Annual Report 2011
Ministry of Health

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Ministry Of Health Malaysia 2011

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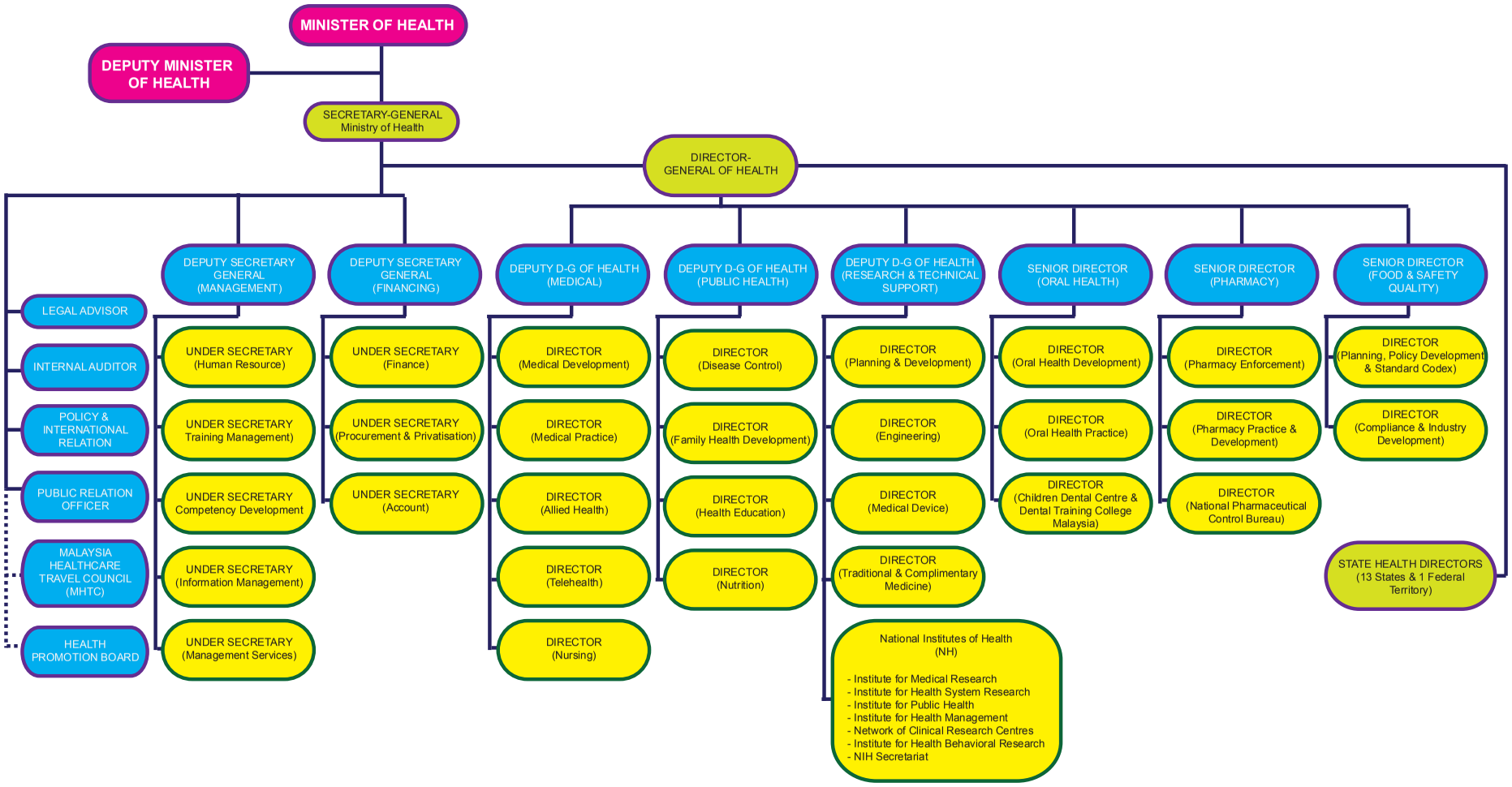
ORGANISATION CHART
MINISTRY OF HEALTH, MALAYSIA



VISION

A nation working together for better health.

MISSION

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

1 | Health Status

INTRODUCTION

Malaysia is a vibrant and dynamic country enjoying continued economic growth and political stability since its independence 54 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 Population and Housing Census of Malaysia 2010, the population of Malaysia in 2011 was 28.96 million with an average annual population growth rate of 1.3 per 1000 populations. The total population in 2011 increased by 0.63 million as compared to 28.33 million recorded in 2010. The geographical distribution of population showed that Selangor had the highest population of 5.58 million, while Federal Territory of Putrajaya recorded the lowest population of 0.08 million (Table 1). However, Federal Territory of Putrajaya recorded the highest average annual population growth rate of 4.0 per 100 populations, while Perlis recorded the lowest annual growth rate of 0.7.

Overall, the population in Malaysia is relatively young, with 36.6% of the total population were below 20 years of age, and only 8.1% of the population aged 60 years and above (Table 2). In 2011, the economically-productive population which consists of population aged 15 to 64 years was 19.7 million or 68.0% of the total population, while the economically dependent i.e age below 15 years and 65 years and above was 9.3 million or 32.0% 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 based on the preliminary 2010 data has increased to 71.9 years for male and 77.0 years for female respectively, as compared to 70.8 years for male and 75.3 years for female recorded in 2002 (Figure 1). It should be noted that figures for the 2011 data were not available yet.

TABLE 1
POPULATION AND AVERAGE ANNUAL POPULATION GROWTH RATE BY STATE, MALAYSIA 2010-2011

State	Population ('000)		Average Annual Population Growth Rate (%)
	2010	2011[p]	2010/2011
Perlis	231.5	237.5	0.7
Kedah	1,947.7	1,973.1	1.2
Pulau Pinang	1,561.4	1,593.6	1.1
Perak	2,352.7	2,397.6	0.8
Selangor	5,462.1	5,577.4	1.4
FT Kuala Lumpur	1,674.6	1,694.5	1.2
FT Putrajaya	72.4	76.4	4.0
Negeri Sembilan	1,021.1	1,042.9	1.3
Melaka	821.1	833.0	1.1
Johor	3,348.3	3,401.8	1.1
Pahang	1,500.8	1,524.8	1.5
Terengganu	1,036.0	1,074.0	1.7
Kelantan	1,539.6	1,615.2	1.6
Sabah	3,206.7	3,316.4	1.7
FT Labuan	86.9	89.8	1.9
Sarawak	2,471.1	2,516.2	1.2
MALAYSIA	**28,334.1**	**28,964.3**	**1.3**

Note:
1. *Mid-Year Population Estimates based on the adjusted Population and Housing Census of Malaysia 2010.*
2. *The added total may differ due to rounding.*
3. *FT = Federal Territory*
4. *State data for 2011 are preliminary figures*

Source: Department of Statistics, Malaysia

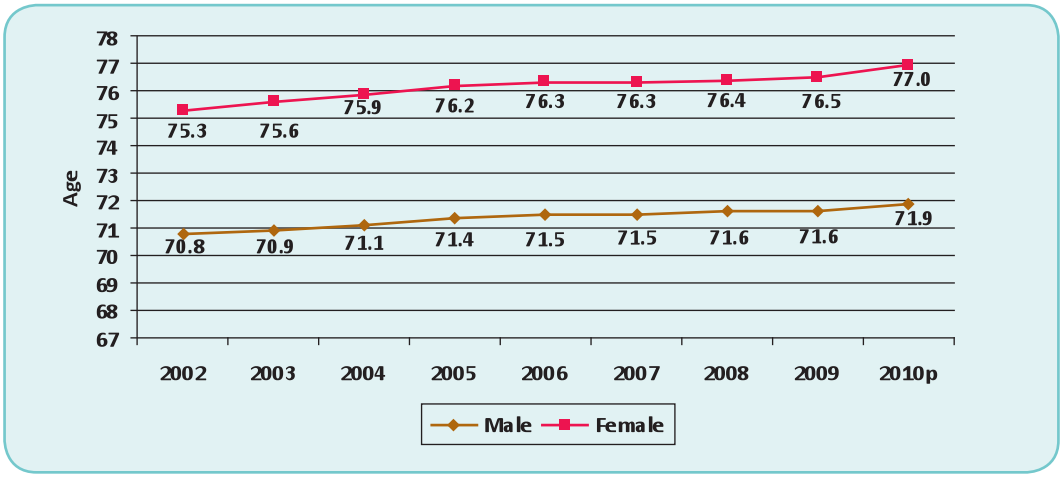
TABLE 2
STATISTICS RELATED TO POPULATION, 2011

Population	2011	
	Number ('000)	% of Total Population
Male	14,912.0	51.5
Female	14,052.3	48.5
Youths (below 20 years)	10,599.0	36.6
Elderly (60 years and above)	2.338.3	8.07
Economically-productive (age 15-64 years)	19,704.5	68.0
Economically-dependent (age below 15 & above 64 years)	9,259.9	32.0

Note:
1. *Mid-Year Population Estimates based on the adjusted 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, 2002-2010



Note:
1. p = Preliminary figures
2. Figures for 2011 are not available

Source: Department of Statistics, Malaysia

- **Mortality**

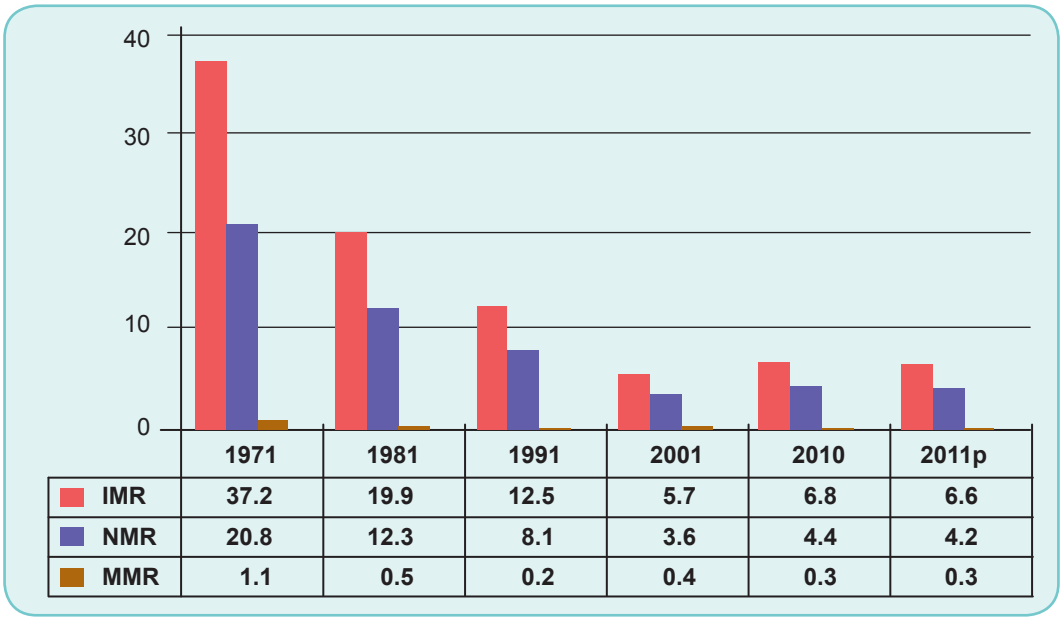
  Mortality data provides a useful endpoint for measuring health. These data provide a comprehensive picture of the health of the community, since it covers every individual. Many different types of measures are used to provide views of health from differing perspectives.

  For the past 40 years (1971-2011), 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 1.1 per 1,000 live births in 1971 to 0.3 in 2011. Even though there was a slight increase in the MMR in 2001, the rate has stabilized for the past 10 years, i.e. from 1991 to 2010. 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 37.2 in 1971 to 6.6 in 2011. Besides that, the trending of neonatal mortality rate per 1,000 live births for the same period shows an overall decreasing trend when compared to 20.8 in 1971.

FIGURE 2
IMR, NMR AND MMR, MALAYSIA, 1971-2011



	1971	1981	1991	2001	2010	2011p
IMR	37.2	19.9	12.5	5.7	6.8	6.6
NMR	20.8	12.3	8.1	3.6	4.4	4.2
MMR	1.1	0.5	0.2	0.4	0.3	0.3

Note: p = preliminary figures, all figures are per 1,000 live births
Source: Department of Statistics, Malaysia

The trend for the other mortality rates remains relatively the same from 2007 to 2011 (Table 3). 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 3
MORTALITY RATES IN MALAYSIA, 2007-2011

Indicator	2007	2008	2009	2010	2011p
Crude Death Rate (per 1,000 population)	4.5	4.7	4.9	4.6	4.6
Maternal Mortality Ratio (per 100,000 live births)	29.0	28.9	27.0	26.1	25.5
Infant Mortality Rate (per 1,000 live births)	6.2	6.2	6.9	66.7	6.6
Neonatal Mortality Rate (per 1,000 live births)	3.8	3.9	4.3	4.3	4.2
Under Five Mortality Rate (per 1,000 live births)	7.9	8.0	8.5	8.4	8.1
Toddler Mortality Rate (per 1,000 population aged 1-4 years)	0.4	0.4	0.4	0.4	0.4
Stillbirth Rate (per 1,000 births)	4.4	4.3	4.4	4.5	4.5
Perinatal Mortality Rate (per 1,000 births)	7.2	7.3	7.6	7.7	7.6

Note : p = preliminary 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 2000-2011, the number of admissions in MoH Hospitals had increased 38.4% to 2,151,666 in 2010 from that of 1,555,133 in 2000. The 10 principal causes of hospitalization in the MoH Hospitals for 2011 are shown in Table 4. The diseases were regrouped to groupings based on the International Statistical Classification of Disease 10th Revision (ICD10). In 2011, "Pregnancy, childbirth and the puerperium" (25.94%) was the top leading causes of admissions in MoH hospitals followed by "Diseases of the respiratory system" (10.36%).

TABLE 4
10 PRINCIPAL CAUSES OF HOSPITALISATION IN MoH HOSPITALS, 2011

Principal Causes	No. of Admissions	Percentage to total admissions
1. Pregnancy, childbirth and the puerperium	558,187	25.94
2. Diseases of the respiratory system	222,989	10.36
3. Injury, poisoning and certain other consequences of external causes	193,123	8.98
4. Certain conditions originating in the perinatal period	165,138	7.67
5. Diseases of the circulatory system	158,813	7.38
6. Certain infectious and parasitic diseases	147,544	6.86
7. Diseases of the digestive system	108,106	5.02
8. Diseases of the genitourinary system	103,687	4.82
9. Factors influencing health status and contact with health services	76,812	3.57
10. Endocrine, nutritional & metabolic diseases	71,484	3.32
Total Admissions (All Causes)	**2,151,666**	**100**

Note: Based on actual 3-digit code grouping, ICD10
Source: PPT2 Database, Health Informatics Centre, MoH

Similarly, the number of deaths (for all causes) in MoH Hospitals for the period of 2000-2011 increased 58.0% from 30,319 in 2000 to 47,899 in 2011. "Diseases of the circulatory system" was the top cause of death in MoH hospitals recorded in 2010 (25.64%), followed by "Diseases of the respiratory system" (19.48%) and "Certain infectious and parasitic diseases" (17.02%). The ten principal causes of deaths in the MoH Hospitals for 2010 are as shown in Table 5.

TABLE 5
10 PRINCIPAL CAUSES OF DEATH IN MoH HOSPITALS, 2011

Principal Causes	No. of Deaths	Percentage to total deaths
1. Diseases of the circulatory system	12,282	25.64
2. Diseases of the respiratory system	9,332	19.48
3. Certain infectious and parasitic diseases	8,151	17.02
5. Neoplasms	5,328	11.12
4. Diseases of the digestive system	2,479	5.18
7. Injury, poisoning and certain other consequences of external causes	2,407	5.03
6. Diseases of the genitourinary system	2,107	4.40
8. Certain conditions originating in the perinatal period	1,792	3.74
9. Endocrine, nutritional and metabolic diseases	899	1.88
10. Diseases of the nervous system	848	1.77
Total Deaths (All Causes)	**47,899**	**100**

Note: Based on actual 3-digit code grouping, ICD10
Source: PPT2 Database, Health Informatics Centre, MoH

Health Facilities and Facility Utilisation

As for Health Facilities, there were 879 Health Clinics, 1,864 Community Clinics and 106 Maternal and Child Clinics in 2011. There were 132 government MoH hospitals and 6 Institutions with bed complementary of 31,650 and 4,498 beds respectively. Overall Bed Occupancy Rate (BOR) for MoH hospitals and Institutions in 2011 was 68.63% (Table 6).

TABLE 6
HEALTH FACILITIES BY TYPE, TOTAL BED COMPLEMENTS AND BOR, 2007-2011

Facility	2007	2008	2009	2010	2011
Number of MoH Hospital	130	130	130	131	132
Number Special Medical Institution	6	6	6	6	6
Total Beds Complement1	37,149	38,004	38,057	37,793	36,148
Bed Occupancy Rate (%)1	64.23	65.46	65.45	66.26	68.63
Number of Health Clinics	806	802	808	813	879
Number of Community Clinics	1,927	1,927	1,920	1,916	1,864
Number of Maternal and Child Clinics	97	95	90	104	106

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

Publication

Main MoH publications such as Health Facts, Annual Report and Health Indicators may now be accessed through the MoH official portal under the Publications & Reference Tab (http://moh.gov.my/v/mmh). Similarly, guidelines and references of more specific topics can be accessed from the sidebar of the same page interface. The decision to make these publications online was to facilitate the public in acquiring Malaysia's health information.

2 | Management

INTRODUCTION

The Management Programme consists of six (6) divisions/units answerable direct to the Secretary General, five (5) divisions under Deputy Secretary General (Management) and three (3) divisions under Deputy Secretary General (Finance). 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.

The divisions under the Management Section are as listed below:

i. Human Resource Division;
ii. Training Management Division;
iii. Competency Development Division;
iv. Management Services Division;
v. Information and Communication Technology Division;

ACTIVITIES AND ACHIEVEMENTS

HUMAN RESOURCE MANAGEMENT

The Human Resource Division (HRD) of Ministry of Health is responsible for managing matters related to human resource and organisational structure of MoH. It involves personnel, schemes and advice, services, discipline and integrity, and HRMIS matters.

In implementing human resource management in MoH, HRD faced several challenges throughout 2011. The main challenge is that of the Government's policy to establish a sturdy civil service. These things affect the establishment of posts, organisational restructuring and also freeze filling certain posts for grade appointments. Even so, HSD has successfully implement activities planned for 2011.

As of 31 December 2011, filled posts in MoH were 195,041 (88.2%) out of 221,110 posts. That total showed an increase of 4.6% as compared to 2010 (185,997). This increase showed HRD's commitment and effort to facilitate human resources management in MoH. Further information in relation to the establishment and filling of posts in 2011 is as shown in Table 1.

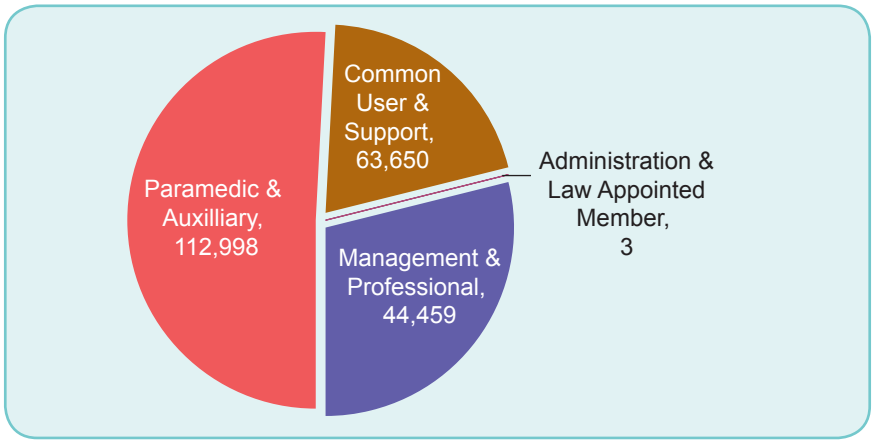
TABLE 1
STATUS OF POSTS IN MOH, AS OF 31 DECEMBER 2011

NO	SERVICE GROUP	POST	FILLED	FILLED PERCENTAGE (%)	VACANT	VACANT PERCENTAGE (%)
1.	Administration & Law Appointed Member	3	3	100	o	o
2.	Management & Professional	44,459	35,088	78.9	9,371	21.1
3.	Paramedic dan Auxilliary	112,998	101,687	90.0	11,311	10.0
4.	Common User and Support	63,650	58,263	91.5	5,387	8.5
	TOTAL	**221,110**	**195,041**	**90.1**	**26,069**	**9.9**

Source: Human Resource Division, MoH

From the total posts in MoH, the Paramedic and Auxiliary Group is the largest group comprising of 51%, followed by the Common User and Support Group, and the Management & Professional Group, at 29% and 20% respectively. Details are as shown in Figure 1.

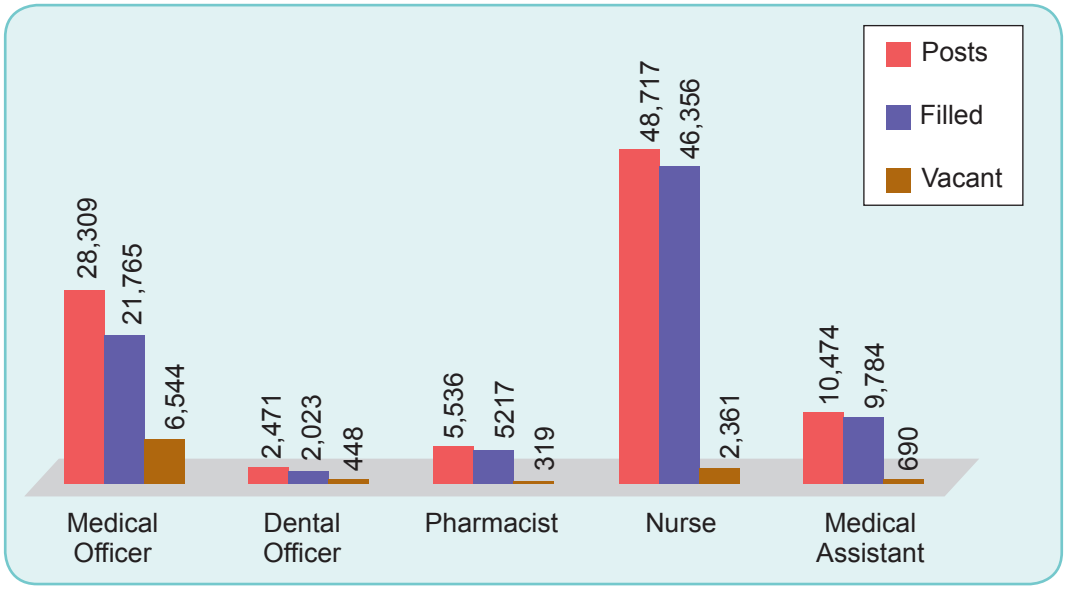
FIGURE 1
POST COMPOSITION ACCORDING TO SERVICE GROUP IN KKM, 2011



Source: Human Resources Division, MoH

In the Management & Professional Group, Medical Officers are the largest service scheme that consisted of 21,765 officers. Meanwhile, the Nurse Service Scheme is the largest number (46,356) amongst the Paramedic and Auxiliary Group. Posts information for the five (5) largest service schemes is as shown in Figure 2.

FIGURE 2
POST INFORMATION FOR MEDICAL OFFICER, DENTAL OFFICER, PHARMACIST, NURSE, AND MEDICAL ASSISTANT IN MoH, 2011



Source: Human Resources Division, MoH

Staffing

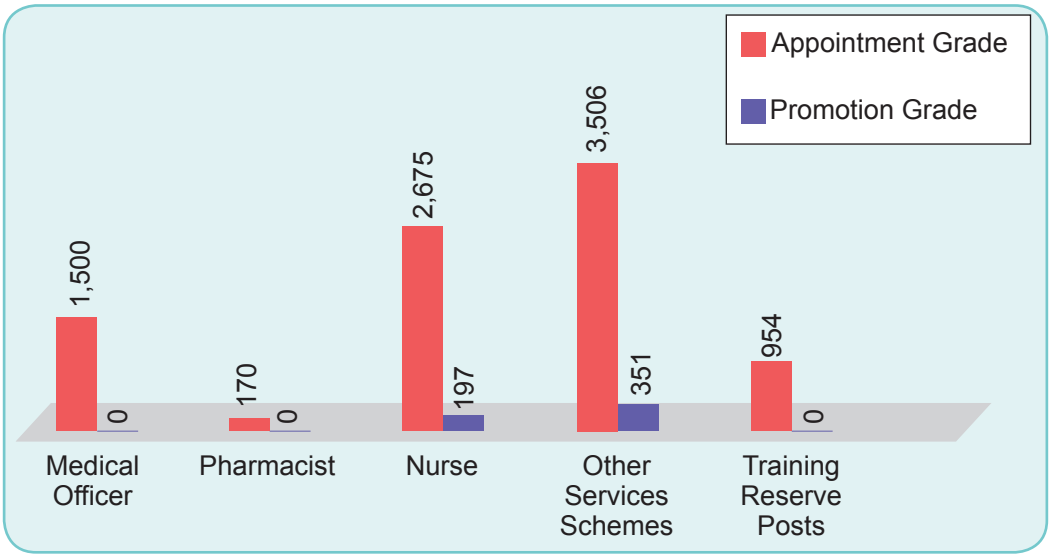
An effective healthcare service delivery requires a strong organizational structure to meet customer expectations. In this case, HRD's role wsa to ensure that the organizational structure of the Division/ Department is in accordance with the role and workload of the organization.

Throughout 2011, HRD has implemented a total of seven (7) major study of organizational restructuring and the creation of the posts in MoH. Among the studies carried out were the the Division Restructuring Policy, Corporate & International Relations, Review of PTD Officers who do not perform generic tasks, and Structuring of the Dental Health Division.

Whereas, for the post creation matters, it involved post creation at the College of Allied Health Sciences (KSKB) Ulu Kinta (Perak), Strengthening the Public Health Programme with the creation of 25 posts in 1Malaysia Clinics, Proposal for the Science Officer Post Creation at the Institute for Medical Research (IMR), and Detailed Coordination in Post Activities under the Oral Health Programme.

In 2011, MoH has approved of 9,353 new posts, which include new appointments and promotions for various schemes of service and grade via the Expenditure Estimates (ABM) 2011. Approved posts were distributed according to the facilities' needs so as to deliver services more effectively. Information of approved posts in 2011 is as detailed in Figure 3.

