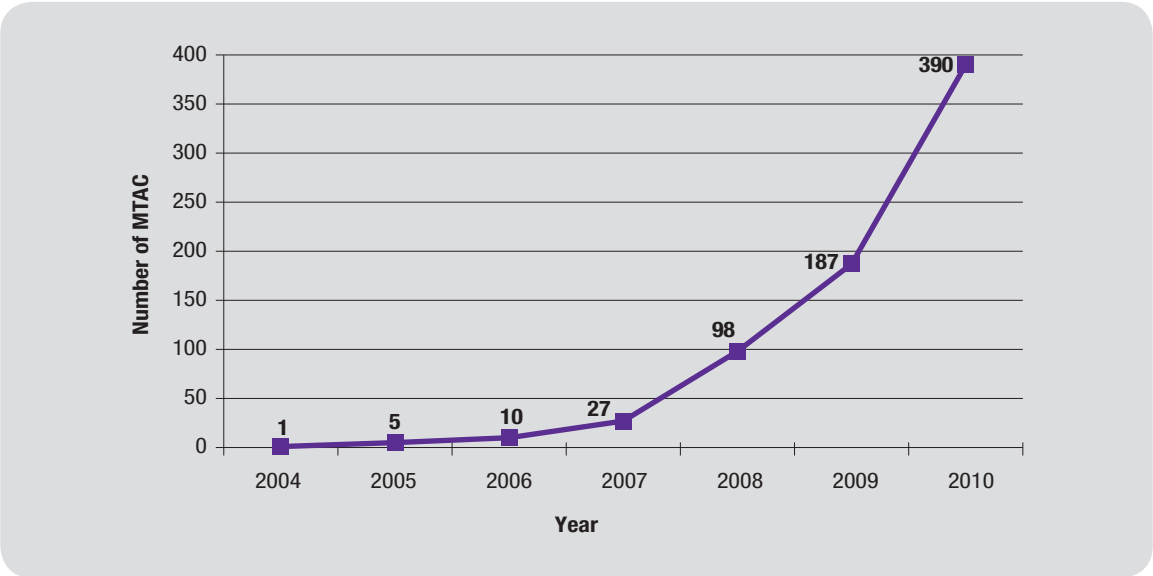
Clinical Pharmacy Services have also been expanded to include Medication Counselling, Medication Therapy Adherence Clinic (MTAC), Methadone Dispensing and Counselling, Ward Pharmacy Service, Drug Information Service (DIS), Clinical Pharmacokinetics Service (CPS), Parenteral Nutrition (PN) Service, Oncology Pharmacy Service and Nuclear Pharmacy Service (Figure 21).

FIGURE 21
NUMBER OF STERILE PREPARATIONS - PARENTERAL NUTRITION AND CYTOTOXIC DRUGS RECONSTITUTION, 2004 - 2010



Source: Pharmaceutical Services Division, MoH

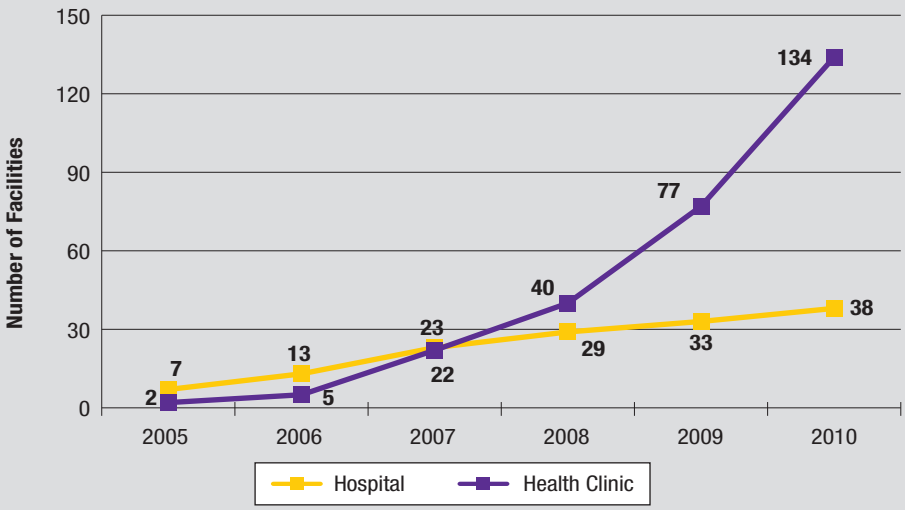
FIGURE 22
CUMULATIVE NUMBER OF MTAC IN MoH FACILITIES, 2004 - 2010



Source: Pharmaceutical Services Division, MoH

In 2010, a total of 638,276 patients received medication counseling, an increase of 10% from 2009. For MTAC services, there was an increase of 52% in 2010 as compared to 2009 (Figure 22). A total of 172 Methadone dispensing facilities in MOH (38 hospitals and 134 health clinics) were managed by pharmacists in 2010 (Figure 23). In addition, methadone dispensing activities were also carried out in 25 District National Anti-Drug Agencies, 18 prisons and a mosque.

FIGURE 23
CUMULATIVE NUMBER OF METHADONE DISPENSING FACILITIES IN MoH INSTITUTIONS, 2005 - 2010



Source: Pharmaceutical Services Division, MoH

TABLE 24
TYPES OF ANTIBIOTIC MONITORED PSD, MOH

Year	Jan - Dec 2010
2001 - 2004	4 types for all state hospitals (inpatient only)
2005 - 2006	12 types for all state hospitals (inpatient only)
2007	13 types for all state hospitals (inpatient only)
2008	14 types for all state hospitals (inpatient only), armed forces hospitals, university hospitals and private hospitals
2009	18 types for all state hospitals (inpatient only), armed forces hospitals, university hospitals and private hospitals
2010	20 types for all state hospitals (inpatient only), armed forces hospitals, university hospitals and private hospitals

Source: Pharmaceutical Services Division, MoH

Through the National Infection Control and Antibiotic Committee (JKIAK) of which Pharmaceutical Services Division serves as its Secretary, audit on the use of 20 injectable antibiotic consumptions in 2010 was expanded to include private hospitals in addition to major government hospitals (Table 24).

A new Pharmacy Appointment System called Medicine by Post 1Malaysia (UMP 1M) was launched as a joint venture between Ministry of Health and Pos Malaysia Berhad. In 2010, a total of 26 hospitals and 2 health clinics have started this service.

TABLE 25
PHARMACY CLINICAL & TECHNICAL SERVICES ACHIEVEMENTS, 2010

No.	Types of Services		Achievements 2010
1.	Medication Counselling Services	i. Number of Patients Counselled	
		• Inpatient	122,846
		• Outpatient (Hospitals)	258,134
		• Ward Discharge	153,642
		• Outpatient (Health Clinic)	103,654
		ii. Total number of patients counselled	638,276
2.	Clinical Pharmacokinetics Services	i. Number of Hospitals	112
		ii. Number of Cases	106,277
		iii. Number of Drugs	16
3.	Parenteral Nutrition Services	i. Number of Hospitals	19
		ii. Number of Cases	10,394
		iii. Number of Preparations	64,958
4.	Intravenous Admixture Services	i. Number of Hospitals	14
		ii. Number of Cases	63,508
		iii. Number of Preparations	179,923
5.	Oncology Pharmacy Services	i. Number of Hospitals	20
		ii. Number of Cases	61,671
		iii. Number of Preparations	169,798
6.	Outpatient Drug Dispensing Services	A. Hospital	
		i. Number of Prescriptions Received	16,335,211
		ii. Number of Prescriptions Intervened	541,393
		B. Health Clinics	
		i. Number of Prescriptions Received	25,525,308
		ii. Number of Prescriptions Intervened	208,313
		C. Total number of Prescriptions Received	41,860,519
		D. Total number of Prescriptions Intervened	749,706

No.	Types of Services		Achievements 2010
7.	Medication Therapy Adherence Clinic	i. Number of MTAC Established	390
		ii. Number of MTAC Counselling	104,529
8.	Methadone	Methadone Dispensing Facilities	
		i. Hospitals	38
		ii. Health Clinics	134
9.	Nuclear Pharmacy Services	i. Number of Hospitals	5
		ii. Number of Kit-Based Preparations	7,164
		iii. Number of 18F-FDG Preparations	111
10.	Unit Dose System	i. Number of State Hospitals & HKL	12
		ii. Number of Major Specialists' Hospitals	17
		iii. Number of Minor Specialists' Hospitals	4
		iv. Number of Non Specialists' Hospitals	6

Source: Pharmaceutical Services Division, MoH

Formulary and Quality Use of Medicines

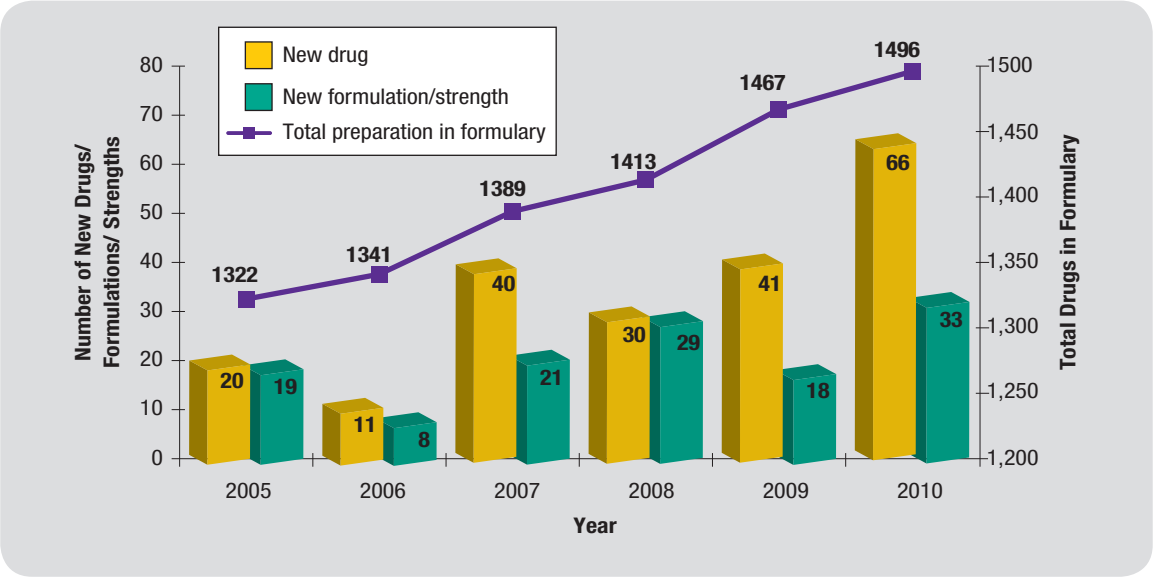
- **MoH Drug Formulary**

  The MoH Drug Formulary is the official formulary for all drugs and pharmaceutical preparations approved for use in MoH institutions / hospitals / clinics. It serves as a guide for professionals / drug committees in the selection of drug therapy and development of local formulary at the institution, hospital, district or clinic levels.

  The Formulary Section in PSD, MoH acts as the secretariat to the MoH Drug Review Panel meeting. This Section will receive and process the proforma for drugs requested to be listed into or deleted from the MoH Drug Formulary.

  In 2010, 118 proformas were received. These proformas comprised 3 Proforma A (proposal to delete a drug), 48 Proforma B (proposal to add or alter the formulation, dosage form, dose, prescriber's category or indication), 66 Proforma D (proposal to introduce a new drug) and 1 submission for disinfectant. Four drugs were deleted from the formulary while 33 drugs, including new formulations or strengths, were listed into the formulary. As a result, there are a total of 1,496 preparations in the MoH Drug Formulary at the end of 2010 (Figure 24).

FIGURE 24
DRUGS LISTED INTO MoH DRUG FORMULARY, 2005 - 2010



Source: Pharmaceutical Services Division, MoH

- **MoH Drug Formulary and Updates**

  The MoH Drug Formulary is consistently updated according to the circulars issued after each Drug Review Panel Meeting. Three circulars with the list of drugs introduced and deleted from the MoH Formulary were issued by the PSD in 2010 (Table 26).

  The latest comprehensive and updated formulary is accessible in the PSD's intranet (www.pharmacy.gov.my/intranet) while the formulary with basic information is available for public viewing in the PSD's official website (www.pharmacy.gov.my).

TABLE 26
MOH DRUG FORMULARY, 2005 - 2010

Year	Proforma Received	Number of Drug Review Panel Meetings	Number of Drug Circulars	Drugs Listed into Formulary		Drugs Deleted from Formulary
				New Strengths / Formulations	New Drugs	
2005	152	3	2	19	20	106
2006	197	3	4	8	11	4
2007	186	3	3	21	40	15
2008	159	3	2	29	30	36
2009	123	3	4	18	41	5
2010	118	3	3	33	66	4

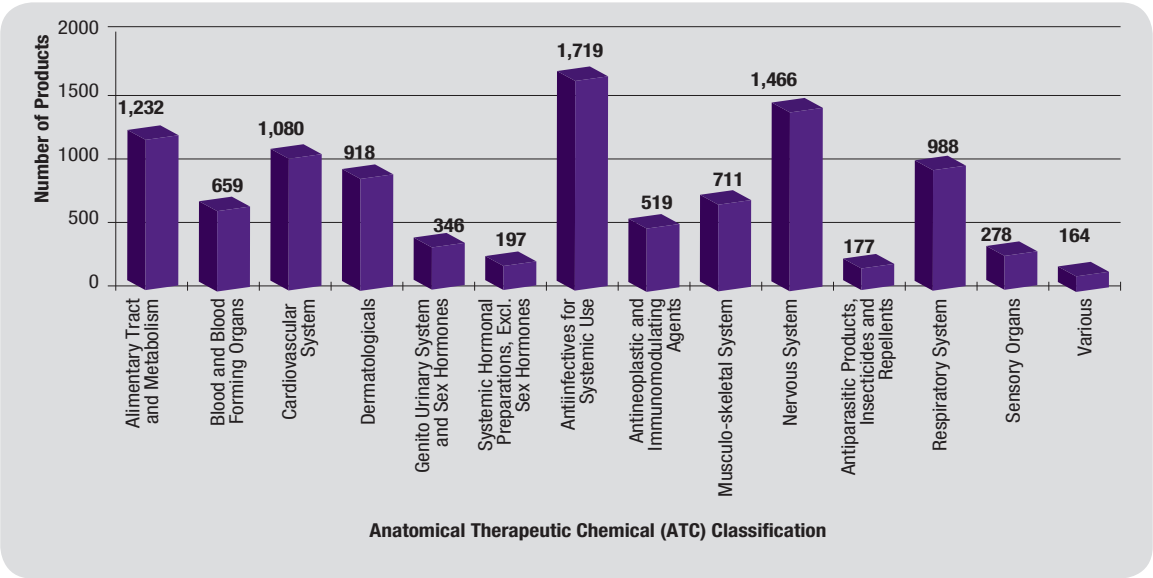
Source: Pharmaceutical Services Division, MoH

- **Malaysia Drug Code (MDC)**

  The Malaysia Drug Code is a code developed for a particular drug for identification purposes. The code is based on the structure and principle of the Anatomical Therapeutic Chemical (ATC) Classification by World Health Organization (WHO). It is coded up to its product brand name. This standardised code can be used for drug utilisation studies or drug consumption data, which enables comparison to be made between institutions or countries (Figure 25).

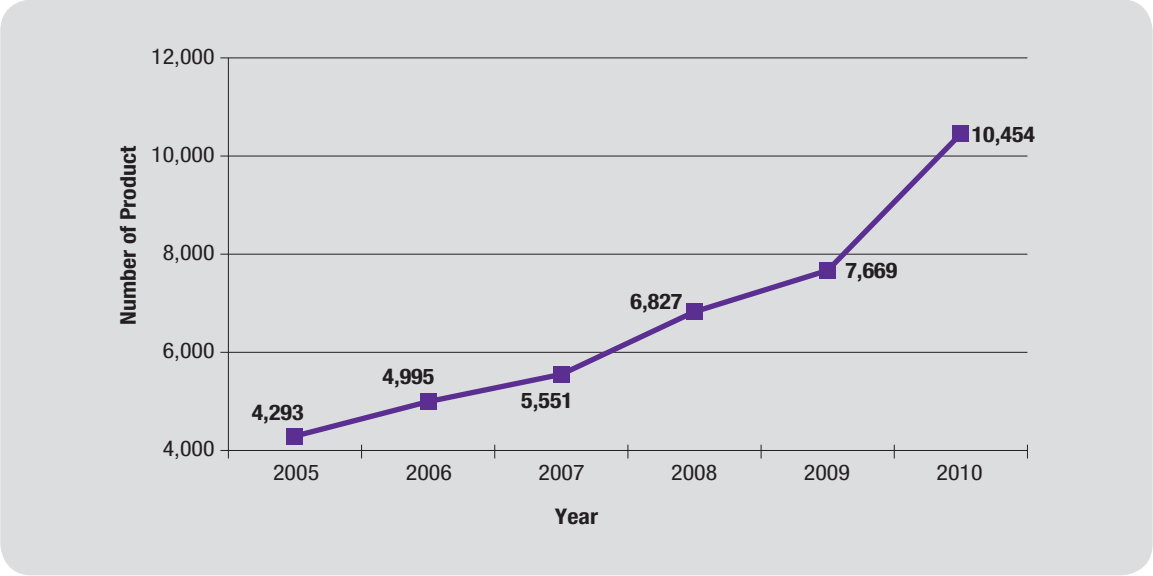
  In 2010, a total of 10,454 products had been coded and all are published in the MDC book, sixth edition (Figure 26). The MDC book is published yearly. Products coded with MDC and updates are available in PSD's website at www.pharmacy.gov.my.

FIGURE 25
MALAYSIA DRUG CODE (MDC) BASED ON ANATOMICAL THERAPEUTIC CHEMICAL CLASSIFICATION SYSTEM (2010)



Source: Pharmaceutical Services Division, MoH

FIGURE 26
PRODUCTS CODED WITH MALAYSIA DRUG CODE (MDC) (2005 - 2010)



Source: Pharmaceutical Services Division, MoH

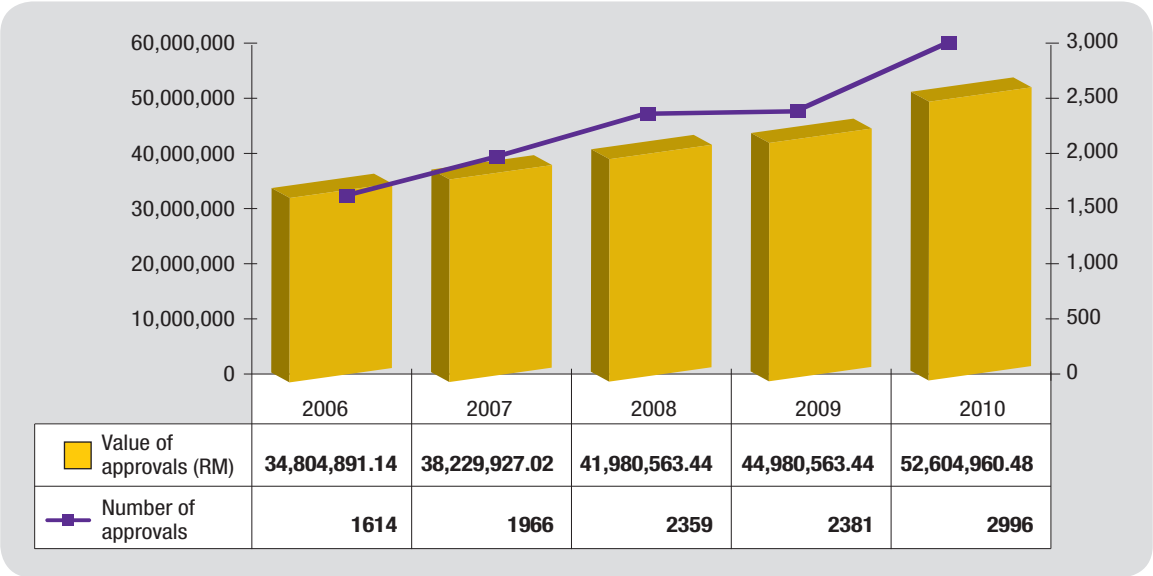
- **Drugs Requested Through Special Approval**

  Special approval from the Director General of Health or Senior Director of Pharmaceutical Services is needed to obtain and use the following drugs:

  i. Drugs not listed in the MoH Drug Formulary whether registered or not with the Drug Control Authority (DCA)
  ii. Drugs in the MoH Drug Formulary but intended to be used for indications not listed in the formulary
  iii. Drugs in the MoH Formulary but no longer available in the local market or no longer registered with DCA

Such approval is required to ensure that patients can be treated with these drugs as the last resort after using all alternatives in the MoH Drug Formulary. In 2010, a total of 2,996 requests from MoH institutions were given special approval to buy 516 types of drugs with an approximate value of RM52,604,960.48. There is an increase of 615 requests (25.8%) compared to 2009 (2,381 requests) and the estimated value incurred increased by RM8,228,622.82 (18.5%) compared to 2009 (RM44,376,337.66) (Figure 27).

FIGURE 27
DRUGS REQUESTED THROUGH SPECIAL APPROVAL BY MoH HOSPITALS/INSTITUTIONS, 2006 - 2010



	2006	2007	2008	2009	2010
Value of approvals (RM)	**34,804,891.14**	**38,229,927.02**	**41,980,563.44**	**44,980,563.44**	**52,604,960.48**
Number of approvals	**1614**	**1966**	**2359**	**2381**	**2996**

Source: Pharmaceutical Services Division, MoH

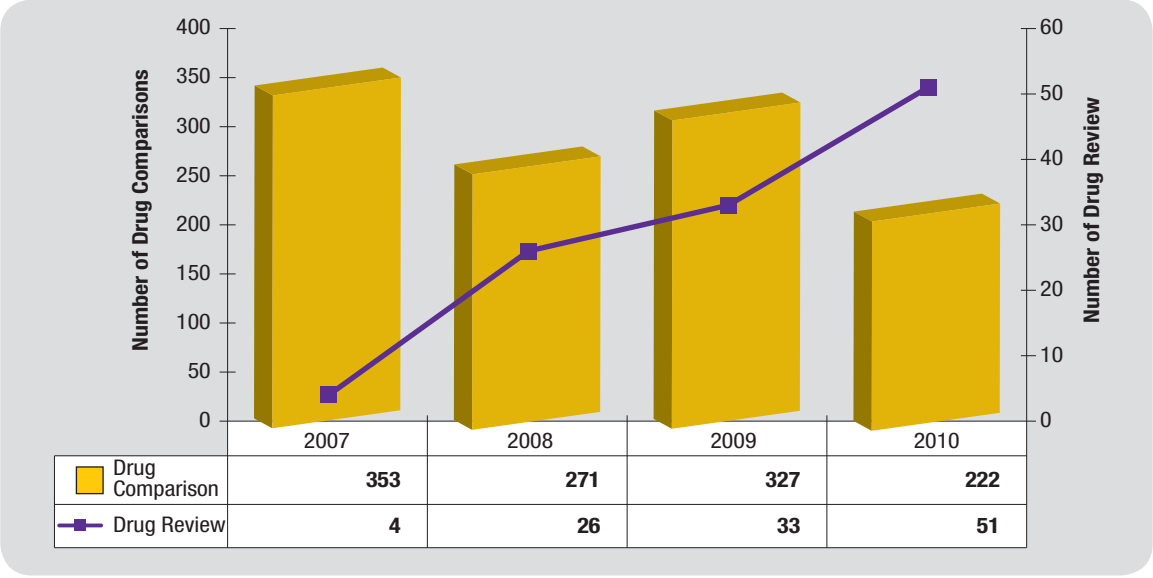
- **Pharmacoeconomics**

  Drug evaluation is an important step in making proper and rational formulary decisions. Drug review reports are prepared by staff reviewers to guide Drug Review Panel members in their formulary discussions and recommendations. Evidence-based reviews are performed based on efficacy, safety and costs as well as pharmacoeconomic evidences. Comparisons on potential clinical and economic benefits of the proposed drug are also made with alternative and/or existing drugs available in the MoH formulary.

  In 2010, 51 drug review reports were prepared for the Panel members. The reviews include 32 reports for Proforma D, 13 reports for Proforma B, 1 for disinfectant and 5 reports for appeals. On trial basis, six of the drug review reports were uploaded into the pharmacy intranet for references. Additional data that include costs and drug usage of 222 comparator drugs were prepared for comparative analysis. Data on drug comparisons and drug reviews between 2007 and 2010 is shown in Figure 28.

  Throughout 2010, 10 in-house discussion sessions were held to discuss proposed drugs and ways to further improve the review reports. A pharmacoeconomic and decision making workshop was also conducted to further enhance knowledge of MoH pharmacists on the subject.

FIGURE 28
NUMBER OF DRUG COMPARISONS AND DRUG REVIEWS CONDUCTED, 2007 - 2010



	2007	2008	2009	2010
Drug Comparison	353	271	327	222
Drug Review	4	26	33	51

Source: Pharmaceutical Services Division, MoH

Pharmaceutical Logistic

The main functions of Pharmaceutical Logistic Subdivision include:

i. Monitoring and coordinating drug procurement through central contract
ii. Monitoring the supply of pharmaceutical products and the performance of Concession Company
iii. Monitoring of drug and non drug allocation and expenditure

- **Groundwork of Ministry of Health (MoH) Drug Contract**

  In 2010, there were 245 types of drug contracts enforced. The Technical Specification Committee held 7 meetings involving 115 drugs, whereas the Drug Evaluation Technical Committee held 7 meetings to evaluate tender offers for 79 drugs involving 254 bidders. 2010 was the first year for the setting up of the Price Evaluation Committee that held 7 meetings to evaluate 91 drugs involving 292 bidders (Table 27).

- **Renewal of Concession Agreement for the Supply of Pharmaceutical Products**

  The final draft of the Concession Agreement for *Makmal Ubat dan Stor* was actively prepared in a total of 31 meetings with other divisions of MoH and other agencies directly involved in the concession matter.

- **MoH Pharmaceutical Products (Drug and Non-Drug) Expenditure**

  The total cost of drugs procured in 2010 for all MoH hospitals and health clinics was RM 1,605.54 million. This shows an increase of 14.49% in drug expenditure compared to 2009. The total cost of non-drugs procured was RM 543.92 million. The amount of closing stock for drugs in December 2010 was RM 203.5 million, which is about 1.6 months of stock holding. As for non-drugs, the amount of closing stock was RM 38.8 million, which can be used for about 1.7 months (Figure 29).