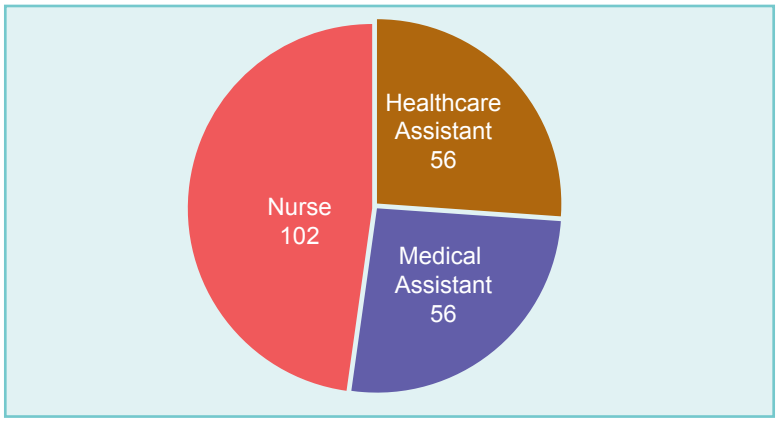
FIGURE 3
NUMBER OF POSTS ACCORDING TO SERVICE SCHEME APPROVED VIA ABM 2011



Source: Human Resources Division, MoH

In providing more effective services and easier access for the people, MoH has launched the 1Malaysia Clinic initiative in 2010. To support these noble intentions, HRD has established 688 posts for implementation of the 1Malaysia Clinic in 2011. Posts involved are Nurse, Medical Assistant and Healthcare Assistant. The breakdown according to service scheme is as shown shown in Figure 4.

FIGURE 4
NUMBER OF APPROVED POSTS FOR 1MALAYSIA CLINICS ACCORDING TO SERVICE SCHEME, 2011



Source: Human Resources Division, MoH

Worker Scheme, Remuneration and Relations

To attract and retain outstanding officers to join and continue serving in MoH, HRD has implemented a number of allowances and amenities improvement studies and was approved by the Central Agency in 2011. Allowances and amenities improvement is government's recognition to medical personnel who showed strong commitment to perform tasks. Among the approved allowances improvement are as follows:

a. Specialist Incentive Allowance

The Specialist Incentive Allowance was created to recognize the contributions and skills of Medical Specialists and Dental Specialists needed by the country. It is also an incentive for Medical Officers and Dental Officers to pursue the needed clinical/public health specialized fields. In accordance to Service Circular No. 7 of 2011 which became effective on July 1, 2011, Medical Specialists and Dental Specialist received an increase of Specialist Incentives Allowances between 18-28 percent as compared to the previous rates. The rate comparison table is as shown in Table 2.

TABLE 2
COMPARISON BETWEEN OLD AND NEW RATES FOR SPECIALIST INCENTIVE ALLOWANCE

No.	Grade	Monthly Rate (RM)		Increase (%)
		Old	New	
1	JUSA C and above	2,400	3,100	22.6
2	UD53 and UD54	2,200	2,800	21.4
3	UD51 and UD52	1,800	2,500	28.0
4	UD47 and UD48	1,700	2,200	22.7
5	UD 45	-	2,000	-
6	UD43 and UD44	1,400	1,900	26.3
7	UD41	1,300	1,600	18.8

Source: Human Resources Division, MoH

b. After Hours Working Allowance (On-Call)

Oncall Allowance was given as recognition to the sacrifice and dedication of Medical Officers in shouldering additional responsibilities by working continuously to ensure that health and medical services to patients not affected. According to the letter Ref: .JPA SARAAN(S) 215/8/2-4/Klt.6 (11) dated 16 December 2011 that came into effect starting from 1 September 2011, Medical Officers received increased oncall allowances between 22- 45 percent. The comparison between the old and new rates are as shown in Table 3.

TABLE 3
ONCALL ALLOWANCE COMPARISON FOR 2011 AND PRIOR 2011

Terms	Nightly Rate (RM)		
	Prior 2011	2011	
	Specialists and Medical Officers	Specialists	Medical Officers
Active Call			
Continous for more than 16 hours on;			
- Weekdays	150.00	230.00	200.00
- Weekends and Public Holidays	170.00	250.00	230.00
Passive Call			
Standby at home and called for duty for more than 4 hours on;			
- Weekdays	90.00	150.00	130.00
- Weekends and Public Holidays	100.00	160.00	140.00
Standby at home and called for duty less than 4 hours or not called for duty on;			
- Weekdays	50.00	100.00	80.00
- Weekends and Public Holidays	55.00	105.00	85.00

Source: Human Resources Division, MoH

c. Flexi-Hours Allowance

The Flexi-Hours Allowance given to House Officers was intended to shorten the working hours so that the House Officers can fully concentrate on their training and improve the quality of medical care. According to the letter Ref: JPA.SARAAN(S) 215/8/2-4/Klt.6 (22) dated 30 December 2011 that came into effect starting from 1 September 2011, House Officers will be paid an allowance of RM600 per month with working hours of not more than 72 hours a week. In line with the introduction of this flexi-hours allowance, HRD has provides implementation guidelines and were distributed to all State Health Departments as reference.

d. Incentive Payment of Public Health Dental Officers (BIKAPP)

BIKAPP was given as encouragement and appreciation to Dental Officers who possess a higher level of certification and use their skills to perform tasks in the field of public health in the interests of the health service. Through the Service Circular No. 7 of 2011 which became effective on July 1, 2011, Dental Officers are eligible for BIKAPP between RM 1,280 to RM2,480 per month based on their grades. Further information regarding BIKAPP rates are shown in Table 4.

TABLE 4
BIKAPP RATES

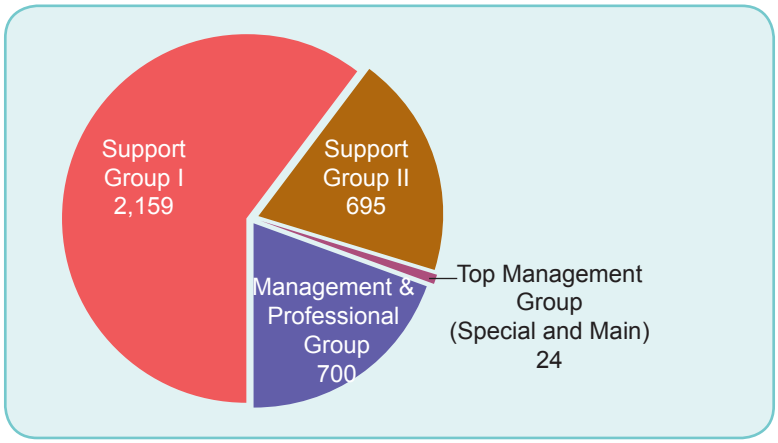
GRADE	MONTHLY RATE (RM)
JUSA and above	2,480
53 and 54	2,240
51 and 52	2,000
47 and 48	1,760
45	1,600
43 and 44	1,520
41	1,280

Source: Human Resources Division, MoH

Acting and Promotion Matters

In recognition of officers with outstanding performance, throughout 2011, HRD has succesfully managed acting and promotion matters for 19,063 staff in MoH. Of this amount, a total of 3,578 were engaged in acting matters and 15,485 were successfully promoted. The total successful officers in acting and promotion matters, by category, is as shown in Figures 5 and 6

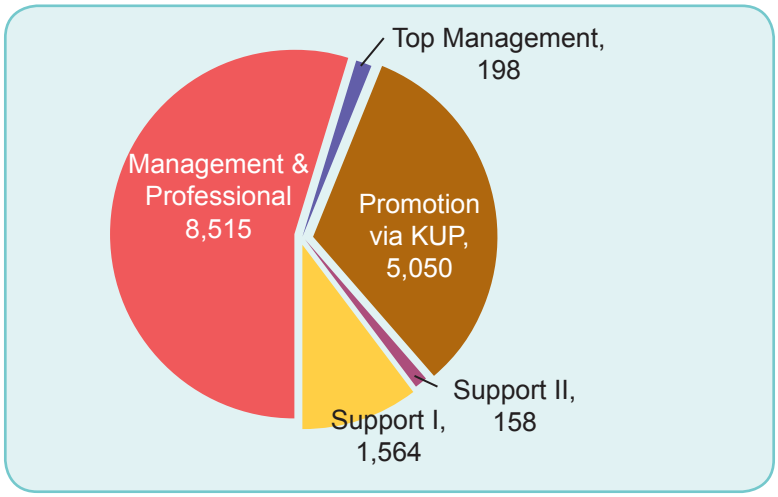
FIGURE 5
NUMBER OF SUCCESFUL OFFICERS IN ACTING AND PROMOTION MATTERS



Source: Human Resources Division, MoH

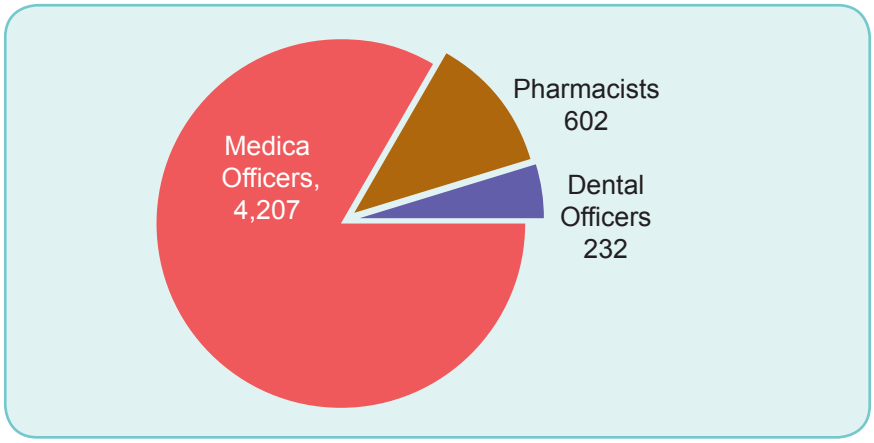
In addition to promotion by the usual route as above, HRD also promote career pathway for Medical Officers, Dental Officers and Pharmacists. In 2011, a total of 5,041 officers were successfully promoted through the career pathway. The breakdown of promotion by service scheme is as shown in Figure 7.

FIGURE 6
NUMBER OF SUCCESSFUL OFFICERS IN PROMOTION MATTERSBY SERVICE CATEGORY



Source: Human Resources Division, MoH

FIGURE 7
NUMBER OF SUCCESSFUL MEDICAL OFFICERS, DENTAL OFFICERS AND PHARMACISTS PROMOTED VIA CAREER PATHWAY

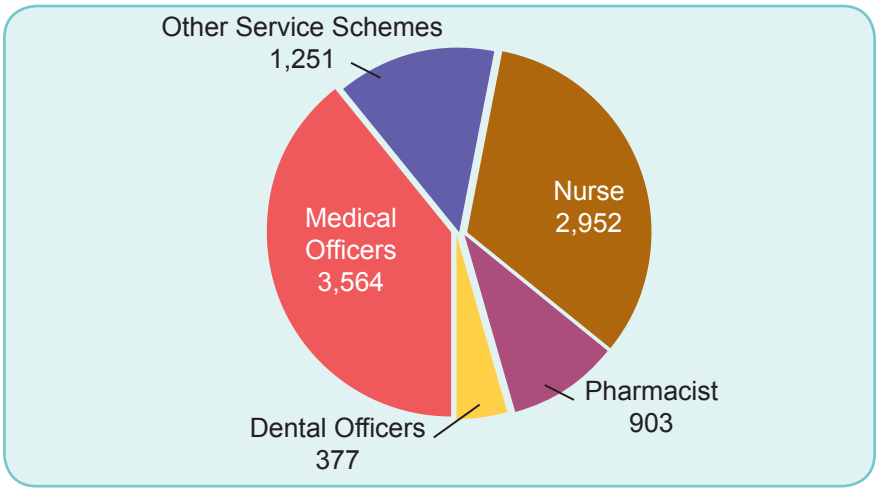


Source: Human Resources Division, MoH

Service Matters

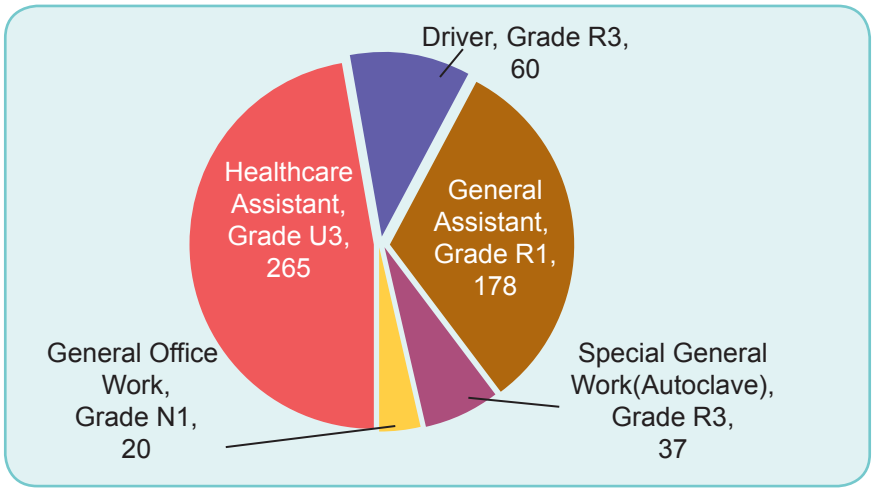
In 2011, HRD has managed a total of 8,487 newly appointed officers of various grades and services schemes under the appointment of the Public Service Commission (SPA). In addition, under the delegation of power by the SPA, HRD has appointed 560 officers from the Support Group II, and this brings the total number of new officers appointed in 2011 to 9,047. Details are as shown in Figures 8 and 9.

FIGURE 8
DETAILS OF APPOINTED MOH STAFF BY SPA, 2011



Source: Human Resources Division, MoH

FIGURE 9
DETAILS OF APPOINTED SUPPORT II STAFF UNDER DELEGATION OF POWER BY SPA



Source: Human Resources Division, MoH

Other than new appointments, HRD also managed postings for Medical and Dental Officers who have successfully completed their Specialist studies. In 2011, a total of 336 Medical Officers and 27 Dental Officer who has completed their Specialist studies returned to service in MoH. They were placed according to their specialty in health facilities that provide relevant expertise across the country.

HRD also manages the appointment of Medical Officer, Medical Specialist and paramedical members by contract appointment. In 2011, there were a total of 667 Medical Officers and Medical Specialist contract appointment among citizens and non-citizens serving in MoH. Meanwhile, a total of 529 paramedical personnel are serving on contract basis in MoH health facilities.

In 2011, a total of 441 Medical Officers and Medical Specialists have resigned from the Ministry, which are 311 and 130 respectively. This number contributes to 2.08% of the total Medical Officer

and Specialist Medical Officer in MoH. However, vacancies by their resignation were filled by new recruitment and also Medical Officers who have completed their studies their Specialist studies in stages.

A survey conducted on Medical Specialists who resigned from MoH discovered the reasons for resignation, which are as shown in Table 5.

TABLE 5
REASON FOR MEDICAL SPECIALISTS' RESIGNATION FROM MoH, 2011

No.	Reason for Resignation	Total
1	Personal	108
2	Lecturer in Universities	11
3	Working in Private Sector	7
4	Disagree with Posting Placement	2
5	Overseas Further Studies	1
6	Taking Care of Children	1
Grand Total		**130**

Source: Human Resources Division, MoH

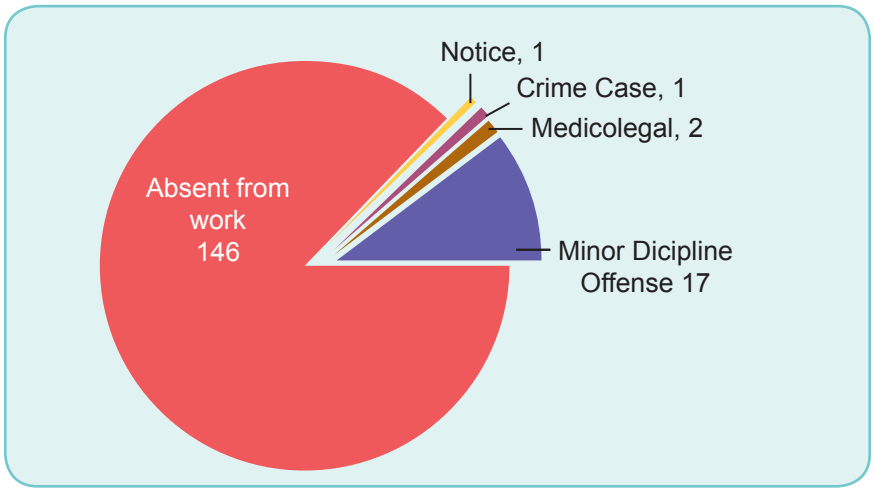
Integrity and Discipline
To ensure the integrity and discipline of MoH officers are at an excellent level, HRD has implemented various activities oriented to wholeness and integrity. In this case, HRD has successfully implemented three (3) working committee meeting to the MoH Governance Committee in 2011, as well as established a total of eight (8) series of courses among the members in strengthening MoH.

As a punitive measure, HRD has taken disciplinary action against 557 officers of various grades and services schemes in MoH involved with various disciplinary problems throughout 2011. From a study made among medical officers, it was discovered that the main reason disciplinary action imposed was absent from duty, which contributed to 146 cases. Further information in relation to the types of disciplinary offenses among medical officers is as shown in Figure 10.

HRMIS
The HRMIS basic data updating activities involves Personnel Data, Service Profile, Personal Records and Annual Performance Valuation Report (LNPT) as well as implementation of the HRMIS Implementation and Steering Committee Meeting, which is a Key Performance Indicator (KPI) to MoH's Secretary General, Malaysia. In 2011, HRD has successfully completed two (2) HRMIS Steering Committee Meetings and three (3) HRMIS Implementation Committee Meetings, as prescribed by the Central Agency. Meanwhile, for basic data updating, the performance was 96.9 percent. The average basic criteria HRMIS for data update is as shown in Figure 11.

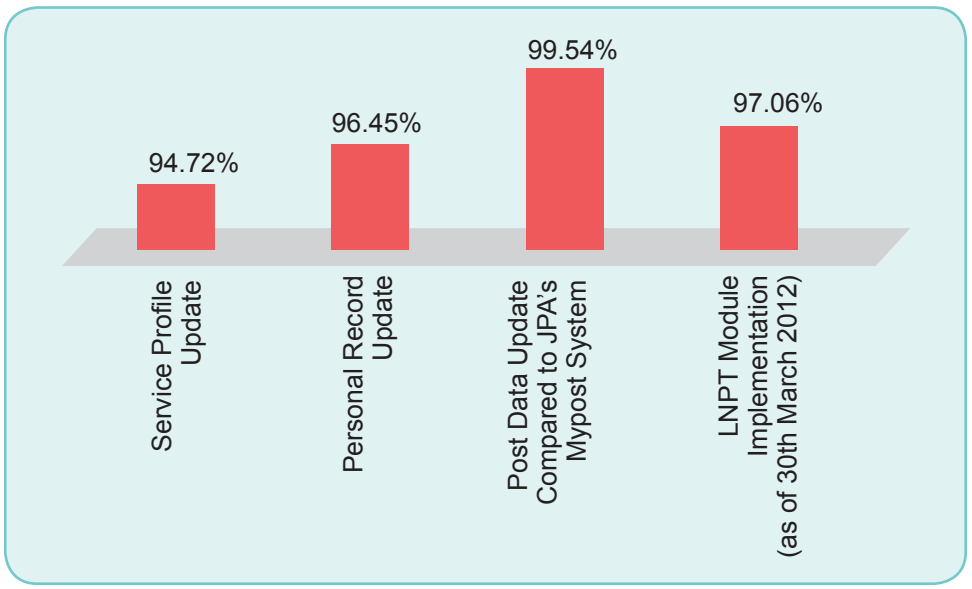
Summary
Overall, in 2011, HRD has managed to achieve the planned target in every matter. Various improvements and reforms were implemented in 2011 and it is an ongoing process for HRD in improving service delivery. This also shows the commitment of officers at HRD in providing the best service in line with the government

FIGURE 10
TYPES OF DISCIPLINARY OFFENSES AMONG MEDICAL OFFICERS, A STUDY BY HRD-MOH, 2011



Source: Human Resources Division, MoH

FIGURE 11
HRMIS BASIC DATA UPDATE ACHIEVEMENT IN MoH, 2011



Source: Human Resources Division, MoH

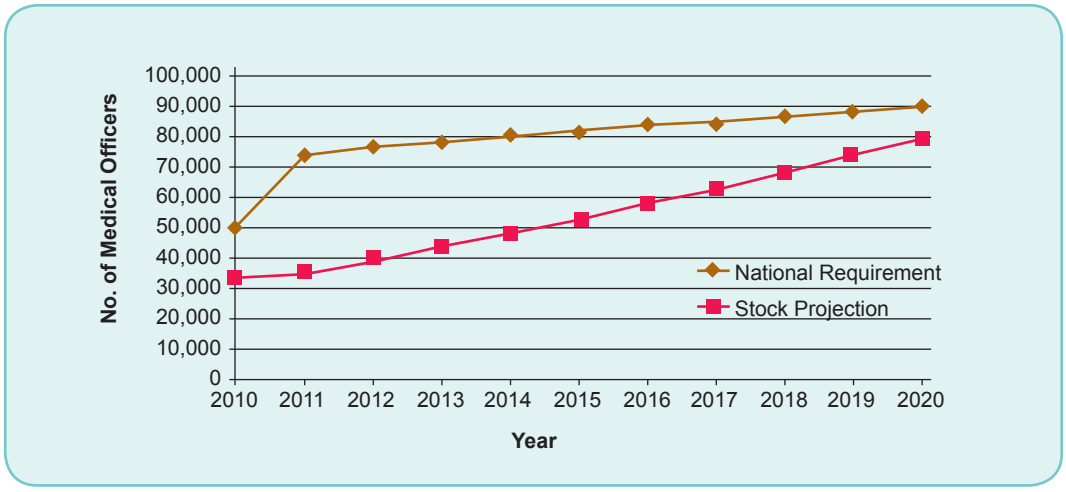
TRAINING MANAGEMENT

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

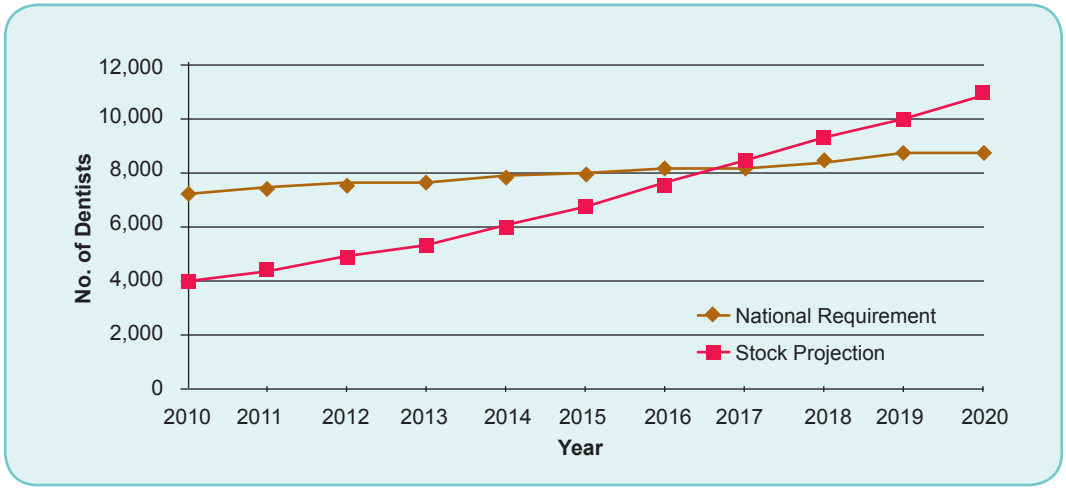
Upon reviewing the projection for the demand and supply of Medical Doctors, Dentists, and Pharmacists indicated that any increase in the supply of Medical Doctors, Dentists, and Pharmacists in the current years would still be inadequate in meeting the needs of the nation. However, it is observed that 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 the years. Figure 12, Figure 13, and Figure 14 depict the current and projected national requirement and supply of Medical Doctors, Dentists, and Pharmacists respectively.

FIGURE 12
CURRENT AND PROJECTED REQUIREMENT AND STOCK OF MEDICAL DOCTORS TO POPULATION ON THE RATIO OF 1:600



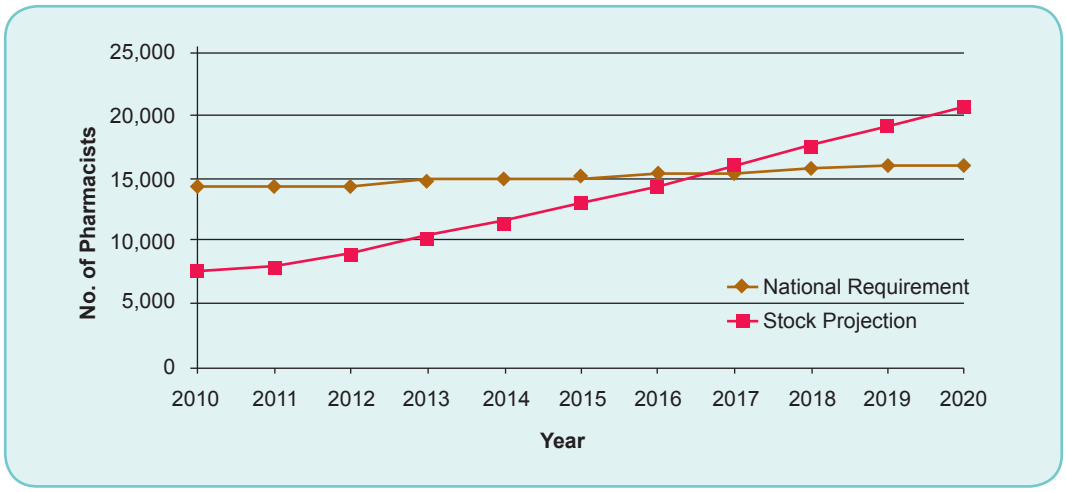
Source: Department of Statistics Malaysia (DOS) and Malaysian Medical Council (MMC)

FIGURE 13
CURRENT AND PROJECTED REQUIREMENT AND STOCK OF DENTIST TO POPULATION ON THE RATIO OF 1:4,000



Source: Department of Statistics Malaysia (DOS) and Malaysian Medical Council (MMC)

FIGURE 14
CURRENT AND PROJECTED REQUIREMENT AND STOCK OF PHARMACISTS TO POPULATION ON THE RATIO OF 1:2,000



Source: Department of Statistics Malaysia (DOS) and Malaysian Medical Council (MMC)

Training Programmes

Training is a continuing investment to produce trained and competent manpower in the various health care fields. In ensuring the health care personnel of the Ministry of Health (MoH) acquire the necessary 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 Medical Officers/ Dental Officers/ Pharmacists, Sub-specialty Training for Medical Officers, Doctoral 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 2011, as compared to 2010. For 2011, the intakes for training according to the different categories are as shown in Table 6.

TABLE 6
INTAKE OF TRAINEES BY TYPES OF TRAINING, 2010-2011

No.	Types of Training	2010	2011
1.	Basic Training in MoH Training Colleges	6,880	6,738
2.	Basic Training through 'Outsourcing Program'	1,263	345
3.	Post Basic Training	2,741	3,409
4.	Specialist Training (Medical Officers)	647	690
5.	Sub-Specialist Training (Medical Officers)	144	149
6.	Master / Doctoral Programmes	130	133
7.	Short Term In-service courses (Overseas)	370	253

Source: Training Management Division, MoH

Basic Training

In 2011, 6,738 trainees were enrolled for Basic courses offered at MoH Allied Health Science Colleges (AHSC) and 345 were enrolled through the outsourcing programmes initiated with selected private colleges. The number of trainees enrolled for Basic Training in 2011 decreased by 13% as compared to only 8,143 in the year 2010. 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 2011 is as depicted in Table7.

Post Basic Training

In the year 2011, a total of 3,409 AHSP attended Post-Basic training programmes in 39 different disciplines at the various AHSC, which is shown in Table 8. The number of AHSP attending Post-Basic training programmes in 2011 has increased compared to 2010. Furthermore, another three new Post Basic disciplines were offered in 2011 thus offering the participants a much wider choice. The most popular and demand Post Basic Training programme is Midwifery which registered an enrolment of 964 participants followed by Intensive Care at 211 and Preoperative Care at 201.

TABLE 7
INTAKE OF TRAINEES FOR BASIC TRAINING, 2010-2011

No.	Discipline	2010	2011
1	Nurse	3,279	2,298
2	Community Nurse	1,425	1,844
3	Medical Assistant	962	806
4	Pharmacy Assistant	141	195
5	Assistant Environmental Health Officer	413	234
6	Medical Laboratory Technologist	496	364
7	Radiographer	132	111
8	Dental Nurse	138	96
9	Dental Technician	79	49
10	Occupational Therapist	139	202
11	Physiotherapist	164	168
12	Dental Surgery Assistant	310	261
13	Public Health Assistant	465	455
Total		**8,143**	**7,083**

Source: Training Management Division, MoH

TABLE 8
INTAKE OF TRAINEES FOR POST BASIC TRAINING, 2010 – 2011

No.	Discipline	2010	2011
1	Midwifery	846	964
2	Intensive Care	160	211
3	Preoperative Care	144	201
4	Emergency Care	150	200
5	Paediatric Care	148	191
6	Renal Nursing	94	186
7	Public Health Nursing	155	168
8	Coronary Care	93	130
9	Diabetic Management	81	130
10	Neonatal Nursing	92	126
11	Infection Control	92	98
12	Perianaesthesia Care	67	85
13	Oncology Nursing	42	62
14	Health Personnel Management	61	55
15	Neuroscience Care	20	54
16	Orthopaedic Nursing	45	47
17	Otorhinolaringology Treatment	41	45
18	Gastrointestinal Endoscopy	40	45
19	Ophthalmic Nursing	36	41
20	Psychiatric Nursing	66	40
21	Gerontology	22	36
22	HIV/ AIDS Couselling	16	31
23	Haematology	-	28
24	Cytology	-	26
25	Parasitology	-	24
26	Computerized Tomography	26	23
27	Orthodontic Treatment	-	23
28	Pharmaceutical Sterile	15	22
29	Sports Medicine	9	21
30	Medical Imaging (Mammography)	-	20
31	Primary Healthcare	27	19
32	Rehabilitative Nursing	32	14
33	Forensic	19	13
34	Legal and Prosecution	14	10
35	Anaesthesiology	-	10
36	Neurophysiology Clinical	7	10
37	Tranfusion Medicine	35	-
38	Pediatric Dental Care	23	-
39	Histopathology	23	-
	Total	**2,741**	**3,409**

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 690 Medical Officers were offered Federal Government Scholarship (FGS) to undergo Masters in Medicine degree in various fields of specialization for 2011, which is highlighted in Table 9. The number of Medical Officers offered scholarships increased by 6.6% in 2011 compare to the previous year.

TABLE 9
INTAKE OF MEDICAL OFFICERS FOR MASTERS PROGRAMMES, 2009 - 2010

No.	Discipline	2010	2011
1	Obstetrics & Gynaecology	25	39
2	Anaesthesiology	81	78
3	Paediatric	35	41
4	Internal Medicine	49	43
5	Psychiatry	29	34
6	Radiology	42	44
7	General Surgery	52	60
8	Ophthalmology	36	39
9	Orthopaedic	42	47
10	Otorhinolaryngology	24	25
11	Pathology	29	44
12	Family Medicine	51	52
13	Public Health	61	48
14	Sports Medicine	4	5
15	Rehabilitation Medicine	10	8
16	Emergency Medicine	44	52
17	Neurosurgery	7	7
18	Plastic Surgery	3	4
19	Clinical Oncology	7	9
20	Paediatric Surgery	4	3
21	Transfusion Medicine	6	5
22	Nuclear Medicine	6	3
Total		**647**	**690**

Source: Training Management Division, MoH

In 2010, 149 Medical Specialists received FGS to undergo sub-specialty training in various medical fields, as shown in Table 10.

TABLE 10
INTAKE OF MEDICAL SPECIALISTS FOR SUB-SPECIALTY TRAINING, 2010-2011

No.	Discipline	2010	2011
1	Medicine	19	47
2	Surgery	14	18
3	Paediatric	10	15
4	Obstetrics & Gynaecology	6	9
5	Anaesthesiology	12	11
6	Orthopaedic	6	13
7	Otorhinolaryngology	4	13
8	Ophthalmology	9	13
9	Psychiatry	3	6
10	Pathology	56	-
11	Radiology	5	4
Total		**144**	**149**

Source: Training Management Division, MoH

Masters and Doctorate Programme
In 2011, 133 MoH officers from different health services were offered FGS to pursue postgraduate studies both at Masters (119 officers) and at Doctorate level (14 officers) in disciplines related to health sector. The number of scholarships offered in 2010 registered an increase of 2.3% as compared to 2010 (118 officers in Master Programme and 12 officers in Doctorate Programme). In addition, the bulk of the available scholarships were offered to Dental Officers (44 officers) and Pharmacists (37 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 2011, 253 personnel attended short term in-service course overseas as compared to 370 in 2010.

Management of Examinations
For management of examination in 2011, 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 2011, TMD has made efforts to strengthen post basic curricula to accommodate the needs of AHSP for higher academic qualification. There are four Advance Diploma curricula have been completed in year 2011, which are Mammography, Haematology, Midwifery, and Cytology.

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 and Master Program for Tutors, as well as 24 Update Courses are conducted and implemented in 2011. 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 4,281 employees within the HQ. These employees come from various fields as summarized in Table 11.

TABLE 11
VARIOUS CATEGORIES OF MoH HEADQUARTERS EMPLOYEES, 2010-2011

No.	Category	No. of Employees	
		2010	2011
i.	Administration	3	3
ii.	Top Management	63	97
iii.	Professional & Management	1,247	1,320
iv.	Support	1,887	1,975
v.	Part-time	289	240
vi.	Training Pool	527	628
vii.	Temporary Addition	4	3
viii.	Pool	13	15
Total		**4,033**	**4,281**

Source: Management Services Division, MoH

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 12.

TABLE 12
PERFORMANCES BASED ON ACTIVITIES IN PERSONNEL MANAGEMENT, 2011

No	Activity	Performance
i.	To prepare and record change reports	9,250 reports
ii.	To record service-related matters	20,582 records
iii. i. ii. iii.	To process the following: i. Appointment Confirmation Date ii. Certification for confirmation of service and confirmation of service iii. Conferment of pension status	Total of 750 personnel
iv.	To process compulsory / optional / derivative retirement	54 retirements
v.	To process and certify applications for computer, housing and vehicle loans.	66 - Computer 63 – Housing 2 – Vehicle
vi.	To process and certify applications for winter clothing / ceremonial attire allowance.	34 – Winter Clothings 72 – Ceremonial Attire
vii.	To process promotion and 'acting' related matters	658 applications
viii.	To certify and confirm entitlement for medical benefits	175 letters
ix.	To issue Covering Allowance Certification	459 applications
x.	To process disciplinary issues	48 cases
xi.	To conduct service related courses	33 courses

Source: Management Services Division, MoH

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 2011 have been summarized in Table 13.

TABLE 13
SUMMARY OF ACTIVITIES FOR HUMAN RESOURCES DEVELOPMENT PANEL, 2011

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 5,358 personnel. The meeting was convened on 15 March 2011.
ii.	Convened once to select recipients of the Excellent Service Awards.	432 selected from a pool of 5,358 personnel.
iii.	Convened four times to consider and award the annual salary increment.	Total of 226 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 2011, the MBJ convened 4 meetings 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 14

TABLE 14
HRMIS PROFILE UPDATING STATUS IN MoH HQ, AS OF 31 DECEMBER 2011

Type Of Data	Status Percentage (%)
Personal	97.26
Family	99.20

Source: Management Services Division, MoH

Finance Management

The MSD manages all finance-related matters for employees in the HQ and personal or official overseas bound trips applications (duration of less than 14 days), these include payment of salaries, allowances, rewards and bonuses. It is also in charge of the HQs' Management Program whereby a total of RM 1.026 billion has been allocated under operating budget. The performance-based expenditure till December 2011 including Accounts Payable is 91.61% (Table 15 and Table 16).

TABLE 15
TOTAL ALLOCATION BY ACTIVITY TILL DECEMBER 2011

Department	Allocation (RM)	Percentage
HQ Management	163,397,503.00	15.92
Human Resources	10,630,000.00	1.04
Finance	326,074,777.00	31.77
Training	465,583,140.00	45.37
Information Technology	57,001,810.00	5.55
Competency Development	3,569,200.00	0.35
TOTAL	**1,026,256,430.00**	**100**

Source: Management Services Division, MoH

TABLE 16
ALLOCATION ACHIEVEMENT BASED ON TOTAL EXPENDITURE BY ACTIVITY, 2011

Department	Expenditure (RM)	%	Balance (RM)	%
HQ Management	161,482,693.37	98.83	1,914,809.63	1.17
Human Resources	10,598,742.76	99.71	31,257.24	0.29
Finance	325,017,004.35	99.68	1,057,772.65	0.32
Training	382,941,349.09	82.25	82,641,790.91	17.75
Information Technology	56,796,411.08	99.64	205,398.92	0.36
Competency Development	3,334,750.17	93.43	234,449.83	6.57
TOTAL	**940,170,950.82**	**91.61**	**86,085,479.18**	**8.39**

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 2011, a total of 482 warrants were received while 770 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 17.75 million as revenue was collected in 2011. 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 2011, two such courses had been conducted, namely, the S3PK Course and The Collection of Revenue Course.

TABLE 17
SUMMARY OF OVERSEAS BOUND TRIPS APPLICATIONS

No	Activities	Achievements
i.	Personal or Official Overseas Bound Trips Applications	Personal Trips – 6,867 applications were processed. Official Trips – 750 applications were processed.

Source: Management Services Division, MoH

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 2011 are as in Table 18.

Throughout the year of 2011, four courses were conducted. These courses are Tahsin Bacaan Al-Quran Course and 3 Islamic Human Development Course. In addition, 23 talks on inculcating Islamic values among MOH staff members were conducted.

TABLE 18
SUMMARY OF ADMINISTRATIVE ACTIVITIES, 2011

No	Activities	Achievements
i.	Compiling Punch Card Reports	12 Reports compiled.
ii.	SPANCO car rentals	- 53 official cars for JUSA/Special Grade; - 60 official vehicles replacement; and - 68 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. - 815 passes were issued.
iv.	Monthly Assembly	- 11 Assemblies were held.
v.	Filing Management	File Registration: - Personal: 18,104 files; - Open: 286 files; - Classified: 982 files; and - Application for expired file termination= 10,612 files.
vi.	Correspondence Management	- 215,036 letters have been received, sorted and distributed. - Letters sent through postal service: - Domestic Mail: 94,448; - Registered Mail: 15,899; - Air Mail = 837; - Express Mail = 63,507; - Parcel = 1,206; and - Courier = 6,102.
vii.	Selection of Medical Representatives for the Hajj Season	256 Medical Representatives were selected.
viii.	Event Management	Conducted 17 events.

Source: Management Services Division, MoH

Innovation Management

MSD is also responsible in managing Innovation services related to MoH such as Star Rating (SSR), Innovation Committee Meetings and MSD ISO. On 14 October 2011, an Audit for recertification was conducted at this Division and MSD managed to maintain the MS: ISO 9001:2008 certifications for 9 January 2012 – 5 November 2014 for its core activities:

i. Personal Management;
ii. Finance Management;
iii. Administration Management;
iv. Coordination of MoH in Parliamentary Affairs;
v. Asset Management;
vi. Information Resources Management; and
vii. Psychology Counseling Services.

The achievements for each activity in 2011 are as shown in Table 19.

TABLE 19
SUMMARY OF INNOVATION MANAGEMENT

No	Activities	Achievements
i.	Quality & Productivity Committee Meeting	- Convened three meetings.
ii.	ISO Meeting	- Convened six meetings

Source: Management Services Division, MoH

Coordination of MoH Matters In Parliamentary Affairs

MSD is also responsible in coordinating MoH matters in Parliamentary affairs. The achievements for Parliamentary Affairs Coordination Unit in 2011 are as in Table 20.

TABLE 20
SUMMARY OF PARLIAMENT MANAGEMENT

No	Activities	Achievements
i.	Parliament (comprises of both House of Representatives and House of Senate)	- Preparation for the tabling, reading and debate of MoH Bills in both Houses. - Bills accepted: i. Supplementary Supply (2010) Bill 2011 (with Ministry of Finance) ii. Food Analysts Bill 2010 iii. Medical Devices Authority Bill 2011 iv. Medical Device Bill 2011 v. Supply Bill 2012 (with Ministry of Finance) - Preparation of speeches by the Honorable Minister of Health in both Houses • Prepared 13 speeches for 3 sessions at meetings. - Coordinate and compile answers for Parliamentary questions related to MoH. - Answered 259 question for the House of Representatives and 125 for the House of Senate in 3 sessions at meetings in 2011.

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 2011 is as in Table 21.

TABLE 21
SUMMARY OF ASSET MANAGEMENT ACTIVITIES

No	Activities	Achievements
i.	Building Maintenance • Putrajaya Office Complex • Cenderasari Office Building ○ Cleaning Services ○ Security Services ○ Renovation	- 4 Maintenance Meetings were held. - Maintenance Company appointed. - Security Company appointed. - Renovation for Block B and C was completed on December 2011
ii.	Premises and Office Space Rental	- 1,215 office space rental applications were processed. - 44 residential rental applications were processed.
iii.	Registration of Asset at MSD	- Inventory : 296 units - Asset : 83 units

Source: Management Services Division, MoH

Information Resources Management

The Library in the MOH HQ also comes under this division where its scope includes planning and development of reading collections, its system and services as well as providing access for two databases i.e. the NSTP E-Media and Lawnet. The activities and performance pertaining to this division for 2011 is shown in Table 22.

TABLE 22.
SUMMARY OF INFORMATION RESOURCES ACTIVITIES

No	Activities	Achievements
1.	Library Management	- Purchase of 40 magazines. - Customer services provided includes: i. References and referrals – 235 requests; ii. Collections borrowed – 4,120 books; and iii. Borrowers – 1,547 persons.

Source: Management Services Division, MoH

Psychology Counseling Services

MSD plans, provides direction, develops and coordinates counseling activities such as the Employees Assistant Program for the Ministry of Health HQ. Cases were managed in collaboration with the Human Resource Division. MSD also conducted counseling sessions to all personnels in MoH HQ. In 2011, the Counseling Psychology Unit handled 325 individual and group counseling sessions.

As an effort to share knowledge amongst officers of the Division, knowledge sharing sessions were conducted regularly. In these sessions, officers were encourage sharing knowledge they had gained from courses that they attended or books that they have read. Feedback from officers indicated these sessions to be beneficial.

Summary

As a Division that provides support services, it is MSD's aspiration to shorten and simplify all work processes and to deliver excellent services for all the various divisions within the MoH's HQ. The MSD strives to carry out its responsibilities and tasks effectively and efficiently so that customer satisfaction is maximised and all the other divisions can carry out their respective policies and responsibilities efficiently and effectively to achieve the Ministry's objectives.

COMPETENCY DEVELOPMENT

Following the abolishment of the Competency Level Assessment (CLA) in 2011, the Competency & Development Division (CDD) has submitted several proposals to the Central Agency (Public Service Department) regarding new competency assessment method for civil servants, known as Integrated Programme of Competency and Potential Development (PROSPEK). Several discussions were held with the heads of service in MoH, to get some feedbacks regarding the proposal, which is much related to the service of the civil servants in the ministry.

This division also managed Departmental Examination for certain schemes of service for the purpose of confirmation. CDD also conducted Training of Trainers (TOT) for Competency Based Training (CBT) for Executive Officers and Senior Administrative Assistant and CBT to improve service delivery system which is being focus at clerical staffs. The activities carried out are as in Table 23.

TABLE 23
COMPETENCY BASED TRAINING (CBT) ACTIVITIES, 2011

No.	Activities	Service Schemes Involved	No.of Candidates
1.	Training of Trainers (TOT)	2	348
2.	Competency Based Training (CBT) for clerical staffs	2	3,577
3.	Departmental exams	11	81

Source: Competency Development Division, MoH

INFORMATION MANAGEMENT

Beginning in 2011, the MoH's ICT direction is towards Strengthening of ICT Through Integration and Information Sharing and later become the Catalyst for Healthcare Services Transformation. Among the important activities undertaken by the Information Management Division (IMD) throughout 2011 is as follows.

Enhance and Strengthen ICT Infrastructures

IMD has implemented the Information Security Management System (ISMS) since 25 April 2011 in order to better manage ICT Infrastructures in the whole Ministry. An audit was done on 9-15 September 2011, and it was found that enhancements are needed before proceeding to apply for certification.

IMAGE 1
ISMS WORKSHOP 2011

Source: Information Management Division, MoH

Empowering Systems, Applications and Databases
In 2011, the development of HIS@KKM (MoH's version of Hospital Information System) is expected to be at 90% completion. By July 2012, development is expected to be completed 100% and implemented at Hospital Raja Permaisuri Bainun, Ipoh.

IMAGE 2
HIS WORKSHOP, 2011

Source: Information Management Division, MoH

Enhancing ICT Culture and Change Management among MoH Staff
Throughout 2011, 10 Office Automation (OA) training sessions were held for 150 MoH staffs. Due to capacity limitation of the IMD's training room, each session can only cater for not more than 18 participants.

IMAGE 3
IMD STAFF OA TRAINING SESSION 2011

Source: Information Management Division, MoH

IMD has also published 2 Bulletins in 2011. The contents of these Bulletins are geared to educate and provide more knowledge to MoH staff regarding ICT information.

IMAGE 4
BULLETINS PUBLISHED BY IMD, 2011

Source: Information Management Division, MoH

Providing Access for Community Involvement in MoH ICT Use
MoH's official portal (www.moh.gov.my) took part in the Malaysia Government Portals and Websites Assessment 2011 by the Malaysian Government. The Ministry received a score of 98 during the 5-Star Rating assessment, which accounts to third place overall among all Ministries in Malaysia. MoH also received a Certificate of Excellence for this achievement.

IMAGE 5
MALAYSIA GOVERNMENT PORTALS AND WEBSITES ASSESSMENT 2011 - ACHIEVEMENT & CERTIFICATE

5.4 Ministry

Ministry ranking consists of 25 ministries of which 18 are portal and 7 are website. The score ranges between 71 to 106 with Ministry of Housing and Local Government at the top. All of the ministries are rated 5-star, except for Ministry of Transport, Malaysia.

Rank	Portal/Website Name	2011		2010		
		Score	Star	Ministry Ranking	Score	Star
1	Ministry of Housing and Local Government	106	5	1	94	5
2	Prime Minister's Department	101	5	19	47	3
3	Ministry of Health, Malaysia	98	5	8	80	5
3	Ministry of Natural Resources and Environment	98	5	17	66	4
4	Ministry of Domestic Trade, Cooperative and Consumerisme	97	5	13	74	4
5	Ministry of Works, Malaysia	96	5	11	76	4
6	Ministry of Agriculture and Agro-Based Industry	95	5	6	84	5
6	Ministry of Higher Education	95	5	10	77	4
7	Ministry of Federal Territories and Urban Wellbeing	94	5	12	75	4
8	Ministry of Education	93	5	5	85	5
8	Ministry of Rural and Regional Development, Malaysia	93	5	8	80	5

Overall Achievement

Certificate of Excellence

Source: Information Management Division, MoH

Upgrading the Quality and Governance Management of MoH ICT

a. MOH ICT Steering Committee (JPICT) Meeting

The meeting, which was co-chaired by the Secretary General and the Director General, was held four times throughout 2011. Details of the meeting are as shown in Table 24.

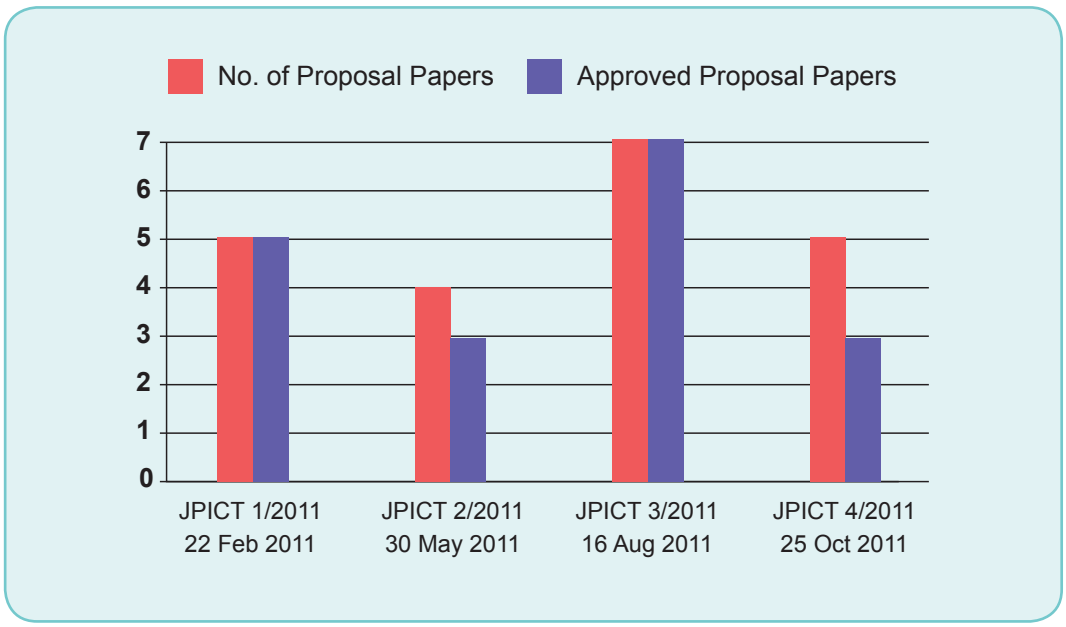
TABLE 24
MOH ICT STEERING COMMITTEE MEETINGS IN 2011

Meeting No.	Date	No. of Papers Discussed	Approved Papers
1/2011	22 February 2011	5 (3 Application, 2 Policy)	All
2/2011	30 May 2011	4 (3 Application, 1 Policy)	Three, 1 (Application) Postponed
3/2011	16 August 2011	7 (4 Application, 2 Policy, 1 Network)	All
4/2011	25 October 2011	5 (2 Application, 1 Network, 1 Service, 1 Concept)	Three, 1 Denied, 1 Postponed

Source: Information Management Division, MoH

In 2011, the JPICT Secretariat has received 21 proposal papers (projects) to be presented and discussed during the meeting. Out of the 21 projects, 18 were approved with an estimated total cost of RM 2,836,514. One paper was denied while decision for two others was postponed. Four of the 18 approved projects were developed inhouse.

FIGURE 15
STATISTIC FOR PROPOSAL PAPERS DISCUSSED AND APPROVED BY MEETING NUMBER, 2011



Source: Information Management Division, MoH

b. MoH ICT Officers Meeting

The opening of this meeting was officiated by IMD's Deputy Undersecretary on 28 July 2011 at the Putrajaya International Convention Centre (PICC). This meeting was chaired by IMD's Undersecretary and attended by all Officers Grade F48 and above, as well as technical officers from the Headquarters and all MoH agencies in Malaysia.

c. ICT Project Quality Assurance (QA) Inspection

There were four inspection sessions held throughout 2011, which were on dates specified below:

i. Teleprimary Care (TPC) Project – 31 March 2011
ii. Oral Health Clinical Information System (OHCIS) - 25 May 2011
iii. Hospital Ampang Hospital Information System - 24 August 2011
iv. Drinking Water Quality Control (KMAM) Project - 20 December 2011

Future ICT Plans

32 colleges has utilised the 1Gov*Net network with a minimum speed of 2 Mbps this year, replacing the MOH*Net network previously used. In 2012, the 1Gov*Net network is expected to be broaden to a targeted 1000 MoH locations, each with a minimal speed of 2 Mbps.

Development of HIS@KKM is also expected for 100% completion in July 2012, and planned for implementation in Hospital Raja Permaisuri Bainun (Ipoh). This implementation will be done concurrently with the Sistem Pengurusan Pesakit (SPP) version 3.0.

IMAGE 6
SECRETARY GENERAL'S VISIT TO HOSPITAL RAJA PERMAISURI BAINUN

Source: Information Management Division, MoH

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.

3 | Financing

INTRODUCTION

The Financing 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 Centres (RC) within the 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.

ACTIVITIES AND ACHIEVEMENTS

BUDGET MANAGEMENT

In 2011, a total of RM16.28 billion was allocated to MoH which consists of RM14.30 billion for the Operational Budget (Table 1) and RM1.98 billion for the Development Budget. Operational Budget according to programme is shown in Table 1.

Performance of Operating Expenditure for 2011
The Operating Budget allocation for 2011 was RM14.30 billion which represents an increase of RM2.54 billion as compared to RM 11.76 billion allocated for 2010. However, the total expenditure for 2011 was RM14.90 billion, which was 4.17% higher than the sum allocated. Expenditure in excess of allocation was due primarily to the payment of bonus for 2011, extra emolument as a result of filling up of vacant posts as well as special incentive payments for medical specialists. It was also due to the payment of utility arising from an increase in health facilities.