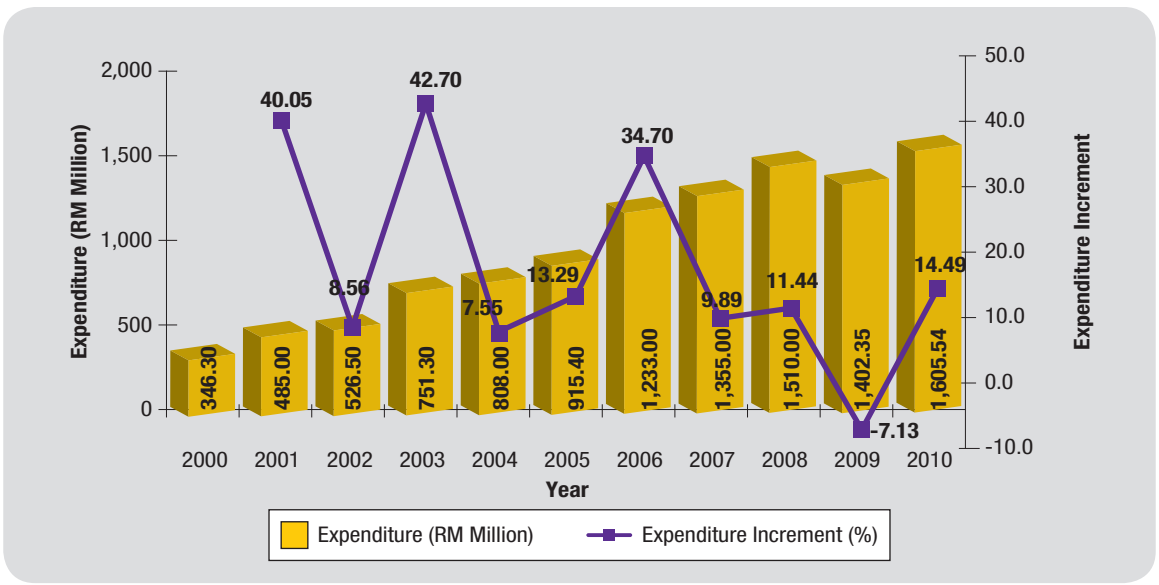
TABLE 27
NUMBER OF DRUG TECHNICAL SPECIFICATION, TECHNICAL AND PRICE EVALUATION CONDUCTED, 2005 - 2010

Year	Number of Technical Specifications	Number of Products	Number of Technical Evaluations	Number of Products	Number of Bidders	Number of Price Evaluations	Number of Products	Number of Bidders
2005	2	73	7	73	255	NA	NA	NA
2006	3	129	4	125	358	NA	NA	NA
2007	2	95	9	158	328	NA	NA	NA
2008	5	146	7	90	282	NA	NA	NA
2009	5	128	18	145	412	NA	NA	NA
2010	7	115	7	79	254	7	91	292

**NA-Data Not Available*

Source: Pharmaceutical Services Division, MoH

FIGURE 29
MINISTRY OF HEALTH DRUG EXPENDITURE (2000 - 2010)

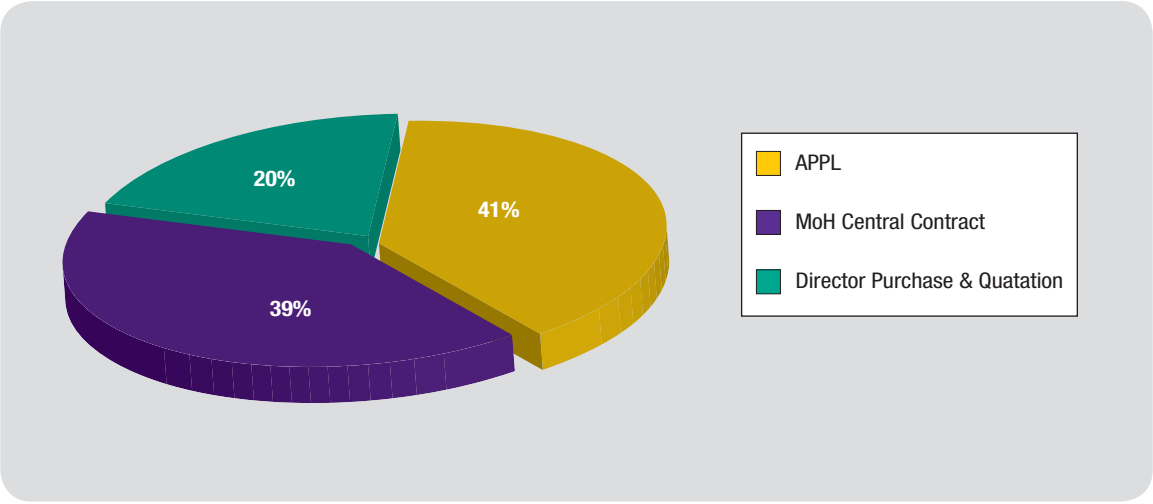


Source: Pharmaceutical Services Division, MoH

- **Methods of Drug Procurement**

  In 2010, 41% of drug procurement was done through Concession Company, 39% through MoH central contract and 20% through direct purchase/quotation (Figure 30).

FIGURE 30
METHODS OF DRUG PROCUREMENTS, 2010



Source: Pharmaceutical Services Division, MoH

- **Quality Use of Medicine-Consumer (QUM-C)**

  The Quality Use of Medicine-Consumers (QUM-C) is a strategy to support the fourth component of Malaysian National Medicines Policy (MNMP), which is Quality Use of Drugs. The main objective of QUM-C is to educate consumers on the rational use of medicine to increase their knowledge and skill. This is to encourage consumers to play a more active role on drug-related issues and subsequently, be responsible for their own health.

  i. QUM-C Activities at State Level

  In 2010, QUM-C activities had been actively carried out at state levels so that the project can caused an impact the public to ensure information on medicines is well disseminated. The activities conducted are in the form of seminars, exhibitions and radio talks (Figure 31).

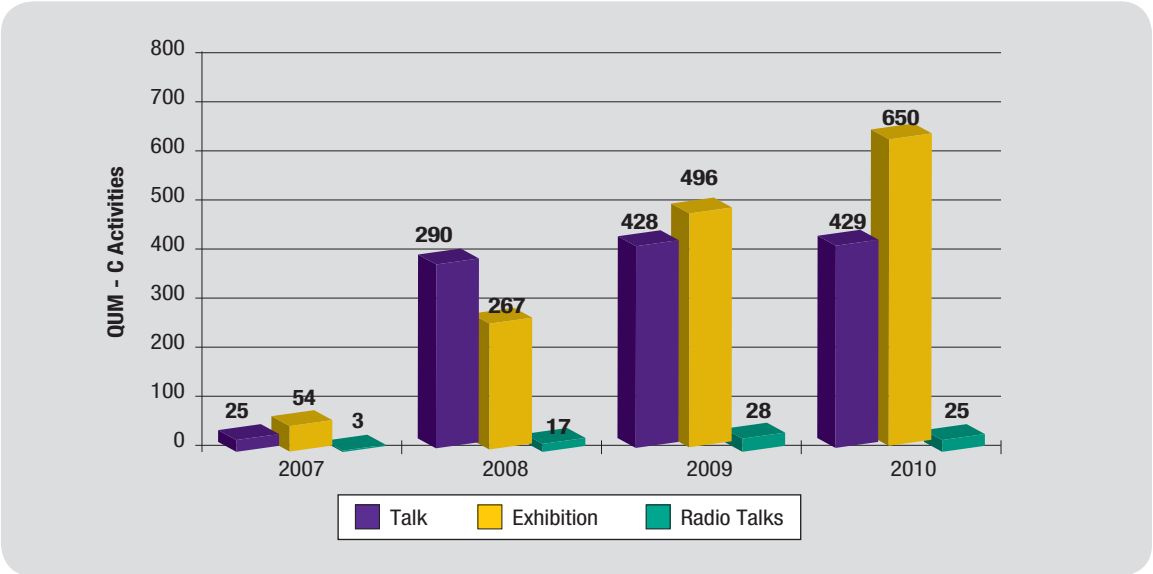
  ii. Training of Trainers (TOT)

  The Training of Trainers Workshop had been organised in every state since 2007 to train and lead pharmacists in all states to carry out related activities in a standard and structured manner. In 2010, 12 training sessions were conducted and 466 pharmacists trained.

  iii. Campaign Kits

  In 2010, several new campaign kits for public use were designed to promote Quality Use of Medicines-Consumers. The new campaign kits were fridge magnets, key chains, flower flashlights and water bottles.

FIGURE 31
QUALITY USE OF MEDICINE – CONSUMERS ACTIVITIES



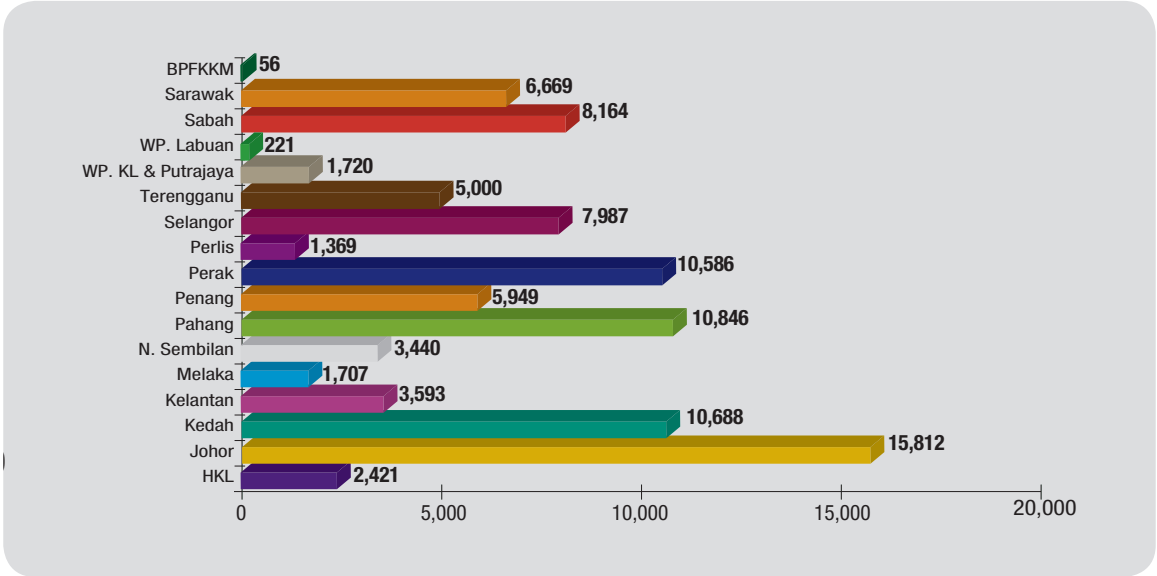
Source: Pharmaceutical Services Division, MoH

Drug Information Service (DIS)

The main focus of drug information services is dissemination of unbiased, well-referenced and critically evaluated information on medications. The Drug Information Service is equipped with sufficient resources to respond to queries by healthcare professionals and patients with the goal to improve quality of patient care.

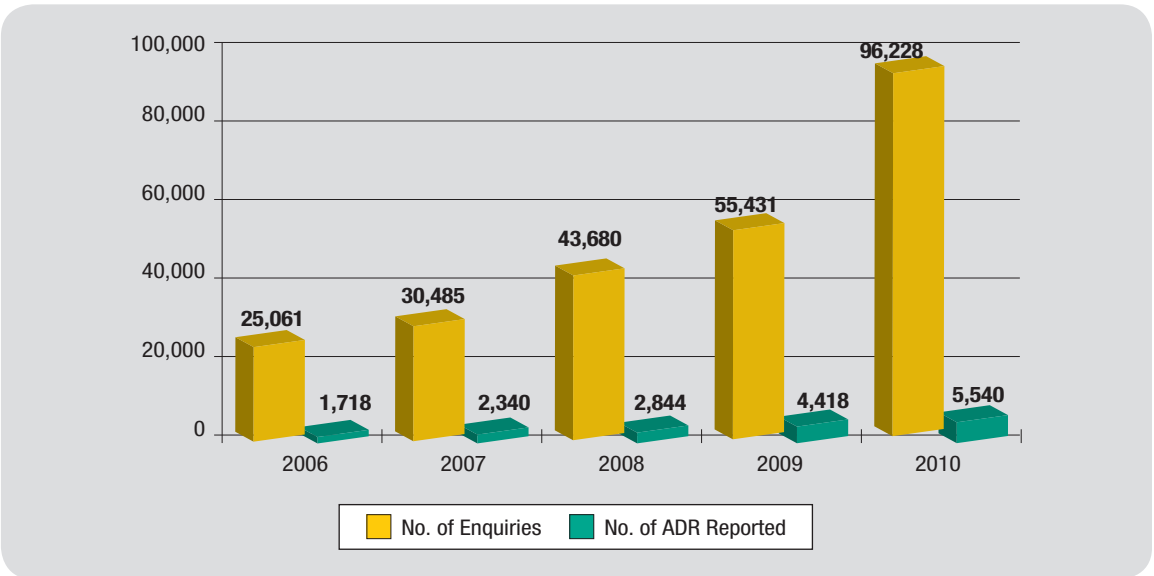
A total of 96,288 enquiries were received in 2010 (Figure 32). The Drug Information Services are also responsible for the reporting of 3,340 Adverse Drugs Reactions (ADR) cases to the Malaysian Adverse Drug Reaction Advisory Committee (MADRAC). The number of enquiries received and the Adverse Drug Reactions reports from 2006 to 2010 are shown in Figure 33.

FIGURE 32
NUMBER OF ENQUIRIES ACCORDING TO STATES, 2010



Source: Pharmaceutical Services Division, MoH

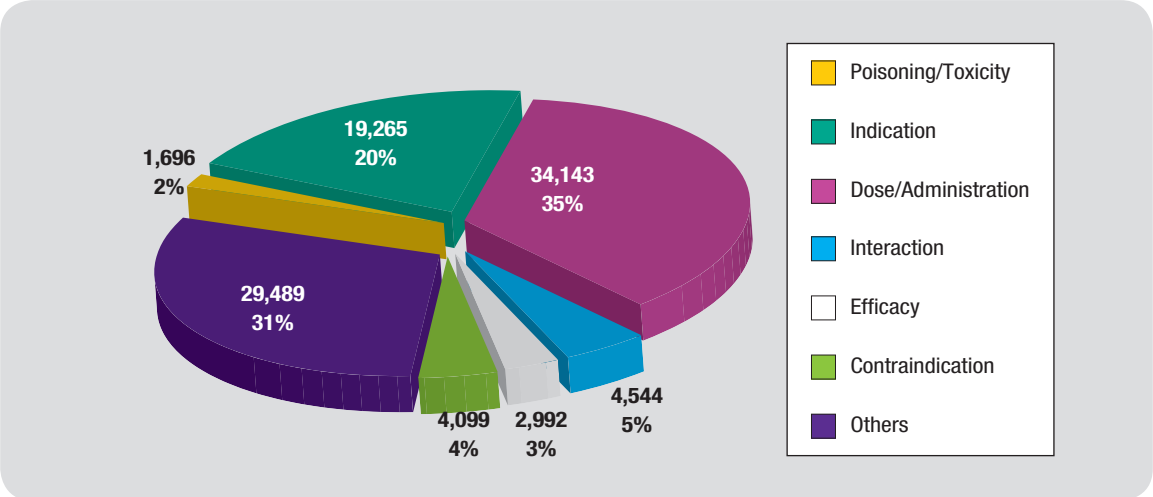
FIGURE 33
TOTAL NUMBER OF ENQUIRIES & ADVERSE DRUG REACTIONS RECEIVED, 2006 - 2010



Source: Pharmaceutical Services Division, MoH

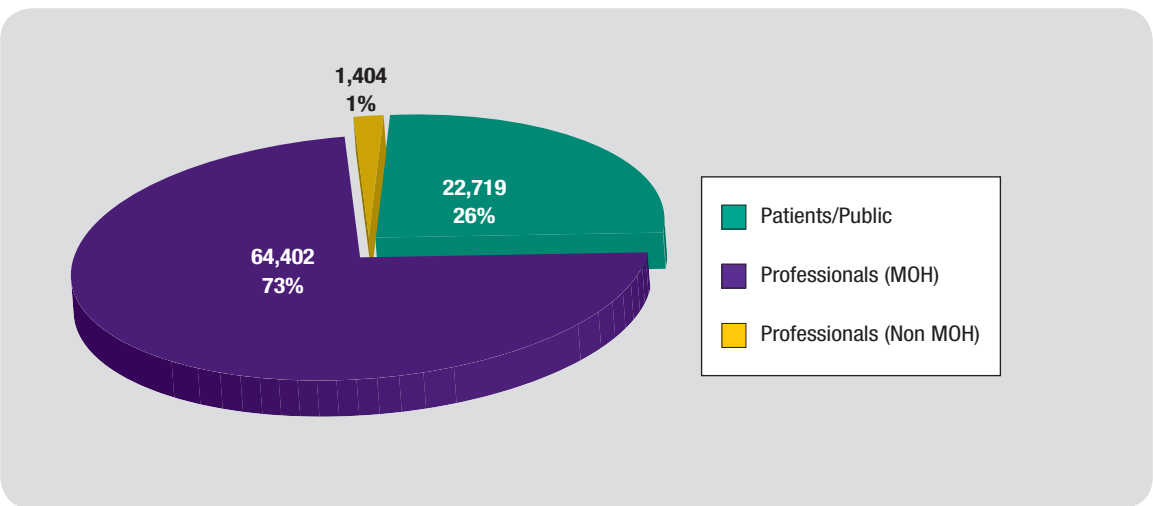
Figure 34 shows the percentage for types of enquiries received in 2010. Most enquiries were from MoH health professionals with a total of 64,402 (73%), the public 22,719 (26%) and non-MoH professionals 1,404 (1%) as shown in Figure 35.

FIGURE 34
PERCENTAGES OF TYPES OF ENQUIRIES



Source: Pharmaceutical Services Division, MoH

FIGURE 35
PERCENTAGE OF ENQUIRIES ACCORDING TO CATEGORY OF ENQUIRER



Source: Pharmaceutical Services Division, MoH

- **Educational Materials**

  In 2010, a number of 19 education materials were prepared for the purpose of public education on Quality Use of Medicine. These education materials include videos, animations, illustrations and online health games. In addition, a collaborative project with students from the Master in Pharmacy Practice course of the Faculty of Pharmacy, Universiti Teknologi MARA (UiTM) was conducted. Through this collaborative project, 56 topics on disease conditions were produced.

- **National Pharmacy Call Centre (NPCC)**

  The National Pharmacy Call Centre (NPCC), which is located in Hospital Kuala Lumpur, is established to improve the accessibility to accurate, unbiased and relevant information on drugs for all healthcare providers, patients and the general public. Currently, the responses and answers are provided through phone. The service is provided 24 hours a day, 7 days a week including public holidays and weekends.

Medication Safety

The main function of this section is to collect data on medication errors and disseminate information on how to avoid similar medication errors from recurring. This section is also the secretariat to the PSD Medication Safety Committee, Pharmacovigilance on Safety of Vaccines Sub-Committee and Medication Safety Newsletter Editorial Committee as well as provides feedback to the Patient Safety Council of Malaysia and the National Immunisation Policy and Practice Committee.

A total of 118 talks on medication error reporting were delivered to healthcare providers in 2010. This effort contributed to a 60% increase in medication error reports received from 2,572 reports in 2009 to 4,120 in 2010 (Figure 36).

In 2010, a total of 165 talks on medication safety were held. A Medication Safety workshop was held during the Research and Development Pre-conference on 13th June 2010. Dr. Herve Le Louet, Head of Pharmacovigilance, Henri Mondor Hospital, France was the guest speaker. A paper on High Alert Medications and LASA (Look Alike Sound Alike) was presented at the Pharmacy Practice Scientific Conference 2010 on 16th October 2010.

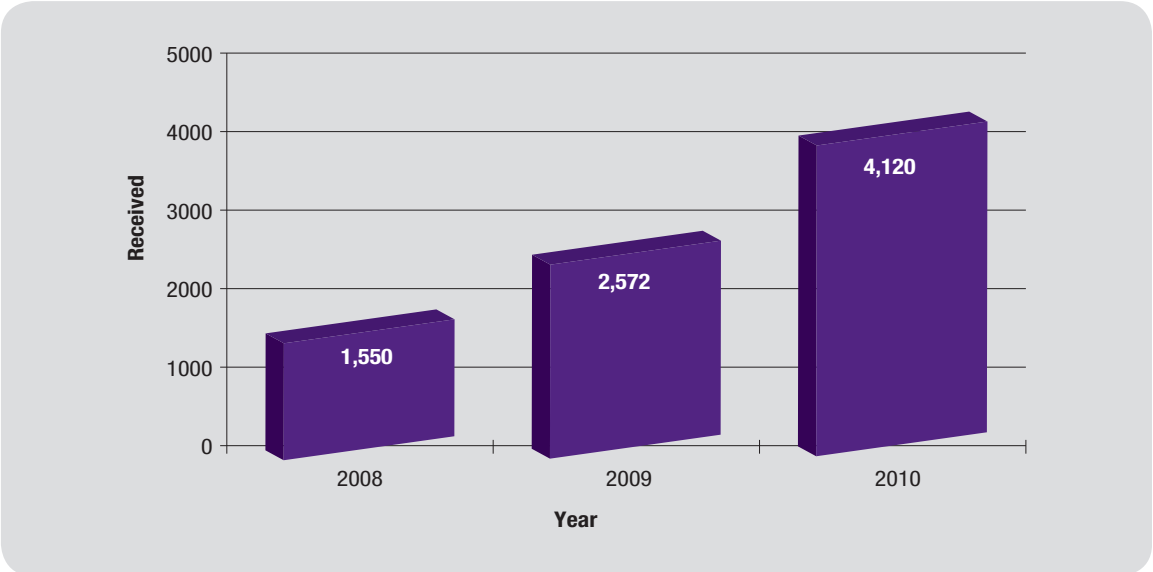
45 pharmacists were trained in Root Cause Analysis in the Medication Safety Pharmacist Workshop held from 21st – 23rd September 2010 at Summit Hotel, Subang Jaya.

The publication of the Medication Safety newsletter has entered its second year in 2010. Through these publications, information on medication safety can be shared among the public and private sectors.

As the secretariat to the Pharmacovigilance on Safety of Vaccines Sub-Committee, MOH, the Medication Safety Section has published and circulated the Guideline on Vaccine Pharmacovigilance and Safety in Malaysia to healthcare facilities. This guideline contains information on management of adverse events following immunisation by the public and private sectors. A workshop on managing adverse events following immunization (AEFI) was held on 25th - 26th June with participants comprising of doctors, pharmacists, assistant medical officers and nurses from the Ministry of Health, JabatanKemajuan Orang Asli (JKOA), Malaysian Armed Forces and Malaysian Medical Association.

The Medication Safety Section will continue its effort to create awareness among all healthcare providers to enhance medication safety in this country.

FIGURE 36
NUMBER OF MEDICATION ERROR REPORTS, 2008 – 2010



Source: Pharmaceutical Services Division, MoH

Drug Price

- **Medicines Price Monitoring Survey**

  In 2010, the Medicines Price Monitoring Survey continues to be conducted in selected premises (Table 28). Data were collected over two weeks during the second week of June and December. The types of medicines studied are as shown in Table 29.

TABLE 28
NUMBER OF FACILITIES INVOLVED IN MEDICINES PRICE MONITORING SURVEY

Type of Premises	West Malaysia	East Malaysia
MoH Hospitals	22	23
Private Pharmacies	20	20
Private Hospitals	3	2
University Hospitals	3	-

Source: Pharmaceutical Services Division, MoH

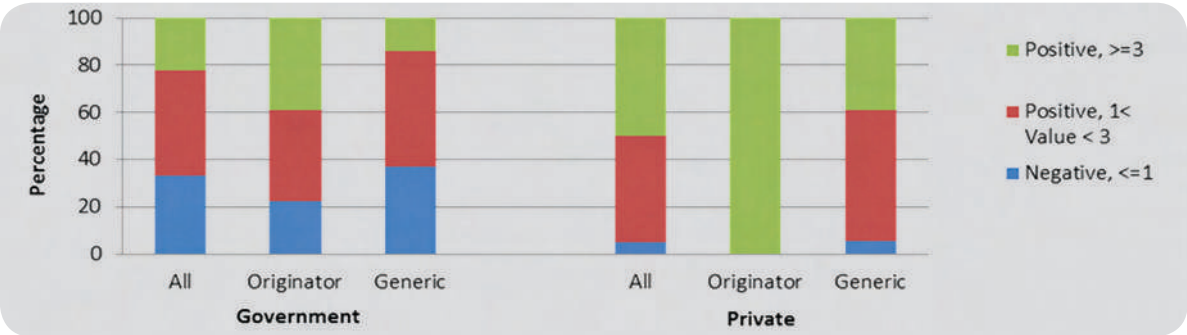
TABLE 29
GROUPS AND EXAMPLES OF MEDICINE MONITORED

Group	Medicines Monitored	Examples
1	35 types of prescription and non-prescription medicines commonly used to treat common diseases	Tab. Aciclovir 200mg
		Tab. Ranitidine 150mg
		Tab. Simvastatin 20mg
		Tab. Captopril 25mg
2	28 patented and newly registered medicines in Malaysia	Cap.Anagrelide Hydrochloride 0.5mg
		Tab. Levocetrizine 5mg
		Cap. Dutasteride 0.5mg
		Tab. Rabeprazole Sodium 20mg
3	11 types of medicines for specific indications such as transplants and oncology medicines	Epirubicin Inj. 50mg
		Ifosfamide Inj. 1g
		Rituximab Inj. 500mg/50ml
		Fluorouracil Inj. 500mg/10ml
4	33 types of medicines among the top 40 of the most used medicines as reported by the National Medicine Use Survey (NMUS) (excluding those monitored in Group 1)	Tab. Salbutamol 2mg
		Tab. Frusemide 40mg
		Tab. Atorvastatin 20mg
		Tab. Lisinopril 5mg

Source: Pharmaceutical Services Division, MoH

The latest annual data analysis (2008) has been published in the bulletin My Medprice 2010 and can be downloaded from PSD web portal (www.pharmacy.gov.my). The comparison of government and private wholesale prices to International Retail Price (IRP) is shown in Table 30 and Table 31. The analysis showed that median prices in the public and private sector were 1 and 3 times from IRP prices median (Figure 37).