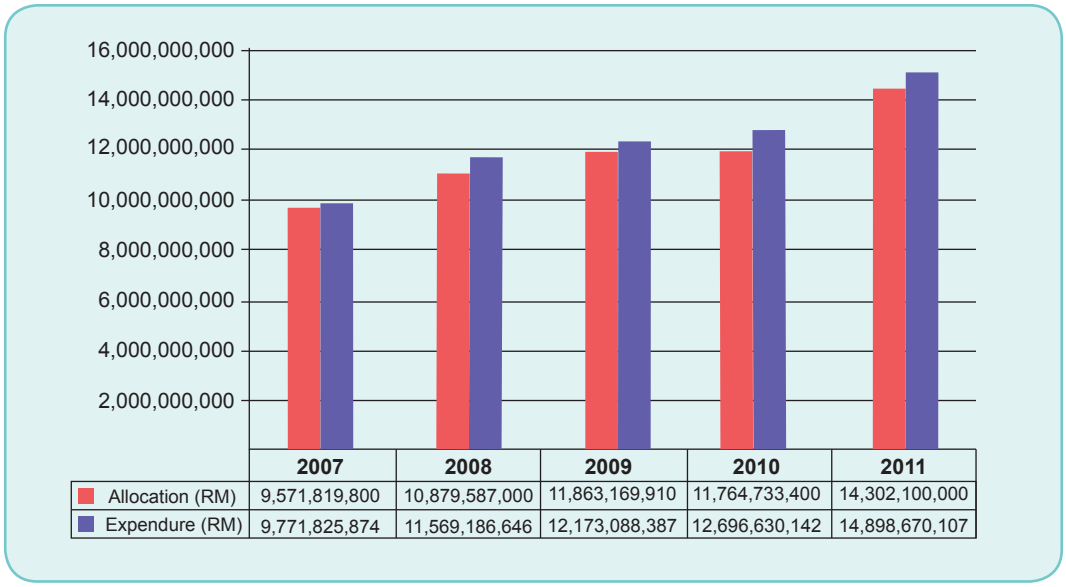
Overall Performance of Operating Budget from 2007-2011
For the past five years (2007-2011), the Operating Budget allocation for MoH has increased from RM9.57 billion in 2007 to RM14.30 billion in 2011. Meanwhile, the expenditure for operating budget recorded an increase from RM9.77 billion in 2007 to RM14.90 billion for 2011. Figure 1 shows the overall performance of Operating Budget from 2007-2011.

TABLE 1
ALLOCATION AND EXPENDITURE OF OPERATING BUDGET IN 2011, ACCORDING TO PROGRAMME

PROGRAMME	ALLOCATION (RM)	EXPENDITURE (RM)
Management	1,131,146,299	1,120,118,600
Public Health	2,689,616,727	2,843,515,000
Medical	8,993,843,980	9,419,186,546
Research & Technical Support	160,861,800	161,934,374
Oral Health	501,209,742	539,321,716
Pharmaceutical Service	125,112,927	124,932,031
Food Safety & Quality	66,907,479	67,704,051
Malaysian Health Promotion Board	12,700,000	12,700,000
New Policy	441,892,489	437,079,275
One-Off	178,808,557	172,178,514
Total	**14,302,100,000**	**14,898,670,107**

Source: Finance Division, MoH

FIGURE 1
OVERALL PERFORMANCE OF OPERATING BUDGET FROM 2007-2011



	2007	2008	2009	2010	2011
Allocation (RM)	9,571,819,800	10,879,587,000	11,863,169,910	11,764,733,400	14,302,100,000
Expendure (RM)	9,771,825,874	11,569,186,646	12,173,088,387	12,696,630,142	14,898,670,107

Source: Finance Division, MoH

Performance of Development Expenditure for 2011

The total expenditure of the Development Budget was RM1.96 billion or 98.65% of the total budgeted allocation of RM1.98 billion. Development Budget according to project details is shown in Table 2.

TABLE 2
DEVELOPMENT ALLOCATION AND EXPENDITURE BY PROJECT DETAILS, 2011

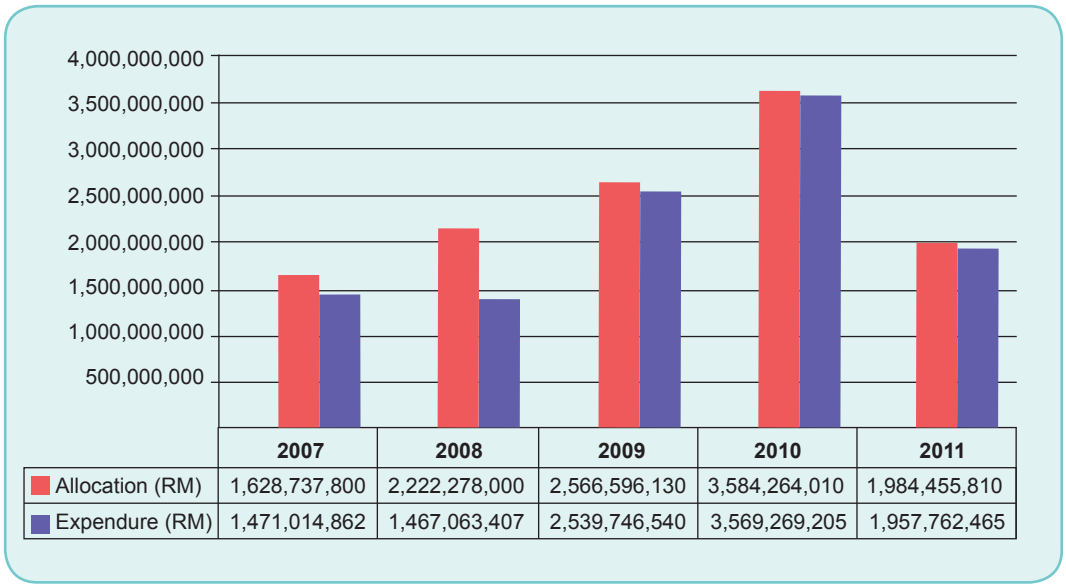
Project Detail	Title	Allocation (RM)	Expenditure (RM)	Percentage (%)
00100	**Training**	**182,516,196**	**171,939,621**	**94.21**
00101	Construction of New Colleges	74,832,384	69,640,657	93.06
00102	Upgrading of Training Projects	560,228	560,226	100.00
00103	Hostels for Pre-Service Trainees	1,447,384	1,000,000	69.09
00104	Outsourcing	45,676,200	40,940,628	89.63
00105	In-Service Training	60,000,000	59,798,110	99.66
00200	**Public Health**	**283,662,440**	**281,310,270**	**99.17**
00201	Rural Health Services	89,777,825	88,892,998	99.01
00203	Urban Health Services	193,884,615	192,417,272	99.24
00300	**Hospital Facilities**	**641,573,826**	**640,794,547**	**99.88**
00400	**New Hospitals**	**440,724,486**	**440,717,364**	**100.00**
00500	**Research & Development**	**21,545,672**	**21,144,282**	**98.14**
00600	**Restructure, Upgrade & Repair**	**86,000,000**	**75,383,938**	**87.66**
00700	**Land Procurement & Maintenance**	**11,500,000**	**11,499,067**	**99.99**
00800	**ICT Facilities**	**46,085,745**	**46,085,301**	**100.00**
00900	**Staff Facilities**	**127,113,351**	**126,685,917**	**99.66**
00901	Rural Quarters Facilities	2,730,625	2,311,696	84.66
00902	Urban Quarters Facilities	79,203,992	79,212,176	100.01
00904	Health Offices	45,178,734	45,162,045	99.96
01100	**Equipment & Vehicles**	**143,734,094**	**142,202,158**	**98.93**
TOTAL		**1,984,455,810**	**1,957,762,465**	**98.65**

Source: Finance Division, MoH

Overall Performance of Development Budget from 2007-2011

Figure 2 shows the overall performance of the Development Budget allocation and expenditure from 2007 until 2011. In general, the development expenditure for MoH for the past five years has been less than the allocation provided, but increased from 90.32% in 2007 to 98.65% in 2011.

FIGURE 2
OVERALL PERFORMANCE OF DEVELOPMENT BUDGET, 2007-2011



	2007	2008	2009	2010	2011
Allocation (RM)	1,628,737,800	2,222,278,000	2,566,596,130	3,584,264,010	1,984,455,810
Expendure (RM)	1,471,014,862	1,467,063,407	2,539,746,540	3,569,269,205	1,957,762,465

Source: Finance Division, MoH

REVENUE MANAGEMENT

- **Revenue Collections**
  The total revenue collection for MoH in 2011 was RM 330,227,443.55 which is 6% (RM 18,999,835) increased than revenue collection for the year 2010. Some of RM 245,618,133.65 was collected from the charges of health services in hospitals and clinics while RM 84,659,299.90 (25.63%) was collected from other revenues such as fines, rentals, sales, etc. The breakdown of the revenue classifications for 2011 as compared to 2010 are shown in Table 3.

TABLE 3.
TOTAL REVENUE COLLECTION OF MOH 2010 & 2011

Code	Revenue Classification	Amount (RM)	
		2011	2010
60000	Tax Revenue	-	-
71000	Licenses, Registration Fees and Permits	8,039,559.78	7,472,111.96
72000	Services and Services of goods	263,636,734.64	243,667,341.24
73000	Receipts from Sales of Goods	3,095,273.38	6,118,422.57
74000	Rentals	15,181,553.73	14,014,540.58
75000	Interest and Returns of Investment	123,115.27	119,145.90
76000	Fines and Penalties	12,389,055.25	9,509,931.38
80000	Non-revenue Receipts	26,006,571.28	28,392,704.90
90000	Revenues from Federal Territory	1,805,537.22	1,933,410.01
Total		**330,227,443.55**	**311,227,608.54**

Source: Finance Division, MoH

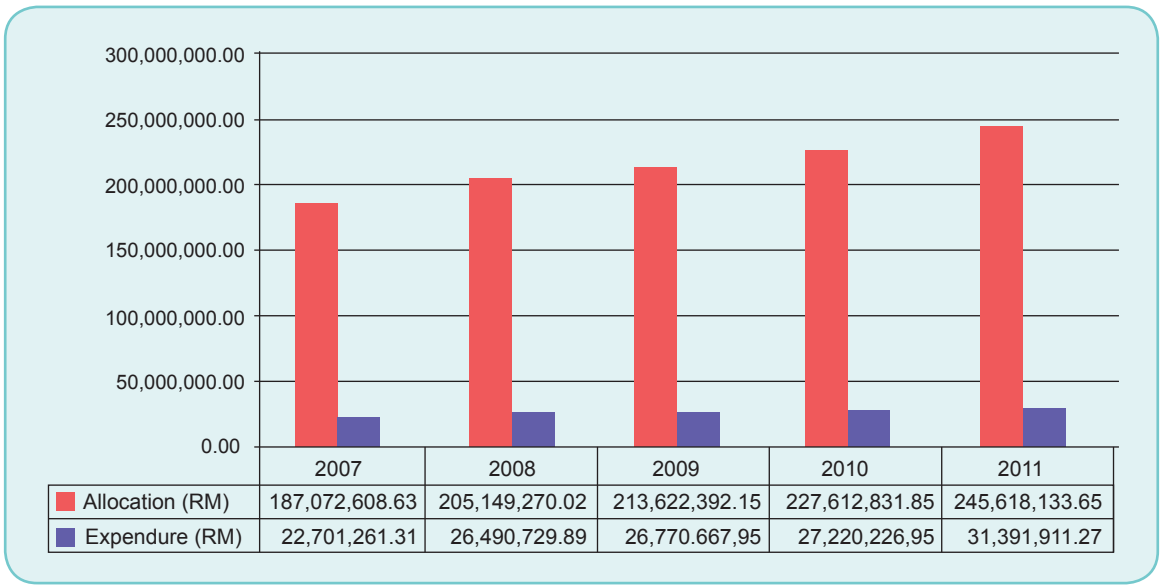
- **Outstanding Revenue**
  Total outstanding revenue collection in 2011 increased by 50.29% to RM 44,892.036.51 million from RM 29,870,506.15 million in 2010. Out of these, a total of RM 31,391,911.27 million of the outstanding revenue was due from charges of health services under the Fees (Medical) Order 1982, while RM 15,012,530.36 million was due from other revenues such as fines, rentals, sales, etc.

- **Collection and Outstanding Revenue For Health Services Under The Fee (Medical) Order 1982 For 2011**
  The total revenue collection for health services under the Fees (Medical) Order 1982 for the year 2011 was RM 245,618,133.65 of which RM 171,277,845.34 was contributed by Malaysians as both in-patient and out-patient, and Full Paying Patients for services provided by clinics/hospital, while RM 74,340,288.31 was contributed by non-Malaysian patients.

  In 2011, a total of RM 31,391,911.27 million of the outstanding revenue was due from charges of health services under the Fees (Medical) Order 1982. A total of RM 12,536,607.70 million and RM 18,855,303.57 million of the outstanding revenue were due from Malaysian and non-Malaysian patients respectively.

  The total revenue collected under the Fees (Medical) Order 1982 from 2007 to 2011 showed an average increment of RM 14,636,381.26 million or 25%. The revenue collected in 2011 increased by RM 18,005,301.80 million as compared to RM 227,612,831.85 million collected in 2010 (Figure 9). Meanwhile, outstanding revenue collection for health services under the Fees (Medical) Order 1982 for 2011 increased by 15.33% or RM 4,171,684.32 million as compared to 2010.

FIGURE 3
COLLECTION AND OUTSTANDING REVENUE UNDER THE FEES (MEDICAL) ORDER 1982, 2007-2011



	2007	2008	2009	2010	2011
Allocation (RM)	187,072,608.63	205,149,270.02	213,622,392.15	227,612,831.85	245,618,133.65
Expendure (RM)	22,701,261.31	26,490,729.89	26,770.667,95	27,220,226,95	31,391,911.27

Source: Finance Division, MoH

MoH is very committed to reduce hospital outstanding revenue by taking some actions as follows:

- Enforcement of deposits payment by patient before admission.
- Encourage private company to have agreement of Bank Guarantee with KKM for admission of their staff or dependant in government hospital.
- Implementation of Foreign Worker Insurance – Skim Perlindungan Insurans Kesihatan Pekerja Asing (SPIKPA)
- Payment of hospital bill via Internet Banking.
- E-Payment (payment by credit card).

FINANCIAL AID AND SUBSIDY TO NON –GOVERNMENTAL ORGANIZATIONS (NGO)

There are three types of financial assistances offered by MoH to NGOs, which are:

1. *Health Related Programs Fund*
   In 2011, a sum of RM 8,345,500.00 was allocated by MoH to NGOs in the form of financial aid to support health-related programs and activities such as home visits for palliative patients, awareness campaigns and other related activities to patients. This allocation was given to Malaysian Hospice Council, National Diabetes Institute (NADI), Malaysian National Cancer Association and others. The total allocation in 2011 has decreased by 31.3% due to financial constraint. MoH also provided funds amounting to RM 1.5 million to the Malaysian AIDS Council (MAC) in 2011 to fund the operational cost of that organization.

2. *Capital Grant Fund*
   The grant was given to new dialysis centers run by NGO to a maximum of 10 dialysis machines. In 2011 a sum of RM 380,500.00 was allocated to NGOs in the form of capital grant.

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 RM 50.00 for each treatment and RM 30.00 subsidy for erythropoetin injection. Each patient will be given an average of RM 1040.00 of subsidy per month. In 2011, MoH had allocated a sum of RM 34.018 million NGOs as subsidy payments for haemodialysis treatment.

WAY FORWARD

In essence, in the midst of a challenging and constantly changing economic environment, organizational effectiveness is vital to ensure the Financing Section's ability to fulfill its responsibilities with distinction at the highest level. Strong and performance-dedicated workforce are among the Section's important milestone. We will continue to strive to achieve the highest level of excellence in fulfilling its responsibilities and to perform the trust that has been entrusted to us.

4 | Public Health

INTRODUCTION

The Public Health Programme is lead by the Deputy Director General of Health (Public Health). On 15 April 2011, Datuk Dr. Lokman Hakim Bin Sulaiman was appointed as the Deputy Director General of Health (Public Health) replacing Dato' Sri Dr. Hasan Bin Abdul Rahman, who was appointed as the Director General of Health, Malaysia.

The objectives of the Public Health Programme are (1) to serve the communities especially the rural area populations with health services which relate to promotion, prevention and basic health care, and (2) to assist individuals and communities to participate towards behavioral changes in order to achieve and maintain optimum health status and prevention of spreading diseases that can affect their life socially and economically.

There are four Divisions in the Public Health Programme, namely the Disease Control Division, the Family Health Development Division, the Health Promotion Division, and the Nutrition Division.

ACTIVITIES AND ACHIEVEMENTS

DISEASE CONTROL

International Health Sector

- **International Health Collaboration**

  a. *International Health Regulations (IHR) 2005*
  IHR 2005 course is held twice a year for District Heath Officer, Epidemiologist, Environmental Health Officer and Assistant Environmental Health Officer. For the year 2011, it held in 23 -25 October 2011 and 19-21 December 2011.

  Supervision on IHR 2005 implementation at the Points of Entry, District Health Office, State Health Department and Ministry of Health is done throughout the year 2011 and evaluation on the IHR 2005 implementation status is done on yearly basis.

  International Health Sector will prepare the annual evaluation report of IHR 2005 implementation status which based on World Health Organisation (WHO) framework. This evaluation report will be sent to WHO once a year for compilation and to share the achievement among WHO member countries.

  b. *Coordination with the Policy and International Relations Division*
  In 2011, the International Health Sector was involved in several meetings, such as;

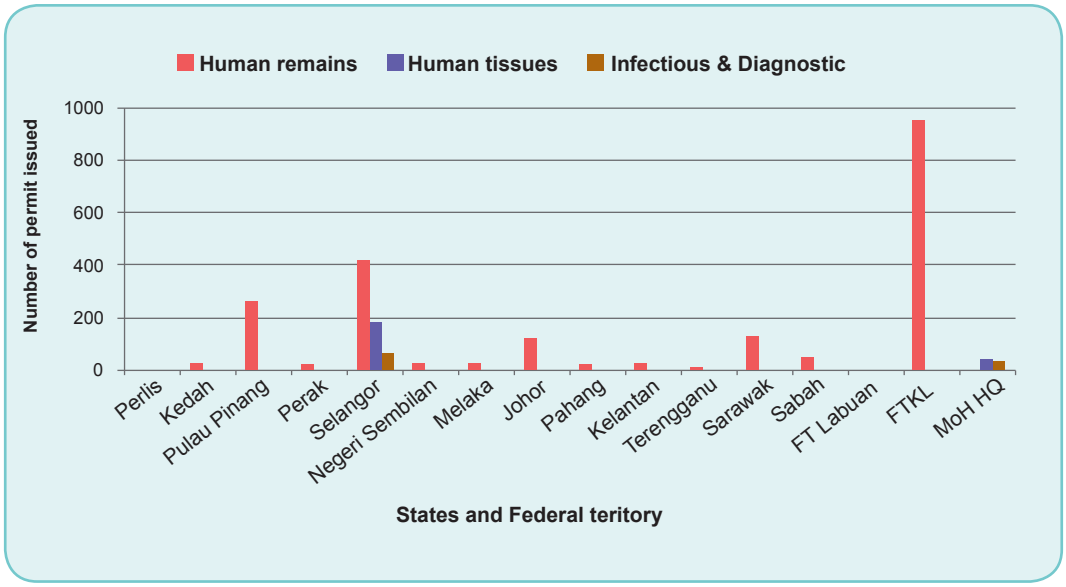
  i. 15th Public Health Conference - Brunei Darussalam, Indonesia, Malaysia, Singapore, Thailand (BIMST)
  ii. 6th Senior Officials Meeting On Health Development (SOHMD)
    a. 1st Senior Officials Meeting On Health Development (SOMHD)
    b. 1st ASEAN Plus Three SOMHD
    c. 1st ASEAN-China SOMHD
  iii. 62nd Session of The World Health Organization (WHO) Regional Committee Meeting For Western Pacific

- **Points of Entry and International Health**

a. *International Points of Entry.*

In 2011, 2,468 import/export permits have been issued for human remains or any part of it, human tissue or any part of it, and organism and pathogenic material or any part of it. 2,136 import/export permits have been issued for corpse or any part of it, 228 import/export permits human tissue or any part of it and 108 import/export permits organism and pathogenic material or any part of it. Figure 1 shows comparison for import/export permits for human remains, human tissue, organism, pathogenic material or any part of it for 2011.

FIGURE 1
IMPORTATION AND EXPORTATION OF HUMAN REMAINS, HUMAN TISSUES, MICROORGANISM AND PATHOGENIC SUBSTANCES, 2011



Source: Disease Control Division, MoH

b. *Migrant Health and Migrant Medical Examination*

The Foreign Workers Medical Examination Monitoring and Supervision Services is handled by FOMEMA with the objective to ensure that all foreign workers whom working in Malaysia are suitable to work and free from infectious diseases. All foreign workers are screened from six (6) infectious diseases which are Tuberculosis (through abnormal chest X-ray film), Hepatitis B, Syphilis, HIV, Malaria and Leprosy. Screening for pregnancy, drug (Opiate and Cannabis) and non-communicable diseases such as Psychiatric problem, Epilepsy, Cancer and Chronic Diseases are also done for foreign workers. In 2011, there were 934,390 foreign workers screened. The following is a list of 12 top countries for foreign worker medical examination.

i. Indonesia
ii. Nepal
iii. Myanmar
iv. India
v. Vietnam
vi. Pakistan
vii. Cambodia
viii. Philippines

ix. Bangladesh
x. Sri Lanka
xi. China
xii. Thailand

In Malaysia, foreign workers are working in six (6) sectors which are;
i. Industrial Sector – 431,694 workers (46.2%)
ii. Domestic Sector – 135,244 workers (14.5%)
iii. Construction Sector – 103,591 workers (11.0%)
iv. Agricultural Sector – 103,312 workers (11.1%)
v. Farming Sector – 87,880 workers (9.4%)
vi. Service Sector – 72,669 workers (7.85)

Foreign workers found to be unsuitable to work in Malaysia were 24,416 (2.61%). This number was noted to be the lowest as compared from 2007 to 2010, from total number of foreign workers screened, it ranged from 2.74% to 3.15% foreign workers were found to be unsuitable. Communicable diseases were the most common diseases found with 13,957 cases (56.5%) followed by non-communicable diseases with 7,870 (31.8%).

Amongst communicable diseases, Tuberculosis (Abnormal chest X-ray findings) was the most common disease found with 7,062 cases (50.6%), followed by Hepatitis B with 4,982 cases (35.7%); Syphilis with 1,399 cases (10.0%); HIV with 424 cases (3.0%) and Malaria with 88 cases (0.6%).

Amongst non-communicable diseases, chronic diseases was the most common disease found with 7,683 cases (97.6%) followed by Psychiatric diseases with 135 cases (1.7%), Epilepsy with 45 cases (0.6%) and Cancer with 7 cases (0.1%). There were 1,417 cases (49.1%) positive for urine pregnancy test, 1,054 cases (36.5%) positive for urine opiates and 415 cases (14.4%) positive for urine cannabis.

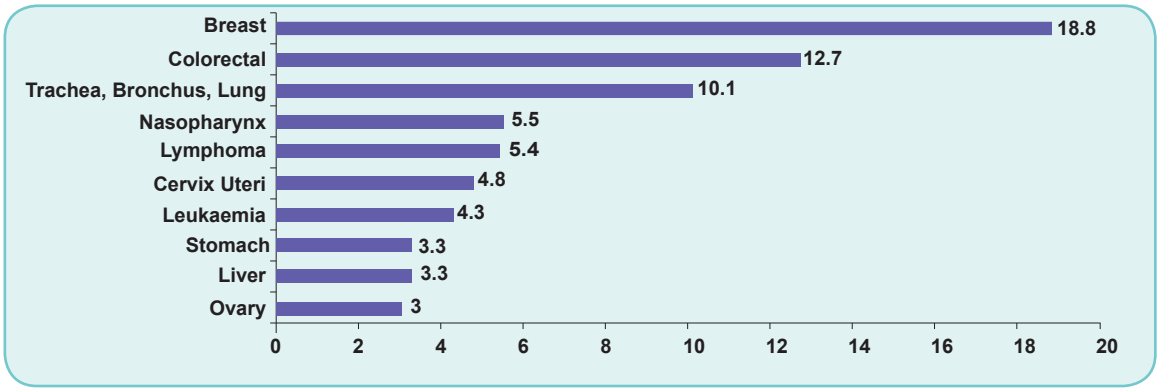
Cancer Control Programme

The National Cancer Registry (NCR) was established at the Non-Communicable Disease Section, Disease Control Division in Jun 2006. All State Cancer Registries are required to send cancer data collected at state level to the Ministry of Health to be registered at the NCR data-base.

From 1st January 2007 until 31st December 2011, a total of 57,800 cancer cases diagnosed in 2007 until 2011 were registered at the National Cancer Registry. It comprises of 44.8% males and 55.2% females. Of all the cases registered at the NCR data-base, 39.5% are Malay, 40.7% Chinese, 6.4% Indian and 13.4% others.

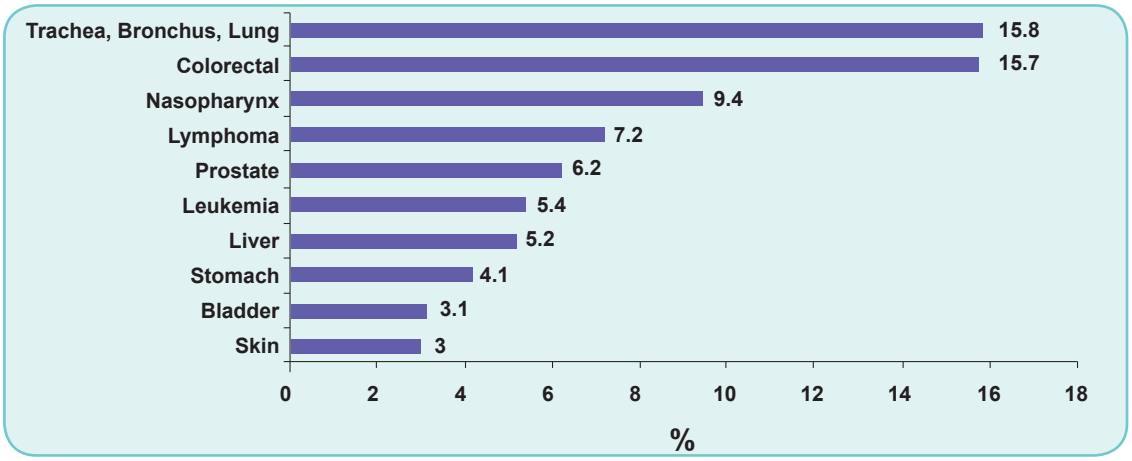
The collection of cancer data is a continuous process, hence, there are cases which are yet to be notified and registered at the NCR. As of this point, NCR is preparing the 2008 cancer report. There were 17,763 cancer cases diagnosed in 2008 reported and registered to NCR. Figure 2 described the leading cancers among Malaysian males and females in 2008 while Figures 3 and 4 described the leading cancers amongst the general population in Malaysia. The three leading cancers among the general population in Malaysia were breast (18.8%), colorectal (12.7%) and lung (10.1%). In males, the three leading cancers were lung (15.8%) followed by colorectal (15.7%) and nasopharynx (9.4%) while in females, the three leading cancers were breast (32.3%) followed by colorectal (10.4%) and cervix (8.5%). The three leading cancers were similar with the 2007 report. It was also discovered that the incidence of cancers occurred at all ages and increases with age. The incidence rate in males exceeded the incidence rate in females after the age of 60 years.

FIGURE 2
TEN LEADING CANCERS, ALL RESIDENCE, MALAYSIA, 2008



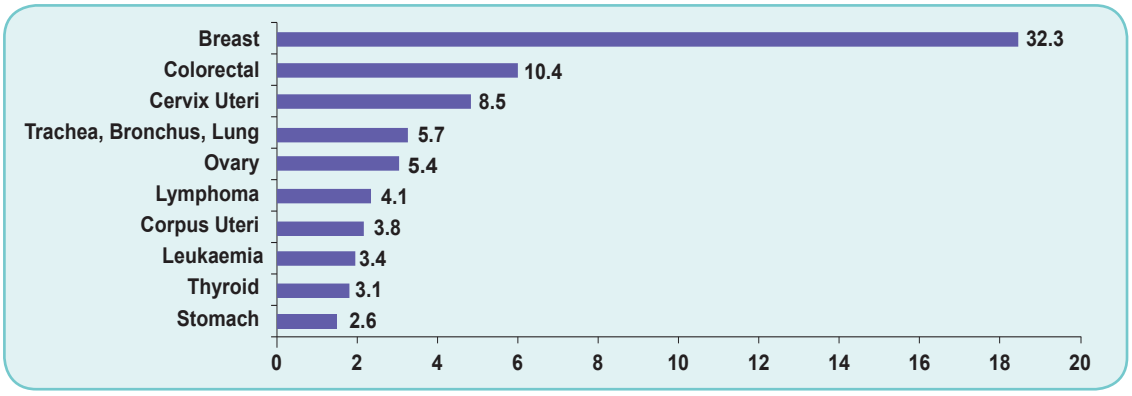
Source: Disease Control Division, MoH

FIGURE 3
TEN LEADING CANCERS IN MALE, MALAYSIA, 2008



Source: Disease Control Division, MoH

FIGURE 4
TEN LEADING CANCERS IN FEMALE, MALAYSIA, 2008

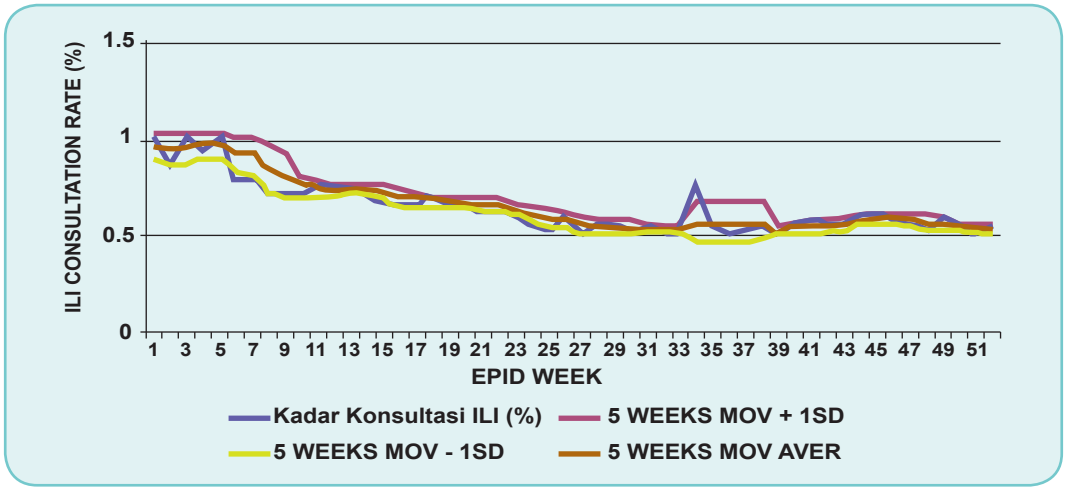


Source: Disease Control Division, MoH

Influenza-Like Illness (ILI) Surveillance Programme

The Malaysia Influenza Surveillance System (MISS) was introduced in September 2003. In May 2009, the ILI Surveillance was enhanced during the Influenza A (H1N1) pandemic. In 2011, enhanced surveillance was continued and Figure 5 showed the ILI consultation rate for 2011. Throughout the year, the ILI consultation rate had been noted to be below the 5 weeks moving average +1 standard deviation (SD) except for epidemiological week 12, 18, 34, 40 and 44 of 2011. ILI consultation rate was observed to be higher than average ILI consultation rate during the period of first seven (7) weeks. During a similar period, there had been an increase in the number of ILI clusters as well as the number of positive Influenza A (H1N1) clusters reported.

FIGURE 5
INFLUENZA-LIKE ILLNESS (ILI) CONSULTATION RATE AT THE GOVERNMENT HEALTH CLINIC IN MALAYSIA, EPID WEEK 01/2011 UNTIL 52/2011



Source: Disease Control Division, MoH

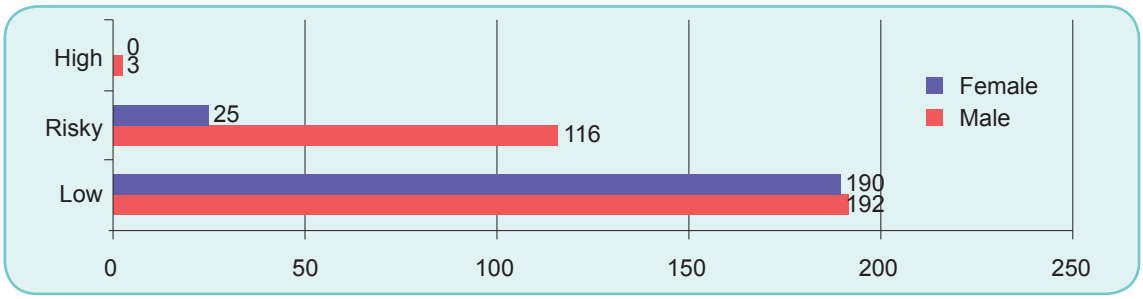
Alcohol and Substance Abuse Prevention Programme

In response to the complexity of alcohol-related harm, the Global Strategy to Reduce Harmful Use of Alcohol was endorsed by 63rd World Health Assembly in May 2010. Subsequently, first meeting of Global Network of WHO National Counterparts for implementation of the Global Strategy was held in Geneva on the 8-11 February 2011. Together with this was the launching of Global Status Report on Alcohol and Health 2011, in which the Alcohol Unit was responsible for Malaysia's country profile report.

A National Training of Trainers (TOT) on substance abuse management was carried out on the 28-30 June at the Avillion Admiral Cove Hotel, Port Dickson. The three-days training covered several topics on the management of illegal drug, alcohol and nicotine use. It was jointly organized with the National Institute of Health. The aims were to increase knowledge and skills on substance abuse management among MoH staff working at primary care clinic, increasing human capacity in the field of addiction medicine in Malaysia. This was the third TOT conducted at the national level and approximately 105 trainers have been trained since it was started in 2009.

Four health clinics in remote areas in Tuaran and Keningau, Sabah were chosen to implement the screening, brief intervention and referral to treatment (SBIRT) as demonstration project. The project was implemented for a year from August 2010 to July 2011, with a total of 526 clients has been screened for their pattern of alcohol use using Alcohol Use Disorder Identification Test (AUDIT). Figure 6 illustrated their risk of alcohol use according to gender.

FIGURE 6
RISK OF ALCOHOL USE BY GENDER, 2011



Source: Disease Control Division, MoH

Among these 526 clients, 144 clients have been identified practicing a risky pattern of alcohol use and subsequently have been intervened, though only 105 clients (80%) came for the intervention. Post intervention data revealed out of 105 clients, 93 clients (88.6%) have reduced their alcohol intake. In term of risk of alcohol use, 6 to 12 months post-intervention, 53 clients (50.5%) were in the low risk group, 52 (49.5%) clients still in the risky group and none in the high risk group.

Tuberculosis & Leprosy Prevention and Control

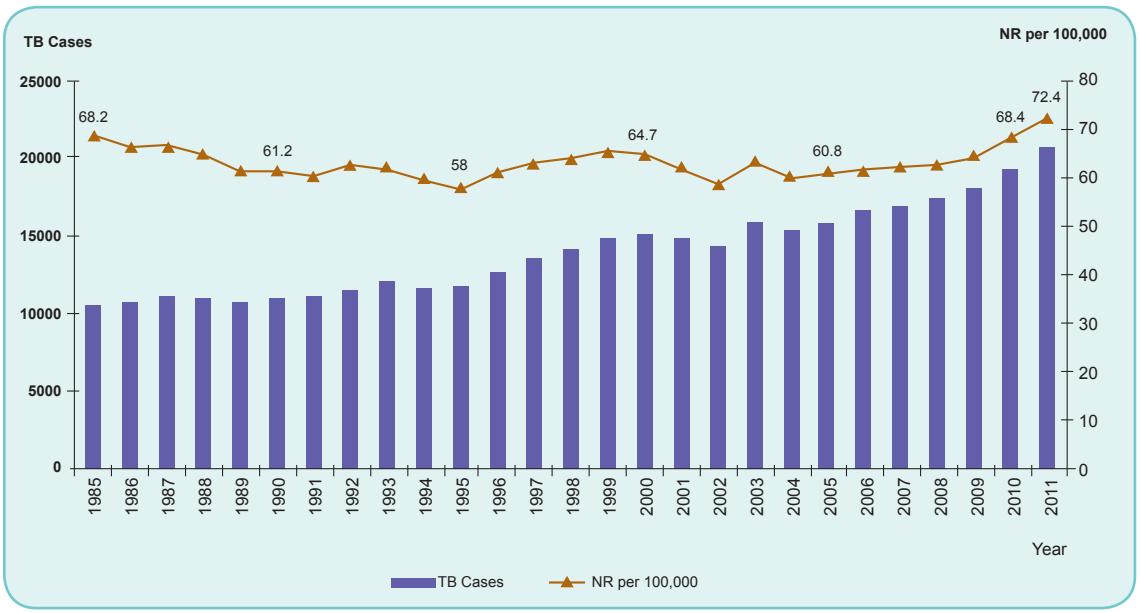
- **Tuberculosis Control**

The National Tuberculosis Control Programme (NTBCP) in Malaysia was launched in 1961 as a vertical programme with the main aim to control and reduce the prevalence of tuberculosis as a public health concern. BCG Vaccination program was introduced as one of the strategies of NTBCP in the same year.

Since the implementation of NTBCP in 1961, the number of reported TB cases had successfully reduced from 350 cases per 100,000 to less than 100 per 100,000 in 1980's. However, since then, reported TB cases have remained unchanged; 60-68 per 100,000 populations. It was noted that the reported TB cases had shown slight increment since 2004.

There were 20,666 TB cases notified in 2011, reflecting a notification rate of 72.4 per 100,000 populations. There were 12,771 (61.8%) smear positive cases, 4,855 (23.5%) smear negative/ smear not done/not known and 3,040 (14.7%) extra pulmonary TB cases. There were 1,644 TB deaths reported in 2011, giving rise to 5.8 TB deaths per 100,000 populations. Case Detection Rate was 84.1% had shown improving trend since year 1990. Cure Rate also had improved from 69% in 2006 to 79% in 2011.

FIGURE 7
TUBERCULOSIS NOTIFICATION RATE (NR) IN MALAYSIA, 1985-2011

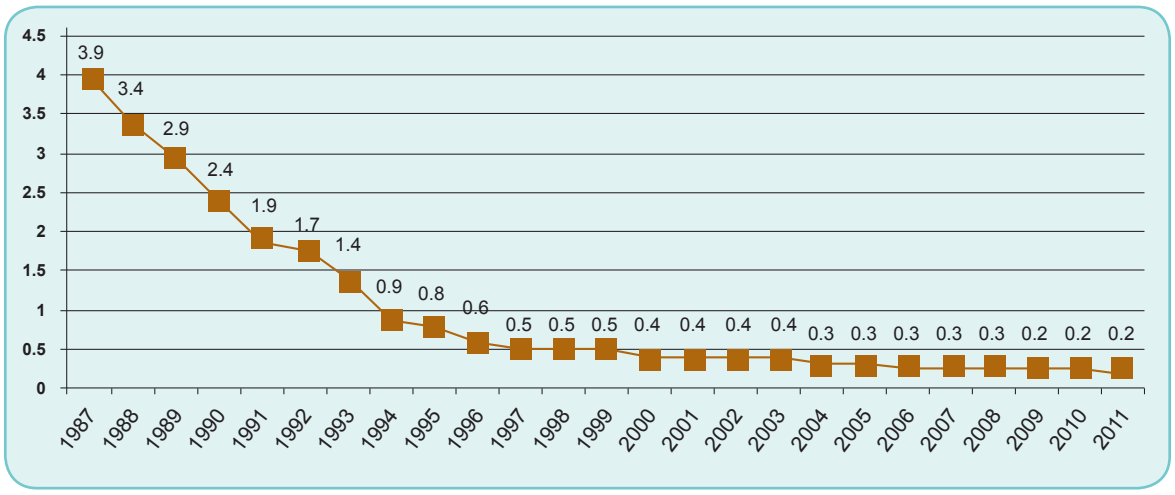


Source: Disease Control Division, MoH

- **Leprosy Control Programme**

Malaysia has reached elimination target set by WHO (Prevalence Rate : < 1 case / 10,000 population) since the year 1994 and has remained so till today. In fact the trend is declining ever since, as shown in the graph below (Figure 8). However, the national achievement may mask some 'under achievements' at sub national level, namely the districts. Leprosy is still a burden to certain areas identified as 'endemic pockets'. These areas are mainly inhabited by the Orang Asli of West Malaysia and the Pribumi of Sabah and Sarawak. It is timely for the Leprosy Control Programmers to set specific targets and strategies on Leprosy control activities, focusing on the pockets.

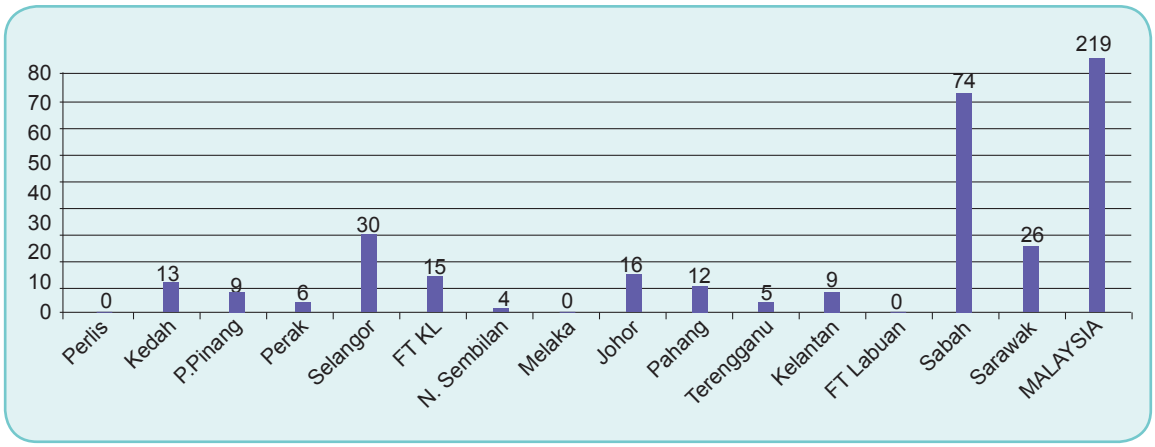
FIGURE 8
PREVALENCE RATE OF LEPROSY FOR MALAYSIA, 1987-2011



Source: Disease Control Division, MoH

In 2011, Sabah has remained the highest contributor for leprosy burden among all other states, and this is followed by Selangor and Sarawak (Figure 9).

FIGURE 9
NEW LEPROSY CASES NOTIFIED BY STATES, 2011



Source: Disease Control Division, MoH

For the past 5 years, it is noted that an average of 40% of the new leprosy cases reported were among foreigners/migrants (legal or illegal). The future planning for leprosy control must address this issue and lay out practical activities concerning leprosy control among this group of people.

Zoonotic Diseases Control

Zoonotic Diseases are managed under the Zoonosis Sector. The notifiable zoonotic diseases under the Prevention and Control of Infectious Diseases (PCID) Act 1988 include Ebola, Leptospirosis, Nipah, Plague and Rabies. Avian Influenza infection is also notifiable under the PCID Act as 'any life-threatening microbial infections'. In addition, the Zoonosis Sector also manages two other non-zoonotic diseases, Hand, Foot and Mouth Diseases (HFMD) and Influenza A (H1N1).

- **Ebola, Plague, Nipah, Rabies and Avian Influenza**

There was no case of Ebola, Nipah, Plague, and Rabies reported in 2011. Malaysia has not recorded any human cases of Avian Influenza, thus far.

- **Leptospirosis**

Leptospirosis is endemic in Malaysia and was made a notifiable disease since 9th December 2010. In 2011, there were 2268 cases of Leptospirosis recorded from CDCIS e-Notifikasi system with 55 deaths (case fatality rate of 2.4%). Seventy-five (75%) percent of the leptospirosis cases recorded were men and 52% were among the age group between 25 to 60 years. There were 19 leptospirosis outbreaks for 2011. Table 1 shows the number of cases deaths and outbreaks by states.

- **Brucellosis**

In 2011, there were 69 cases of Brucellosis including one (1) outbreak reported amongst people who drank unpasteurised milk sourced from a goat farm in Pulau Pinang. Sixty six (66) cases were reported during the outbreak and all the cases have recovered

TABLE 1
LEPTOSPIROSIS CASES, DEATHS AND OUTBREAKS BY STATES IN MALAYSIA, 2011

STATE	CASE			DEATH	OUTBREAKS
	MALE	FEMALE	TOTAL		
Johor	44	11	55	2	0
Kedah	90	21	111	1	0
Kelantan	192	84	276	1	3
Melaka	125	66	191	3	2
Negeri Sembilan	116	39	155	3	3
Pahang	105	28	133	2	0
Perak	176	66	242	7	0
Perlis	15	4	19	1	1
Pulau Pinang	25	8	33	0	0
Sabah	55	13	68	0	0
Sarawak	131	26	157	9	3
Selangor	334	108	442	13	3
Terengganu	110	27	137	9	1
FT Kuala Lumpur	191	55	246	2	1
FT Labuan	3	0	3	2	0
MALAYSIA	**1712**	**556**	**2268**	**55**	**17**

Source: Disease Control Division, MoH

- **Sarcocystosis**

On 31 October 2011, multiple sites from the GeoSentinel (the surveillance program of the International Society of Travel Medicine and CDC) reported a cluster of approximately 23 cases of probable sarcocystis infection in travelers from 6 countries who had vacationed on Tioman Island between June and August 2011. The travellers, some travelling in groups, had fever, myalgia or musculoskeletal complaints, and peripheral eosinophilia. Subsequently, altogether 32 cases were detected and muscle biopsy from two cases demonstrated organisms consistent with Sarcocystosis. All cases have improved either from a self-limiting disease or symptomatic treatment. Field investigations by Epidemiologic Intelligence Program (EIP) Malaysia, Environmental Health Research Centre (EHRC) and Department of Veterinary Services Malaysia (DVS) did not find any cases of Sarcocystosis among human and animals in Tioman Island.

- **Melioidosis**

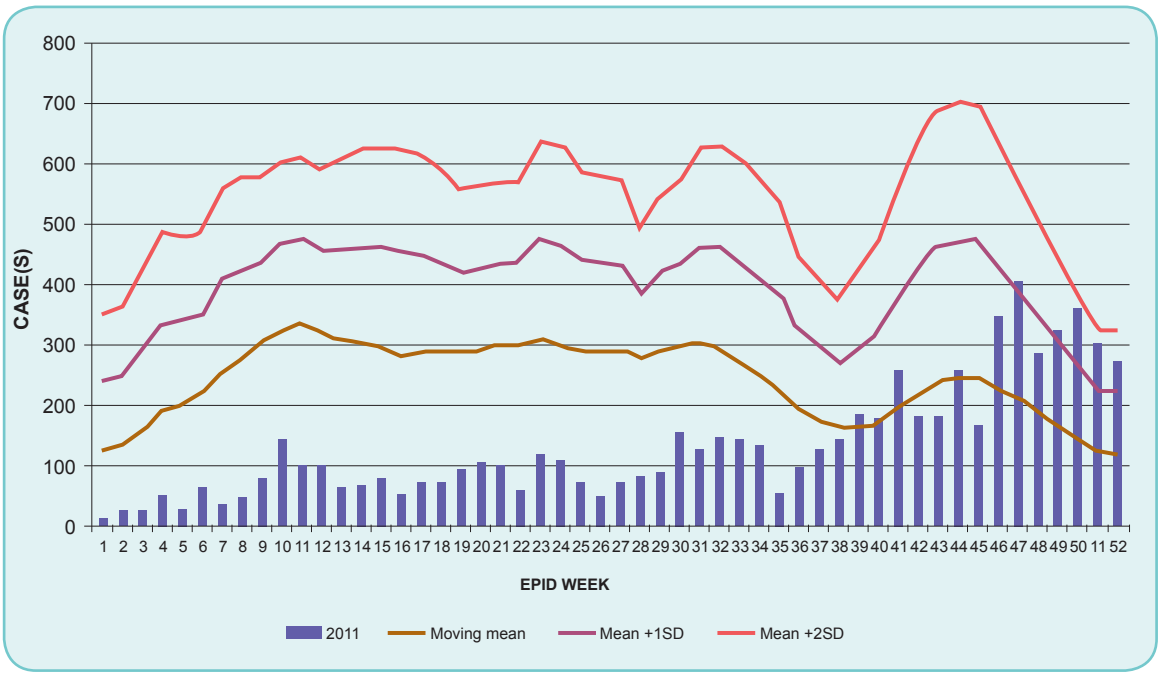
Melioidosis is caused by Burkholderia pseudomallei bacteria, a free-living saprophyte that is found in soil. In 2011, two (2) melioidosis clusters have been reported in Sarawak. The first cluster was in Bakun Hydroelectric Project, Belaga (3 cases and two deaths). The second cluster was in Iron Wall Logging Camp, Kapit (3 cases and no death). In most of the cases, the predisposing factor is related to working condition which involved contact with soil.

- **Hand, Foot and Mouth Disease (HFMD)**

The Zoonosis Sector also manages Hand, Foot and Mouth Disease (HFMD), a non-zoonotic disease. HFMD is endemic in Malaysia and is notifiable under the PCID Act 1988. For 2011, there were 7,002 cases of HFMD recorded from CDCIS e-Notifikasi system and there was no death reported in Malaysia. There were also 182 HFMD outbreaks in 2011. The trend for HFMD is as in Figure 10.

The predominant circulating HFMD strain in Peninsular Malaysia is Coxsackie A16 (85%) comprising of 234 out of 276 positive isolates. However, the predominant circulating virus for Sarawak is EV71 comprising of 107 out of 131 (82%) positive isolates. Majority of Cox A16 infection is mild whilst EV71 has potential for complications such as myocarditis and encephalitis but these complications are not seen in Malaysia in 2011.

FIGURE 10
HFMD TREND IN MALAYSIA, 2011



Source: Disease Control Division, MoH

- **Influenza A (H1N1)**

In 2011, there were 869 laboratory confirmed H1N1 cases reported with 10 deaths. Table 2 shows the number of H1N1 cases reported by states

- **Avian Flu Simulation Exercise 2011**

MoH Malaysia and the Department of Veterinary Services (DVS), Malaysia held a Field Simulation Exercise in dealing with an outbreak of Avian Influenza/HPAI/H5N1 from 20-22 September 2011 in Muar, Johor. The planning of the simulation exercise involved MoH and DVS staff at national, state and district levels. In total, 34 officers were appointed as committee members including controllers and evaluators for this exercise. The planning committee also met with the Muar District Officer and other related agencies in the district. There were 21 officers who participated as observers for MoH in this exercise including the Director of Communicable Diseases Control Division, MoH Singapore. In addition, there were three officers from the Agriculture and Veterinary Authorities (AVA), Singapore who participated as observers to the DVS field exercise.

TABLE 2
INFLUENZA A (H1N1) CASES REPORTED IN MALAYSIA BY STATE, 2009-2011

STATE	2009		2010		2011	
	CASES	DEATH	CASES	DEATH	CASES	DEATH
Johor	1131	12	422	3	40	2
Kedah	777	7	148	2	5	0
Kelantan	518	1	154	1	53	0
Melaka	577	11	236	0	48	0
Negeri Sembilan	693	3	2	0	2	1
Pulau Pinang	662	1	217	3	68	1
Pahang	628	4	319	0	35	0
Perak	1112	8	300	3	103	1
Perlis	72	0	21	0	0	0
Sabah	1006	4	80	0	0	0
Sarawak	890	5	136	0	93	1
Selangor	2567	15	1072	5	114	2
Terengganu	457	2	478	3	302	2
FT Labuan	34	0	8	0	0	0
FT KL & Putrajaya	1189	4	121	0	6	0
MALAYSIA	12313	77	3714	20	869	10

Source: Disease Control Division, MoH

The scenario of the exercise depicted a hypothetical outbreak of avian influenza amongst poultry in one village in Muar, Johor, as well as the occurrence of a clustering of human influenza cases presenting to the local health facilities. The scope of the exercise was limited to, and consequent opportunities for containment of the influenza outbreak in animals and amongst human. The exercise was designed to facilitate understanding and identify strengths and opportunities for improvement of the decision making process to launch rapid response and coordination and communication arrangement between all levels.

The objectives of the simulation exercise were:

a. To validate established roles, responsibilities and decision-making processes in the event of an avian influenza outbreak
b. To verify effectiveness of coordination and communication arrangement between all levels of the MoH and with the DVS
c. To practice development and implementation of risk communication
d. To build capacities and giving the opportunity for sharing experiences with other states

IMAGE 1
AVIAN FLU SIMULATION EXERCISE 2011

Veterinary Officers taking samples from poultry in Kampung Sungai Renggam, Panchor, Muar

Medical Team in Pakar Sultanah Fatimah Hospital treating a 'suspected' Avian Influenza patient

Influenza Triaging centre in KK Bukit Pasir

Source: Disease Control Division, MoH

The simulation exercise was successfully carried out. The outcome of the exercise provided MoH and the DVS, Malaysia with a wealth of information and approaches in conducting a rapid containment operation. It reinforced the need for a near seamless line of both intra and interagency communications to aid appropriate response in a timely and decisive manner.

As part of preparedness, the states have been directed to conduct annual joint simulation exercise and training on infection control to the health care workers. In addition, the states have been directed to conduct annual interagency zoonoses committee meeting to reduce risks of emerging diseases at the animal-human-ecosystems interface as per the 'One Health' approach.