FIGURE 37
PRICE COMPARISON OF MEDICINE TO BUYER MEDIAN IRP



Source: Pharmaceutical Services Division, MoH

TABLE 30
COMPARISON OF GOVERNMENT MEDICINES PRICES TO IRP

Type of Drugs	N	Mean	Median	Value	n	Percent
All	45	2.35	1.3	<=1	15	33.33
				1<Value<3	20	44.44
				>=3	10	22.22
Originator	18	4.12	1.84	<=1	4	22.22
				1<Value<3	7	38.89
				>=3	7	38.89
Generic	35	1.55	1.13	<=1	13	37.14
				1<Value<3	17	48.57
				>=3	5	14.29

Source: Pharmaceutical Services Division, MoH

TABLE 31
COMPARISON OF PRIVATE MEDICINES PRICES TO IRP

Type of Drugs	N	Mean	Median	Value	n	Percent
All	20	5.93	2.91	<=1	1	5.00
				1<Value<3	9	45.00
				>=3	10	50.00
Originator	9	32.79	20.07	<=1	0	0.00
				1<Value<3	0	0.00
				>=3	9	100.00
Generic	18	4.77	2.21	<=1	1	5.56
				1<Value<3	10	55.56
				>=3	7	38.89

Source: Pharmaceutical Services Division, MoH

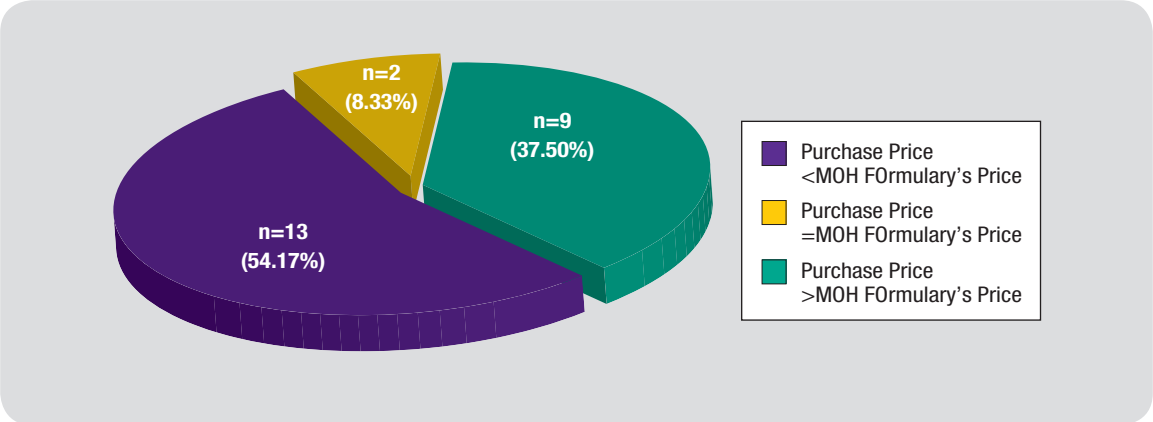
The Medicine Price Database is being developed. Currently, the medicines price data as shown in Table 32, are continuously compiled, updated and published as shown in Image 4.

i	Fee Act (Full Paying Patient / Fee Act) (Health)	vi	National Essential Drug Price List (Public)
ii	Private Retail Price	vii	National Essential Drug Price List (Private)
iii	Public Wholesale Price	viii	Traditional Wholesale Price
iv	Private Wholesale Price (Controlled Medicines)	ix	National Essential Drug Price List Recommended Retail Price (RRP)
v	Private Wholesale Price (OTC)		

PSD has taken steps to monitor the prices for newly listed medicines in the MoH Drug Formulary. The MoH Drug Review Panel has determined that the prices of medicines stated in the proforma should not be increased within one year from the date of listing in the MoH Drug Formulary.

There are 29 types of drugs monitored in 2010. The price feedbacks are as shown in Figure 38. There were 9 (37.50%) drugs with prices higher than the prices set in the MoH Drug Fomulary with the price increase ranging from 1.04% to 53.54%. MoH succeeded in saving about RM 28,110 from this survey.

FIGURE 38
PRICE MONITORING OF NEWLY LISTED MEDICINES IN THE MoH DRUG FORMULARY, 2010

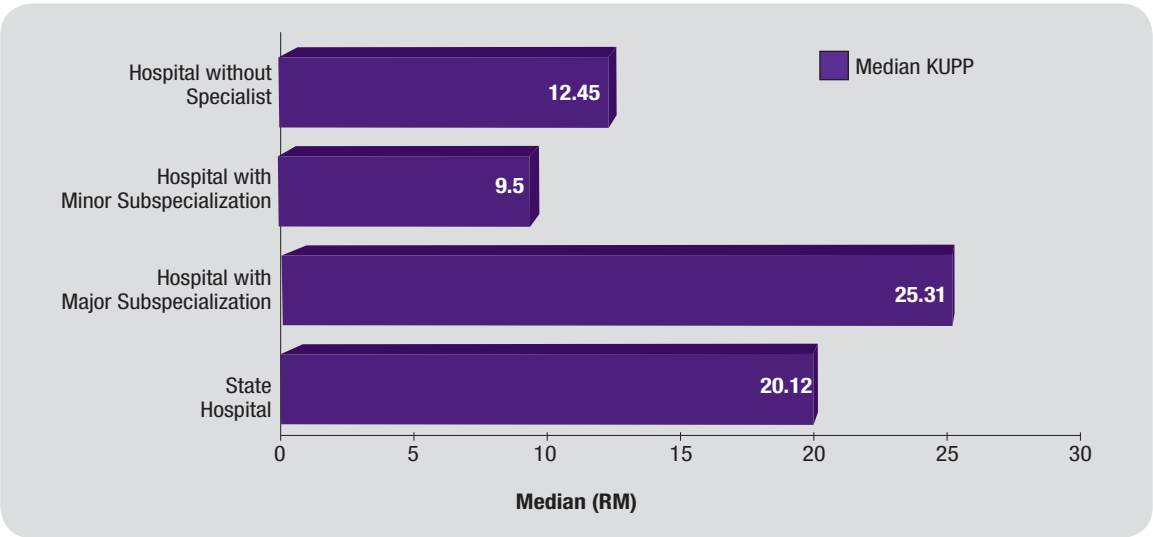


Source: Pharmaceutical Services Division, MoH

- **Cost of Medicines Price per Prescription Survey**

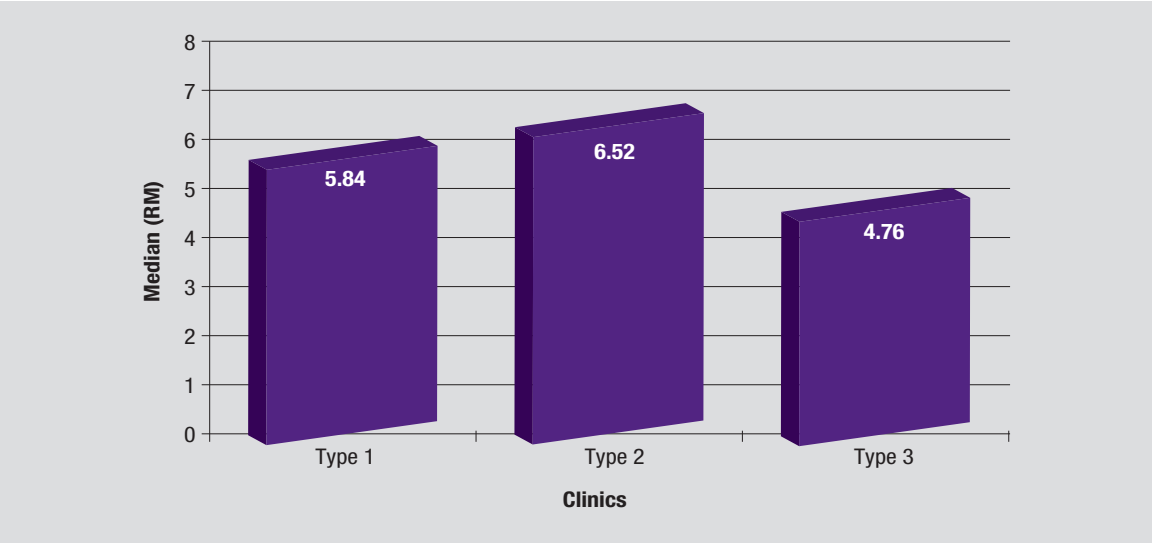
  This survey aims to compile, identify and monitor the cost of medicines price per prescription. This retrospective study involved 52 hospitals and 54 health clinics then included 25,569 prescriptions. The survey showed that 64.8% of the prescriptions had 1-3 items, 23.3% had 4-5 items and only 12.0% had 6 items and above. The overall median cost per prescription was RM 13 for the hospitals and clinics were RM 23 and RM 5 respectively. Median of cost per prescription by all types of hospitals and health clinics is shown in Figure 39 and Figure 40.

FIGURE 39
MEDIAN COST PER PRESCRIPTION BY TYPES OF HOSPITAL



Source: Pharmaceutical Services Division, MoH

FIGURE 40
MEDIAN COST PER PRESCRIPTION BY TYPES OF HEALTH CLINIC



Source: Pharmaceutical Services Division, MoH

- **Price Structure**

  Pharmaceutical Benefit Scheme (PBS) workshop was organised on 15th of October 2010 by PSD. The aim of the workshop was to create awareness and knowledge on the Australian PBS among stakeholders in preparation towards the restructuring of the Malaysian health system to improve equity in healthcare in access for better quality of care and financial risk protection.

Pharmacy Development

- **Quality and Standards**

  i. Quality and Standard Enhancement Efforts (Pharmacy Practice & Development Client Charter, Quality Assurance Programme, Innovation, Star Rating System Assessment and Key Performance Indicator)

  In the pursuit of improving quality and standards, the Quality and Standards Section plays an important role at the MoH level. This section is responsible for measuring, monitoring, analysing and improving the quality of the pharmacy practice at all pharmacy facilities in the Ministry of Health (MoH). These activities are carried out via the Quality Assurance Program (QAP), Client Charter, Innovation, Star Rating System Assessment and KPI.

  ii. Indicators for Quality Assurance Program (QAP) 2010 Roadshow

  All 16 QAP indicators for Pharmaceutical Care Activities created in 2004 have been thoroughly reviewed. The results from this review have yielded four new QAP indicators. All four new indicators have been presented and tabled in the National Technical QA Program Committee Meeting and approved for implementation beginning January 2010. To ensure standardisation of data collection and effectiveness monitoring of the QAP indicators, a QAP manual was prepared. The new QAP Indicators and its manual were introduced via a series of nationwide road shows from January - March 2010. A pre- and post-assessment of the participants' understanding of the new QAP Indicators are shown in Table 33.

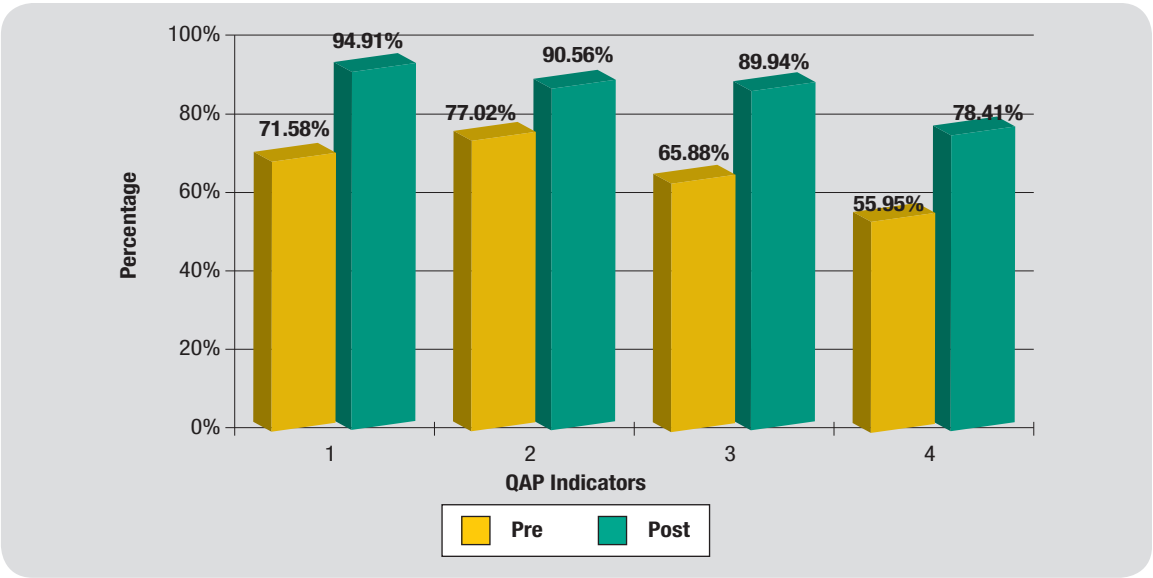
TABLE 33
UNDERSTANDING OF PARTICIPANTS TOWARDS QAP INDICATORS 2010 PRE & POST ROADSHOW

	ZONES						
	MIDDLE	SOUTH	EAST	SABAH	NORTH	SARAWAK	AVERAGE
PRE-ROADSHOW	67.86%	71.91%	76.19%	72.84%	69.40%	71.06%	71.54%
POST-ROADSHOW	84.21%	94.95%	94.50%	86.90%	92.06%	92.27%	90.82%
% IMPROVEMENT (POST-PRE)	**16.35%**	**23.04%**	**18.31%**	**14.06%**	**22.66%**	**21.21%**	**19.27%**

Source: Pharmaceutical Services Division, MoH

It was observed that understanding to all QAP indicators improved post Roadshow. All zones recorded an improvement ranging from 14.06% to 23.04%, when the Pre and Post Roadshow performance is compared (Figure 34).

FIGURE 34
PERCENTAGE OF UNDERSTANDING QAP INDICATORS PRE- & POST-ROADSHOW



Source: Pharmaceutical Services Division, MoH

iii. QAP Performance 2010

The four QAP Indicators under the Pharmacy Practice & Development Division and its performance for year 2010 are shown in Table 34.

TABLE 34
PERFORMANCE OF QAP INDICATORS FOR PHARMACY PRACTICE & DEVELOPMENT DIVISION, 2008 - 2010

No.	QAP Indicator	2008	2009	2010
1.	QAP 1 : Percentage of prescriptions wrongly filled and detected before dispensing to the total number of prescriptions counter-checked (Standard : 0%)	0.1077%	0.0778%	0.1361%
2.	QAP 2 : Percentage of Clinical Pharmacokinetic Service (CPS) recommendations accepted by the requesting Doctor/ Unit (Standard : 85%)	86.60%	91.79%	95.25%
3.	QAP 3 : Percentage of toxicology cases interpreted and recommendations communicated within two hours to the requesting Units/Dr. to total number of toxicology cases received (Standard : 100%)	98.05%	99.83%	97.87%
4.	QAP 4 : Percentage of value of stocks disposed and written off to value of stocks handled annually (Standard : 0%)	0.286% (RM1,036,575)	0.02% (RM547,391)	0.061% (RM857,179)

Source: Pharmaceutical Services Division, MoH

iv. 5S implementation

The PSD, MoH has made it mandatory for all pharmacy facilities within the MoH to practise 5S. In an effort to promote implementation of the 5S system, the PSD, MoH had produced a 5S guideline in October 2010 and this guideline was distributed to all MoH facilities. As of December 2010, there are 200 pharmacy facilities that had implemented the 5S practice.

v. Key Performance Indicator (KPI)

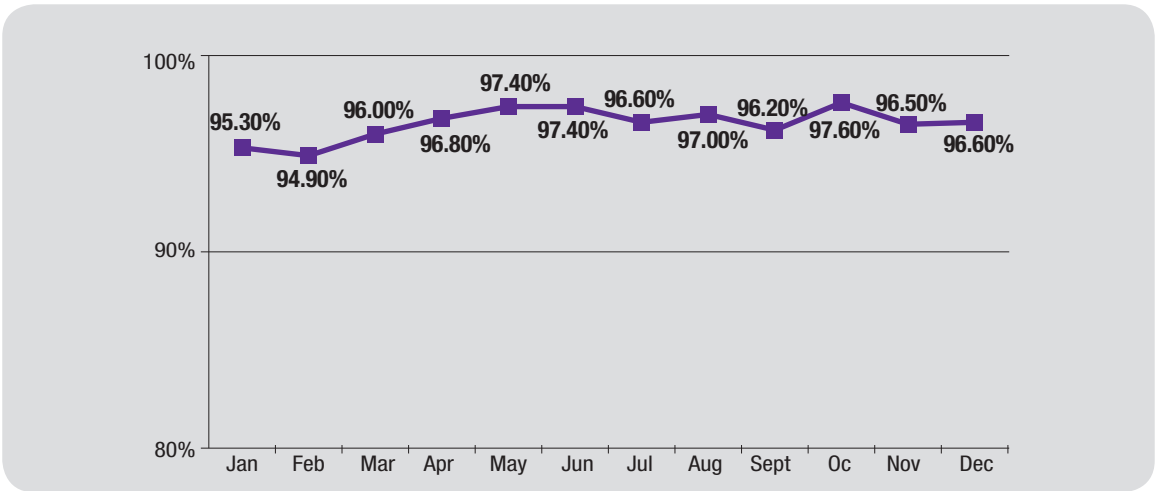
The Pharmacy Practice and Development Division contributes 2 KPI to the Minister of Health, Secretary General of MoH and also the Director General of Health. Both the KPIs; 'Number of Hospital and Health Clinic Pharmacies Offering Choices of Obtaining Medications for Patients on Long Term Therapy' and 'Percentage of Prescriptions Dispensed within 30 minutes' are monitored on a monthly basis and submitted to PEMANDU at the Prime Minister's Department. The statistics for the KPI's mentioned are shown in Table 35 and Figure 35.

TABLE 35
NUMBER OF HOSPITAL AND HEALTH CLINIC PHARMACIES OFFERING CHOICES OF OBTAINING MEDICATIONS FOR PATIENTS ON LONG TERM THERAPY

Appointment Systems	Hospital	Health Clinic
Appointment Card	69	107
Telephone & Take	62	63
SMS & Take	81	81
UMP 1Malaysia (Pos Laju)	25	2
Other Systems	21	43

Source: Pharmaceutical Services Division, MoH

FIGURE 35
PERCENTAGE OF PRESCRIPTIONS DISPENSED WITHIN 30 MINUTES (2010)



Source: Pharmaceutical Services Division, MoH

vi. Consultation Service on Standards of Pharmacy Facilities

Consultation services on standards of pharmacy facilities have been given to relevant parties in eight MoH projects. These parties are representatives from hospital pharmacy departments, Public Work Department, Planning & Development Division of MoH, Engineering Services Division of MoH and construction firms involved in product preparation facilities construction projects.

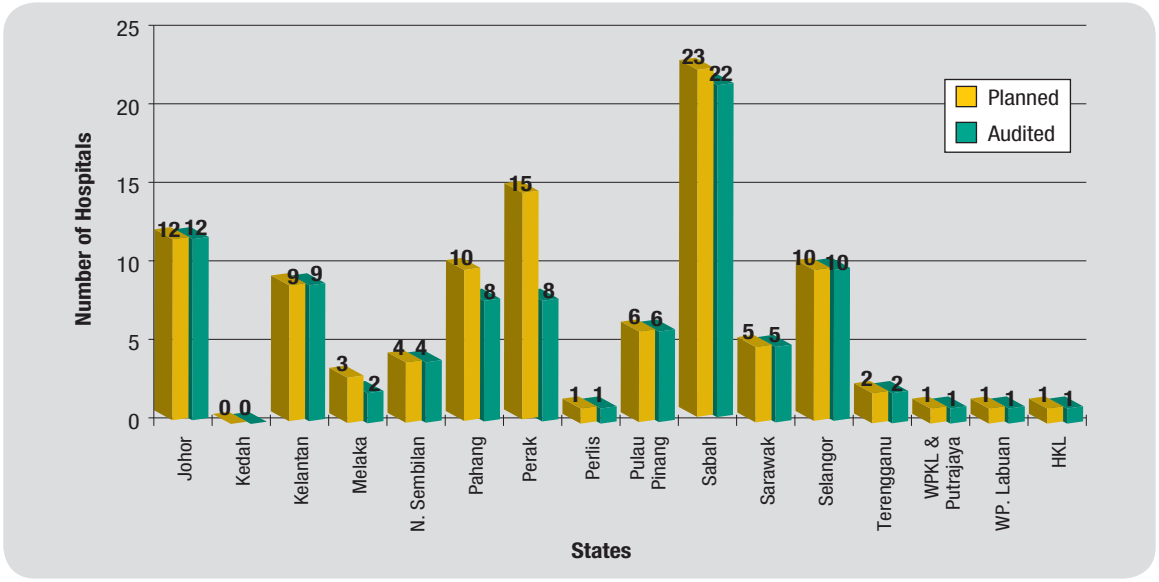
Reviews and approvals for development planning of sterile pharmaceutical facilities in four private hospitals affected by the Private Healthcare Facilities and Services Act 1998 are conducted upon referrals from the Private Medical Practice Control Branch of MoH.

vii. Standards

Two guidelines on the development requirements of sterile pharmaceutical and radiopharmaceuticals preparation facility was published in 2010. The guidelines are:

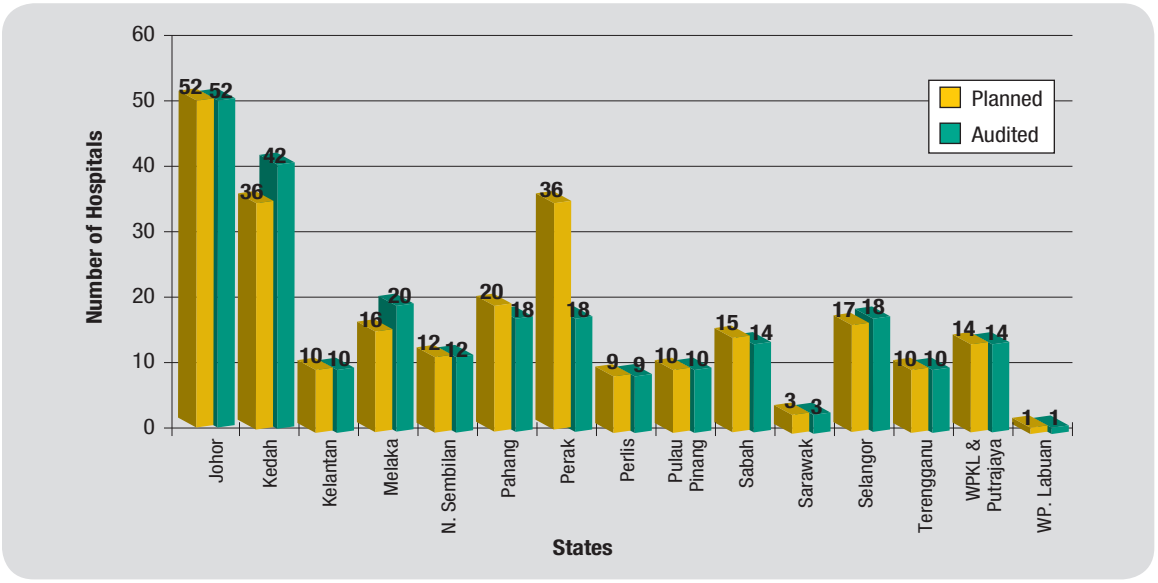
1. Guides to the Development of Sterile Pharmaceutical Preparation Facilities for Healthcare Establishments, 1st Edition, March 2010
2. Guides to the Development of Radiopharmaceutical Preparation Facilities for Healthcare Establishments,1st Edition, May 2010

FIGURE 36
ACHIEVEMENT OF STATE-PIA CONDUCTED ON HOSPITAL PHARMACY FACILITIES, 2010



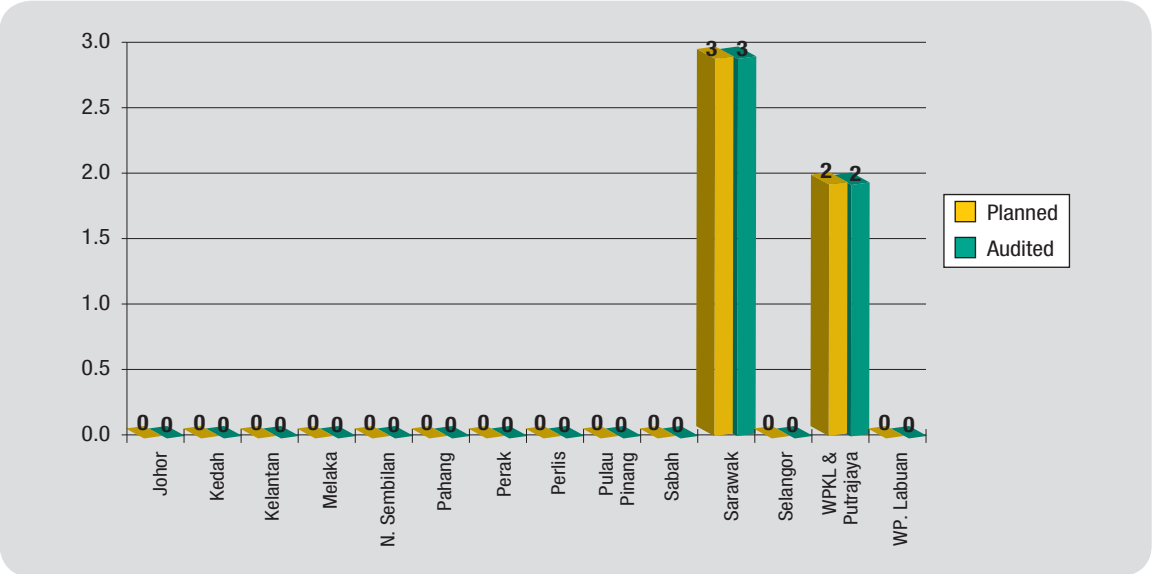
Source: Pharmaceutical Services Division, MoH

FIGURE 37
ACHIEVEMENT OF STATE-PIA CONDUCTED ON HEALTH CLINIC PHARMACY FACILITIES, 2010



Source: Pharmaceutical Services Division, MoH

FIGURE 38
ACHIEVEMENT OF STATE-PIA CONDUCTED ON STORE FACILITIES, 2010

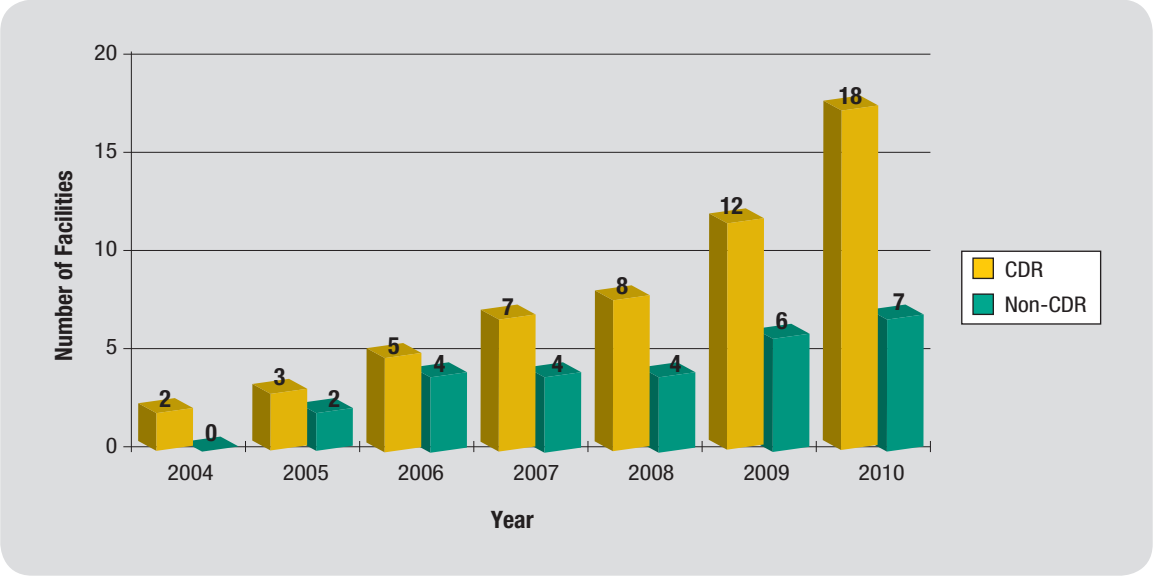


Source: Pharmaceutical Services Division, MoH

viii. Inspection of Clean Room Facilities for Preparation of Sterile Products: Cytotoxic Drug Reconstitutions (CDR), Parenteral Nutritions (PN) and Intravenous Admixtures (IV Ad)

In 2010, seven newly built or renovated clean room facilities for the preparation of sterile products had undergone pre-qualification inspection before being allowed to operate. In addition to that, eight currently operational facilities that had been qualified two years ago were re-inspected in a routine inspection to ensure that the operation fulfills the requirement set out in the Pharmaceutical Inspection Cooperation Scheme (PIC/S) Good Preparation Practice (GPP) including requirements of clean room maintenance (Figure 39). Seven technical inspections were also conducted for evaluation on the compliance of current facilities that were renovated to evaluate the level of risk on the quality of sterile products produced.