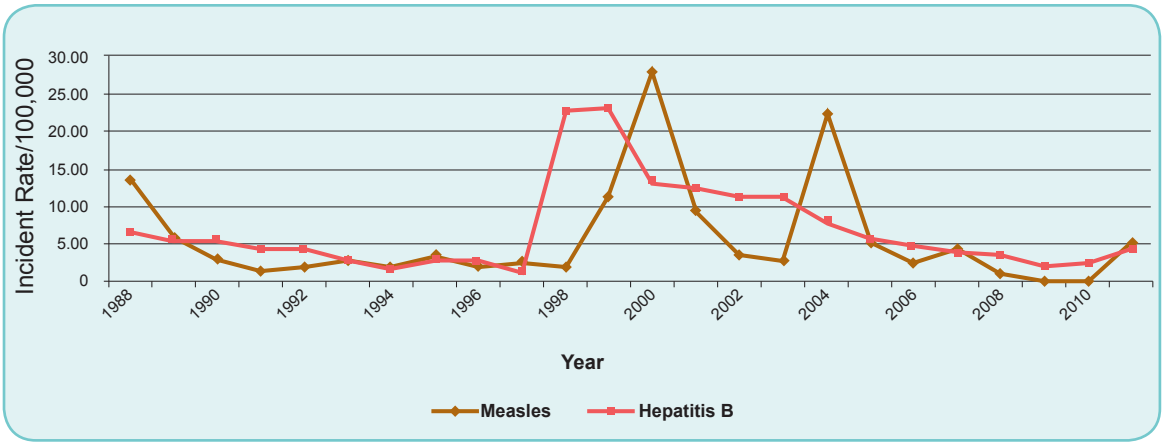
Vaccine Preventable and Food/Waterborne Diseases Program

Malaysia remains free of wild poliovirus since 1992 and was declared polio free in October 2000, together with other countries in the Western Pacific Region. In 2010, Malaysia has fully used Inactivated Polio Vaccine (IPV) for immunizing children at age of 2, 3, 5 and 18 months old. In 2011, the Contingency Plan for Importation of Wild Poliovirus was endorsed by the National Committee on Certification for Polio Eradication Program and was distributed to the State Health Departments for reference.

There was an increase of measles cases in 2011 as compared to 2010, from 73 cases to 1,569 cases with an incidence rate of 5.50/100,000 as shown in Figure 11. The enormous increase was contributed by 30 clusters of measles outbreaks, compared to only 3 clusters in 2010. There were 7 clusters with more than 10 cases per cluster, hence showing poor herd immunity in the affected community. There were 4 measles deaths in Sabah and all cases had never been immunized for measles.

The incidence rate of Hepatitis B in Malaysia was 4.38/100,000 in 2011, compared to 2.27/100,000 in 2010 as shown in Figure 11. The number of cases among Malaysian born after 1989 in the year of initiation of hepatitis B vaccination for children was 37 cases in 2011 as compared to only 4 cases in 2010; and most of them (56.7%) aged 18 years old and above. The increase in cases is partly contributed by a greater awareness among medical practitioners to notify Hepatitis B cases.

FIGURE 11
INCIDENCE RATES OF MEASLES AND HEPATITIS B PER 100,000 POPULATIONS IN MALAYSIA, 1988-2011



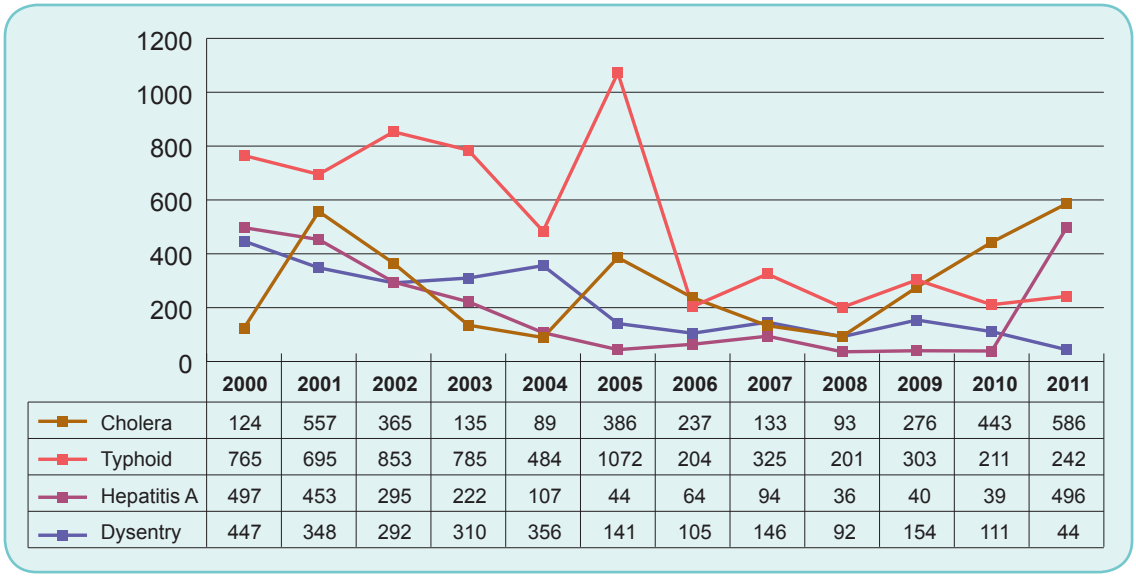
Source: Disease Control Division, MoH

In Malaysia, the incidence rates of diphtheria, neonatal tetanus and pertussis (whooping cough) have been sustained to less than 1/100,000 for the past 20 years. There was however an increase of pertussis cases from 46 cases in 2010 to 249 cases in 2011. This increase was mainly contributed by the availability of PCR as a confirmatory test, which is more sensitive compared to detection of the bacteria through culture. There was a decrease of neonatal tetanus cases from 10 cases in 2010 to only 3 cases in 2011, all were from Sabah involving non-Malaysians. There was no diphtheria case in 2011 compared to 3 cases reported in 2010. However, diphtheria antitoxins stockpiling at 6 major hospitals based on zone is still being continued.

In Malaysia, there are 5 food and waterborne diseases (FWBD) monitored through the notification system under the Prevention and Control of Infectious Diseases Act 1988 (Act 342). They are 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 12). The average incidence of these diseases was less than 5 cases per 100,000 populations. There was an increase in cholera incidence from 1.57 per 100,000 populations in 2010 to 2.05 per 100,000 populations in 2011, with 11 deaths.

FIGURE 12
TREND OF CHOLERA, TYPHOID/PARATYPHOID, HEPATITIS A AND DYSENTERY IN MALAYSIA, 2000-2011



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cholera	124	557	365	135	89	386	237	133	93	276	443	586
Typhoid	765	695	853	785	484	1072	204	325	201	303	211	242
Hepatitis A	497	453	295	222	107	44	64	94	36	40	39	496
Dysentry	447	348	292	310	356	141	105	146	92	154	111	44

Source: Disease Control Division, MoH

In 2011, the incidence of food poisoning was 57.06 per 100,000 population, which was higher than 2010. The cases came from 434 episodes of food poisoning with 257 (59.2%) episodes occurred in schools including 98 episodes involving Program Susu 1Malaysia (PS1M); which contributed 22.6% of the total food poisoning episodes.

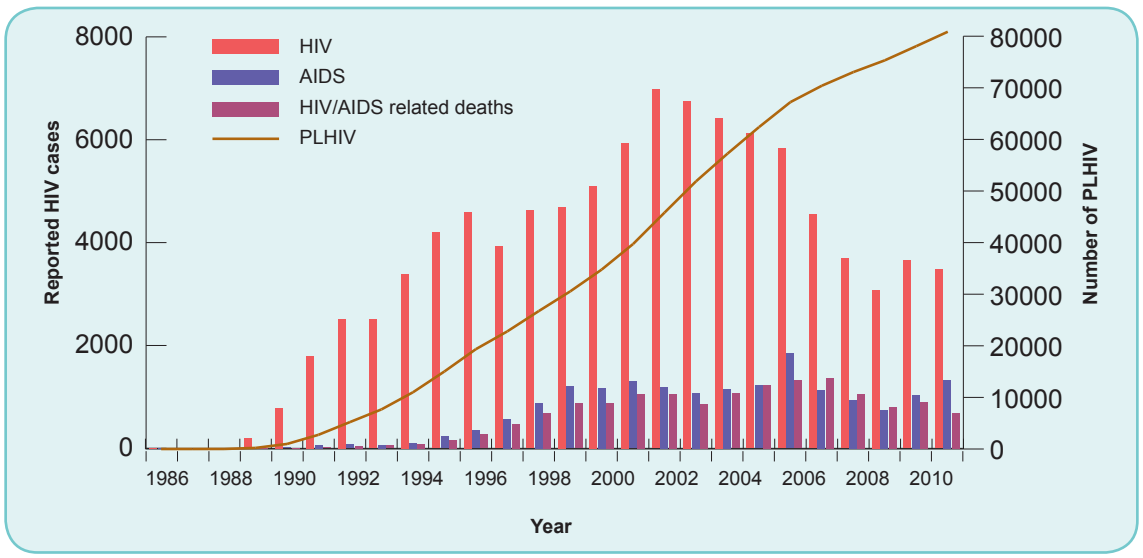
HIV/STI Prevention and Control Program

In adopting the National Strategic Planning on AIDS Prevention (NSP) 2011-2015 as a continuation of the NSP 2006-2010, Malaysian government continues to have 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. It is targeted that by 2015, we are able to reduce the notification rate of new HIV cases to 11.0 per 100 000 population and virtually eliminate vertical transmission of HIV and eliminate congenital syphilis, as well as reduction of HIV through sharing of needles via harm reduction programme.

With concentrated HIV epidemic, in which the infection rates remains high (above 5%) among most-at-risk populations (MARPS), especially among IDU, sex workers and transgender population, since the first case of HIV/AIDS being detected in this country 25 years ago till December 2011, the number of people living with HIV (PLHIV) is estimated at 81,009. By the end of 2011, Malaysia had a cumulative figure of 94,841 HIV, 17,686 AIDS and 14,986 deaths, thus giving reported PLHIV of 79,855.

The annual number of reported new HIV cases has been on a steady decline from a peak of 6,978 in 2002 (Figure 13). In 2011, there were 3,479 new cases reported to the Ministry of Health, approximately halve of what was reported in 2002 with an average of 9 new cases each day. The notification rate of HIV also continues to experience a decrease from 28.4 in 2002 to 23.4 in 2005 and to 12.2 cases per 100,000 populations in 2011.

FIGURE 13
REPORTED HIV AND AIDS-RELATED DEATHS, MALAYSIA, 1986-2011



Source: Disease Control Division, MoH

- **Harm Reduction**

The harm reduction initiatives involving the Methadone Maintenance Therapy (MMT) and the Needle and Syringe Exchange Program (NSEP) have been part of the Malaysian response for several years. Together, these programmes aimed at reaching out to 102,000 (60%) persons out of estimated population of 170,000 IDUs by 2015. Provision of harm reduction services continues and up-scaled through 297 NSEP sites and 674 MMT outlets established in government health facilities, NGO sites, private health facilities, National Anti-Drug Agency (NADA) service outlets and prisons.

Initiated in February 2006 and now entering its sixth year of operation, the NSEP is mainly provided by the NGO (74%) and government health clinics (26%). The numbers of NSEP outreach points run by NGO are 221 while NSEP sites in government clinics are 76. As of 2011, this programme has reached out to 34,244 IDU with average distribution of needle and syringe about 116 per IDU in a year. However, in the past two (2) years, the proportion of clients being referred to VCT and MMT were low which was average of 10% for VCT and only 4% had changed to oral substitution therapy (MMT). This programme need to be further improved for better outcome which is reducing the harm further through shifting from injecting drug to OST.

The government has fully adopted OST programme after the successful pilot project in 2006. As of 2011, this programme currently provided by government hospitals and clinics (242), private healthcare practitioners (382) and has been extended to the National Anti-Drug Agency (NADA) service centres (32), and prisons (18); altogether making up 674 MMT centres throughout the country. This programme has reached out to 44,428 drug users nationwide. Through harm reduction services, a total of 78,872 drug users were reached out. Data from programme surveillance in Drug Rehabilitation Centres and Harm Reduction services in 2011 revealed HIV prevalence among IDU was 8.7%.

- **HIV Screening**

Malaysia introduced HIV screening since 1985. Currently, all government health facilities (813 health clinics and 135 hospitals) are providing free HIV screening facilities. Malaysia has implemented various screening programmes and encourages the adoption of a voluntary, ethical and internationally accepted approach to HIV screening such as the Provider Initiated Testing and Counselling (PITC).

Over the past five years, an average of 1.3 million HIV screening has been conducted. It is shown that despite maintaining surveillance programmes and intensified screening activity, the detection rate of HIV is decreasing and it is compatible with the declining HIV reported cases (3,479 cases of HIV positive in 2011). It also validated the reduction in HIV cases in the country as estimated through estimation and projection exercise.

- **Prevention of Mother to Child Transmission (PMTCT)**

The PMTCT was piloted in 1997 and implemented nationwide in 1998 in all government health facilities. The program incorporates HIV screening utilising an opt-out approach. In 2011, a total of 443,453 (100%) pregnant women attending antenatal care in MoH facilities had HIV screening. In addition, MoH had started screening of HIV in labour room to cover the missed-opportunity mothers for HIV screening and in 2011; about 10,105 pregnant women with unknown HIV status were screened. The prevalence of HIV among the missed-opportunity was 0.27%, much higher than those who have been screened during antenatal period (0.07%).

The PMTCT is aimed to eliminate vertical transmission to less than 2% of HIV newborn cases among non breastfeeding mothers and Malaysia had achieved it to 1.3%.

Vector Borne Diseases Prevention Control Programme

- **Dengue Fever Control**

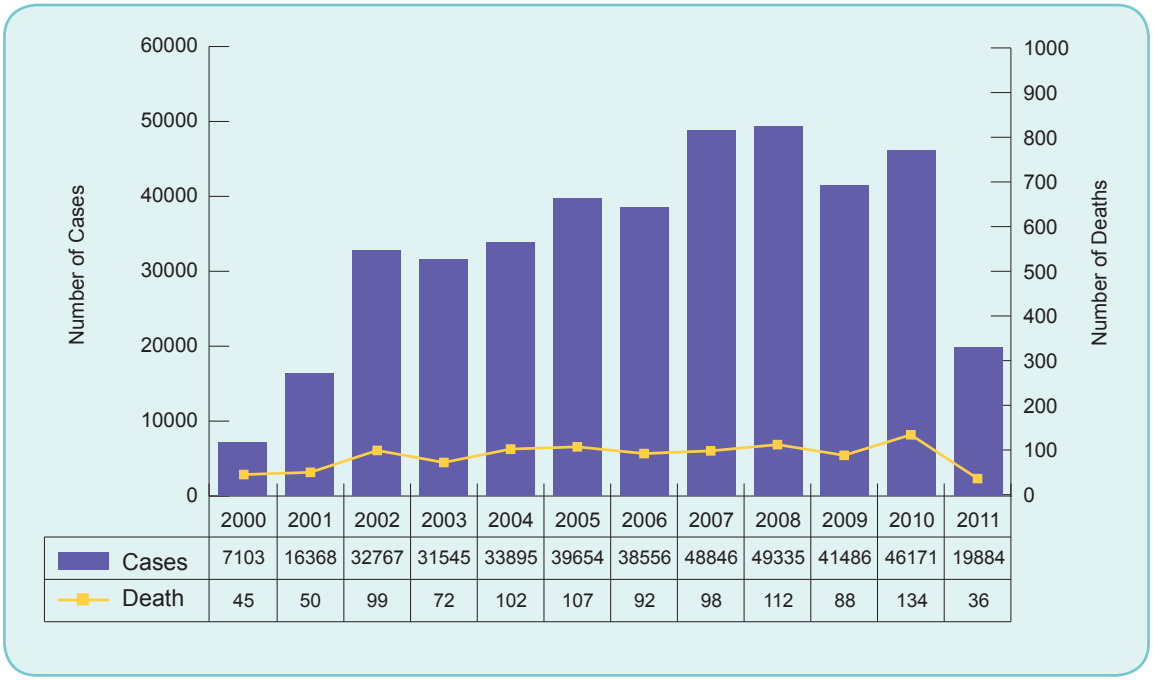
Dengue fever is one of the significant public health problems in Malaysia. The reported Dengue cases have generally been increasing in the recent years. (Figure 14) In 2011, a total of 19,884 cases and 36 deaths were reported. This was equivalent to approximately 68 cases per 100,000 populations. States showing the highest Incidence Rate (IR) of all Dengue cases (per 100,000 populations) were Selangor (144), Federal Territory of Kuala Lumpur (120), Pulau Pinang (96) and Negeri Sembilan (70).

The case fatality rate in 2011 was 0.18%, a reduction compared to the previous year which recorded 0.29%. In parallel with the number of reported dengue cases, Selangor contributed the highest number with 14 deaths followed by Johor with 7 deaths, Negeri Sembilan and Pulau Pinang with 3 deaths, Perak, Federal Territory of KL & Putrajaya and Sabah with 2 deaths, Pahang, Terengganu and Kelantan with 1 death. There were no deaths reported from Perlis, Kedah, Melaka, Sarawak and the Federal Territory of Labuan.

There were 3,065,080 premises inspected for mosquito breeding in 2011 with 44,511 of it were found to be positive for Aedes breeding compared to 3,836,714 premises inspected with 59,793 premises with positive Aedes breeding in 2010. The number of premises inspected and premises positive with Aedes breeding decreases by 20% and 26% in 2011 compared to the previous year. There was a decrease of 31% in fogging activities in 2011 compared to 2010. This could be explained by fewer numbers of reported cases in 2011 compared to 2010. There were 770,499 premises were placed with Temephos in 2011 compared to 851,328 premises in 2010 which shows a decline of 9%.

As the results from the premise inspection activity, it shows that the highest Aedes index was at the construction sites which was 17.1% followed by factories at 9.13%, vacant land 8.82%, schools 8.67% and recreation areas at 6.42%.

FIGURE 14
TREND OF REPORTED DENGUE CASES IN MALAYSIA, 2000-2011



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cases	7103	16368	32767	31545	33895	39654	38556	48846	49335	41486	46171	19884
Death	45	50	99	72	102	107	92	98	112	88	134	36

Source: Disease Control Division, MoH

- **Malaria Control**

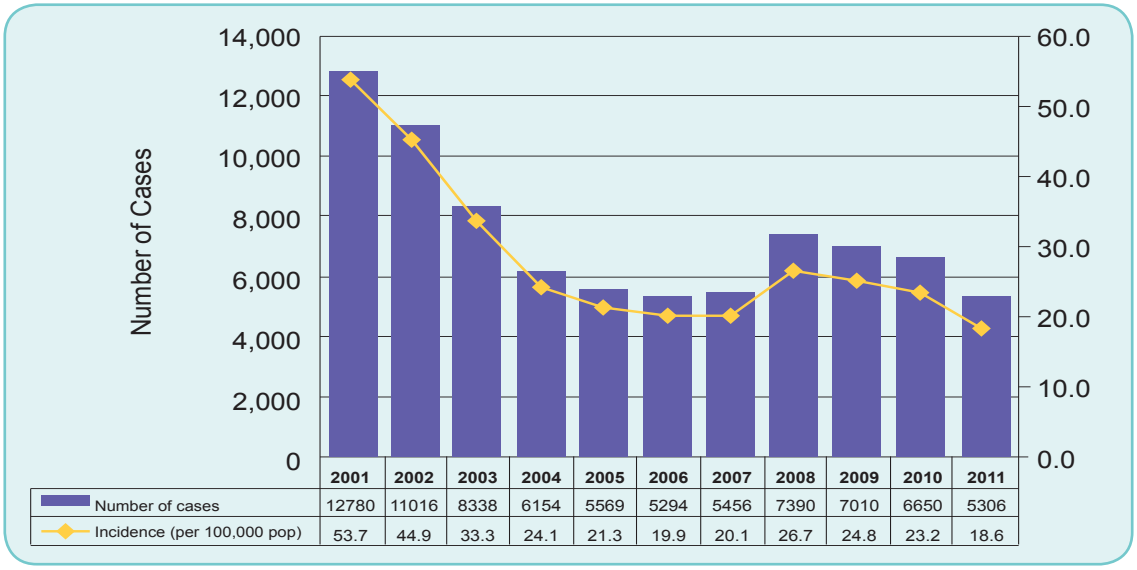
Malaria still persists in rural and isolated areas in the states of Sabah and Sarawak. In 2011, the number of malaria cases in Malaysia was 5,306 cases, a reduction of 1,344 cases (20%) compared to 2010 (6,650 cases). Sabah reported 2,032 cases, the highest number of malaria cases which accounted for 38% of all cases, followed by Sarawak with 1,761 cases (33%) and the states in Peninsular Malaysia and FT Labuan with 1,513 cases (29%). Eight (8) states showed increased malaria cases compared to 2010; namely Pahang (96 cases), Selangor (90 cases), Negeri Sembilan (86 cases), Perak (83 cases), Kelantan (64 cases), Terengganu (28 cases), Malacca (2 cases) and Labuan FT (1 case).

The malaria incidence rate for 2011 was 18.6 per 100,000 populations, a decline from 23.5 per 100,000 populations the previous year. (Figure 15) Sarawak recorded the highest malaria incidence rate of 69.3 per 100,000 populations, followed by Sabah 63.1 per 100,000 populations. All the other states have incidence rates of less than the national figure except for Pahang which has an incidence rate of 18.8 per 100,000 populations. There were 4,164 locally transmitted cases (78%) which is a reduction of 1,030 cases compared to 2010 (5,194 cases). The incidence rate for locally acquired malaria cases reduced from 37.0 per 100,000 populations in 2001 to 14.6 per 100,000 populations in 2011.

In 2011, a total of 18 deaths were reported compared to 33 deaths in 2010, a reduction of 45%. Of these, 7 deaths were reported in Sabah, another 7 in Sarawak and the remaining 2 in Peninsular Malaysia.

Around 78% (4,152 cases) were males while among the women, 6.5% were pregnant mothers, an increase compared to 2010 (1.8%). Of the 5,306 cases, malaria was highest among the age group of 20-24 years and 25-29 years (13% respectively), followed by the 30-34 years of age (11%). Children under 5 years accounted for 3.5% of all cases, a reduction from 7.4% in 2010.

FIGURE 15
MALARIA CASES AND INCIDENCE RATE (PER 100,000 POPULATIONS) IN MALAYSIA, 2001-2011



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Number of cases	12780	11016	8338	6154	5569	5294	5456	7390	7010	6650	5306
Incidence (per 100,000 pop)	53.7	44.9	33.3	24.1	21.3	19.9	20.1	26.7	24.8	23.2	18.6

Source: Disease Control Division, MoH

A total of 1,700 (32%) malaria cases were detected among foreigners, an 11% reduction compared to 2010 (1,911 cases). The largest group of foreigners infected were those from Indonesia (46%), the Philippines (19%) and Myanmar (12%).

A total of 503 cases (9%) were reported among workers in land schemes, an increase of 43% compared to the previous year and of this, 51% were foreign workers. Only 67 (1%) cases were reported among the Orang Asli, 5 cases more compared to the previous year.

Plasmodium vivax was the main malaria parasite in 2,422 cases (46%), followed by P. falciparum (18%), P. malariae (17%), P. knowlesi (16%) and mixed infection (3%).

Most cases (81%) were detected through Passive Case Detection (PCD). The total number of slides examined in 2011 was 1,568,990 slides, 3% less compared to the previous year. Almost all cases (99%) were investigated and received complete radical treatment. This represented an increase of 1% in case investigation and a 2% increase in the completion of treatment compared to the previous year.

Vector control activities are instituted in malarious areas (exceeding 1 case per 1,000 populations) and malaria prone areas (less than 1 case per 1,000 populations). The two main strategies of vector control implemented were indoor residual spraying (IRS) and use of insecticide treated nets (ITN). In 2011, two cycles of regular residual spraying were carried out at six months intervals in five states in Malaysia namely Sabah, Sarawak, Pahang, Perak and Kelantan. In the first cycle, 2613 localities were sprayed covering 83,203 houses/structures and 333,350 populations protected, while in the second cycle, 2,478 localities were covered with 96,330 houses/structures sprayed protecting 307,769 population. Focal residual spraying was carried out in 910 localities with 19,292 houses/structures sprayed protecting 72,115 population. Two cycles of special residual spraying were also carried out which covered 3,981 houses in 324 localities protecting 15,424 populations in the first cycle and covered 2,851 houses in 255 localities protecting 11,144 populations in the second cycle.

The strategy of using of insecticide treated nets were to compensate the low coverage of residual spraying in areas due to the houses having incomplete sprayable surfaces, high refusal of the population towards indoor residual spraying and as an additional vector control measure to stop malaria transmission in localities within malarious areas and outbreak localities in prone and free areas where malaria cases have been detected. In 2011, a total of 459,390 residents were protected with the use of 297,393 insecticide treated nets involving 104,667 houses in 3,124 localities.

- **Lymphatic Filariasis Elimination Programme (LFEP) in Malaysia**

The Lymphatic Filariasis Elimination Programme (LFEP) in Malaysia was started in 2001 with a target of achieving filariasis elimination status by 2013. However after evaluation and revised WHO strategy in 2011, the target of elimination was changed to 2018. Mass drug administration (MDA) was conducted for 5 years (2004-2008) using Diethylcarbamazine and Albendazole to all population in endemic areas with target of MDA coverage more than 80 percent.

In 2011, a total of 37 endemic IU (Implementation Unit) in Sabah and Sarawak has conducted MDA 6th cycle activities. (Table 3) All endemic IU (Implementation Unit) in Peninsular Malaysia has conducted TAS involving 67 IU in 24 districts from 6 states of Peninsular Malaysia (Kedah, Perak, Johor, Pahang, Terengganu and Kelantan) with a total population of 584,8916. The result showed that 4 IUs (Lepar, Bera, Temai and Bebar) in Pahang have reported antibody prevalence > 2% and need to repeat another 2 cycles of MDA in 2012.

TABLE 3
SUMMARY OF MDA COVERAGE IN 2011 FOR SABAH AND SARAWAK (MDA 6TH CYCLE)

State	No. of IU	Total IU population	Total eligible population	Total population who ingested drugs	% Coverage of total Population
Sabah	8	78,984	76,045	70,296	88.44%
Sarawak	29	393,601	370,232	370,100	94.03%
Total	**37**	**472,585**	**446,277**	**440,396**	**91.24%**

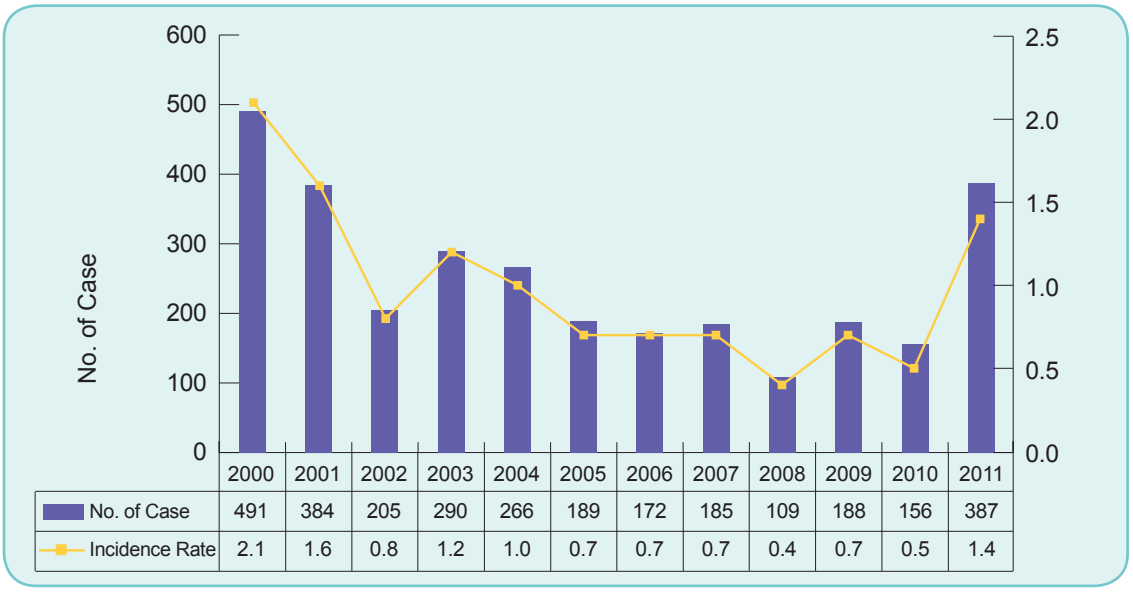
*Note : *Only 8 IUs in Sabah completed the MDA 6th cycle in 2011. The remaining 9 IUs will start MDA 6 in early 2012.*
Source: Disease Control Division, MoH

A total of 387 filariasis cases were reported in 2011 showing an increased number of cases (148%) compared to the previous year (156 cases). Filariasis cases increased in 2011 was influenced by increased activity in active case detection in which total of night blood sample slides were increased by 30% over 2010. In 2011, the incidence rate of filariasis was 1.36 per 100,000 population (Figure 16).

The microfilaria rate for the last 5 years ranges from 2.14 to 1.41 per 1000 people. Out of 387 total cases, 201 cases (52%) are detected among local and 186 cases (48%) are detected among immigrant.

In 2011, the predominant parasite species are Wuchereria bancrofti which contributes to 45.5% followed by Brugia malayi (periodic) making up to 36.2% and Brugia malayi (subperiodic) 18.3%. Total of 180,998 blood samples were taken and examined to detect microfilaraemia showing increased number of samples (29%) compared to samples taken in 2010 (139,974).

FIGURE 16
FILARIASIS CASES AND INCIDENCE RATE TRENDS IN MALAYSIA, 2000-2011



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
No. of Case	491	384	205	290	266	189	172	185	109	188	156	387
Incidence Rate	2.1	1.6	0.8	1.2	1.0	0.7	0.7	0.7	0.4	0.7	0.5	1.4

Source: Vector Borne Disease Section, Disease Control Division, MoH

- **Typhus Control**

In 2011, a total of 13 Typhus cases were reported showing increased of 7 cases (116.7%) as compared to 6 cases in the previous year (Table 5). The incidence rate of filariasis was 0.05 cases per 100,000 population.

TABLE 5
TYPHUS CASES IN MALAYSIA, 2010-2011

Variables/Year		2010	2011	Difference	% Difference
Gender	Male	4	8	+4	50%
	Female	2	5	+3	150%
Species	Tick typhus	0	0	0	0%
	Scrub typhus	4	13	+9	225%
	Endemic typhus	2	0	-2	-200%
	Mixed typhus	0	0	0	0%
Locals Group		2	11	+9	450%
Migrants Group		4	2	-2	-50%
TOTAL CASES		**6**	**13**	**+7**	**117%**

Source: Disease Control Division, MoH

All 13 typhus cases were reported from Negeri Sembilan (7 cases), Selangor (2 cases), Kedah (1 case), Pulau Pinang (1 case), Pahang (1 case) and Sarawak (1 case). All cases were scrub typhus.

The predominant species was scrub typhus (12 cases) which contributed to 92.3%. Out of 13 cases reported, 62% were found to be positive involving male (8 cases) and the other 38% in female (5 cases). Eleven (11) typhus cases detected among locals and 2 cases reported involving migrants.

- **Japanese Encephalitis Control**

In 2011, there were 12 reported Japanese Encephalitis (JE) cases in Malaysia and the number of JE cases reported were increased of 4 cases (50.0%) compared to 8 cases in the year 2010. Sarawak contributed the highest number of cases which were 9 cases, followed by Penang, Perak and Sabah respectively 1 case reported. The incidence rate (IR) of JE in Malaysia was increased in 2011 (IR 0.042 per 100 000 population) compared to the year 2010 (IR 0.028 per 100 000 population). Most of the JE cases in 2011 occur among age 4 to 18 years old (Table 6).

TABLE 6
DISTRIBUTION OF JAPANESE ENCEPHALITIS BY GENDER AND AGE GROUP, 2011

Age (Year)	Male	Female	Cases	%
0-4	0	1	1	8.3
5-9	3	2	5	41.7
10-14	4	0	4	33.3
15-19	2	0	2	16.7
Total	**9**	**3**	**12**	**100.0**

Source: Disease Control Division, MoH

- **Chikungunya Control**

In 2011, a total of 30 Chikungunya cases were reported showing a tremendous decreased of cases (96%) compared to the previous year (804 cases). 86.7% cases reported were detected through Passive Case Detection (PCD) while 13.3% detected through Active Case Detection (ACD). (Table 7) No death due to Chikungunya was reported in 2011.

TABLE 7
DISTRIBUTION OF CHIKUNGUNYA CASES BY GENDER AND AGE GROUP, 2011

Age (Year)	Male	Female	Cases	%
5-9	2	0	2	6.7
10-14	0	1	1	3.3
20-24	1	2	3	10.0
25-29	1	4	5	16.7
30-34	2	1	3	10.0
35-39	1	3	4	13.3
40-44	3	1	4	13.3
50-54	2	2	4	13.3
55-59	1	0	1	3.3
60-64	1	0	1	3.3
70-74	0	1	1	3.3
85-89	1	0	1	3.3
Total	**15**	**15**	**30**	**100.0**

Source: Disease Control Division, MoH

70 % (21 cases) of the cases occurred in rural area. Sabah reported the highest number of cases in 2011 with 11 cases (37.7%), followed by Johor and Sarawak respectively 6 cases (20.0%), Perak 4 cases (13.3%) and Melaka, Pahang and Selangor recorded 1 case respectively (3.3%).

NCD: Diabetes and Cardiovascular Diseases Prevention and Control

- **Implementation of the National Strategic Plan for Non-Communicable Diseases (NSP-NCD) in 2011**

Upon realisation of the increasing prevalence and burden of NCD and NCD risk factors, the Ministry of MoH has strengthened the NCD prevention and control programme in Malaysia by producing the "National Strategic Plan for Non-Communicable Diseases" (NSP-NCD) 2011-2015. 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

Under Strategy One; In December 2011, MoH has started expanding the focus of its existing Communication for Behavioural Impact (COMBI) programme for dengue to also include NCD. With this new focus, MoH on 15 December 2011 has also appointed three **1Malaysia Health Ambassadors** to encourage Malaysians to adopt healthy lifestyles. The three celebrities who were appointed are (1) Aznil Nawawi, (2) Phoebe Yap Siok Wah, and (3) G. Uthaya Kumar.

IMAGE 2
1MALAYSIA HEALTH AMBASSADORS

YB Dato' Sri Liow Tiong Lai having a light moment with the 1Malaysia Health Ambassadors, (from left) Uthaya Kumar, Phoebe Yap and Aznil Nawawi

Source: The Star Online

Under **Strategy One** as well, MoH has introduced the **NCD Prevention 1Malaysia program** (or **NCDP-1M**) in late 2010. NCDP-1M is an NCD risk factor intervention programme, conducted in three different settings i.e. community, workplace and schools, and uses weight management as the entry point. The main objective of this program is to empower Malaysians to be pro-active in screening for NCD risk factor and to initiate intervention among those found to be at risk, outside of the clinic setting. Currently we have a total of 220 programmes throughout Malaysia (126 community-based, 52 work place-based, and 42 school-based), with about 8,000 participants. For 2011, about 22% of participants have managed to lose weight, and 69% have improved their blood cholesterol levels. The NCDP-1M programme was also used to gain the support and active participation of the "JKKK" as well as "Panel Penasihat Kesihatan" throughout Malaysia.

Under **Strategy Four**: Action with NGOs, Professional Bodies & Other Stakeholders; the MOH have conducted a National NSP-NCD Advocacy Seminar, which was held in the Putrajaya International Convention Centre on 22 March 2011, officiated by the YB Health Minister. This seminar was attended by over 70 representatives from NGOs, professional associations, media and sports associations.

The Malaysian Health Promotion Board (HPB or MySihat) in 2011 has placed special emphasis on programmes and activities related to NCD. Up till August 2011, the HPB has disbursed funds of RM8.7 million to 181 NGOs for such programmes and activities. In December 2011, the Health Promotion Board has published several training modules on obesity prevention, healthy eating, active living and smoking cessation to increase the skills and capacity of NGOs in their activities.

Under **Strategy Five**: Monitoring, Research and Surveillance; the National Health and Morbidity Survey (NHMS) for NCD risk factors will be conducted every four years starting from 2011 onwards. Previously, this survey was only done every 10 years. In addition, several NCD indicators have been incorporated into the MoH and the Director General of Health KPI.

Under **Strategy Six**: Capacity Building; on 29 November 2011, MoH (under the Nutrition Division) has organised a seminar entitled Seminar Peranan Media dalam Meningkatkan Taraf Pemakanan Rakyat Malaysia (Role of Media in Improving the Nutrition Status of Malaysians) to increase the involvement of media players in promoting healthy eating amongst Malaysians.

Lastly, under **Strategy Seven**: Policy and Regulatory Interventions; to improve school health, the Ministry of Education has agreed to implement the new healthy eating guideline in schools, which consists of three components (i) measurement of students BMI twice a year and reporting the results to parents. Students found to be obese in two consecutive readings will be referred to a healthcare professional; (ii) healthy menu in school canteens; and (iii) depiction of calorie contents of food sold in school canteens.

Following the Majlis Keselamatan Makanan dan Pemakanan Kebangsaan (National Food Safety and Nutrition Council) Meeting which was held on 8 December 2011, MoH will develop a guideline to control marketing of food and non-alcoholic beverages to children in Malaysia by 2012. This was further reiterated by the YB Health Minister during a dialogue with food and drinks industries which was held on 16 December 2011 in Putrajaya. During this meeting, the food and drink industries have made several commitments to increase the production and promotion of healthy food choices, and adopt an active role in multi-sectoral partnerships with the MoH.

- **Malaysia's Participation in NCD at the Global Level**

2011 has seen NCD being highlighted at the global level, not only in health-related agenda, but also into global economic development agenda. Malaysia has participated actively in several international meetings and forums, which culminated in the United Nations Political Declaration on the Prevention and Control of Non-Communicable Diseases in New York, USA.

a. **The Regional High-Level Meeting on Scaling Up Multi-Sectoral Action for Non-Communicable Disease Prevention and Control**, Seoul, Republic of Korea (17-18 March 2011). This meeting was attended by the Director General of Health, Malaysia, who was invited to present a paper in Session 4. The main output of this meeting is the "Seoul Declaration on Non-Communicable Disease Prevention and Control in the WHO Western Pacific Region" which will feed into the United Nations General Assembly High Level Meeting on NCD.

b. **The WHO Global Forum: Addressing the Challenge of NCDs** (27 April 2011) and the **First Global Ministerial Conference on Healthy Lifestyles and NCD Control** (28-29 April 2011), in Moscow, Federation of Russia. Malaysia was represented by a delegation headed by the Director General of Health, Malaysia. The meetings were attended by all 192 Member States, with over 600 participants and 92 Member States were represented by their respective Ministers of Health. The final output of this meeting was the draft document entitled "Moscow Declaration on NCDs". This document, together with seven other documents produced by the different WHO regions as the outcomes of the regional consultations held as part of the preparatory process leading towards the High-level Meeting, will feed towards the United Nations General Assembly High Level Meeting on NCD.

c. **The 64th World Health Assembly**, Geneva, Switzerland (16-24 May 2011). The delegation from Malaysia was headed by the Health Minister. The theme for this year's meeting is "Non-Communicable Diseases". As agreed in Resolution WHA64.11, which also endorses the "Moscow Declaration on NCD", Malaysia will continue to give strong support preparations at regional and international levels for the United Nations General Assembly High Level Meeting on NCD.

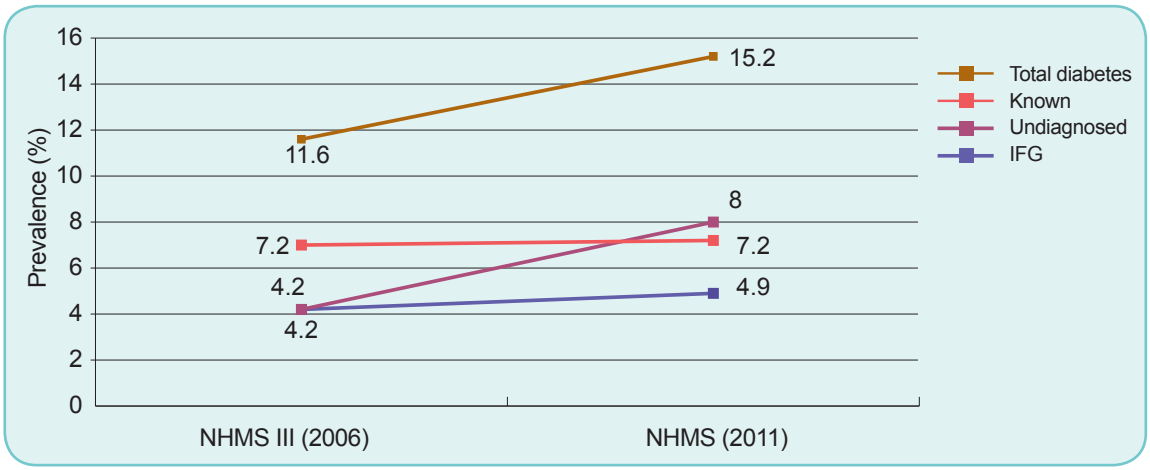
d. **The UN High-level Meeting on the Prevention and Control of Non-Communicable Diseases**, New York, USA (19-20 September 2011). The delegation from Malaysia was headed by the Health Minister. This meeting was a major milestone in the history of global health and development, where it was only the second time that a health related issue is discussed at the highest global forum. At this meeting, all Member States unanimously adopted the Political Declaration on the Prevention and Control of NCD.

- **National Health and Morbidity Survey 2011**

In early 2011, the Health Minister has instructed MoH to review the implementation of the National Health and Morbidity Surveys (NHMS). The previous interval of 10 years was too infrequent to effectively monitor the changes of NCD risk factors in Malaysia. For NCD risk factors, it was agreed that Malaysia will adopt the WHO STEPwise methodology, and that the NHMS for NCD Risk Factor will be conducted every four years, starting in 2011.

The NCD Section headed the Working Groups for three topics i.e. Diabetes, Hypertension and Hypercholesterolaemia. The prevalence of non-communicable diseases (NCD) risk factors continues to rise in Malaysia. The 2011 National Health and Morbidity Survey (NHMS 2011) has shown that the prevalence of diabetes in Malaysia has increased 31.0% in the space of just 5 years, from 11.6% in 2006 to the current 15.2%. The increase was mostly contributed by the increased proportion of "undiagnosed diabetes". The prevalence of "impaired fasting glucose" has also risen, from 4.2% in 2006 to 4.9% in 2011 (Figure 17).

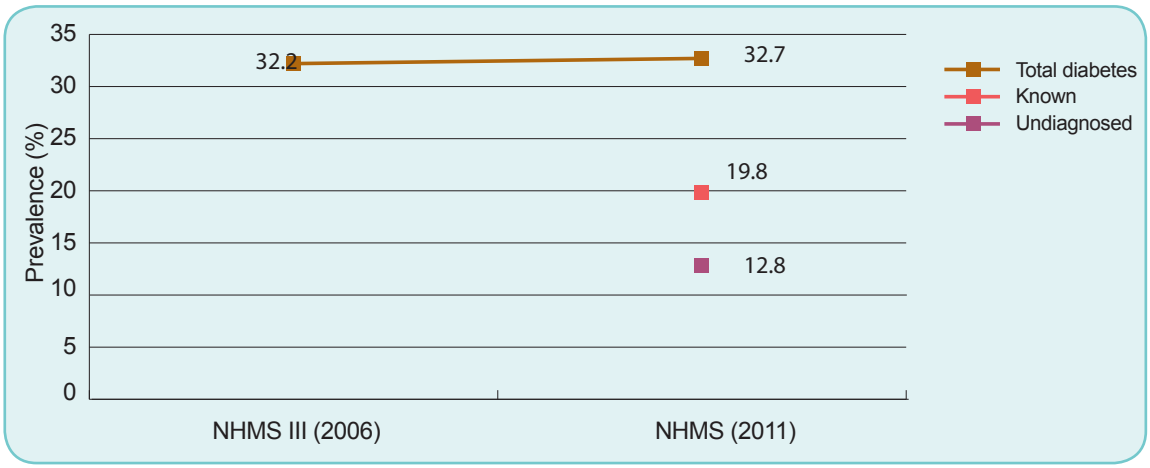
FIGURE 17
PREVALENCE OF DIABETES (≥18 YEARS), NHMS III (2006) AND NHMS 2011



Source: Disease Control Division, MoH

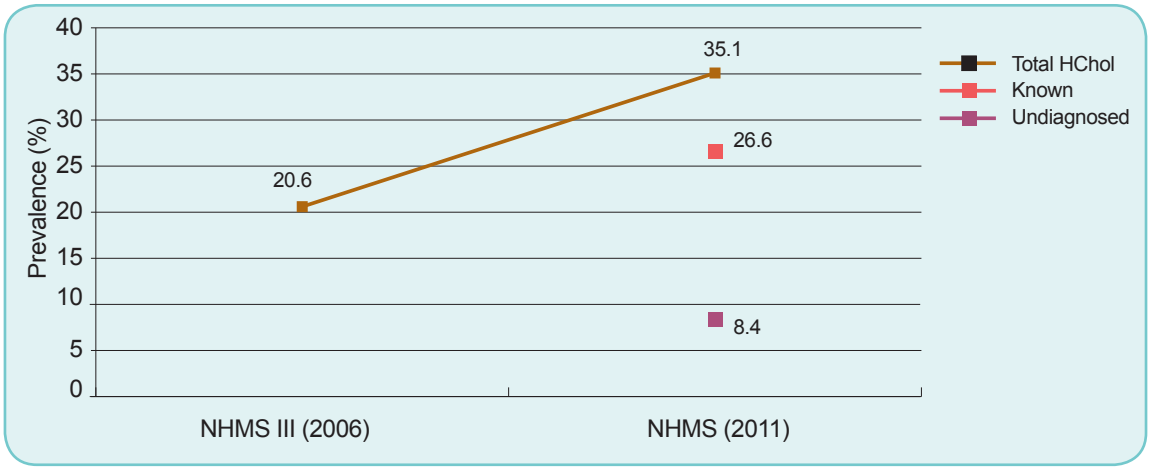
For hypertension, the prevalence has increased only slightly from 32.2% in 2006 to the current 32.7%, an increase of about 1.6%. Unfortunately, similar to diabetes, about 60.6% of total hypertensives were due to "undiagnosed hypertension" (Figure 18). The prevalence of hypercholesterolaemia has increased almost double in the space of five years, from 20.7% in 2006 to the current prevalence of 32.6%, an increase of 57.5%. The proportion of "undiagnosed hypercholesterolaemia" versus "known hypercholesterolaemia" was even more staggering at 75.8% i.e. 3 out of 4 adults in Malaysia with high cholesterol were undiagnosed (Figure 19). The gaps between diagnosed versus undiagnosed for all three conditions was more pronounced in the younger age groups. The Full Report for NHMS 2011 for NCD risk factors will be published in the first quarter of 2012.

FIGURE 18
PREVALENCE OF HYPERTENSION (≥18 YEARS), NHMS III (2006) AND NHMS 2011



Source: Disease Control Division, MoH

FIGURE 19
PREVALENCE OF HYPERCHOLESTEROLAEMIA (≥18 YEARS), NHMS III (2006) AND NHMS 2011



Source: Disease Control Division, MoH

- **National Diabetes Registry (NDR)**

The National Diabetes Registry (NDR) is an initiative by the NCD Section of the Disease Control Division to obtain epidemiological and clinical outcome data of diabetes patients receiving treatment in healthcare facilities throughout Malaysia.

The specific objectives of NCR are:

(i) Electronic collection of basic socio-demographic and outcome data of all diagnosed diabetes patients in Malaysia; and
(ii) Electronic collection of clinical data for the purpose of annual Clinical Audit, for randomly-sampled Type 2 Diabetes patients in pre-determined health care facilities.

INC-Solution Sdn. Bhd. was engaged by MoH to develop the web-based application and assisting in the technology transfer to replace the existing manual diabetes patient registration system and the stand-alone "Diabetes Clinical Audit" application. Data from the "Audit of Diabetes Control and Management" (ADCM) database from CRC was also transferred into the application.

The NDR went live on 1 January 2011, available at http://ndr.moh.gov.my. Technical and administrative support is provided via ndrsupport@moh.gov.my. For the first stage of implementation, patient registration for all types of diabetes patients (except for Gestational Diabetes) is required for all MoH Health Clinics only; however, in several states, patients in MoH hospitals were also registered. NDR also supports the data entry and analysis for the Diabetes Clinical Audit and Diabetes QA in primary care.

- **Diabetes Returns and Diabetes QA in Primary Care, 2011**

In 2011, there were 764,594 diabetes patients on "active" follow-up at 585 MoH health clinics providing diabetes services throughout Malaysia. These patients contributed to 3,123,981 attendances in MoH health clinics, which works out to approximately 10% of total outpatient attendances.

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 a decrease, from 18.2% in 2010 to 15.6% in 2011. This could have been partly contributed by the implementation of the Diabetes Clinical Module within the NDR. Under the NDR module of "Diabetes Clinical Audit", the system actually randomly selected the patients to be audited and generate a list for each health clinic to audit. All 100% patients selected have to be audited, and the problem comes when the clinic have not updated the status of their patients who are no longer on follow-up, and therefore, these patients didn't have data for the past 1 year (and therefore had missing or absent data). For the implementation in 2012, it was reinforced that all clinics have to continually update the status of their patients in the registry.

Environmental Health Programme Disaster - Flood

In 2011, several states in Malaysia were affected by floods. It began in early 2011 affecting Terengganu and at the end of 2011 involving Kelantan, Pahang, Melaka, Johor, Negeri Sembilan, Sabah, Sarawak, Perlis, Perak and Selangor. The floods were due to several factors, such as heavy rainfall, the high tide effects, and topographic conditions exacerbated by the rising water level in the reservoir dam.

MoH had mobilised 3,146 teams (1,317 medical teams and 1,829 health teams) for prevention and control of diseases related to the floods. The types of diseases reported amongst the flood victims, were 5,079 infectious diseases, 8,989 non-communicable diseases and 94 injuries. Four deaths were reported due to the floods last year.

A total of 81 National Service Training Centres (PLKN) camps were operational in 2011 with 243 training sessions being conducted in three consecutive sessions. The MH implemented several healthcare services to ensure the health of the trainees while in the camps. The services comprised of health risk assessments of the camps, medical services and health education on HIV/AIDS. The health inspection of the PLKN Camps is a routine activity to ensure the sanitation and hygiene of these premises. A total of 243 health risk assessments were conducted in 2011. The number of PLKN camps that obtained 80% marks during the inspection before and during the training session is as shown in Table 8.

TABLE 8
HEALTH RISK ASSESSMENTS OF PLKN CAMPS IN 2011

	Session 1		Session 2		Session 3	
	Before	During	Before	During	Before	During
Marks>80%	29 camp (36.7%)	39 camp (49.4%)	32 camp (39%)	38 camp (46.3%)	39 camp (47.6%)	56 camp (68.4%)

Source: Disease Control Division, MoH

The health risk assessment objectives are to ensure the environmental sanitation and safety of the camp, in addition to avoid unnecessary incident such as accident and communicable disease outbreak. The assessment includes:

a. Safety of water supply and recreation environment
b. Vector control
c. Assessment of camp kitchen camp and the dining hall
d. Building safety and comfort

Water sampling for leptospira detection is carried out in order to ensure the safety of the pool for trainees acitivities.

TABLE 9
WATER SAMPLING FOR LEPTOSPIRA AT PLKN

Leptospira	Session 1	Session 2	Session 3
Detected	32	39	19
Not Detected	41	30	46
Total sample	**73**	**69**	**65**

Source: Disease Control Division, MoH

- **Disease Outbreaks in PLKN Camps in Malaysia 2011**

There were 31 episodes of disease outbreaks reported from the PLKN camps in 2011. The highest number of outbreaks was due to food poisoning (16 episodes). Other disease outbreaks were Influenza-Like Illness (ILI) (7), Rubella/Measles (5), Chicken Pox (1), Conjunctivitis (1) and TRO Leptospirosis (1).

- **Immigration Detention Depot**

There are 13 Immigration Detention Depot throughout the country. MoH provide healthcare to inmate as outpatient services, with referrals to the nearest health clinics for further management. Mobile medical teams visit the depots every two weeks to provide treatment and referral if required. In addition, these teams also conduct regular cleanliness assessment of the depot. From 13 DTS inspected, 8 (61.5%) of them were found to have high occupant density and congested.

- **Prison**

There were 29 prisons in operation for 2011. District Health Offices carried out health risk assessment for the prisons in their respective district to improve the health and safety. Out of 25 prisons inspected, 8 prisons (32%) were found to have high occupant density and congested.