FIGURE 39
CUMULATIVE NUMBERS OF QUALIFIED STERILE PREPARATION FACILITIES (CDR AND NON-CDR PRODUCTS), 2004 - 2010



Source: Pharmaceutical Services Division, MoH

ix. Training on Quality and Standards

The Post-Basic Aseptic Preparation Course for Pharmacy Assistants in MoH was initiated in July 2010. Lectures on Good Preparation Practice (GPP) were given to students as part of the curriculum module.

A training entitled Pharmacy Practice Internal Audit (PIA) Workshop 2010 was conducted on 23rd - 24th November 2010 to train newly appointed auditors to conduct PIA at state level.

In addition to local training, training activities for Pharmacist also involved overseas training. The PIC/S Joint Visit Programme: Training for Auditors (Group 90) involved three PIC/S member countries; Malaysia, the Netherlands and Finland. Officers from the Netherlands and Finland participated in the Malaysian leg of the training, which was conducted in the Radiopharmaceutical Department of Putrajaya Hospital on 19-20 May 2010. The cycle was completed with the participation of an officer from PSD, MoH representing Malaysia in the Finnish leg of the training held in Helsinki, Finland on 20-22 October 2010.

x. Drug Utilization Study in the Treatment of Diabetes Mellitus in the Ministry Of Health (MoH) Facilities (DUS)

DUS, a nationwide multicentre study, involved 94 healthcare facilities in the MOH. The main objective of this study is to determine the utilisation pattern of medications in the treatment of diabetes mellitus; and the direct and indirect costs of diabetic treatment in the MOH facilities. Approximately 3,000 diabetic patients are being recruited for this study. The final report is expected by mid 2012.

The National Medicines Use Survey (NMUS) Project

The National Medicines Use Survey (NMUS), which was initiated in 2005 is a research project jointly sponsored by the PSD and Clinical Research Centre (CRC). Starting from September 2006, PSD undertook the role of primary sponsor for NMUS while CRC remained as an important collaborating unit that provides research and statistical supports. NMUS is conducted continuously to study the utilisation of medicines in the country which is expected to change over time. The objectives of NMUS are:

i. To know the types and amount of medicines supplied in Malaysia. These are useful in measuring the utilisation and the expenditure level of medicines in the country.
ii. To know the types and amount of medicines prescribed and/or dispensed in Malaysia. These are useful measures for the quality of prescription and dispensing practices in the country.
iii. To know the types and amount of medicines consumed by consumers in Malaysia. These are useful measures for the pattern of use of medicines in order to evaluate its rational use by consumers in the country.
iv. To stimulate and facilitate researches on use of medicines.

In order to capture data at various levels of the medicines supply and distribution system in the country (including government and private healthcare facilities), NMUS has to conduct several surveys systematically. The following methods were used to collect these data:

i. Download from existing databases, such as hospital's pharmaceutical procurement databases
ii. Primary data collection for dispensing survey
(Beginning in 2010, NMUS is no longer collecting prescription data from private clinics directly as these data were collected through the National Medical Care Survey (NMCS) by CRC)

The achievements of NMUS for 2010 are summarised in Table 36. As a result of the implementation of NMUS, four reports entitled Malaysian Statistics on Medicines (MSOM) have been published for 2004 - 2007, which are accessible through the websites of PSD (www.pharmacy.gov.my) and CRC (www.crc.gov.my).

These reports are useful in providing preliminary data on medicines use in the country and can be used as a basis for further actions if necessary. For example, it can be used as a tool for better decision making in the allocation of healthcare resources for the Malaysian population. These data can also be used for comparison on drug usage pattern with developed countries. This effort is important for monitoring in order to increase the quality of drug usage towards a more cost effective treatment. This is in accordance with the objectives of the Malaysian National Medicines Policy (NMP).

TABLE 36
ACHIEVEMENTS OF NMUS IN 2010

No.	Activities	Outputs	Achievements
1.	Continuous implementation of NMUS project in collaboration with CRC.	Publication of the Malaysian Statistics on Medicines (MSOM).	MSOM 2007: Published in October 2010.
2.	NMUS Expert Panel Meeting.	Number of meeting: Once a year.	Once (5 – 6 July 2010).
3.	Development of a client-server application to enter dispensing data.	"NMUS Data Entry (Retail Pharmacy)" Application.	1 application.

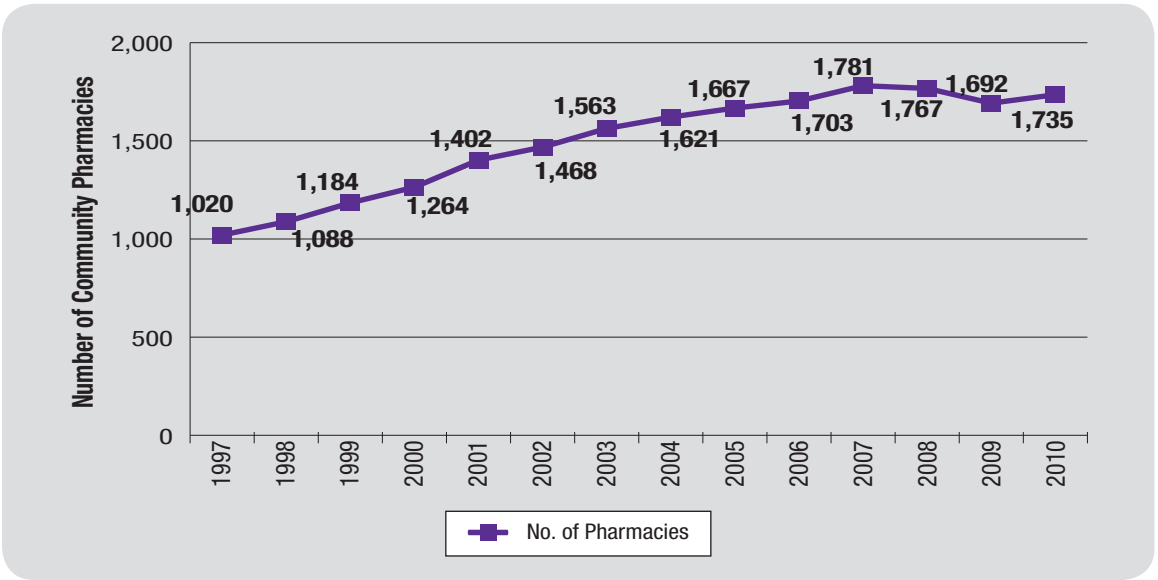
Source: Pharmaceutical Services Division, MoH

Private Pharmacy

PSD, MOH plays important roles in promoting and providing guidance for expansion and upgrading of community pharmacy services besides helping to sustain the collaboration between pharmaceutical associations and organisations involved in the healthcare system in Malaysia. Private pharmacy section in particular, involved with handling complaints, press reports and parliamentary answers on issues related private pharmacies.

In addition, Private Pharmacy Section also performs routine functions, such as collecting and coordinating data of community pharmacy and related healthcare providers in Malaysia. The number of community pharmacies in Malaysia from 1997 to 2010 is shown in Figure 40.

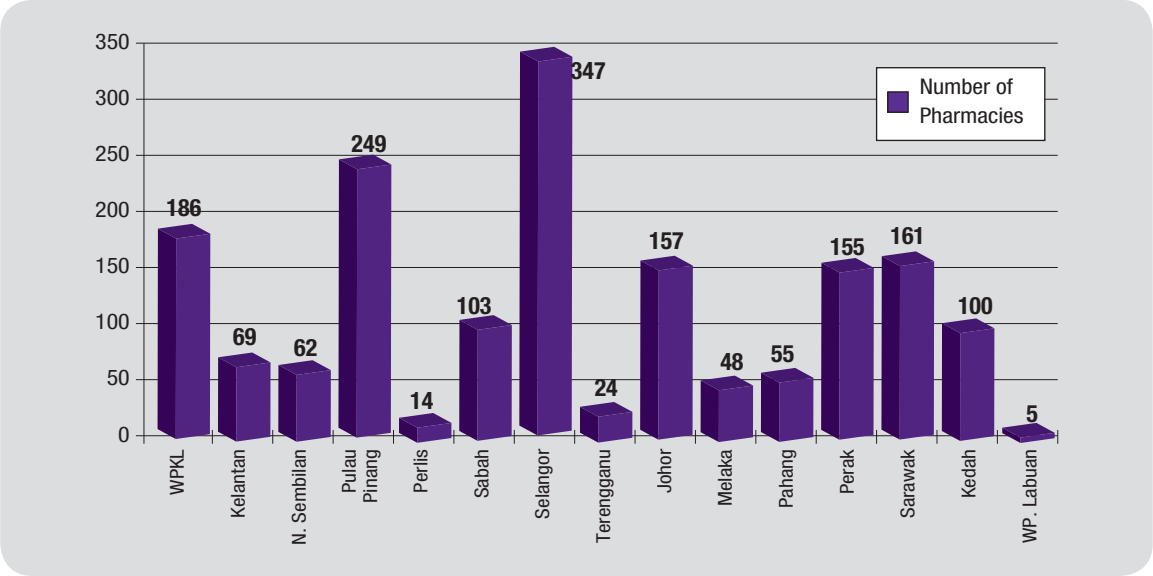
FIGURE 40
NUMBER OF COMMUNITY PHARMACIES, 1997 - 2010



Source: Pharmaceutical Services Division, MoH

The breakdown of the number of community pharmacies by state in 2010 are as shown in Figure 41.

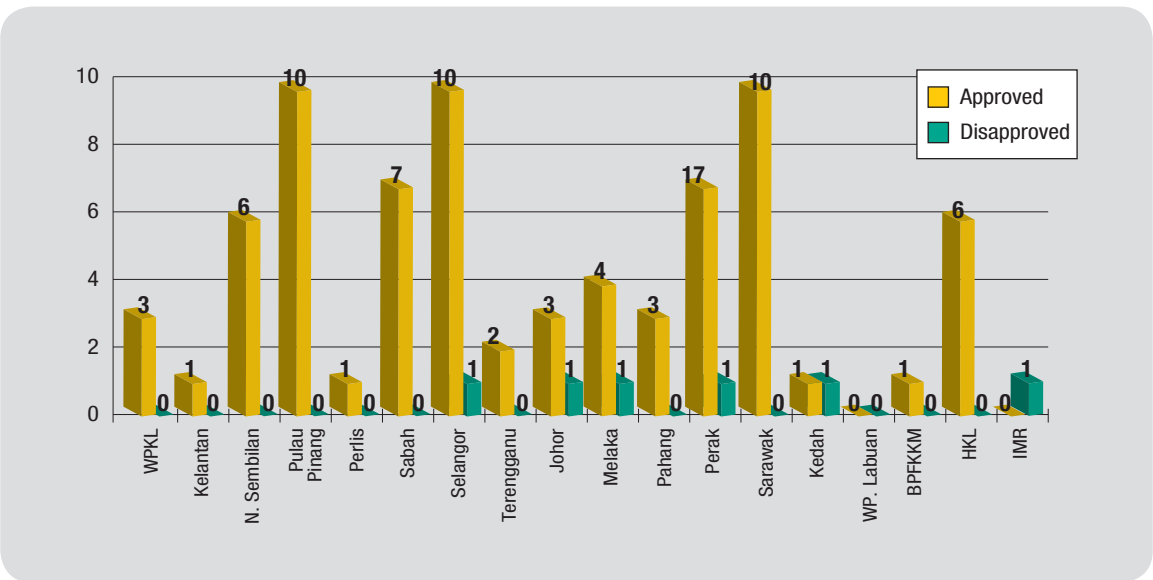
FIGURE 41
NUMBER OF COMMUNITY PHARMACIES BY STATE, 2010



Source: Pharmaceutical Services Division, MoH

This section is also responsible for processing and monitoring of locum applications from MoH pharmacists. The number of approved locum applications according to states / institutions in 2010 are as follows (Figure 42).

FIGURE 42
NUMBER OF LOCUM APPLICATIONS ACCORDING TO STATES/INSTITUTION



Source: Pharmaceutical Services Division, MoH

- **Malaysia Healthcare Provider's Mapping Service**

  It is a geo mapping system that displays the location of healthcare providers in Malaysia. The system was developed with the aim to facilitate public access to these facilities and provide necessary data for the purpose of restructuring the public health system in the PSD, MoH. It was successfully completed in November 2010 and is available through the website www.pharmacy.gov.my/maps/. The number of facilities according to the type of health care providers, which have been uploaded into the system is shown in Table 37.

TABLE 37
TYPES AND NUMBER OF HEALTH CARE PROVIDERS UPLOADED TO MAPPING SYSTEM

No.	Type of Healthcare Providers	Number of Facilities
1.	Government Hospital	134
2.	Government Health Clinic	2,813
3.	1Malaysia Clinic	50
4.	Community Pharmacy	1,735
5.	Private Clinic	6,158
6.	Private Dental Clinic	1,436
7.	Private Hospital	205
Total		**12,529**

Source: Pharmaceutical Services Division, MoH

- **Community Pharmacy Benchmarking Guideline**

  The Community Pharmacy Benchmarking Guideline Review Committee was established in 2009 to review the guideline first published in 2005. The purpose of establishing the guideline is to set the standards and practices in the community pharmacy that reflects the pharmacy profession in general. This guideline provides an overview of the requirements that community pharmacies are expected to fulfill in terms of infrastructure, equipment, personnel and practices. Standard operating procedures and optional professional services available in the community pharmacies are also highlighted in the guideline. Private Pharmacy Section has been coordinating the final draft of the latest guideline and it is expected to be published by June 2011.

Good Governance for Medicine (GGM)

Good Governance for Medicines (GGM) is a programme developed by the World Health Organization (WHO) which began in 2004 with its main focus; to create a corruption-free environment in the pharmaceutical management system in compliance with ethical principles, laws, regulations, policies and procedures.

The GGM program is implemented in three phases: a national transparency assessment, the development of GGM Framework and the implementation phase. PSD, MOH is the responsible division for reporting and providing feedback on the GGM program implemented in the country in which Malaysia is now in its third phase of the implementation of GGM.

In the initial phase of this implementation, two committees were formed, the GGM Steering Committee and GGM Implementation Committee. Two draft guidelines were also produced and will be refined and published in 2011. The guidelines are:

1. Guidelines for Pharmacy Staff Dealing with Pharmaceutical Company Representatives and Suppliers
2. Guidelines for Giving and Receiving Gifts of Civil Servants under the Pharmacy Programme, MoH

As a whole, through approaches, strategies and action plans to achieve the goals of GGM, PSD MoH hopes to cultivate and foster a culture of ethics and integrity among all pharmacy staff.

WAY FORWARD

Pharmacy Management

Announcement of upgrading careers pathway for pharmacists in 2010 was a recognition and shows that pharmacists have a very important role in healthcare. In addition, it is in line with government efforts to strengthen human capital development, improving efficient and effective healthcare services to the nation as well as the aspiration to establish Malaysia as a developed country by the year 2020. Thus, the Pharmacy Programme will continue to provide excellent, efficient and optimum services for the country and the nation.

With the increase of pharmacist manpower every year through the implementation of compulsory service in the public sector and the increasing number of the support groups, Pharmacy Programme will continue to plan and introduce services in new areas while improving existing services. Human resource allocation plan will be done better to ensure efficient and effective pharmacy services received by the public around the country. Apart from that, human resource needs projection planned will be updated throughout 2011 in accordance with the expansion of services and the increasing number of new facilities in order to meet the needs of the pharmacist manpower until the year 2020.

In 2011, a number of Pharmacists will be selected to receive the MoH Federal Training Scholarships to pursue their postgraduate studies either in Master or PhD courses in pharmacy specialisation areas. The development of the pharmacy profession and career was further strengthened by giving recognition and acknowledgement to Pharmacists having specialisation and expertise in certain areas enables Pharmacists to provide consultations to patients and other healthcare professionals. A Pharmaceutical Services Division Credentialing and Privileging Committee will improve the framework on pharmacy specialisation areas that have been prepared.

The Malaysian National Medicines Policy (MNMP/DUNAS) will continue setting a platform for all involved in the pharmaceutical sector to plan and implement the respective health activities and unify all efforts towards improving the health status and quality of life of all Malaysians. DUNAS will monitor new indicators that have been identified effective year 2011. Besides that, 5 DUNAS Technical Component Committees and their respective Working Committees have been established to ensure the implementation of DUNAS objectives and plan of actions.

Other Pharmacy Management activities such as innovation, ICT management, policy and relation as well as administration and finance will further strengthened to improve quality services provided by the Pharmacy Programme.

Pharmacy Regulatory (NPCB)

NPCB is in the process of implementing the active pharmaceutical ingredients (API) regulatory control. The formulated work plan involves establishment of an API core team, continuous training, establishment of a technical working group (TWG) to draft the guidance document for control of API, preparation of an online module system for registration, and preparation of a definition and awareness programme. The regulatory control of API will be implemented prospectively in phases beginning with voluntary submission of data for New Chemical Entities (NCE) in March 2011.

NPCB is also planning to extend the accreditation scope of MS ISO/IEC 17025:2005 to include additional testing method for limit of arsenic, lead, cadmium and mercury in cosmetics and health supplement products as well as test for detection of lovastatin in traditional products containing red yeast in 2011.

Besides, Cosmetic Safety Expert Committee (CoSEC) will be formed in 2011 to strengthen technical knowledge, share the latest information regarding cosmetic ingredients and make decisions concerning safety issues related to cosmetic products. The committee will comprise of experts from related field, academia, and representatives from the industry as well as NPCB.

In consideration of the continuous development and expansion of activities performed by the Clinical Research and Compliance Section such as investigational product evaluation, investigational product safety monitoring as well as Good Clinical Practice (GCP) and Good Laboratory Practice (GLP) inspection on Bioequivalence study centre, the section will be promoted in 2011 to become a centre known as Centre for Investigational New Product which will be led by a Deputy Director.

A directive has been issued under Regulation 29: Regulation for Control of Drug and Cosmetic 1984, in which accreditation for local bioequivalence (BE) centre in compliance to GCP and GLP will be fully enforced in 2012. Five local BE centres have been identified for BE inspection by NPCB in 2011.

Pharmacy Enforcement

More auditing will be conducted to reduce diversion and abuse of controlled substances and psychotropic substances by medical practitioners in 2011. In addition, emphasis will also be given to eradicate the diversion of precursor materials such as Pseudoephedrine and Ephedrine from being use in clandestine laboratories locally and internationally.

In addition, more dialogues will be conducted with the stakeholders involved, in order to create greater awareness of the diversion of narcotic drugs, psychotropic substances and precursor chemicals for illicit trade.

In preventing the sale of unregistered medicines in the market, a new pharmacy bill has been drafted and is awaiting Cabinet approval to be debated in parliament. This new bill emphasizes on counterfeit drug sales offences which are not detailed in the Poisons Act 1952 with severe penalties imposed on individuals and company.
MoH is hoping to introduce self-regulation in healthcare advertisements in the near future and it is only with the cooperation and compliance of all stakeholders (advertisers / advertising agencies / media / related regulatory bodies) together to increase self-awareness among consumers that this can be accomplished in a meaningful manner. Awareness from all parties is very important to ensure that all published advertisements are valid and factual without misleading the consumer.

The latest challenge that has become more serious now is the emergence of the traditional medicines and food supplements which are deliberately mixed with controlled medicine for the purpose of cheating the consumers. Enforcement actions alone are impossible to fully eradicate all the individuals or corporate activities infringing against the existing legislations that have been committed for the purpose of making profits. Materialism will continuously provoke diversion, taken for granted on weakness in legislations enforced and exploitation of consumers. Thus, enforcement has to be complemented with activities of consumer awareness to enable them to take medicine wisely.
To further enhance pharmacy enforcement activities, strategic planning will be done to ensure more effective punitive actions against those who fail to comply with the legislation. It is envisaged that steps taken to address and strengthen legislation together with rational and innovative administrative measures will provide good results and at the same time, achieve one of the objectives of National Key Results Area (NKRA) which is to reduce crime, from the aspect of eradication of the phenomenon

of drug addiction that comes from the diversion of psychotropics for medical treatment.

Pharmacy Practice and Development

In line with the rapid technological advancements, the delivery of healthcare services is in a paradigm shift with regards to efficiency effectiveness and customer satisfaction. The Pharmacy Practice and Development is driven towards improving the quality of pharmacy services in line with the practices and the dynamic global service needs.

The greatest challenge in years to come includes the issue of increasing healthcare costs due to the elevated number of patients seeking treatment from public facilities. With existing resources, efforts and innovation methods are utilized to ensure quality pharmaceutical care services are provided to patients. The division plays an important role in ensuring that drug expenditure is at the economical and optimum level and quality medicines are available at the time of need through effective and efficient drug management and supply system.

Various activities were implemented and planned to ensure the provision of comprehensive and patient-centred services. The development and improvement of clinical pharmacy services at the hospital has increased the role and responsibility of the pharmacist in the multi-disciplinary health care team in delivering patients care.

The increase in awareness and knowledge of medicines among the public will help in ensuring the safety and quality use of medicines. Strategies and efforts will be intensified to provide public with useful information on quality use of medicines and pharmaceutical products. Greater involvement by the media and the use of information and communication technology are seen as strategies to improve public education on pharmaceuticals and related matters.
In order to accelerate the improvements in the quality of pharmacy services, various strategies have been outlined including utilization of quality indicators such as Key Performance Indicator, Quality Assurance Programme, Pharmacy Practice Internal Audit at various levels of services. The introduction of value added services with the main goal to provide flexibility in patients' care will be expanded. Patients will receive better access towards their medication when the delivery via postal service is launched.

Malaysia is now involved in The World Health Organization (WHO) Good Governance for Medicines (GGM) Programme with the goal to strengthen current health systems and prevent corruption by promoting good governance in the pharmaceutical sector. This involvement is in line with the Government Transformation Programme launched in 2010 with combating corruption as one of the National Key Result Areas.

In addition to that, the proficiency of the pharmacy personnel will be enhanced continuously through the Continuous Professional Development, specialization training in various disciplines and related attachments. Proposal for more scholarships to be awarded to pharmacists for postgraduate training will be continued to ensure high-quality and competent workforce will be produced to ensure that the patients would benefit from pharmaceutical services.

CONCLUSION

The Pharmacy Programme had its four main activities such as Pharmacy Management, Pharmacy Regulatory, Pharmacy Enforcement, and Pharmacy Practice and Development, successfully carried out in 2010. Existing activities and pharmacy services provided will be strengthened in ensuring only quality, safe and efficacious pharmaceutical and health products are available and affordable to the public.

8 Food Safety & Quality

INTRODUCTION

The Food Safety and Quality Division (FSQD) was formed to protect residents of Malaysia from safety hazard and fraud in relation to food handling. Prior to its formation in 1974, it was previously known as the Food Quality Control Unit. In line with the advancements of the nation's food industry, economic boom in the early 1990s, and global food safety issues, the unit has been upgraded to the Food Quality Control Division in 1993. Later in September 2004, the division was renamed to Food and Quality Division. On July 1st, 2010, the Division's status was further upgraded as a programme under the direct supervision by the Director General of Health.

This Division was formed to establish planning, implementation, surveillance and review the Food and Safety Quality programs to shield the community from health hazards in relation to food; safeguard the public from any deception that might occur during storage, preparation, processing, transport, trade, and consumption; and to facilitate food trade.

ACTIVITIES AND ACHIEVEMENTS

A. EXPORT SECTION

This section is responsible for ensuring that official control activities carried out on fish and fishery products supply chain are in accordance with the requirements of the importing countries. FSQD has been appointed as the Competent Authority (CA) by the European Union (EU) to carry out official controls along fish and fishery products supply chain destined for the EU market while ensuring coordination of official control activities carried out by the Department of Fisheries (DOA) and Malaysia Fisheries Development Board (LKIM).

i. Export of Fish and Fishery Products to EU

a) Verification on compliance status of export establishments, transport vehicles, ice producers, independent refrigerated stores, sources of semi-processed fishery products.

i. In 2010, 20 export establishments, 44 transport vehicles, 3 sources of ice and 1 cold store were approved.
ii. 40 surveillance audits were conducted on approved export establishments, ice producers and independent refrigerated stores and 15 surveillance audits on transport vehicles.

b) Implementation of Monitoring Programmes

i. 1162 samples for fishery end products, 418 samples for capture fishery products and 190 samples for water and ice were taken for the respective monitoring programme in 2010.
ii. 6 samples of fish and fishery products and 39 samples of water and ice were found to have contravened the EU requirements.

c) Health Certificate for Fish and Fishery Products

A total of 278 Health Certificates were issued for fish and fishery products in 2010.

d) Strengthening Official Control

i. Updated 5 Protocols, 8 Standard Operating Procedures (SOPs) and 1 Guideline.
ii. Food Export Certification Information System (FExCIS) is being implemented.
iii. EU Management System for official control of Food Export of Fish and Fishery Products to EU (FExOC) is being developed.

iv. Gazettement of Food (Issuance of Health Certificate for Export of Fish and Fishery Product to the European Union) (Amendment) Regulation 2010 on March 19th, 2010.

e) Food and Veterinary Office (FVO) Inspection Mission 2010

The FVO Inspection Mission was carried out from 26th April – 7th May 2010. The scope of the inspection mission was to evaluate the control system put in place by the Competent Authorities, the compliance status of the processing establishments and the sources of raw materials along the supply chain for the purpose of re-listing of sea catch products for export of fish and fishery products to EU. In addition, the inspection mission also inspected the maintenance of compliance to EU requirements by approved farms and establishments which process fish and fishery products from local aquaculture and imported raw materials. In total, 5 processing establishments, 1 aquaculture farm, 6 fishing vessels, 4 landing sites and 2 official laboratories located in West Malaysia, Sabah and Sarawak were inspected.

Results of the inspection showed that the commitment of CAs to strengthen its capabilities in the official controls with regard to financial allocations, organisational restructuring and recruitment of additional staff is indisputable. Significant improvement in the implementation of official controls of fishery products were noted with several amendments of the present legislations, reorganisation of the structure of the CAs, introduction of new legislations, improved coordination, supervision and written procedures.

f) Launching of EU Approved Logo

The EU Approved Logo for Export of Fish and Fishery Products for processing establishments/ aquaculture farms/ fishing vessels/ landing sites were jointly launched by the MoH, the Minister of Agriculture and Agro-based Industry and the Ambassador and Head of Delegation of the EU to Malaysia on November 24th, 2010 at the LKIM Complex, Kuantan, Pahang.

ii. Export of Fish and Fishery Products to countries other than the EU

A control system has been developed for fish and fishery products exported to United States of America (US), which includes developing a database on fish facilities along the supply chain including verifying the compliance status of the export establishments and aquaculture farms to fully comply with US requirements.

a) The USFDA Assessment Mission scheduled in 2010 was postponed to 28th March – 8th April 2011.

b) Verification Status of the Processing Establishments for Export of Fish and Fishery Products to US

In 2010, 18 processing establishments (aquaculture) were verified. 48 surveillance audits had been conducted on processing establishments and 48 surveillance audits on transport vehicles.

c) Implementation of Monitoring Program

i. 657 samples for Fishery Products Monitoring Program were taken in 2010.
ii. 6 samples were contravening the USFDA requirements. Consequently, corrective actions have been taken.

iii. Status of Export of Fish and Fishery Products to Other Countries

A meeting between the Malaysian Delegation headed by the Senior Director of FSQD, MoH and the Federal Service of Veterinary and Phytosanitary Surveillance (Rosselkhoznadzor) was held in the Russian Federation (RF) on May 18th, 2010. The discussion encompassed the RF import requirements on fish and fishery products, draft of Memorandum of Understanding as well as model Health Certificate.

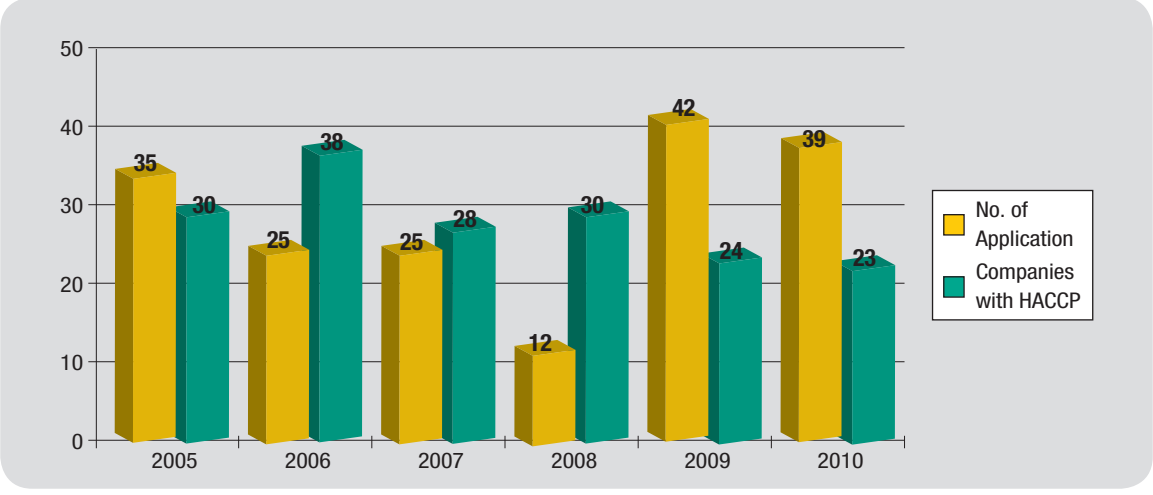
Questionnaire on the requirements for fish and fishery products have been completed and sent to the Brazilian Competent Authority. The import requirements for fish and fishery products to Australia, Canada, Korea, India, Japan and China were reviewed and evaluated.

B. CERTIFICATION AND LICENSING SECTION

i. Hazard Analysis and Critical Control Point (HACCP) Certification Scheme

In 1997, FSQD introduced the HACCP Certification Scheme and was launched in 2001. This scheme is a food safety assurance programme developed to ensure safe production of food by the industries. Other than that, the scheme is also aimed at assisting in exportation of food products. In 2008, 182 food production companies were certified under the HACCP Certification Scheme, Ministry of Health. This certification scheme has benefited the industries in expanding the exportation of their products, as well as in complying with the requirements of EU and US specifically for exportation of fish and fish products. In 2010, 23 companies out of 39 applications were certified.

FIGURE 1
HACCP CERTIFICATION, 2005 - 2010

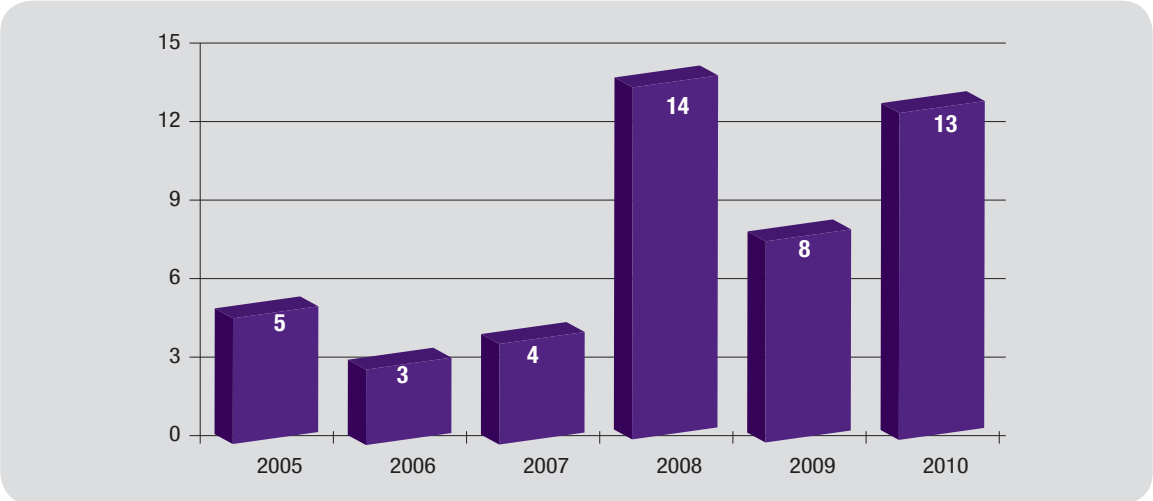


Source: Food Safety and Quality Division, MoH

ii. Good Manufacturing Practice (GMP) Certification Scheme

The GMP Certification Scheme has been introduced in meeting with the requirements of importing countries. It is also developed with the aim to upgrade the level of food safety implementation by small and medium enterprises. The scheme was launched on 19 December 2006 by the Minister of Health. Until December 2010, there are 45 companies certified under GMP scheme. The certification has increased the confidence level of importing countries in our food products and has consequently increased Malaysia's food exports.

FIGURE 2
COMPANIES CERTIFIED WITH GMP CERTIFICATION, 2005 - 2010



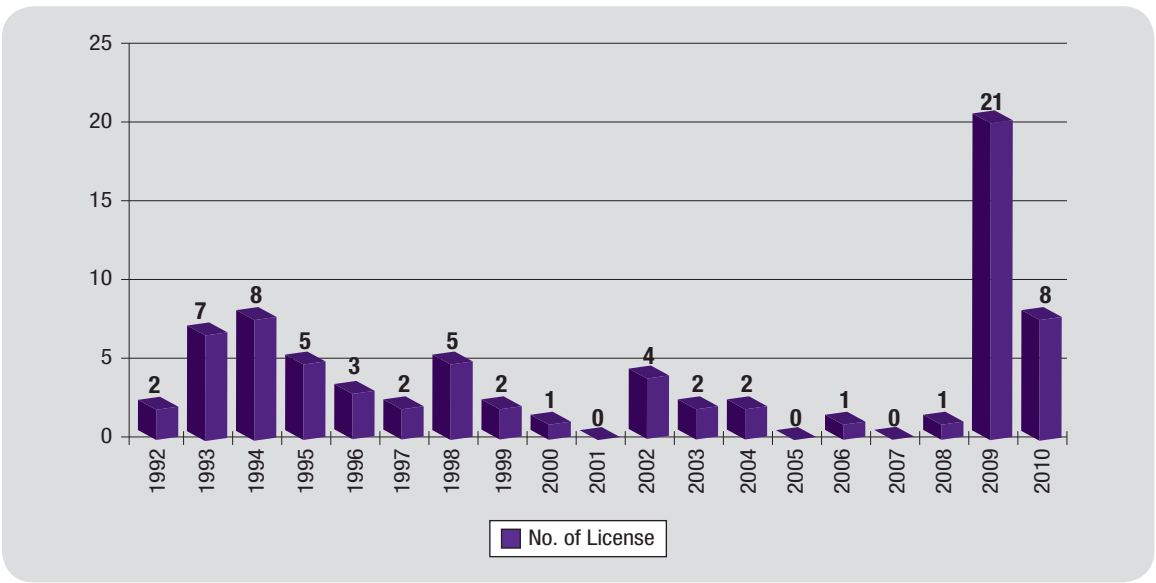
Source: Food Safety and Quality Division, MoH

iii. Licensing

a) Natural Mineral Water (NMW)

According to Regulation 360A, Food Regulations 1985, the production and importation of Natural Mineral Water in Malaysia must be licensed. Since the introduction of the Regulations in 2000, 74 licences for NMW have been approved until 31st December 2010 (Figure 3). The fees for these licences have contributed to a collection of RM 444,000.00.

FIGURE 3
ISSUANCE OF NATURAL MINERAL WATER LICENCES, 1992 – 2010



Source: Food Safety & Quality Division, MoH

However, only 54 licences were still valid in 2010. From this total, 24 licences were issued for local sources while the rest were for overseas sources. In 2010, there were no terminations or revocations of licences. A total of 8 new licences were issued in 2010.

b) Packaged Drinking Water (PDW)

Regulations 360B, Food Regulations 1985 was gazetted in 2000 whereby it is compulsory to obtain a licence for the source of packaged drinking water before starting the business. Until 2010, a total of 238 applications for packaged drinking water licence were approved (Table 1). However, only 201 licences were still valid until 2010.

TABLE 1
LICENCE APPROVAL FOR PDW ACCORDING TO STATE, 2001 – 2010

No.	State	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total	Valid License
1	Perlis	0	0	2	1	0	0	1	1	2	0	7	6
2	Kedah	0	0	4	0	0	2	1	0	0	1	8	6
3	Pulau Pinang	0	3	4	0	1	1	2	0	2	1	14	10
4	Perak	0	5	0	0	0	5	0	1	0	2	13	10
5	Selangor	6	10	5	3	3	4	2	8	3	16	60	49
6	FT KL	1	1	1	3	0	1	0	1	2	1	11	11
7	N. Sembilan	0	1	2	1	0	1	0	0	0	0	5	4
8	Melaka	0	0	2	1	0	2	0	1	0	0	6	5
9	Johor	1	4	4	4	0	7	3	1	1	2	27	22
10	Pahang	0	2	7	1	1	2	0	1	1	0	15	10
11	Terengganu	0	0	0	0	1	0	0	0	1	0	2	2
12	Kelantan	0	2	3	6	3	2	0	8	0	1	25	21
13	Sarawak	0	2	2	3	6	4	1	0	0	2	20	19
14	Sabah	0	2	6	3	2	1	1	1	2	3	21	22
15	FT Labuan	0	1	0	0	2	1	0	0	0	0	4	4
Total		**8**	**33**	**42**	**26**	**19**	**33**	**11**	**23**	**14**	**29**	**238**	**201**

Source: Food Safety & Quality Division, MoH

	STATE		TOTAL	VALID LICENCE
1	Perak	3	3	3
2	W.P KL	1	1	1
3	N. Sembilan	1	1	1
4	Sarawak	1	1	1
5	Sabah	1	1	1

c) Licence for Ice Production Meant for Marketing and Trading

In accordance with Regulation 394A, Food Regulations 2009 which has been enforced commencing 1st September 2009, it is compulsory for companies to produce ice from safe source of water and be licensed under MoH. 7 licences have been issued until 31st December 2010 (Table 2).

d) 1 Malaysia Food Safety Scheme (SK1M)

The 1 Malaysia Food Safety Scheme (SK1M) was launched in November 2010 by the Minister of Health. The launching ceremony was attended by 600 people from various agencies, governmental bodies and food industries.

The main objective of the introduction of SK1M is to assist food industries in Malaysia especially small and medium enterprises to implement food safety system and comply with the Food Regulations.

SK1M comprises of three (3) different stages of recognition in food safety implementation namely Pemeriksaan Keselamatan Makanan (PKM), GMP 1 Malaysia and HACCP 1

C. FOOD HANDLERS TRAINING (FHT) PROGRAM SECTION

The objective of this program is to provide exposure and awareness to all food handlers on food hygiene and safety, personnel and food premises requirement, and thus reduce the incidence of food poisoning throughout the country. In 2010, a total of 108, 927 food handlers have been trained by the 132 Food Handler Training School (FHTS), which are recognized by the MoH. A number of 557,713 food handlers have been trained since 1996. 49 persons have successfully completed the teaching evaluation in the Compulsory Training Course held in 2010. As of 2010, a total of 317 trainers have been recognized by the MoH to conduct the Food Handler Training (FHT) Course.

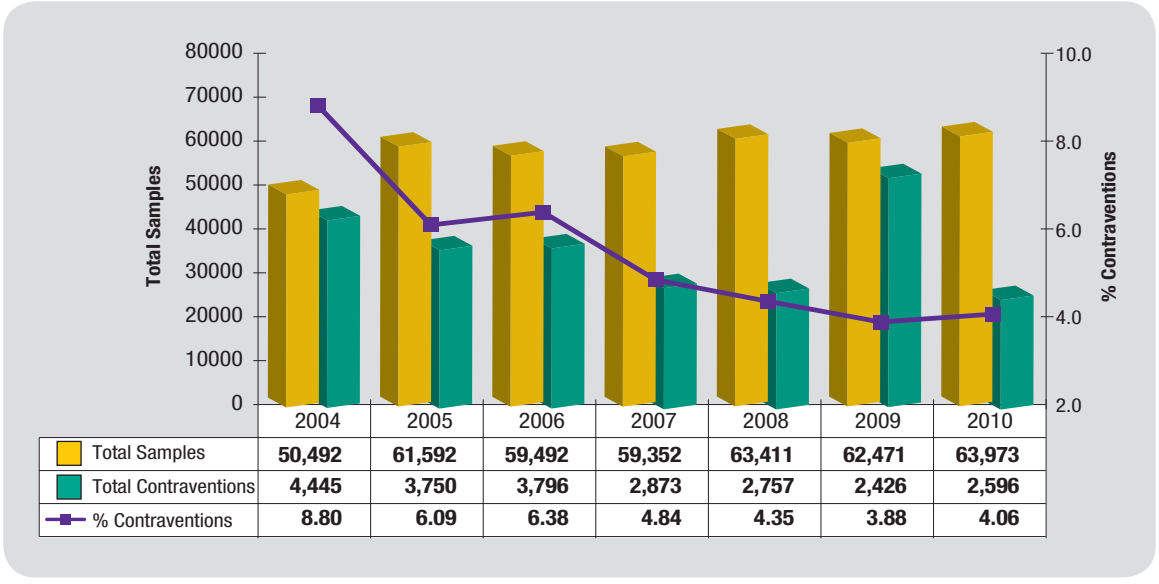
D. ENFORCEMENT (DOMESTIC) SECTION

i. Food Sampling

The purpose of food sampling is to ensure that food prepared or sold in Malaysia adhere to the requirements under the Food Act 1983 and the Food Regulations 1985. Food sampling target for 2010 was 54,000 samples based on the norm under the National Work Plan i.e.; 2 samples/1,000 people/year as specified by FSQD. Food sampling is divided based on analysis parameter that are as follows: microbiology (40%), chemical (55%) and physical (5%).

In 2010, a total of 63,973 food samples were taken for analysis and 2,596 (4.06%) of the samples contravened certain requirements under the Food Act 1983 and the Food Regulations 1985 (Figure 4). A total of 492 offenders were fined a sum of RM 727,260.00 and five offenders were jailed. Meanwhile, 53 offenders were discharged not amounting to acquittal and 11 offenders were discharged and acquitted.

FIGURE 4
FOOD SAMPLING, 2004 - 2010



	2004	2005	2006	2007	2008	2009	2010
Total Samples	50,492	61,592	59,492	59,352	63,411	62,471	63,973
Total Contraventions	4,445	3,750	3,796	2,873	2,757	2,426	2,596
% Contraventions	8.80	6.09	6.38	4.84	4.35	3.88	4.06

Source: Food Safety & Quality Division, MoH

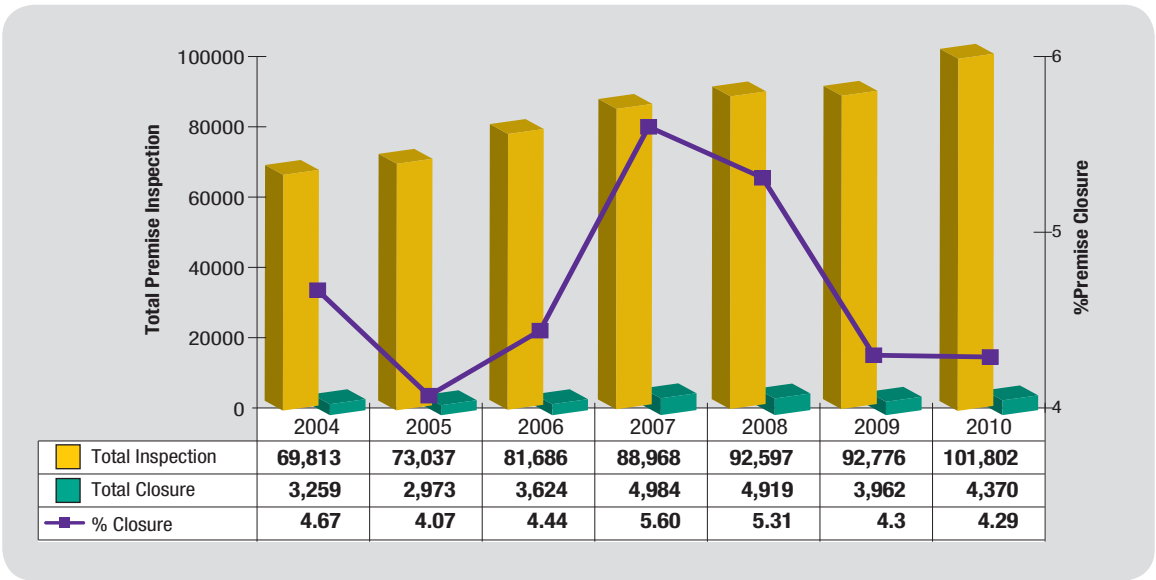
ii. Inspection and Closure of Food Premises

Inspection of food premises is one of the routine activities conducted to ensure that all food premises are clean and hygienic. In 2010, a total of 101,802 food premises were inspected and 4,370 (4.29%) unsanitary food premises were closed under Section 11, Food Act 1983 (Figure 5).

iii. Pesticide Residues

In 2010, a total of 4,816 food samples (Figure 6) were taken for pesticide residues analysis in which 3,620 of the samples were vegetables and 1,025 remaining samples were fruits. Results of the analysis indicate that 59 (1.63%) of the vegetable samples and 8 (0.78%) of the fruit samples were detected with pesticide residues content above the Maximum Residual Limit (MRL) as stated in Table 16, Regulation 41, Food Regulations 1985.

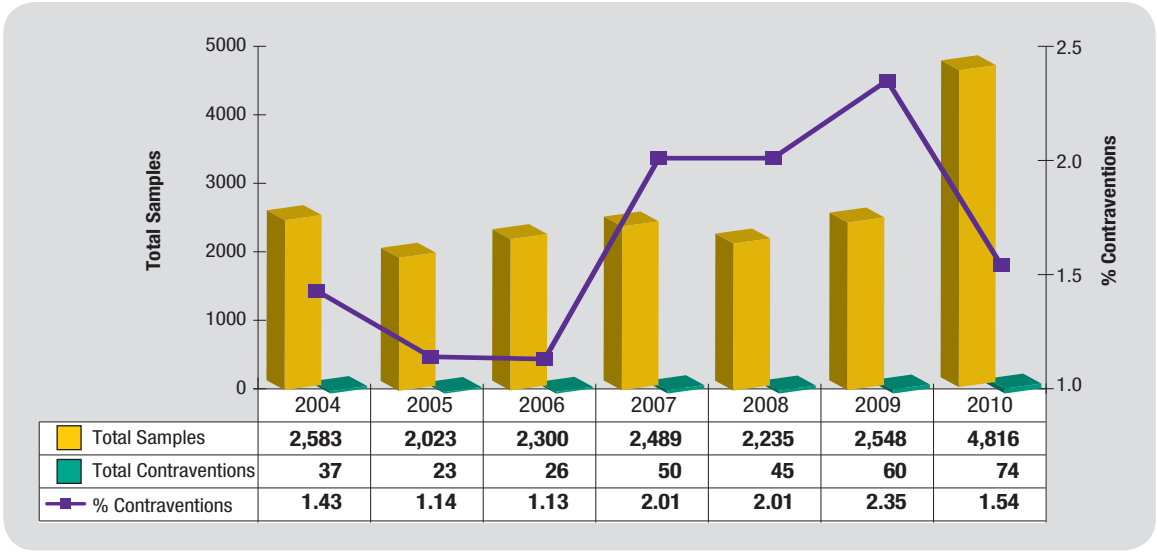
FIGURE 5
INSPECTION AND CLOSURE OF FOOD PREMISES, 2004 – 2010



	2004	2005	2006	2007	2008	2009	2010
Total Inspection	**69,813**	**73,037**	**81,686**	**88,968**	**92,597**	**92,776**	**101,802**
Total Closure	**3,259**	**2,973**	**3,624**	**4,984**	**4,919**	**3,962**	**4,370**
% Closure	**4.67**	**4.07**	**4.44**	**5.60**	**5.31**	**4.3**	**4.29**

Source: Food Safety & Quality Division, MoH

FIGURE 6
SAMPLING OF FRUITS AND VEGETABLES FOR PESTICIDE RESIDUES, 2004 - 2010



	2004	2005	2006	2007	2008	2009	2010
Total Samples	2,583	2,023	2,300	2,489	2,235	2,548	4,816
Total Contraventions	37	23	26	50	45	60	74
% Contraventions	1.43	1.14	1.13	2.01	2.01	2.35	1.54

Source: Food Safety & Quality Division, MoH

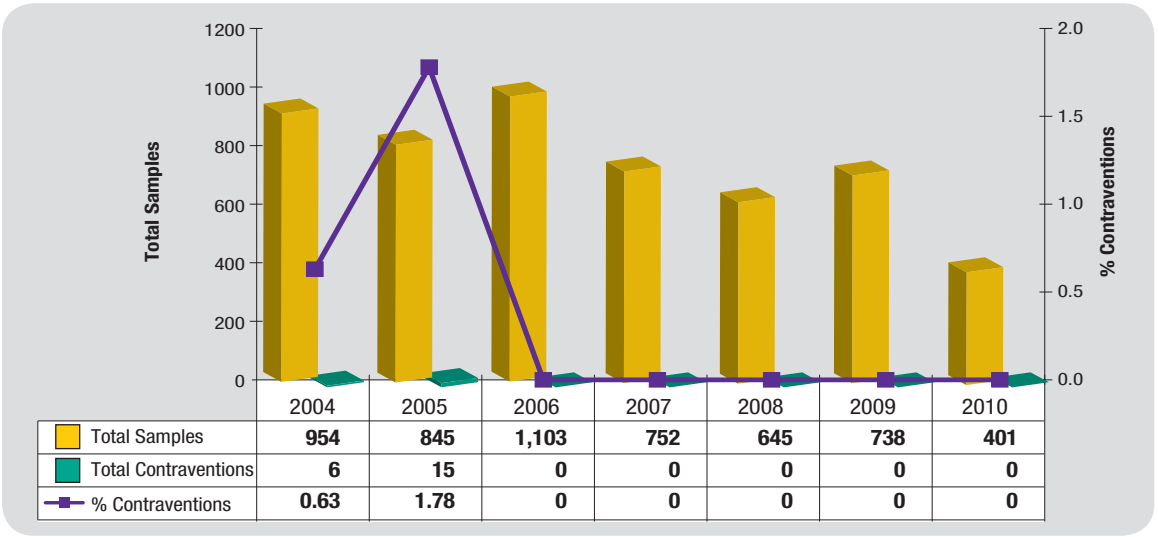
iv. Drug Residues

Abuse of veterinary drugs is still a persistent issue in food safety although the Food Regulations 1985 prohibit the use of Nitrofuran, Chloramphenicol, and Beta-agonist in food.

a) Nitrofuran

MoH is continuously monitoring the issue of nitrofuran abuse in food. A total of 388 poultry samples and 13 egg samples were taken for analysis of nitrofuran residues and none of them contravene the Food Regulations 1985 (Figure 7).

FIGURE 7
SAMPLING OF POULTRY AND EGGS FOR NITROFURAN ANALYSIS, 2004 – 2010



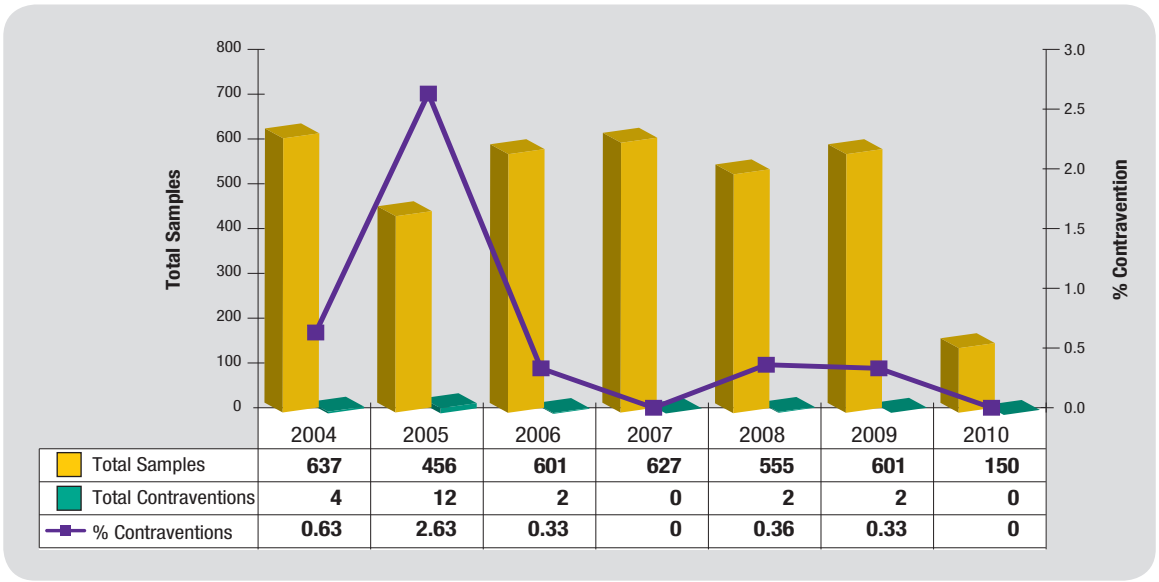
	2004	2005	2006	2007	2008	2009	2010
Total Samples	954	845	1,103	752	645	738	401
Total Contraventions	6	15	0	0	0	0	0
% Contraventions	0.63	1.78	0	0	0	0	0

Source: Food Safety & Quality Division, MoH

b) Chloramphenicol

Sampling was done to detect abuse of chloramphenicol in poultry and fish. A total of 150 poultry samples were taken and no samples were found to contain chloramphenicol (Figure 8). Similarly, there were no positive results for all the 79 fish samples taken for chloramphenicol analysis (Figure 9).

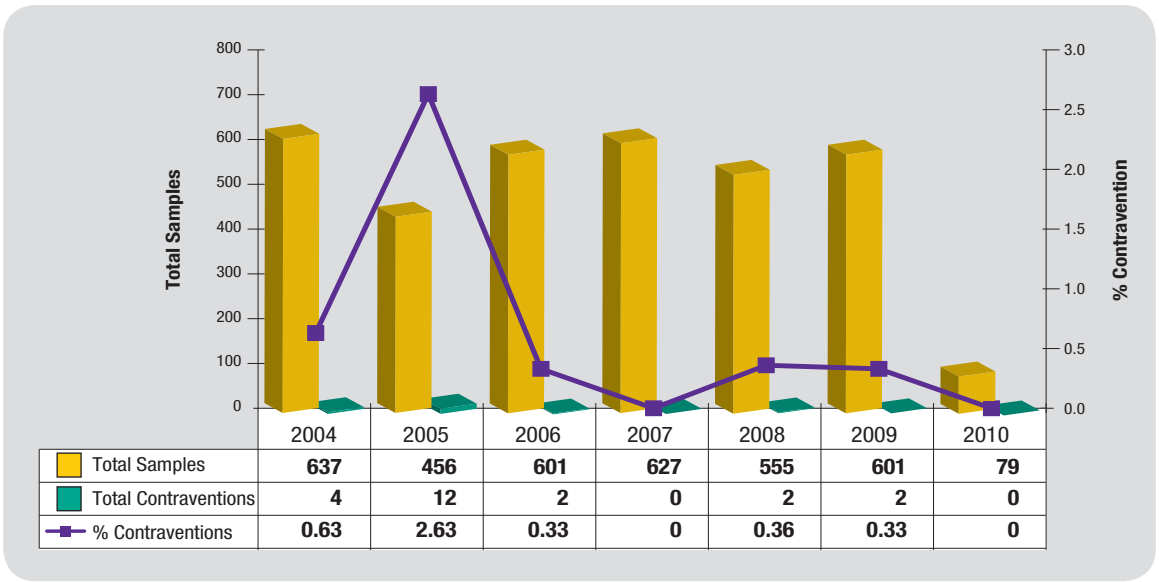
FIGURE 8
SAMPLING OF POULTRY FOR CHLORAMPHENICOL, 2004 - 2010



	2004	2005	2006	2007	2008	2009	2010
Total Samples	637	456	601	627	555	601	150
Total Contraventions	4	12	2	0	2	2	0
% Contraventions	0.63	2.63	0.33	0	0.36	0.33	0

Source: Food Safety & Quality Division, MoH

FIGURE 9
SAMPLING OF FISH FOR CHLORAMPHENICOL, 2004 – 2010



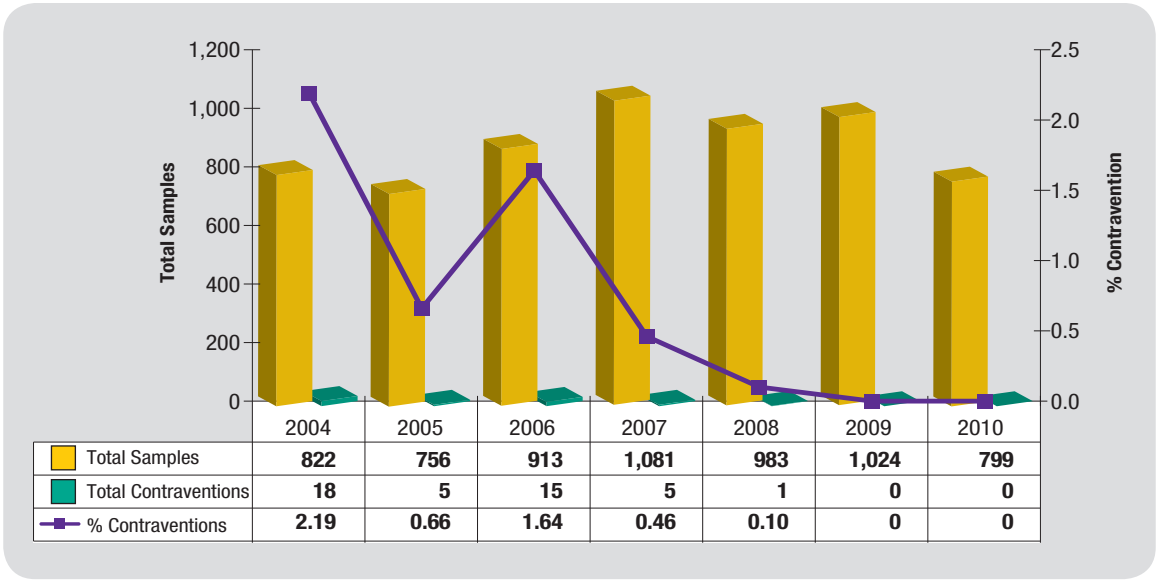
	2004	2005	2006	2007	2008	2009	2010
Total Samples	637	456	601	627	555	601	79
Total Contraventions	4	12	2	0	2	2	0
% Contraventions	0.63	2.63	0.33	0	0.36	0.33	0

Source: Food Safety & Quality Division, MoH

c) Beta-Agonist

2010, a total of 799 samples were taken for beta-agonist analysis (Figure 10). These include ham (199 samples), beef (262 samples), lamb (78 samples), and chicken/ duck (260 samples). Continuous enforcement efforts by the Ministry of Health through routine inspections and special operations have resulted in a reduction in the number of contravention cases. In 2010, none of the samples taken for analysis were detected positive for beta-agonist.

FIGURE 10
MONITORING OF BETA-AGONIST, 2004 – 2010



	2004	2005	2006	2007	2008	2009	2010
Total Samples	822	756	913	1,081	983	1,024	799
Total Contraventions	18	5	15	5	1	0	0
% Contraventions	2.19	0.66	1.64	0.46	0.10	0	0

Source: Food Safety & Quality Division, MoH

v. Non-Nutritive Sweetener

There are five different licences issued by MoH for non-nutritive sweetener under the Regulation 133 (5), Food Regulations 1985. Non-nutritive sweetener includes acesulfame potassium, saccharin and sodium saccharin. In 2010, a total of 25 licences for non-nutritive sweetener were issued which contributed a sum of RM 4,450.00 in fees collection (Table 3).

TABLE 3
NUMBER OF NON-NUTRITIVE SWEETENERS LICENCES ISSUED BY STATE, 2010

Item	State	Type of License					Total license issued	Fee Collected (RM)
		B	B1	B2	B3	B4		
		RM200				RM50		
1.	Kedah	0	0	0	2	0	2	RM 400.00
2.	P. Pinang	1	1	0	2	0	4	RM 800.00
3.	Perak	0	0	0	4	0	4	RM 800.00
4.	Selangor	1	9	0	0	0	10	RM 2,000.00
5.	WP KL	0	2	0	2	1	5	RM 450.00
Total		**2**	**12**	**0**	**10**	**1**	**25**	**RM 4,450.00**

Source: Food Safety & Quality Division, MoH

vi. Special Operations

The enforcement operations carried out in 2010 is as listed in Table 4.

TABLE 4
OPERATIONS CARRIED OUT IN 2010

No.	Operation
1.	Operation Chinese New Year
2.	Operation Coloured Tea
3.	Operation Formaldehyde
4.	Operation *Ramadhan*
5.	Operation Packaged Drinking Water / Natural Mineral Water
6.	Operation Propionic Acid
7.	Operation *Cahaya*
8.	Operation Christmas

Source: Food Safety & Quality Division, MoH

E. IMPORT SECTION

The objective of this section is to ensure foods imported into this country comply with the Food Act 1983 and its regulations. This is done through import control activities carried out at entry points. Such activities include inspection of food consignments, sampling of food, monitoring and surveillance of food. Food consignments that have previous history of contraventions will be detained and will only be released if the analysis results of the samples taken comply with the Food Act 1983 and its regulations. Food consignments that contravene the Food Act 1983 and its regulations will be rejected, re-exported, recalled or destroyed. Importers who violate the Food Act 1983 and its regulations may be prosecuted.

i. Food Import Control System

Food import control management is assisted by the Food Safety Information System of Malaysia (FoSIM - web based application system). This system, recently upgraded to Version II (Figure 9), uses a risk based approach in determining the level examination to be imposed on imported foods. The risk attributed to the food is determined by six (6) levels of examination. The levels of examination are:

a) Level 1 (Auto Clearance) - Food automatically released without inspection
b) Level 2 (Document Examination) - Food released after satisfactory document inspection
c) Level 3 (Monitoring Examination) - Food released after inspection and samples may be taken for analysis
d) Level 4 (Surveillance Examination) - Food released after inspection with samples taken for analysis
e) Level 5 (Hold, Test & Release) - Food detained pending results of sample analysis
f) Level 6 (Auto Rejection) - Food automatically rejected

ii. FoSIM Version II

The monitoring of imported foods at entry points is based on the following inspection target:

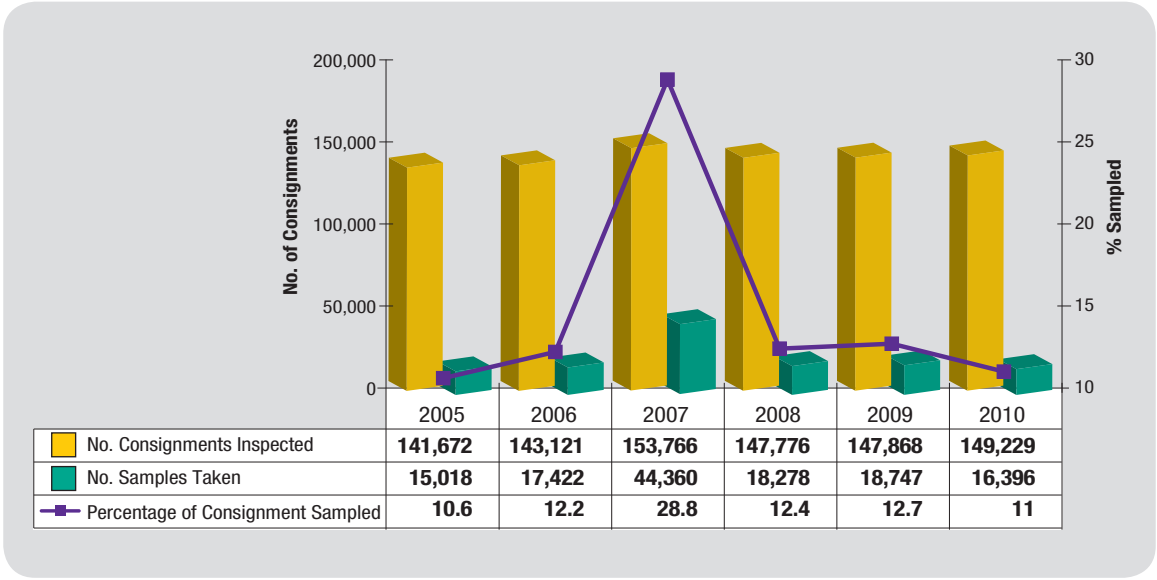
a) 100% document inspection – Entry points shall inspect 100% of the declaration documents (K1) either manually or electronically.
b) 70% of food consignments imported through land entry points shall be inspected – Land entry points shall physically inspect 70% of total food consignments imported.
c) 40% of food consignments imported through sea entry points shall be inspected– Sea entry points shall physically inspect 40% of total food consignments imported.
d) 35% of food consignments imported through airports ¬shall be inspected – Airports shall physically inspect 35% of total food consignments imported.
e) Sampling shall be carried out on 10% of the total food consignments inspected.

In 2010, 149,229 consignments were inspected and 16,396 samples (11.0%) were taken for analysis (Figure 11). From the total number of samples taken for analysis, 334 samples (2.03%) contravened the Food Act 1983 and Food Regulations 1985 (Figure 12).

There were 242 food alerts issued for food consignments imported from 28 countries in 2010.

will then relay the food alert to all states and entry points for appropriate action. (Table 5)

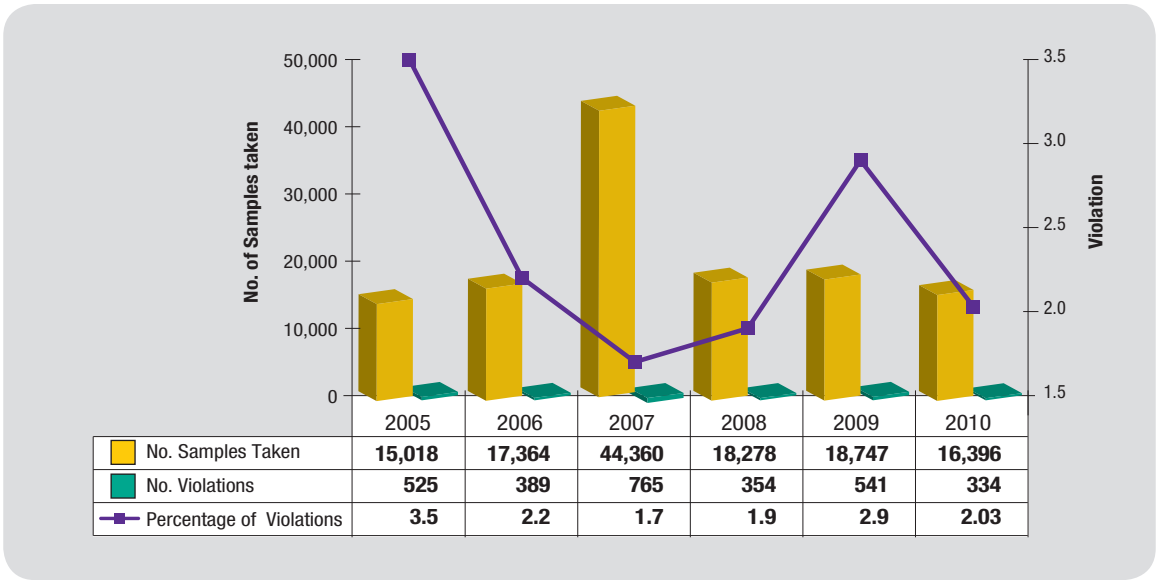
FIGURE 11
FOOD IMPORT INSPECTION AND SAMPLING ACTIVITY, 2005-2010



	2005	2006	2007	2008	2009	2010
No. Consignments Inspected	141,672	143,121	153,766	147,776	147,868	149,229
No. Samples Taken	15,018	17,422	44,360	18,278	18,747	16,396
Percentage of Consignment Sampled	10.6	12.2	28.8	12.4	12.7	11

Source: Food Safety & Quality Division, MoH

FIGURE 12
FOOD IMPORT CONTRAVENTIONS, 2005 - 2010



	2005	2006	2007	2008	2009	2010
No. Samples Taken	15,018	17,364	44,360	18,278	18,747	16,396
No. Violations	525	389	765	354	541	334
Percentage of Violations	3.5	2.2	1.7	1.9	2.9	2.03

Source: Food Safety & Quality Division, MoH

TABLE 5
FOOD ALERTS ISSUED FOR IMPORTED FOOD BY COUNTRY, 2005 – 2010

COUNTRY	Trend of food import violations in Malaysia					
	2005	2006	2007	2008	2009	2010
Australia	0	0	12	34	11	10
Canada	0	0	0	0	0	1
China	15	29	55	42	22	44
Denmark	0	0	2	2	0	0
Egypt	0	0	0	0	8	1
France	0	0	11	15	0	0
Germany	0	0	0	3	0	0
Hong Kong	0	0	0	0	0	0
India	3	5	25	19	43	12
Indonesia	1	4	8	6	1	10
Iran	0	0	1	0	1	0
Italy	0	0	1	1	0	0
Japan	0	0	0	0	0	1
Korea (South)	0	0	0	1	1	1
Malaysia	0	0	0	6	4	8
Mexico	0	0	0	1	0	0
Myanmar	0	0	0	0	0	6
New Zealand	0	0	2	0	1	0
Norway	0	0	0	0	0	1
Pakistan	0	0	0	0	0	0
Singapore	2	1	18	14	4	20
Spain	0	0	0	1	0	0
Taiwan	0	2	2	8	2	4
Thailand	20	34	27	17	49	102
Turkey	0	0	0	1	0	0
USA	3	1	4	10	4	7
Vietnam	0	7	9	7	6	13
Yemen	0	0	0	0	3	1
TOTAL	**44**	**83**	**177**	**190**	**160**	**242**

Source: Food Safety & Quality Division, MoH

TABLE 6
NUMBER OF APPROVALS FOR IMPORT OF FLAVOURING SUBSTANCES, 2007 - 2010

Year	No. Approvals
2007	10
2008	236
2009	161
2010	333

Source: Food Safety & Quality Division, MoH

All importers of flavouring substances for use in food must obtain approval from the Director. Table 6 shows the number of approvals given from 2007 to 2010. Among the important activities for the import section in 2010 are as follows:

a) Implementation of National Monitoring Programme for imported foods:-

i. Monitoring of aflatoxin contamination in dried chilli/chilli powder.
ii. Monitoring of sulphur dioxide in dried chilli / powder.
iii. Monitoring of heavy metals contamination in honey.
iv. Monitoring of sulphur dioxide in raisins.
v. Monitoring of pesticide residues in soybeans.
vi. Monitoring of deoxynivalenol (DON) in pasta (wheat-based pasta, such as spaghetti etc.)
vii. Monitoring of heavy metals contamination in infant formula and follow-up infant formula.

b) A representative from FSQD attended the National Contact Point Meeting on the ASEAN Rapid Alert System for Food and Feed (ARASFF) and 4th EU - ASEAN Workshop on Rapid Alert System for Food and Feed in Bangkok, Thailand from 22-24 June 2010 and 13-14 December 2010 respectively.

c) Training was provided for agents, importers and FSQD personnel on FoSIM Version II.

F. CODEX, INTERNATIONAL AND STANDARDS DEVELOPMENT SECTION

Previously, the development of standards under the Food Regulations (FR) 1985 and discussions pertaining to Codex standards at the national level were managed independently by two separate Sections. The Committee that oversees the development of FR 1985 rested under the Standard Development Section, while the Committee that looks at Codex standards was under the responsibility of the Codex and International Section.

Despite constant communication and sharing of input from the Codex Section, the task to harmonise national standards with those of Codex proved to be difficult and could not be carried out in tandem with the latest development in Codex standards because of the sectional segregation. Realising this shortcoming, the two Sections were merged in August 2009 and named as the Codex & International and Standards Development Section. Now, reviewing and updating of FR 1985 as well as formulation of new legislations can be performed more comprehensively, efficiently and in line with the development of Codex standards and those of other countries.

To ensure gains in the merging of the two Sections, restructuring of units and officers were carried out according to subject matter. For example, the unit that is responsible for developing standards

on food additives is also entrusted as the Secretariat for the National Codex Sub-Committee (NCSC) on Food Additives. With this arrangement, discussions and latest development pertaining to food additives can be pursued in a more holistic approach.

Nevertheless, the restructuring of units within this Section does not change the organisation structure and running of Codex activities at the national level. For example, the Meeting of NCSC on Food Additives is still convened independently of the Meeting of Expert Working Group on Food Additives.

i. Codex Activities at the National Level

FSQD, which acts as the Codex Contact Point and the Secretariat to the National Codex Committee (NCC), plays the lead role in facilitating and coordinating Codex activities at the national level especially in ensuring national coherence on various Codex issues of national interest and Malaysia's participation in Codex meeting. The NCC consists of 20 National Codex Sub-Committees (NCSC) and one Codex Task Force (TF) that are established to consider and formulate the national position on subject matters discussed within the corresponding Codex Committees (Appendix 1).

In 2010, Malaysia participated in 8 Codex meetings at the international level which involved 19 delegates. The Malaysian Delegation consisting of representatives from the Ministry of Health and various other agencies are selected based on expertise in relevant disciplines so as to ensure Malaysia's position on issues of interest is safeguarded (Appendix 2). At the national level, one NCC meeting, 46 NCSC meetings and two TF meetings were held in preparation for and as follow-up to international Codex meetings (Appendix 3).

ii. Malaysia as the Host Country for Codex Committee on Fats and Oils

For the first time since being designated as the host government of the Codex Committee on Fats and Oils (CCFO) in July 2007, Malaysia hosted the 21st Session of the CCFO from 16 - 20 February 2009. The session was successfully held in Kota Kinabalu, Sabah and was attended by 103 participants from 37 member states, 1 member organisation (European Community) and 5 international organisations. The session was chaired by Ms. Noraini Dato' Mohd. Othman, Director of FSQD.

As host government, Chair and Secretariat for the CCFO, Malaysia is able to directly contribute to the Codex system, as well as help enhance the country's image and credibility in becoming a role model in Codex activities at the international level, particularly in issues of interest to developing countries. This involvement also helps to promulgate awareness amongst our local food industries on the importance of safety and quality of food as an international requirement in expanding trade of fats and oils.

iii. Food Safety Activities at the ASEAN Level

a) Coordinator of the Food Inspection and Certification Programme under the ASEAN Expert Group on Food Safety (AEGFS)

Malaysia also plays an active role in various cooperation at the ASEAN level such as in the ASEAN Expert Group on Food Safety (AEGFS) in which Malaysia acts as the Overall Coordinator and Programme Coordinator for the Programme on Food Inspection and Certification and Programme on Monitoring and Surveillance under the ASEAN Food Safety Improvement Plan (AFSIP). The 8th Meeting of the AEGFS which was scheduled to be held in Thailand in 2010 was postponed to 2011 due to the political situation in the host country.

b) National Focal Point for the ASEAN Task Force on Codex (ATFC)

Malaysia hosted the 10th Meeting of the ATFC from 7 to 9 June 2010. The session was successfully held in in Kuala Lumpur and was attended by 38 delegations from Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Philippines, Singapore, Thailand and Vietnam. The meeting was chaired by Ms. Noraini Dato' Mohd. Othman, Director of FSQD. Malaysia presented 3 discussion papers, and as the appointed Focal Point for the Codex Committee on General Principles (CCGP) and Codex Committee on Fats and Oils (CCFO), Malaysia also updated the 10th ATFC on the latest activities with regards to CCGP and CCFO. The next meeting was scheduled to be held in June 2011, hosted by the Philippines.

c) National Focal Point for the ASEAN Consultative Committee on Standards and Quality (ACCSQ) Prepared Foodstuff Product Working Group (PFPWG)

Malaysia participated in the 11th Meeting of the ACCSQ PFPWG that was held in Manila, Philippines from 15 - 16 July 2010 as well as the 12th Meeting of the ACCSQ PFPWG in Vientiane, Lao PDR held from 9 - 10 December 2010. Malaysia as the lead country for the ASEAN Common Principles and Requirements for the Labelling of Pre-Packaged Food (ACPRL), presented the status of implementation of this programme in both meetings. During the 12th Meeting, Malaysia also presented the 14 priority elements for labelling that could be considered for harmonisation at the regional level. The meeting agreed for ASEAN Member States to provide their national regulation and standards regarding the 14 labelling elements in the effort to identify elements which would later be harmonised and implemented in ASEAN states. As the ASEAN Reference Laboratory on Genetically Modified Organisms (GMO ARL), Malaysia updated the meetings on the latest programmes conducted nationally and regionally.

iv. Involvement in Free Trade Agreements, Bilateral and Multilateral Negotiations

In 2010, FSQD engaged in several Free Trade Agreements (FTA), bilateral and multilateral negotiations and provided input pertaining to SPS, TBT and ECOTECH issues on food safety.

v. Gazettement of Food Legislations under the Food Act 1983

In 2010, a total of seven gazettements were issued which comprises four amendments to existing standards, two appointment and revocation of appointment of analysts and one approved laboratory order. The gazettements are as shown in Table 7.

TABLE 7.
GAZETTEMENT OF FOOD LEGISLATIONS UNDER THE FOOD ACT 1983 IN 2010

No.	Regulation	Date of Gazettement
1.	Food Act 1983: Appointment and Revocation of Appointment of Analysts No. 3/2010	7 January 2010
2.	Food Act 1983: Appointment and Revocation of Appointment of Analysts No. 4/2010	7 January 2010
3.	Food (Issuance of Health Certificate for Export of Fish and Fish Product to the European Union) (Amendment) Regulations 2010 P.U.(A) 76/10	18 March 2010
4.	Food (Amendment) Regulations 2010 P.U.(A) 229/10	8 July 2010
5.	Food Hygiene (Amendment) Regulations 2010 P.U.(A) 231/10	8 July 2010
6.	Food Act 1983: Approved Laboratory Order 2010 P.U.(A) 420/10	16 December 2010
7.	Food (Amendment) (No.2) Regulations 2010 P.U.(A) 435/10	30 December 2010

Source: Food Safety & Quality Division, MoH

vi. Product Classification and Label Screening Services

To improve services of this section to the public, product classification of Food Drug Interface (FDI) products and label screening services was introduced in addition to the labelling advisory services which are currently available.

a) Food Drug Interface (FDI) Product Classification;

A total of 2278 applications for classification of products were received in 2010 and some of it was discussed at the FDI Product Classification Committee Meeting. This classification service is to classify whether the products is food by FSQD or pharmaceutical product by National Pharmaceutical Control Bureau.

b) Label Screening and Labelling Advisory Services;

Free label screening service has been given to the industry since 2008. A total of 726 labels have been screened in 2010. Through this service, the industry will be informed of the status of their product label and if they require more clarification, they are advised to apply for the labelling advisory services.

This Section also provides Labelling Advisory Service through the Labelling Advisory Committee to industries that need such services. The charge is RM 1,000.00 per label. The applicant is required to amend their product labels based on the comments provided in accordance with the Food Act 1983 and Food Regulations 1985. A total of 51 labels were reviewed by the Labelling Advisory Committee in 2010.

G. COMMUNICATION AND CONSUMERISM SECTION

The Communication and Consumerism Section was established in August 2009 and its functions are (1) to plan and coordinate all food safety and quality promotion activities, and (2) to coordinate and respond to complaints and inquiries related to the food safety and quality. Activities conducted in 2010 were as follows:

i. Food Safety Promotion for Schoolchildren "Observe, Smell, Taste"

A National Level Food Safety Campaign for School children was held on August 10th, 2010 at the Sekolah Rendah Jenis Kebangsaan (Cina) Tsun Jin, Kuala Lumpur. The programme was launched by the Health Minister of Malaysia, Y.B Dato' Sri Liow Tiong Lai. The ceremony was attended by 1500 school children, teachers and food handlers and the theme was "Observe, Smell, Taste". In conjunction with the campaign, the Squad Germ Buster was launched. This mobile squad is established to carry out food safety activities in school to prevent food poisoning.

ii. Programme with YB Deputy Health Minister of Malaysia

This activity was held in 6 states namely Federal Territory Kuala Lumpur, Sabah, Johor, Kedah, Kelantan and Selangor. The objective of this activity was to enhance awareness on the importance of food safety among schoolchildren and food handlers at school.

iii. School Canteen Cleanliness Competition

The School Canteen Cleanliness Competition was held for the first time in 2010 with the objective of giving recognition to the food handlers and the school management which are responsible for maintaining food hygiene in school canteens.

iv. Talk on Food Hygiene Regulations 2009

A series of Talk on Food Hygiene Regulations 2009 were held at the national level on 9, 10th and 23rd February 2010. The talks were attended by government agencies, NGOs, industries and local authorities.

v. Launching of Skim Keselamatan Makanan 1Malaysia (SK1M)

The Skim Keselamatan Makanan 1Malaysia (SK1M) was launched by the Honourable Health Minister of Malaysia on the 8th of November 2010 at Dewan Sri Siantan, Perbadanan Putrajaya. SK1M was introduced to enhance Small and Medium Enterprise (SME) to comply with Food Hygiene Regulations 2009. This scheme enables industries to work towards complying with the SK1M in stages.

SK1M consists of 3 types of recognition which are:

a) Food Safety Inspected
b) GMP 1Malaysia
c) HACCP 1Malaysia

vi. Launching of EU Approved Logo for Export of Fish and Fishery Products

The EU Approved Logo for export of fish and fishery products was jointly launched by MoH, the Minister of Agriculture and Agro-based Industry, and the Ambassador and Head of Delegation of the European Union (EU) to Malaysia on 24th of November 2010 at LKIM Complex, Kuantan, Pahang. The fish facilities (processing establishments/ aquaculture farms/ fishing

vessels/ landing sites) have been approved by the Competent Authorities (CAs) in Malaysia for the export of fish and fishery products to EU were given the logo.

vii. Publication of food safety materials and bulletin (Table 8)

TABLE 8.
PUBLICATIONS OF FOOD SAFETY MATERIAL, 2010

Material	Title
Pamphlet	• *Sistem Jaminan Keselamatan Makanan*
	• *Panduan Pakaian Pengendali Makanan Bagi Sektor Perkilangan (Peraturan 32)*
	• *Panduan Penyediaan, Pembungkusan dan Penghidangan Makanan (Peraturan 36)*
	• *Panduan Penyimpanan, Pendedahan atau Pameran Makanan untuk Dijual (Peraturan 37)*
	• *Pendaftaran Premis Makanan*
	• *Risalah Pengangkutan*
Poster	• *Baca Label*
	• *Panduan Asas Penyimpanan Makanan*
	• *Program Jaminan Keselamatan Makanan*
	• *Basuh Tangan*
Exhibition Education Material	• *Program Jaminan Keselamatan Makanan*
	• *Lihat, Hidu, Rasa*
	• *Skim Keselamatan Makanan 1 Malaysia (SK1M)*

Source: Food Safety & Quality Division, MoH

viii. Activities to enhance knowledge on food safety through mass media/website and community participation (Table 9)

TABLE 9.
ACTIVITIES TO ENHANCE KNOWLEDGE ON FOOD SAFETY IN 2010

Type	Activities
Exhibition (National Level)	i. Smart Kidz Exhibition, PWTC, April 2010
	ii. Malaysian International Food and Beverages (MIFB), PWTC, 22-24 July 2010
	iii. Healthy Catering , Perbadanan Putrajaya
	iv. World Halal, KLCC, 23-25 June 2010
	v. Karnival Guru Kebangsaan, Pahang, 13-16 May 2010
	vi. MAHA, 26-5 December 2010
Mass media	2 times slot TV/Radio talks
	i. Safe Food
	ii. Observe, Smell, Taste
Seminar	Standards and Consumer Seminar Series 2010 organized by the Ministry of Domestic Trade, Cooperatives and Consumerism (KPDNKK) in collaboration with the Food Safety and Quality Division.

Source: Food Safety & Quality Division, MoH

H. POLICY SECTION

i. Activities carried out under the National Food Safety and Nutrition Council (NFSNC)

In order to handle all matters related to food safety and nutrition in MoH has succeeded in gathering all relevant agencies through the National Food Safety and Nutrition Council (NFSNC). The Ninth NFSNC Meeting was held on 8th December 2010 and chaired by the Honourable Health Minister of Malaysia and was attended by the Chief Secretary to the Ministry/representative, the Director/representative of related agencies, the Federation of Malaysian Manufacturers (FMM), Federation of Malaysian Consumer Associations (FOMCA) and professional bodies represented by the president/representative of their respective associations. A total of 24 issues and six proposals, were tabled at the meeting including the achievement report of the National Plan of Action for Food Safety for 2010.

ii. Activities Involving Policy for FSQD

In cognizance of the importance of food safety, MoH has taken a step forward to strengthen the food safety control in Malaysia through the upgrading of FSQD as a new programme under MoH, effective on 1st July 2010 as agreed by Cabinet Meeting The move serves as a testimony of the Malaysian Government's commitment in upgrading the level of food safety in the country.

iii. Activities involving the Key Result Area (KRA) / Key Performance Indicator (KPI) FSQD

FSQD has contributed to two KRAs for Y.B Deputy Health Minister of Malaysia, which are food poisoning reduction and market access for fishery products for 2010. FSQD has also contributed to the KPI for the Director General of Health (DG), which is the number of food industry getting recognition under the HACCP Malaysia certification scheme, and the KPI for the Deputy Director General of Health (Public Health), which is the turnaround time (TAT) for laboratory for the year 2010 and complied to the set target. Additionally, FSQD has achieved

most of the target being set for the 5 key result area (KRA) for food safety and quality activities that were food poisoning reduction, market access for fishery product, clean food premises, foods sold comply with Food Act 1983 and Food Regulations 1985 and 31 client services.

iv. Quality Activities Involving FSQD

FSQD was proud to be part of the success of System Star Rating (SSR) Audit by MAMPU for Secretary General Office on 2 - 5 August 2010 and the DG's Office on 5 - 14 October 2010. SSR activity for FSQD was National Food Safety Policy related to the implementation of the KRA for food safety and quality activities that were food poisoning reduction, market access for fishery product, clean food premises, foods sold comply with Food Act 1983 and Food Regulations 1985 and 31 client services .

FSQD has also carried out activities for certification of MS ISO 9001: 2008 from SIRIM Bhd. such as meeting for revising the ISO procedures, Awareness Course for ISO 9001:2008 FSQD, internal quality audit (IQA) course by SIRIM Bhd and IQA for FSQD.

WAY FORWARD

One of the key characteristics that Malaysia is identified with is food; they have a multitudinous variety of food selection, and Malaysians definitely love their food. The establishment of FSQD as one of the new programmes in MoH is a huge step forward to solidify and strengthened the food safety control in Malaysia, and thus further encourages the food industry in Malaysia.

CONCLUSION

Clearly, food control involves many difficult issues. Some of these are highly technical, while others are partly technological and partly political. The mutual goal should be to resolve these questions in a way that takes into account the needs of government, consumers and industry. For government, there is the need for enforceable standards that are convincing to both consumers and industry. For consumers, food control systems must provide meaningful protection against real and important hazards. Finally, industry needs standards that permit flexibility and efficiency in producing and marketing foods that will serve their customers – the consumers.

9 Policy and International Relation

INTRODUCTION

The Policy and International Relations Division is responsible for the formulation of non-clinical policies for the nation's health sector. The Division also coordinates matters related to the Cabinet, acts as the focal point for the Ministry with respect to international relations issues, and responsible for promoting the local healthcare industry. This Division is also the designated national focal point for the World Health Organization (WHO).

Activities were carried out by the two Sections of the Division namely; the Policy and International Relations Section, and the Health Industry and Secretariat Section.

ACTIVITIES AND ACHIEVEMENT

Cabinet Related Matters

In 2010, the Division prepared and coordinated 21 Cabinet Notes and 28 Memorandum for tabling to the Cabinet Meeting. The Division also monitored, provided inputs and facilitated the preparation of 77 comments on Memorandum received from other ministries and 91 feedbacks to decisions made by the Cabinet throughout 2010.

High Level Meetings within MoH

The Division is also the secretariat for 3 high level meetings in the Ministry, in addition to the 35 Post-Cabinet Meetings, 11 Morning Prayers and 1 Secretary-General's Meeting with State Health Directors that were held in 2010.

Introductory Health Economics Course

The Division organised an Introductory Health Economics course for MoH administrative officers from 19 to 23 July 2010 in Shah Alam, Selangor, which aimed at introducing health economic concepts and the application of analytical tools that are commonly used in decision making, with regards to resource allocation and economic evaluation in the health sector. A total of 34 MoH administrative officers participated and successfully completed the course. They also visited private hospitals during this course to share information and experiences with their counterparts in the private sector.

International Relations

a) World Health Organization (WHO)

Throughout 2010, the Division coordinated placements of 8 foreign WHO consultants and 4 WHO fellows in various institutions in Malaysia. In addition, the Division also coordinated and processed applications from 98 participants and 16 short-term advisors and 1 observer comprising of Malaysian professionals to attend 70 meetings/workshops/study visits overseas under WHO sponsorship.

b) Foreign Visitors

The International Relations Section also assisted in the deliverance of technical expertise and cooperation to foreign countries through study visits and training attachments. In 2010, this Division facilitated study visits and training attachments in various Institutions and Divisions under MoH involving 1,056 foreign officials from 28 countries.

c) Secretariat for Bilateral Meetings

i) The 5th Bilateral Ministers Meeting on Health between Malaysia and Brunei Darussalam

The 5th Bilateral Ministers Meeting on Health between Malaysia and Brunei Darussalam was held in Putrajaya on October 16th, 2010. During the meeting, both countries deliberated on various issues on public health and medicine. The 6th Bilateral Ministers Meeting on Health between Malaysia and Brunei Darussalam in 2012 will be hosted by Brunei Darussalam, subsequent to a Technical Working Group Meeting between both countries.

ii) Signing of Memorandum of Understanding (MoU) in Traditional System of Medicine

On 28 October 2010, a MoU in the field of Traditional System of Medicine between Malaysia and the Republic of India was signed in Putrajaya. The signing ceremony was witnessed by the Prime Ministers of Malaysia and the Republic of India.

d) Official Visits

The Division also coordinated official visits by Malaysian delegations and the Honourable Minister of Health himself;

i) The Malaysian delegation led by the Honourable Minister of Health Malaysia visited Singapore from 17 to 18 January 2010, to forge greater cooperation between the pharmaceutical regulatory authority of Malaysia and Singapore; and
ii) The Malaysian delegation led by the Honourable Minister of Health Malaysia visited Cairo, Egypt from 28 September – 1 October 2010, to encourage collaboration between the pharmaceutical regulatory authority of Malaysia and Egypt and market access for Malaysian generic pharmaceutical company.
iii) The Honourable Minister of Health visited Shanghai, China from 12 - 15 June 2010, to enhance cooperation in traditional medicine and promote health tourism to Malaysia in China.

International Trade and Health

a) 8th Malaysia-Australia Trade Negotiating Committee (TNC) Meeting for Expert Group on Services – Malaysia-Australia Free Trade Agreement (MAFTA)

The Division represented MoH in the Expert Group Meeting on Services at the 8th Malaysia-Australia TNC Meeting on MAFTA from 15 to 25 October 2010 in Canberra, Australia. Negotiations were based on these topics:

(a) Movement of Natural Persons;
(b) Market Access; and
(c) Service Chapter Text.

b) First Malaysia-European Union Free Trade Agreement (MEUFTA) from 6-9 December 2010

The Division represented MoH in the First MEUFTA held on 6 to 9 December 2010 in Brussels, Belgium. MoH participated in the negotiations which are related to the Ministry such as:

(a) Market Access to Goods;
(b) Sanitary and Phytosanitary Measures;
(c) Intellectual Property Rights (IPR); and
(d) Technical Barriers to Trade (TBT).

c) Malaysia-India Comprehensive and Cooperation Agreement (MICECA)

The Division provided inputs on health services sector after consultation with various Divisions of MoH to the Ministry of International Trade and Industry (MITI). MITI was involved in the trade negotiating meeting for the services sector.

Promotion and Development of the Healthcare Industry

The Division worked closely with other government agencies and the private sector to develop and promote the local healthcare industry. These agencies included MITI and its agencies i.e. Malaysian External Trade Development Corporation (MATRADE) and Malaysian Industrial Development Authority (MIDA); Ministry of Tourism and its agency i.e. Malaysian Tourism Promotion Board (Tourism Malaysia) as well as Performance Management and Delivery Unit (PEMANDU) of the Prime Minister's Department. In addition, the Division also collaborated closely with the private sector, namely the Association of Private Hospitals of Malaysia (APHM), Malaysian Society for Quality in Health (MSQH), Malaysian Organisation of Pharmaceutical Industries (MOPI), Pharmaceutical Association of Malaysia (PhAMA), Malaysian Medical Device Association (MMDA) and Association of Malaysia Medical Industries (AMMI).

Throughout 2010, the Division supported the healthcare industry by organising 2 courses as well as participated in 7 domestic and 2 international events. The Division also engaged the healthcare industry stakeholders in various formal and informal dialogues. Data and information related to the healthcare industry were collated besides attending to more than 35 enquiries related to the industry from various stakeholders.

Following the establishment of Malaysia Healthcare Travel Council (MHTC) to promote and develop the healthcare travel industry in 2009, the Healthcare Industry Section in the Division was restructured and realigned to 3 Units focusing on Healthcare Services, Medical Devices and Pharmaceuticals.

Healthcare Services

a) Course on Introduction to the Malaysian Society for Quality in Health (MSQH) Accreditation on 8 November 2010 at the Health Management Institute, Kuala Lumpur

   The Division organised this inaugural course in collaboration with MSQH and the Association of Private Hospitals of Malaysia (APHM). The course provided exposure and awareness to the private hospitals on the importance of healthcare quality benchmarking as well as the MSQH accreditation processes and procedures. 40 representatives from 20 private hospitals participated in the course.

b) APHM International Healthcare Exhibition 2010 on 13-15 July 2010 at Kuala Lumpur Conference Centre

   The Honourable Minister of Health officiated the Opening of the 18th APHM International Healthcare Conference and Exhibition on 13 July 2010. The Exhibition was held on 13-15 July 2011, with 73 healthcare related companies taking up 104 exhibition booths. The Division coordinated MoH participation in the exhibition, taking up 6 booths with the cooperation of the National Pharmaceutical Control Bureau, Medical Device Bureau, Clinical Research Centre, Health Education Division and the MHTC. The MoH Divisions/Agencies successfully showcased and disseminated information on their services to the visitors. A total of 1,891 visitors inclusive of 488 Conference delegates visited the 3 day Exhibition.

Medical Devices

a) Course on Medical Devices for Customs Officers and Industry Players from 20 - 22 June 2010 at Tun Abdul Razak Institute for Broadcasting and Information, Kuala Lumpur

   30 officers from the Royal Malaysian Customs Department and 52 participants from the medical devices industry attended the course. Speakers from the Medical Device Bureau of MoH, MIDA and Royal Malaysian Customs Department were present to share knowledge and provide information on the medical devices industry. The participants were able to gain a

better understanding on the medical devices industry as a promoted sector. Issues related to tariff enforcement, regulation and importation requirements were also discussed.

b) Roundtable Dialogue on Medical Devices Industry in Malaysia on 30 September 2010

The AMMI organised a roundtable dialogue on medical devices industry in Malaysia. The dialogue which chaired by the Director General of MIDA, was attended by representatives of MoH (the Medical Device Bureau and the Policy & International Relations Divisions), MIDA, Economic Planning Unit, MITI, Khazanah Nasional Berhad as well as AMMI members. The issues discussed were on reinvestment allowance for expansion, incentives for R&D, promotion of medical devices industry at international arena, registration requirements for medical devices companies, trade agreements as well as training and development.

Monitoring Delivery of the Healthcare National Key Economic Area

Healthcare was identified as one of the National Key Economic Areas (NKEAs) under the Economic Transformation Programme (ETP) to transform the Malaysian economy to become a high-income nation by the year 2020 with projected Gross National Income (GNI) per capita to reach USD15,000 (RM48,000) from USD6,700 (RM23,700) in 2009. The Healthcare NKEA aspires to generate RM35.3 billion incremental GNI contribution to reach RM50.5 billion by the year 2020 through 6 Entry Point Projects (EPPs) and 2 Business Opportunities (BOs). These projects will also result in approximately 181,000 new jobs.

The Division worked closely with PEMANDU during the preparation of the ETP Roadmap in June and July 2010. Subsequently, in September 2010, the Delivery Management Office (DMO) for Healthcare NKEA was established under this Division to monitor the performance and delivery of the EPPs and BOs.

a) NKEA Workshop on 12 May 2010 at MAS Academy, Kelana Jaya, Selangor

Officers from the Division participated in the NKEA Workshop organised by PEMANDU which was held to explain the concept of NKEA, methodology and rationale of the NKEA selection as well as to obtain feedback from various stakeholders. As a result, Healthcare was chosen as one of the 12 NKEAs to transform the Malaysian economy to become a high-income nation by the year 2020.

b) Healthcare NKEA Laboratory from 1 June - 27 July 2010 at MAS Academy, Kelana Jaya, Selangor

During the Laboratory session, 40 key personnel from 30 organisations, including officers from this Division, contributed in identifying healthcare related Entry Point Projects (EPPs) and Business Opportunities (BOs) that Malaysia should focus to push the country's economy forward. The participating members worked on mapping out concrete strategies as well as identifying and studying plans, initiatives and incentives for the healthcare industry to achieve the set target. The EPPs and BOs that were agreed were:

EPP 1 : Private Health Insurance for Foreign Workers;
EPP 2 : Clinical Research Malaysia;
EPP 3 : Malaysian Pharmaceuticals;
EPP 4 : Healthcare Travel;
EPP 5 : Diagnostic Services Nexus; and
EPP 6 : University of Malaya Health Metropolis.
BO 1 : Medical Technology Manufacturing (Medical Devices); and
BO 2 : Seniors Living.

c) Series of ETP Open Days, Workshop and Launching of Road Map on ETP

The Division also participated in a series of Open Days organised by PEMANDU (Table 1). The Open Days were held to showcase outputs from NKEA Lab held in June and July 2010. It was an effort to help various parties including the Cabinet, Members of Parliament, government top management as well as the public, to have a better understanding on Government's effort in driving meaningful change to the country's economy.

d) Healthcare NKEA Steering Committee Meeting

The Healthcare NKEA Steering Committee Meeting is a monthly meeting held to discuss and solve problems to ensure the smooth implementation of EPPs. The meeting is co-chaired by the Healthcare NKEA Lead Minister, i.e. The Honourable Minister of Health together with The Honourable Senator Dato' Sri Idris Jala, the Chief Executive Officer of PEMANDU and Minister in the Prime Minister's Department. Members of the Meeting are the EPPs owners as well as stakeholders from the government and private sector. Two (2) Healthcare NKEA Steering Committee Meetings were conducted in 2010 i.e. on 28 October 2010 and 22 November 2010.

TABLE 1
OPEN DAYS HELD IN 2010

No.	Event	Date (Day)	Venue	Target Group
1.	Cabinet Workshop (Gallery Walk)	17 August 2010 (Tuesday)	PICC, Putrajaya	Members of Cabinet (Ministers)
2.	Open Day for MPs	20 September 2010 (Monday)	PWTC, KL	Members of Parliament
3.	ETP Open Day	21 September 2010 (Tuesday)	PWTC, KL	Public
4.	ETP Open Day	4 October 2010 (Monday)	Four Points by Sheraton, Kuching, Sarawak	Public
5.	ETP Open Day	7 October 2010 (Thursday)	Magellan Sutera Harbour, Kota Kinabalu, Sabah	Public
6.	Launch of ETP Road Map	25 October 2010 (Monday)	PWTC, KL	Public

Source: Policy & International Relations Division, MoH

e) Healthcare NKEA Weekly Report

The DMO, with the assistance of the respective EPPs owners, submits weekly EPP progress report to PEMANDU. The first report was generated during the week of 27 September – 1 October 2010. By the end of 2010, DMO had submitted 14 reports to PEMANDU.

CONCLUSION

Throughout 2010, the activities of the Policy and International Relations Division were carried out as planned. This Division will continue its role as a focal point of the Ministry in various areas for which it is responsible and will strive to achieve targets that have been set out in its yearly work plan.

10 Health Legislation

INTRODUCTION

The Legal Adviser's Office of the Ministry of Health (MoH) is responsible to draft laws in the form of Acts and Subsidiary Legislation relating to health parallel to the policies of the Ministry. In line with the responsibilities trusted upon the Legal Adviser's Office is deemed to be an important arm to MoH in its effort to regulate and deliver the healthcare services to all Malaysian.

ACTIVITIES AND ACHIEVEMENT

The Legal Adviser's Office is responsible in handling and settling legal issues within MoH through verbal and written legal opinions, vetting of contracts and agreements, prosecuting offences under the laws regulated by the Ministry, as well as amending and drafting bills and subsidiary legislations.

2010 was a turning point for the field of mental health in Malaysia. The Mental Health Act 2001 [Act 615] gazetted in year 2001 came into force on the 1st of June along with the Mental Health Regulations 2010, effectively repealing Mental Disorder Ordinance 1952. Mental Health Act 2001 generally consolidates the laws relating to mental disorder and to provide for the admission, detention, lodging, care, treatment, rehabilitation, control and protection of persons with mental disorders.

WAY FORWARD

Despite the absence of new acts gazetted in the year 2010, there were various amendments and gazettements made on health related subsidiary legislations such as, Poisons (Psychotropic Substances) (Amendment) Regulations 2010, Food (Issuance of Health Certificate for the Purpose of Exporting Fish and Fish Product to European Union) (Amendment) Regulations 2010, Control of Tobacco Products (Amendment) Regulations 2010 and etc. In addition, there are also due to be tabled in the Parliament that has been finalized by LA Office such as:

i) Medical Devices Bill
ii) Medical Devices Authority Bill
iii) Traditional and Complimentary Medicine Bill

CONCLUSION

The rapid development of healthcare services in Malaysia provide legal challenges in the development of health legislation and thus, encouraging the Legal Adviser's Office to be more dedicated and committed in serving the MoH in achieving its goal to deliver better healthcare services to the nation. The co-operation given by every member and the full support received from the Ministry contributed to the effectiveness and productivity of the working process of the Legal Adviser's Office.

Internal Audit 11

INTRODUCTION

The Internal Audit Division (IAD) of Ministry of Health (MoH) was established in May 1980 accordance with Treasury Circular 2 of 1979 and the subsequent Treasury Circular 9 of 2004. IAD reports directly to the Secretary General of MoH. The main function of the IAD was to assist MoH to achieve its objectives through systematic and continuous evaluation to ensure effectiveness of internal control processes and good governance in accordance with government rules and regulations.

WORK FORCE

There were 83 IAD posts in 2010, where 67 posts were filled while the other 16 posts were vacant.

ACHIEVEMENTS

In 2010, IAD successfully carried out financial audits, performance audits and special audits. In addition, officers from IAD were also invited by other MoH Divisions to give lectures/advisory services on financial management issues and audit achievements are as shown in Table 1.

TABLE 1
IAD ACHIEVEMENTS IN 2010

Programs/Activities	2010
Financial Audit	105 RC
Performance Audit	5 Topics (24 RC)
Special Audit	18 Cases
Lectures & Advisory Services	6 RC

Note: RC – Responsibility Centres
Source: Internal Audit Division, MoH

Financial Audit

Financial audit includes the review of internal controls and compliance with government legislations, regulations, directives and circulars on financial management. It covers the audit inspection office management, revenue, expenditure and assets of MOH. In 2010, IAD had carried out financial audits on 105 Responsibility Centres (RC) throughout the country.

Performance Audit

IAD carried out performance audit in order to ensure that MoH is achieving economy, efficiency and effectiveness in the employment of available resources. This audit was able to identify weaknesses or short-comings on the management and operation of MoH programs/activities/projects and suggested recommendations to resolve issues and overcome challenges to ensure quality service delivery to all stakeholders. In 2010, IAD had carried out 5 performance audits involving 24 RC.

Special Audit/Investigation

Special audits or investigations were carried out based on reports or instructions from the Secretary General. In 2010, IAD had carried out 18 special audits or investigations.

Lectures & Advisory Services

IAD officers were also invited by various MoH Divisions to give lectures and advisory services on financial management issues/audit observations. A total of 6 lectures and advisory services were delivered by IAD officers in 2010.

IAD INNOVATION

The Financial Management Performance Monitoring System (3PK System) is a computer application developed by IAD to assist the Ministry to monitor and evaluate the financial performance of each RC and MoH as a whole. The system was developed in 2007 and first used in 2008 in which each RC must assess its own level of their financial management. The financial management performance evaluated for the year 2010 was 494 RC for the first half and 493 for the second half, as shown in Table 2.

TABLE 2
RC ACHIEVEMENTS IN YEAR 2010

Status	First Half		Second Half	
	No of RC	%	No of RC	%
Excellent	338	58.66	345	69.25
Good	104	35.44	112	28.10
Satisfactory	0	0.81	0	0.41
No Participation	52	5.09	36	2.24
Total	**494**	**100**	**493**	**100**

Source: Internal Audit Division, MoH

WAY FORWARD

IAD is committed in helping MoH to enhance its service delivery system to its client in an economic and effective manner. Hence, IAD has to carry out proactive risk analysis on the financial management and programs/activities of MoH, in line with the aspiration and the needs of the MoH stakeholders. The way forward for IAD is to visit the RCs on regular basis once in every 2 to 3 years. IAD will also evaluate from time to time the management internal controls of MoH whenever necessary.

CONCLUSION

IAD of MoH had successfully carried out its programs/activities as planned. With commitment and full cooperation from other divisions, IAD is confident that MoH could enhance further its financial and programs/activities/projects management. MoH should strive to undertake corrective actions to resolve the issues and rectify weaknesses as reported by IAD to avoid recurrence in future.

12 Events

IMPORTANT EVENTS IN 2010

7 January

YAB Dato' Sri Najib Tun Abd Razak, Prime Minister of Malaysia officiated *The Launching of Klinik 1Malaysia* at Klinik 1Malaysia Kerinchi and Klinik 1Malaysia Lembah Subang.

12 January

YAB Dato' Seri Utama Haji Mohamad bin Haji Hasan, Chief Minister of Negeri Sembilan officiated the opening of *Klinik 1Malaysia Taman Semarak* at Taman Semarak, Nilai, Negeri Sembilan.

15 January

YAB Dato' Seri Md Isa bin Sabu, Chief Minister of Perlis officiated the opening of *Klinik 1Malaysia* at Kangar Perlis.

22 January

YBhg. Tan Sri Dato' Seri Dr. Mohd Ismail bin Merican, the Director-General of Health Malaysia, made a working visit to the Bukit Ilmu National ATLS Centre at Bukit Ilmu, Hospital Sungai Buloh.

2 - 4 February

YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia attended *The 10th Malaysia Health Plan Conference* with participation of officers from the Ministry of Health and other stakeholders in health from other government agencies, private sectors and non-governmental organisations at Holiday Villa Hotel & Suites, Subang.

4 February

YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia launched *The Contribution to patients in the National Leprosy Centre* in conjunction with Chinese New Year Celebration at the National Leprosy Centre.

8 – 9 February

The Health Day for Medical Programme was completed by Datuk Dr. Noor Hisham Abdullah, Deputy Director General of Health (Medical) at the Lobby of Block E1, Parcel E, Ministry of Health Malaysia.

28 February

YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia launched *1Malaysia Oral Health Awareness Campaign* at the Tropicana City Mall, Damansara Jaya.

3 March

YBhg. Tan Sri Dato' Sri Dr. Hj. Mohd Ismail bin Merican, the Director General of Health Malaysia, chaired the *Meeting on Effectiveness of Dengue Control Activities in the District* at the Operations Room of the Ministry of Health.

3 March

Dato' Abdul Samad b. Ibrahim, Representative of Seri Menanti for the State Legislative Assembly (ADUN Seri Menanti), launched the *'Program Makanan Seimbang'* at Dewan Sekolah Kebangsaan Kepis, Johol, Negeri Sembilan.

6 March

YAB Dato' Seri Utama Haji Mohammad b Haji Hasan, Chief Minister of Negeri Sembilan officiated *'Karnival Pendidikan Dan Kerjaya Kali Ke 4 Peringkat Daerah Kuala Pilah'* at Dewan Dato' Bahaman Shamsudin, Kuala Pilah, Negeri Sembilan.

8 March

YBhg. Tan Sri Dato' Seri Dr. Hj. Mohd Ismail bin Merican, the Director General of Health Malaysia, chaired the *Patient Safety Council Meeting 1/2010* at the Operations Room of the Ministry of Health Malaysia.

21 March

YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia attended The Launching of the *Less Sugar Campaign* at Metro Prima Jusco, Kepong.

28 March

YB Datuk Rosnah Shirlin Hj. Abdul Rashid Shirlin, Deputy Minister of Health, Malaysia launched the *10th National PROSTAR Convention* at Bukit Merah Laketown Resort, Taiping, Perak.

30 March

YBhg. Tan Sri Dato' Seri Dr. Hj. Mohd Ismail Merican, Director General of Health Malaysia, launched the *Hospital Support Services (HSS) Conference 2010* at Legend Hotel, Kuala Lumpur.

3 April

YB Dato' Sri Liow Tiong Lai, the Health Minister of Malaysia made an official visit to Hospital Kuala Kubu Baru, Selangor.

8 April

YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia officiated the opening of *Oral Health Month 2010* at Jusco Bukit Tinggi, Klang.

10 April

Dr. Noor Ashah Binti Itam Othman, Port Dickson Health Officer, launched the *Seminar Remaja Terbilang "Bicara Cinta"* at Politeknik Port Dickson, Negeri Sembilan Darul Khusus.

10 April

Pahang Healthy Lifestyle Campaign 2010 was launched by YB. Dato' Hj. Ishak bin Hj. Muhammad, Chairman Of Entrepreneurs and Corporation Development of Pahang at Dataran Pekan, Pahang.

10 – 11 April

YB Datuk Rosnah Shirlin Hj. Abdul Rashid Shirlin, Deputy Minister of Health, Malaysia attended the *Karnival Sihat Papar* at Padang Pekan Papar, Sabah.

11 April

National World Health Day 2010 Launching Ceremony with the theme of *Urbanization and Health*, was completed by TYT Tun Datuk Seri Utama Mohd Khalil Yaakob, Yang Dipertua Negeri of Malacca at Dataran Pahlawan, Melaka.

15 April

YB Datuk Rosnah Shirlin bt. Hj. Abdul Rashid Shirlin, the Deputy Minister of Health, Malaysia officiated the *Financial Contribution Ceremony by the Lembaga Zakat to the Tabung Kebajikan Pesakit Hospital Negeri Selangor* at Hospital Sungai Buloh's Auditorium.

20 April

YB Datuk Rosnah Shirlin bt. Hj. Abdul Rashid Shirlin, the Deputy Health Minister, Malaysia made an official visit to Hospital Kuala Kubu Baru, Selangor.

22 April

Tan Sri Dato' Seri Dr. Hj. Mohd. Ismail bin Merican, the Director General of Health Malaysia, officiated the *Launching of Clinical Practice Guidelines (CPG) Management of Dementia (2nd edition)* at the National Institute of Health, Bangsar. The event was organized by Health Technology Assessment Section (MaHTAS) of the Medical Development Division.

23 April

Dr. Zakiah Ismail, Head of Herbal Medicine Research Centre, on behalf of the Director of Institute for Medical Research, launched the *Graduation Ceremony for the 32nd Diploma in Medical Microbiology Course* at the Institute for Medical Research.

24 April

Majlis Sambutan Hari Kesihatan Sedunia 2010 & Program 10,000 Langkah Peringkat Negeri, Negeri Sembilan was launched by Dato' Hj Ismail bin Taib, Chairman of The Standing Committee of Health, Science, Technology and Innovation of Negeri Sembilan at City Park Seremban 2, Negeri Sembilan Darul Khusus.

27 – 28 April

Dr. Mohammad Faid b. Abd Rashid, Kuala Pilah Health Officer, officiated the *Program Kesedaran Penyakit Jantung Peringkat Sekolah at* Sekolah Menengah Tuanku Muhammad, Kuala Pilah

28 April

Dr. Mahani bt. Yusoff, State Health Director of Perlis launched the *Sambutan Bulan Pemakanan Peringkat Negeri Perlis* at Sekolah Kebangsaan Arau, Perlis.

3 - 5 May

Konvensyen Kelab Doktor Muda Peringkat Negeri Sabah 2010 was launched by YB. Datuk Seri Panglima Hj. Lajim Hj. Ukin at Dewan Pa' Musa, Beaufort, Sabah.

8 May

YBhg. Dato' Dr. Hasan bin Abdul Rahman, Deputy Director General of Health (Public Health) on behalf of the Minister of Health Malaysia, launched the *National World Thalassemia Day Celebration 2010* at the Legend Hotel, Kuala Lumpur.

9 May

YB Dato' Sri Liow Tiong Lai, the Health Minister of Malaysia, officiated the *1Malaysia Oral Health Awareness Campaign* at The Spring Shopping Mall, Kuching, Sarawak.

11 May

Program Perlis Sihat Sejahtera Tema "Sihat Tanpa Kanser" was completed by DYMM Tuanku Raja Perempuan Perlis and YB Dato' Sri Liow Tiong Lai, the Health Minister of Malaysia, at Dewan 2020, Kangar, Perlis.

13 May

YBrs. Tuan Haji Abdul Jabar Ahmad, Director of the Health Education Division, launched the *Seminar of "Stop At One, Less is Better"* at the Parcel E Auditorium, Precinct 1, Putrajaya.

17 May

Dato' Dr. Hj Azmi bin Shapie, Director of the Medical Development Division, attended the *"Annual Scientific Meeting On Anti-Microbial Resistance (ASMAR)" & The Launching of "Policies & Procedures on Infection Control"* at the Parcel E Auditorium, Precinct 1, Putrajaya.

31 May

YB Dato' Sri Liow Tiong Lai, the Health Minister of Malaysia, officiated the launching of *National World No Tobacco Day* ceremony at the Mid Valley Exhibition Centre, Mid Valley Mega Mall, Kuala Lumpur.

3 Jun

Dr. Zainudin b. Mohd Ali, State Health Deputy Director (Public Health) of Negeri Sembilan Health, officiated the launching of the *Weight Management Programme* at the Dewan Jabatan Pertahanan Awam Malaysia, Seremban, Negeri Sembilan.

5 June

YBhg. Dato' Sri Dr. Hj. Mohd Nasir b. Ashraf, the Secretary General of Ministry of Health, Malaysia, attended a *Dialogue of Secretary General of Ministry of Health with representatives of the MOH's Associations / Unions 2010* at the Dewan Serbaguna KKM, Block E7, Parcel E, Putrajaya.

10 June

YABhg Datin Seri Rosmah Mansor, wife to the Prime Minister of Malaysia, and YB Dato' Sri Liow Tiong Lai, the Health Minister of Malaysia officiated the *"67th MDA AGM/FDI World Dental International Scientific Convention & Trade Exhibition Charity Programme: "Donation, Oral Health Education, Dental Screening and Dental Treatment"* at the Ti-Ratana Welfare Home, Kuala Lumpur.

18 June

YB Tan Sri Dato' Seri Dr. Hj. Mohd Ismail b. Merican, the Director General of Health Malaysia officiated the *Press Conference on Appointment of Celebrity - Aznil Nawawi as Anti-Dengue Icons: "Jom Ganyang Aedes"* at at the Operations Room of the Ministry of Health.

19 Jun

YB Tuan Ibrahim bin Awang Ismail, Representative of Peramu for the State Legislative Assembly (ADUN Peramu), completed the *Kem Kesihatan Komuniti Peramu* at Klinik Kesihatan Peramu Jaya, Pahang.

25 June

YB Dato' Sri Liow Tiong Lai, the Health Minister of Malaysia, officiated the *Health Media Awards Ceremony* at the Seri Pacific Hotel, Kuala Lumpur.

3 July

Dato' Abdul Samad b. Ibrahim, Representative of Seri Menanti for the State Legislative Assembly (ADUN Seri Menanti), launched the *10,000 Steps Program; "Are You Healthy?"* at Klinik Kesihatan Johol, Negeri Sembilan.

4 July

YB Dato Seri Wong Soon Koh, the Minister of Health Environment and Public Health of Sarawak launched the *1Malaysia Oral Health Awareness Campaign* at the Delta Shopping Mall, Sibu, Sarawak.

6 July

Dato' Dr Azmi bin Shapie, Director of the Medical Development Division, launched the *Seminar on Stem Cell Research and Therapy* at Hospital Pulau Pinang.

7 July

The Launching of FMS Coffee Table Book – Accolades of the Hospital Support Services was launched by YB Dato' Sri Liow Tiong Lai, the Health Minister of Malaysia, at the Hilton Hotel, Kuala Lumpur.

10 July

YB Dato' Sri Liow Tiong Lai, the Health Minister of Malaysia, launched the *"Jom Ganyang Aedes" Campaign* at Taman Kajang Mewah, Selangor.

13 July

Dr Hjh. Siti Zaleha Bt Mohd Saleh, Director of Hospital Selayang launched the *Risk Management – National Course on Healthcare Failure Mode Analysis 1/2010* at Hospital Selayang, Selangor.

15 July

YBhg. Datuk Abdul Ghani bin Ahmad, the Director of Town Services Department, Putrajaya Holdings Berhad, launched the *Healthy Catering Training for Food Handlers at Cafeterias, Restaurants and Food Stalls in Putrajaya* at the Dewan Sri Siantan, Kompleks Perbadanan Putrajaya, Precinct 3, Putrajaya.

18 July

YB. Dato' Sri Liow Tiong Lai, the Health Minister of Malaysia, attended the *Bentong Health Carnival* at the SRJK (C) Repah, Bentong, Pahang.

21 – 23 July

Dr Mohd Yusof bin Hj Ibrahim, State Health Director of Sabah, attended the *Risk Management – National Course on Healthcare Failure Mode Analysis 3/2010* at Kota Kinabalu, Sabah

24 July

YB Tuan Ahmad Bakri b Dato' Ali, Perlis Executive Council for Health, Tourism and Rural Development, officiated the *Sambutan Hari Talasemia Peringkat Negeri Perlis* at UITM Arau, Perlis.

25 – 27 July

YB Datuk Rosnah Binti Haji Abdul Rashid Shirlin, the Deputy Health Minister of Malaysia, launched the *Majlis Tilawah Al-Quran Peringkat Kebangsaan 2010 Kementerian Kesihatan Malaysia* at Auditorium Darul Makmur (ADAM), Kompleks Penyiaran Sultan Haji Ahmad Shah, Kuantan, Pahang.

27 – 29 July

Mid-Term Review Meeting of The National Plan of Action For Nutrition of Malaysia (NPANM) 2006-2015 was chaired by Dato' Dr. Hasan Abdul Rahman, the Deputy Director General of Health (Public Health), at the Dewan Serbaguna of Ministry of Domestic Trade, Co-operatives and Consumerism, Putrajaya

31 July

YAB Dato' Seri Md Isa bin Sabu, Chief Minister of Perlis, launched the *Walk 10,000 Steps Program, in conjunction with the World Health Day,* at the Denai Larian Pengkalan Asam, Kangar, Perlis.

2 – 4 August

The 2nd International Nursing Conference in conjunction with The 15th Malaysia - Singapore Nursing Conference 2010 was completed by Dato' Dr. Hj. Azmi b. Shapie, Director of the Medical Development Division, at the Berjaya Times Square Hotel, Kuala Lumpur. The event was co-organized by the Nursing Division, Ministry of Health Malaysia, and the Kelab Lembaga Jururawat Kuala Lumpur.

3 August

Pahang World Health Day 2010 Ceremony was officiated by YB. Dato' Hoh Khai Mun, Chairman of State Committee for Environment and Health, at the Kompleks Belia Indera Mahkota, Kuantan, Pahang.

3 August

YB Datuk Rosnah Binti Haji Abdul Rashid Shirlin, the Deputy Health Minister of Malaysia, officiated the launching of *World Breastfeeding Week 2010* at Rumah Nur Hikmah, Taman Mesra Kajang, Selangor.

3 August

Dato' Dr Azmi bin Shapie, Director of the Medical Development Division, launched the *Seminar on Stem Cell Research and Therapy,* at the Pusat Konvensyen Hospital Umum Sarawak.

3 August

Dato' Hjh. Fathilah Hj. Abd. Wahab, Director of the Nursing Division, launched the *Best Student Awards 2009/2010* at the Berjaya Times Square Hotel, Kuala Lumpur.

5 August

YB Dato' Razak b. Mansor, Speaker for the State Legislative Assembly of Negeri Sembilan and Representative of Pertang for the State Legislative Assembly (ADUN Pertang), officiated the launching of *World Breastfeeding Day* and *Sambutan Minggu Penyusuan Susu Ibu Peringkat Negeri Sembilan* at the Dewan Orang Ramai, Felda Pasoh 1, Simpang Pertang, Jelebu, Negeri Sembilan.

7 August

Dr. Mahani bt Yusoff, State Health Director of Perlis, officiated the launching of *Minggu Penyusuan Ibu Peringkat Negeri Perlis* at Taman Kemajuan, Kangar, Perlis.

10 August

The launching of *Kempen Keselamatan Makanan 2010, Elakkan Keracunan Makanan : Lihat, Hidu, Rasa* was launched by YB Dato' Sri Liow Tiong Lai, the Health Minister of Malaysia, at SRJK (C) Tsun Jin, Ampang, Selangor.

16-17 August

Tuan Haji Ahmad Bin Abdul Hamid, the Deputy State Health Director (Management) of Sarawak, officiated the launching of the *MyMeeting Training*, organized by MAMPU Sarawak at the JKN Sarawak Computer Lab.

18 August

Dr Yasmin bt. Sulaiman, the Deputy State Health Director (Public Health) of Pulau Pinang, officiated *"The Launching of Pulau Pinang Buster Germ Program"* at Sekolah Kebangsaan Sungai Korok, Balik Pulau, Pulau Pinang.

20 September

YAB Tan Sri Dato' Hj. Muhyiddin bin Hj. Mohd. Yassin, Deputy Prime Minister of Malaysia, attended the *National Meeting on Dengue 2010* at the Dewan Persidangan ICU, Bangunan Perdana Putra, Putrajaya.

27 September

Tan Sri Dato' Seri Dr Hj. Ismail Merican, Director General of Health Malaysia, launched the *First Annual Occupational Safety and Health Seminar for MoH Hospitals 2010: Forging Ahead for Better Occupational Safety and Health in MoH Hospitals* at the Parcel E Auditorium, Putrajaya.

30 September

YB Dato' Sri Liow Tiong Lai, the Health Minister of Malaysia, officiated the *Ministry of Health Training Institution Convocation Ceremony* at the Putrajaya International Convention Centre (PICC), Putrajaya.

4 – 14 October

YBhg. Tan Sri Dato' Seri Dr. Hj. Mohd Ismail Merican, Director General of Health Malaysia, officiated the *Meeting on Star Rating System for Director General of Health Office* at the Operations Room of Ministry of Health, Malaysia.

5 October

YB Dato' Sri Liow Tiong Lai, the Health Minister of Malaysia attended the *Discussion between YB Health Minister and Consultant William C. Hsiao K.T. Li (Professor of Economics from Harvard School of Public Health) for the Development of the 1Care for 1Malaysia Blueprint* at the Health Minister Meeting Room, Putrajaya.

8 October

YBhg. Dato' Ahmad Shafii Bin Saidin, Deputy Chief Secretary (Management) of Ministry of Health, officiated the *Ministry of Health Training Institution Co-curriculum Convention 2010* at the Allied Health Science College, Johor Bahru.

14 October

A Luncheon Event: Be Aware, Beat Breast Cancer (a side event during WHO Regional Committee Meeting) was completed by Y.A.Bhg. Datin Paduka Seri Rosmah Mansor, wife to the Prime Minister of Malaysia at the Putrajaya International Convention Centre (PICC), Putrajaya.

17 October

YB Dato' Sri Liow Tiong Lai, the Health Minister of Malaysia, attended the Organ Donation *Awareness Week Launching Ceremony* at Titiwangsa Lake Garden, Kuala Lumpur.

18 October

YBhg Tan Sri Dato' Seri Dr. Mohd Ismail bin Merican, Director General of Health Malaysia, launched the *Forum on National Oral Health Plan (NOHP)* for Malaysia 2011-2020 at the Institute for Health Management, Kuala Lumpur.

21 October

YB Dato' Hj. Ismail Bin Taib, Chairman of The Standing Committee of Health, Science, Technology and Innovation of Negeri Sembilan officiated the *Men's & Women's Health Seminar* at The Medical Assistants College Auditorium, Seremban, Negeri Sembilan Darul Khusus.

21 October

Ministry of Health Training Institution Convocation Ceremony, Sabah was completed by YB Datuk Rosnah Shirlin Binti Haji Abdul Rashid Shirlin, the Deputy Health Minister of Malaysia, at the Hall of Hongkod Koisaan, Kadazan Dusun Cultural Association Centre (KDCA) Penampang, Sabah.

22 October

YBhg. Tan Sri Dato' Sri (Dr) Aseh b. Che Mat, the Non-Independent Non-Executive Chairman of Pos Malaysia Berhad, officiated *The Launching of Collaboration Programme between MoH & Pos Malaysia in Organ Donation Promotion* at the Pos Malaysia Headquarters, Kuala Lumpur.

22 October

Dr Shahnaz Murad, Director of Institute for Medical Research, launched the *Graduation Ceremony for the 41st Diploma in Applied Parasitology and Entomology Course* at the Institute for Medical Research, Kuala Lumpur.

21 – 23 October

YB Dato' Sri Mohd. Asfia Awang Nassar, Speaker for the State Legislative Assembly of Sarawak and Representative of Semop for the State Legislative Assembly (ADUN Semop) officiated the launching of *Kampung Angkat Dental Program* at Pulau Bruit, Daro, Mukah, Sarawak.

24 October

YB Dato' Sri Liow Tiong Lai, the Health Minister of Malaysia, offciated the launching of the *"Jom Ganyang Aedes" Program* at the Dewan Serbaguna Taman Tas, Taman Tas Ria, Kuantan, Pahang.

26 October

YB Dato' Hj. Ismail bin Taib, Chairman of The Standing Committee of Health, Science, Technology and Innovation of Negeri Sembilan, officiated the launching of *Negeri Sembilan Food Safety Campaign* at the Dewan Majlis Perbandaran Seremban, Negeri Sembilan.

30 - 31 October

Datuk Dr. Noor Hisham Abdullah, Deputy Director General of Health (Medical), attended the *4th National Peri-operative Mortality Review" (POMR)* at the Mahkota Hotel, Melaka.

30 October

YB Dato' Sri Liow Tiong Lai, the Health Minister of Malaysia, officiated the launching of *Batu Sapi Health Carnival* at Perkarangan KD Karamunting, Batu Sapi, Sandakan, Sabah.

8 November

Dr. Balachandran a/l Satiamurti, Director of Kuala Lumpur Health Department, officiated the *Majlis Anugerah Kantin Sekolah Bersih Peringkat WPKL* at SKTTD (1), Kuala Lumpur.

11 November

Dato' Dr. Maimunah Bte Abdul Hamid, Deputy Director General of Health (Research & Technical Support) chaired the forum session *Benchmarking Criteria of Hospital Information System.* The forum was part of the *Seminar and Workshop on Benchmarking and Interoperability of Hospital Information System* that was held on 10-11 November 2010 at the Putrajaya International Convention Centre (PICC), Putrajaya, which involved various stakeholders; users, policy makers, implementers, and vendors, with regards to the development of Hospital Information System in Malaysia.

13 - 14 November

The *Know Your Medicines State-Level Campaign* was completed by Y.B. Dato' Hj. Ismail bin Taib, Chairman of The Standing Committee of Health, Science, Technology and Innovation of Negeri Sembilan at Dataran Sri Kemang Port Dickson, Negeri Sembilan.

27 November

The Launching of Laser Treatment Services For Twin-to-Twin Transfusion Syndrome (TTTS) was launched by Dato' Dr. Mah Hang Soon, Representative of Chenderiang for the State Legislative Assembly (ADUN Chenderiang), at Hospital Raja Permaisuri Bainun Ipoh's Conference Room.

30 November

1Malaysia Hand Hygiene Campaign was launched by YB Datuk Rosnah Shirlin Hj. Abdul Rashid Shirlin, the Deputy Health Minister of Malaysia, at the Auditorium of Hospital Sungai Buloh.

30 November

Launching of Early Childhood Oral Health Care Programme Activities, organised by PERMATA Negara of the Prime Minister Department, was completed by YABhg Datin Paduka Seri Rosmah Mansor, wife to the Prime Minister of Malaysia and Patron to PERMATA Negara, and YB Dato' Sri Liow Tiong Lai, the Health Minister of Malaysia, at Pusat Anak PERMATA Negara (PAPN), Putrajaya.

29 November - 1 December

YB Datuk Rosnah Bt Haji Abdul Rashid Shirlin, the Deputy Health Minister of Malaysia, launched the *30th International Seminar For Public Health Group (PHG) of The Union Of International Architects (UIA)* at the Kuala Lumpur Convention Centre (KLCC).

1 – 2 December

Datuk Haji Sairin Bin Hj. Karno, Representative of Liawan for the State Legislative Assembly (ADUN Liawan) officiated the *Keningau World AIDS Day 2010* at Dewan Arked, Keningau, Sabah.

4 December

YBhg. Dato' Ahmad Shafii Bin Saidin, Deputy Chief Secretary (Management) of Ministry of Health launched the *Ministry of Health Training Institution Co-curriculum Convention 2010* at the Malacca Cultural and Arts Complex.

5 December

Dato' Dr. Hasan Abdul Rahman, Deputy Director General of Health (Public Health), launched the *"World AIDS Day"* Ceremony at the Kelantan Education Department Hall, Pengkalan Chepa, Kota Bharu, Kelantan.

8 December

YB Dato' Sri Liow Tiong Lai, the Health Minister of Malaysia officiated the *9th National Food Safety and Nutrition Council (NFSNC) Meeting* at Dewan Serbaguna, Block E7, Ministry of Health, Putrajaya.

9 December

YAB Dato' Sri Najib Tun Abd Razak, the Prime Minister of Malaysia, officiated the *Launching of 1Malaysia Mobile Clinic* at Pos Raya, Simpang Pulai, Perak.

11 December

Y. B. Dato' Lillah Bin Hj. Yasin, Jempol MP, launched the *AIDS Day 2010* at Dewan Orang Ramai, Felda Palong 5, Jempol, Negeri Sembilan Darul Khusus.

18 December

YB. Dato' Sri Liow Tiong Lai, the Health Minister of Malaysia, officiated the launching of *Majlis Perasmian Program Memperkasa Komuniti Lurah Bilut* at the Dewan Serbaguna Felda Lurah Bilut, Bentong, Pahang.

20 December

Tan Sri Dato' Seri Dr. Hj. Mohd Ismail Merican, the Director General of Health Malaysia, attended the *Patient Safety Council Meeting 2/2010* at the Operations Room of Ministry of Health.

22 Desember

Pn. Hjh Ku Nafishah bt Ku Ariffin, Deputy State Health Director (Food Safety and Quality) of Pulau Pinang, officiated *the Briefing of 1Malaysia Food Safety System to the Industry* session at KOMTAR, Pulau Pinang.

26 December

Dato' Dr Azmi bin Shapie, Director of the Medical Development Division, launched the *Seminar on Stem Cell Research and Therapy,* at Hospital Raja Perempuan Zainab II, Kota Bharu, Kelantan.

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