FAMILY HEALTH DEVELOPMENT

Maternal and Perinatal Healthcare Services

- **Maternal Healthcare**

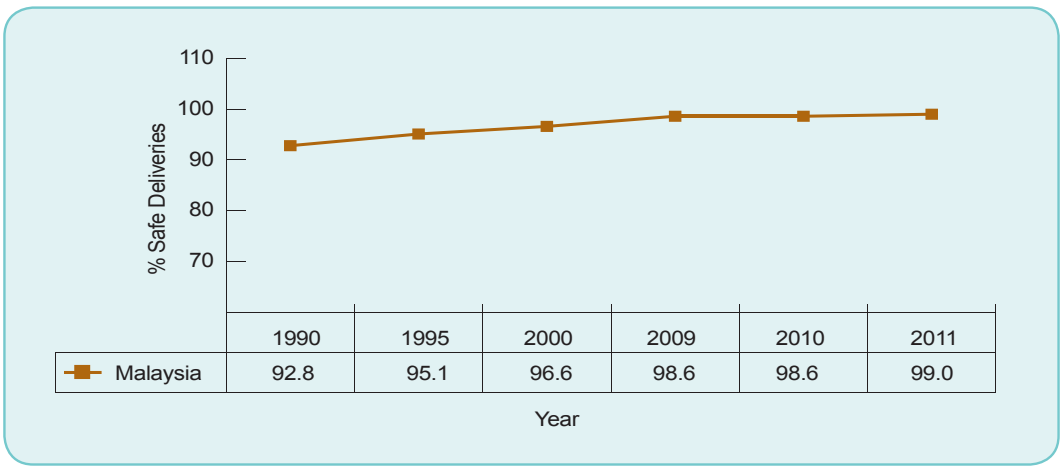
The estimated number of pregnant for Malaysia decreased from 587,479 in 2010 to 565,072 in 2011 (Table 10). Antenatal coverage improved tremendously from 83.9% in 2010 to 97.3% in 2011. This improvement could be due to better compilation of data from non public health facilities. The average number of antenatal visits by a pregnant mother reduced slightly from 10.3 in 2010 to 9.8 in 2011. Tetanus toxoid immunization coverage for antenatal mothers increased from 84.6% in 2010 to 88.3% during the same period. Postnatal coverage declined from 99.7% in 2010 to 98% in 2011. Deliveries conducted by trained health care providers increased from 98.6% in 2010 to 99% in 2011. Only 1.0% of deliveries were conducted by untrained personnel (Figure 20).

TABLE 10
MATERNAL HEALTH COVERAGE IN MALAYSIA, 1990, 2000, 2009-2011

	1990	2000	2009	2010	2011
Estimated No. of Pregnant Mothers	676,382	691,664	542,382	587,479	565,072
Antenatal Coverage	528,029 78.1%	517,138 74.8%	491,980 90.7%	483,136 82.2%	550,104 97.3%
Average Antenatal Visits per Mother	6.6	8.5	9.9	10.4	9.8
Tetanus Toxoid Immunisation Coverage - (2nd & Booster Dose)	414,445 81.7%	449,608 86.8%	418,569 77.2%	432,581 84.7%	451,323 88.3%
Total Delivery	476,196	507,900	445,051	439,221	448,886
Postnatal Coverage	318,953 67.0%	417,232 82.1%	420,530 94.5%	438,003 99.7%	439,927 98%

Note: Estimated live birth used as denominator for Tetanus Toxoid coverage (WHO)
Source: Health Informatics Centre, MoH and Family Health Development Division, MoH

FIGURE 20
PERCENTAGE OF SAFE DELIVERIES IN MALAYSIA, 2011

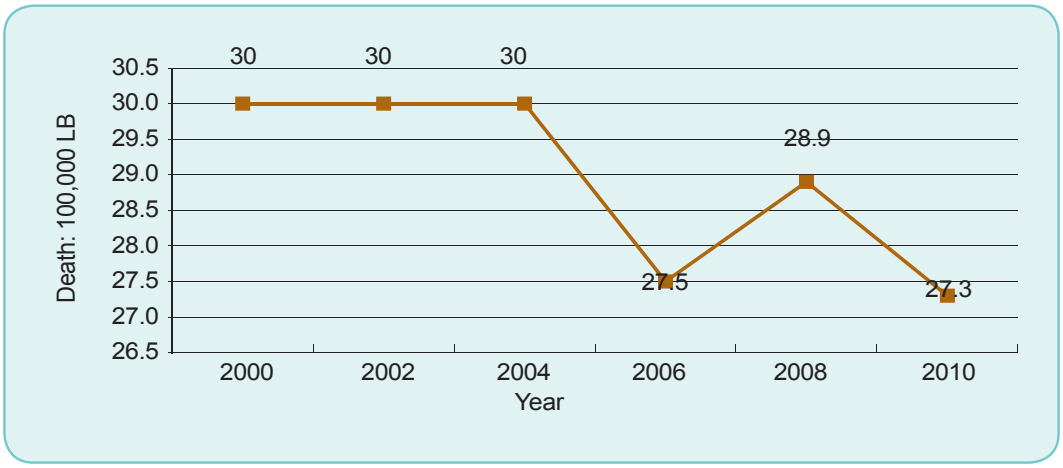


Source: Health Informatics Centre, MoH

- **Maternal, Perinatal and Neonatal Mortality**

Maternal mortality ratio (MMR) has been stagnant at 27 per 100,000 live births (LB) since 2004 (Figure 21). The MDG 5 target for MMR is to achieve 11/100,000 LB by 2015. The preliminary MMR from Department of Statistics showed 27.3/100,000 LB in 2010. The main causes are Obstetric embolism, Postpartum haemorrhage, Associated Medical conditions, and Hypertensive Disorders in pregnancy.

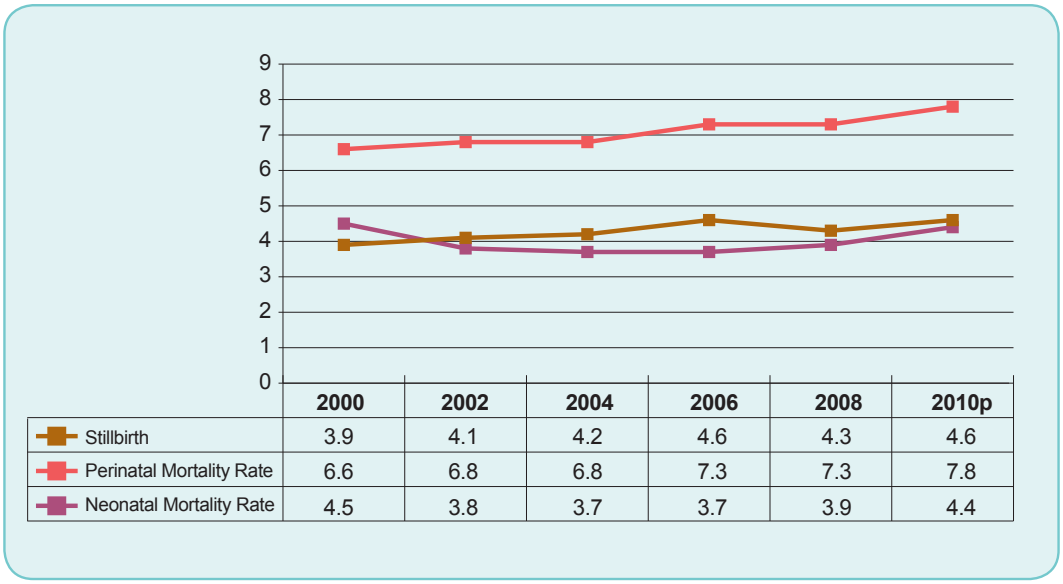
FIGURE 21
MATERNAL MORTALITY RATIO IN MALAYSIA, 2000-2010



Note: Data for 2010 is preliminary
Source: Department of Statistics, Malaysia

Stillbirths, perinatal and neonatal mortality rates have not improved since 2000. Stillbirths increased from 3.9 per 1,000 total births in 2000 to 4.6 in 2010 (Figure 22). During the same period of time, perinatal mortality rates increased 6.6 to 7.8 and neonatal mortality rates declined slightly from 4.5 to 4.4. The leading causes of perinatal deaths are 'normally formed macerated stillbirths', 'asphyxial conditions' and 'lethal congenital malformations'. 'Immaturity', 'lethal congenital malformations' and 'asphyxial conditions' are the main cause of neonatal deaths. Improving and providing quality care during pre pregnancy and pregnancy period can help to further reduce perinatal deaths.

FIGURE 22
PERINATAL AND NEONATAL MORTALITY RATES, MALAYSIA, 2000-2010



	2000	2002	2004	2006	2008	2010p
Stillbirth	3.9	4.1	4.2	4.6	4.3	4.6
Perinatal Mortality Rate	6.6	6.8	6.8	7.3	7.3	7.8
Neonatal Mortality Rate	4.5	3.8	3.7	3.7	3.9	4.4

Note: Data for 2010 is preliminary
Source: Department of Statistics, Malaysia

- **Neonatal Jaundice and G6PD Deficiency**

363,754 newborns were screened for G6PD in 2011 as compared to 334,244 in 2010. The percentage of G6PD deficiency remained at 1.6% in 2011 (Table 11).

TABLE 11
FREQUENCY AND PERCENTAGE OF G6PD DEFICIENCY, 2010-2011

	2010	2011
No. of cases screened	334,244	363,754
No. of G6PD deficiency	5,632	5,869
% of G6PD deficiency	1.6	1.6

Source: Health Informatics Centre, MoH

- **Thalassaemia Prevention and Control Program**

In 2011, 338,739 individuals were screened for thalassemia of which 4,859 (1.4%) were found to be carriers (Table 12). The target groups for opportunistic thalassaemia screening are adolescents and young people preferably before they get married and those with family history of thalassaemia. Screening is also done for pregnant women who are anaemic.

TABLE 12
NUMBER OF CASES SCREENED FOR THALASSAEMIA, 2010-2011

	Number of cases screened for Thalassaemia						Thalassaemia carriers	
	Male		Female		Total		Number	%
	≤19	>19	≤19	>19	≤19	>19		
2010	29,431		157,746		187,177		4,197	2.2
2011	18,690	41,325	30,992	247,732	49,682	289,057	4,859	1.4

Source: Family Health Development Division, MoH

- **Highlights**

A workshop to introduce the concept of CEMD was conducted by WHO from 1st to 4th November 2011 at the Park Royal Hotel, Kuala Lumpur. The delegates from Vietnam, Laos, Cambodia, DPR Korea, Papua New Guinea and the Philippines observed the process and practices of conducting CEMD at the state and national levels. They also discussed with program managers and coordinators about their experience and problems in the establishing a similar system in their countries.

Data collection from the private sectors has improved resulting in a more accurate picture of health care utilization. Monitoring and evaluation of the strategies to improve maternal and child health needs to be intensified to ensure MDG 4 and 5 are achieved by 2015. Screening programmes for thalassaemia must be strengthened to ensure the target populations are screened.

Child Health

- **New attendances of infants, toddlers and pre-school children to health clinics**

The coverage of infants (new cases 0-<1 years old) attending the government health clinic in 2011 is 517,385 (80.29%), 777,152 (41.10%) for toddlers (new cases 1-4 years old) and 183,743 (18.01%) for pre-school (new cases 5-6 years old). The average clinic visits made per infant, toddler and pre-school are 7, 4 and 2 visits respectively. This average of visit is less than the norm of 8 visits for infants (< 1 year old), 10 visits for toddler (1-4 years) old and 2 visits for preschool children 5-6 years old.

- **National Immunisation**

Targets for all immunisation coverage are > 95.0%. In 2011, immunisation coverage for DPT 3rd dose were 99.54%, Polio 3rd dose were 99.53%, 99.54% for Hib 3rd dose, and 97.14 for Hep.B 3rd dose and 96.04% for MMR.

TABLE 13
NATIONAL IMMUNISATION COVERAGE, MALAYSIA, 2011

Immunisation Coverage									
*DPT (3rd dose)		*Polio (3rd dose)		*Hib (3rd dose)		*Hep. B (3rd dose)		**MMR	
No.	%	No.	%	No.	%	No.	%	No.	%
489,104	99.54	489,035	99.53	489,083	99.54	477,312	97.14	471,442	96.10

*Note: Denominator used - *Estimated live births (2011)*
*** Estimated number of children 1-<2 years (2010)*

Source: Health Informatics Centre and Family Health Development Division, MoH

- **National Congenital Hypothyroidism Screening**

In 2011, there are 116 government hospital provide the screening program for congenital Hypothyroidism. 34 private hospitals reported to carry out the screening program. 143 cases were detected, 128 were detected by Ministry of Health hospital and 15 cases were detected by private hospitals.

- **Integrated Management of Childhood Illness (IMCI)**

Pahang, Sabah, Sarawak and Kelantan have implemented Integrated Management of Childhood Illness (IMCI) in selected health and community clinics. IMCI is one if the strategy to reduce morbidity and mortality among children less than 5 years old. In total, 77 Health Clinics, 64 Community Clinic and one Maternal and Child Health Clinics are involved in implementation of IMCI.

- **Under 5 Mortality**

As one the activities and initiatives towards achieving MDG 4, all Under 5 Mortality notifications and investigation system has been implemented in all states starting from July 2011. Notification of death to the national level is within 24 hours of death and investigation findings must submitted within 14 days of death. This notification and investigation systems are for death from 28 days to < 5 years. Death for 27 days old and below will be investigated under the established PNM system.

School Health Services

- **Service Coverage**

A total of 1.68 million preschool, primary and secondary school children were examined and screened in 2011. The coverage by School Health Nurses and Assistant Medical Officers remains above 95 percent for all school years examined.

- **School Health Immunisation**

The 2011 school health vaccination coverage target was set at 95% and this target was achieved in 2011 for all type of vaccination. DT Booster, Oral Polio booster and MMR booster for Standard 1 students were 96.5%, 98.2% and 95.8%. The ATT booster for Form 3 was at 96.6%. The comparison of coverage over the last 3 years is shown in Table 14.

TABLE 14
THE PERCENTAGE OF STANDARD 1 AND FORM 3 SCHOOL CHILDREN IMMUNIZE, 2009-2011

YEAR	DT BOOSTER			ORAL POLIO BOOSTER			MMR BOOSTER			ATT		
	2009	2010	2011	2009	2010	2011	2009	2010	2011	2009	2010	2011
Standard 1	97.7	97.9	96.5	97.7	98	98.2	97.6	97.7	95.8	-	-	-
Form 3	-	-	-	-	-	-	-	-	-	97.1	97.4	96.6

Source: Health Informatics Centre, MoH

- **Students' Health Status**

Visual Acuity defect is the highest morbidity detected among the school children in 2011. The rate of visual acuity detection was 74.1, 59.1 and 42.9 for every 1,000 Standard 1, Standard 6 and Form 3 students examined. For 2011, the status of Malaysian students' nutrition is shown in Table 15.

TABLE 15
DISTRIBUTION OF SCHOOL POPULATION NUTRITIONAL STATUS ACCORDING TO CLASS, 2009-2011

Nutritional Status	Standard 1			Standard 6			Form 3		
	2009	2010	2011	2009	2010	2011	2009	2010	2011
Underweight	11.4 %	9.7 %	7.6%	8.7 %	7.7 %	6.0%	7.5 %	6.6 %	5.2%
Normal Weight	73.4 %	80.2 %	81.2%	70.9 %	76.9 %	76.7%	74.6 %	80.9 %	81.5%
At risk of obesity	6.7 %	5.9 %	5.4%	8.8 %	9.4 %	8.9%	7.2 %	7.7 %	7.2%
Obesity	6.0 %	5.9 %	5.5%	8.8 %	9.0 %	8.1%	7.1 %	6.6 %	6.0%

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 year 1 students have higher incidence scabies infection, head lice and worm infestation. Other morbidities remained low among Malaysian school children as shown in Table 16.

TABLE 16
DETECTION RATE OF OTHER MORBIDITIES AMONG SCHOOL CHILDREN (PER 1,000 SCHOOL CHILDREN), 2011

	Preschool	Standard 1	Standard 6	Form 3
Eye infection	0.29	0.29	0.34	0.15
Ear infection	0.50	0.53	0.49	0.16
Skin diseases	18.66	16.31	25.42	20.66
Pallor	0.11	0.16	0.10	0.09
Goiter	0.02	0.05	0.14	0.28
Asthma	10.97	8.84	8.35	6.40
Heart condition	0.27	0.95	0.73	0.59
Gastrointestinal Conditions	0.06	0.14	0.19	0.29
Genitourinary Conditions	0.18	0.83	0.15	0.07
Musculoskeletal problems	0.19	0.36	1.03	0.18

Source: Health Informatics Centre, MoH

- **HPV Immunization**

MoH has introduced voluntary HPV immunization as 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 to 30 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, Melaka and Johor. Other 7 states; Kedah, Pulau Pinang, Pahang, Terengganu, Sabah, Sarawak and Federal Territory of Labuan began the 2010 and 2011 cohort implementation in 2011 (Table 17).

For the 2010 cohort, parental acceptance rate was 95.9% and this increased to 97.6% in 2011. Overall completion of the third dose was at 97.9 in 2010 and increased to 98.3 in 2011. Adverse events following immunization were less than 1 percent in both cohort and there no severe adverse event following immunization reported during 2010 to 2011.

TABLE 17
HPV IMMUNISATION IMPLEMENTATION SCHEDULE IN 2010 & 2011

State	Implementation date
Federal Territories of Kuala Lumpur and Putrajaya	16th August 2010
Perak	23rd August 2010
Kelantan	24th August 2011
Johor	29th August 2010
Perlis	8th September 2010
Selangor	20th September 2010
Negeri Sembilan	20th September 2010
Melaka	4th October 2010
Kedah	3rd January 2011
Pulau Pinang	17th January 2011
Terengganu	16th January 2011
Sarawak	17th January 2011
Pahang	17th January 2011
Federal Territory of Labuan	21st January 2011
Sabah	28th January 2011

Source: Family Health Development Division, MoH

Adolescent Health

In 2011, a total of 230,638 adolescents aged 10 to 19 years were screened for physical (9.8%), nutritional (6.2%), risk behaviours (2.4%) mental (1.7%) and sexual health (1.2%) problems at health clinics nationwide. This accounts for 4.2 % of the total adolescents population screened. A total of 37,851 adolescents had been counselled and 20,593 were referred to hospitals or other agencies for further management. The number of health clinics providing adolescent health services have increased from 661(81.8%) to 734(91%) from 2010 to 2011. In 2011, 58 training sessions on adolescent health care and counselling were conducted nationwide involving 1,544 healthcare providers (doctors and paramedics).

In March 2011, the Malaysian Association for Adolescent Health in collaboration with MoH conducted the 7th National Symposium on Adolescent Health at the Kuala Lumpur Grand Seasons Hotel. Participants comprised of doctors, paramedics, non-medical personnel and adolescents. The symposium with the theme "Teens, Sex and Drugs" was officiated by the Director of Family Health Development Division, MoH. In September 2011, Training of Trainers on Engaging the Adolescent Using HEADSS Framework was conducted at Kuala Lumpur Quality Hotel for 25 health care professionals. Family Health Development Division also conducted national briefing "Guideline on Management of Adolescent Sexual Reproductive Health at Primary Health Care Level" in July 2011, at the Putrajaya District Health Office for 63 health care providers. In December 2011, training on "Adolescent Health Service at Primary Health Care" for 39 health care providers was conducted at the De Palma Hotel, Kuala Lumpur.

The Family Health Development Division (FHDD) also worked closely with other agencies to develop Guideline on Managing Sexual and Reproductive Health Problems among Adolescent. 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. Table 18 shows the coverage of teenage pregnancy age (10-19) years old at the Public Health Facilities in Malaysia.

TABLE 18
TEENAGE PREGNANCY COVERAGE IN MALAYSIA, 2011

State	Teenage Pregnancy (aged 10-19 years old)			Total Number New Cases of Antenatal
	Married	Unmarried	Total	
Perlis	141	23	164	3,977
Kedah	572	116	688	31,857
Pulau Pinang	214	94	308	19,471
Perak	616	393	1,009	31,320
Selangor	1,292	473	1,765	81,214
Negeri Sembilan	165	145	310	16,386
Melaka	119	121	240	13,125
Johor	1,146	574	1,720	57,383
Pahang	914	171	1,085	26,586
Terengganu	384	95	479	23,719
Kelantan	485	61	546	25,715
Sarawak	2,367	1,340	3,707	38,858
Sabah	5,602	488	6,090	62,086
FT Kuala Lumpur	266	104	370	16,471
FT Putrajaya	1	1	2	4,050
FT Labuan	146	23	169	2,273
Total	14,430 (77%)	4,222 (23%)	18,652	454,491

Source: Family Health Development Division, MoH

In 2011, 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 80,000 booklets, 100,000 pamphlets and 50,000 posters related to adolescent health have been developed and distributed to all states and health clinics.

In December 2011, MoH coordinated the National Technical Committee on Adolescent Health to monitor the implementation of the The National Adolescent Health Policy and the National Adolescent Health Plan of Action. This national technical committee comprising of representatives from various government and non-government agencies, NGOS and universities, is another commitment by the Ministry to further strengthen the Adolescent Health Programme and Services. MoH continuously forge 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 the Family Planning Programme, the Cervical Cancer Screening Programme, the Breast Cancer Prevention Programme and activities related to reproductive health and gender.

- **National Pap Smear Screening**

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 by all service providers has increased from 452,773 in 2010 to 472,762 in 2011. Assuming the figure represented the number of women screened, it accounted for 21% coverage of estimated eligible women for a year as compared to 20.1% in 2010. The coverage of women aged 50 to 65 years has also increased from 16.6% to 17.02% of all eligible women in this age group. The percentage of unsatisfactory slides remains at targeted level, 1.13% in 2011.

The overall positive detection rate in 2011 has increased from 0.58% (2010) to 0.64%. 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 – 27%, ASCUS – 48%, HGSIL – 16%, AIS – 2%, AGC – 3%, Carcinoma – 4%.

- **Breast Cancer Prevention**

MoH has started breast health awareness campaign since 1995 to encourage women to perform breast self examination (BSE). Starting 2009, it emphasized on clinical breast examination (CBE) as a modality for early detection of breast cancer among general women population. BSE is continuously promoted and recommended for raising awareness and to empower women to take responsibility for their own health. 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 has increased from 12.5% in 2010 to 21.3% in 2011. There was 0.3% abnormality detected and referred for further investigation.

- **Family Planning**

There were 99,931 new acceptors, 65,162 repeat acceptors and 269,143 active users for family planning registered in MoH clinics in 2011. There was an increment of 7.6% active users compared to 2010. The most popular contraceptive method was contraceptive pill (67%) followed by injection (19%), male condoms (10%), and intrauterine device (2%).

Health Care Services for the Elderly

Till December 2011, a total of 672 (82.7%) health clinics had implemented the health care services for the elderly, increased by 5.4% from previous year. About 23,000 health personnel at primary health care level had undergone training for health care for the elderly. About 21,000 health personnel and care givers from institutions, NGOs, voluntary bodies and other agencies had been trained for care for the elderly. There were 222 Kelab Warga Emas formed all over the country, increased by 29 clinics.

Five most common morbidities among the elderly seen in the health clinics, and same pattern for the past five years, were hypertension, diabetes mellitus, joint, eye and respiratory problems. A total of 22 health education materials had been produced comprises of booklets, pamphlets, manual and VCD from the beginning of Healthcare Program for the Elderly till December 2011.

Health Care for Persons with Disabilities

Health care programmes for Persons with Disabilities (PWD) include care of children with special needs (CWSN) at the health clinic and community level, prevention and control programmes for blindness and deafness as well as rehabilitation for adult PWDs at health clinic. From 1996 to 2005 activities carried by the unit focused on CWSN. Beginning 2006 the focus shifted to the development of services for adults with disabilities whilst strengthening and improving quality of services for CWSN.

Two main committees 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 oversee the development and implementation of health programmes for PWDs.

- **Programme Development**

The Health Care for PWD 2011-2020 Plan of Action (POA) was endorsed at the Director General's Meeting on the 23 Mac 2011. This document is a follow up of the 1st POA (1996), reviewed to be in line with PWD Policy (2007), National POA for PWD (2007), the PWD Act 2008 and the Convention on the Rights of PWDs 2008. A new area of focus is the development of low vision services in primary care. Plan of action was developed and presented to technical committee on the 5th Mei 2011

- **Manpower Development and Training**

Training on use of the 'Live Life Stay Safe' Training module on Sexual Reproductive Health for Children and Adolescents with Disabilities continued in 2011 whereby 234 health personnel and 65 social welfare officers were trained as core trainers. A total of 200 PWDs in institutions under the Department of Social Welfare were given awareness training on personal safety and sexual reproductive health. Other trainings include training on the use of Six Manual On Care Of Children With Special Needs organized by the Public Health Institute for 36 health personnel and 36 nursing instructor and use of Caregiver Training Module for Caregivers in Institutions and at Home.

- **Networking with Other Agencies and NGOs**

The PWD Health Care Unit provided 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.

MoH together with BAKTI developed a manual to empower parents focused on prevention of disabilities. The "Manual Panduan Pencegahan Kecacatan Kanak-Kanak" was launched by the Prime Minister during the campaign on Early Detection and Intervention for Children on 3rd May 2011 in Ipoh Perak. Subsequently the manual was distributed to all District Health Offices, health clinics and community clinics on 15 June 2011.

In 2011, MoH also collaborated with WHO to develop 2 documents. The first was a guideline for vision screening and management of Low Vision, a condition considered legally blind. The guideline was field tested on 30 health personnel who were given awareness training on low vision. The second was a Manual on Cognitive Behaviour Therapy for the Management of Chronic Disease in Primary Care.

- **Rehabilitation Services at the Health Clinic**

In 2011, a total of 2,181 new cases with disabilities were detected among children aged 0-18 years. These children received rehabilitation services from the 242 health clinics providing rehabilitation. A

total of 25,754 children were on follow up with 39,511 attendances for rehabilitation services in 2011.

A total of 15,571 home visits were made in 2011. Personnel visiting the homes provided advice to parents and caregivers on care, immunization, nutrition and rehabilitation that can be carried out in the home. Health personnel also visited the Community Based Rehabilitation Centre (CBR) within operational area of the health clinics to provide health services. For the year 2011, staff from health clinics saw a total of 17,604 children with special needs and assisted CBR workers in managing CWSN.

TABLE 19
NUMBER OF CHILDREN AGED 0-18 YEARS DETECTED ACCORDING TO TYPES OF DISABILITIES, 2011

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	0	0	0	2	3	9	1	3	0	14	28	10	70
Kedah	1	2	10	7	12	32	2	6	1	14	7	17	111
Pulau Pinang	29	1	4	12	14	24	18	9	6	25	16	21	179
Perak	7	8	12	9	16	19	22	5	23	61	34	13	229
Selangor	3	2	13	19	54	51	7	13	1	15	25	90	293
FT Kuala Lumpur	1	0	3	16	14	10	5	5	3	4	2	10	73
Ft Putrajaya	0	0	0	2	0	1	0	0	0	2	3	1	9
Negeri Sembilan	0	0	3	2	4	12	3	2	0	18	6	12	62
Melaka	4	1	3	2	1	5	3	1	0	13	18	0	51
Johor	3	2	22	21	35	43	11	12	0	13	36	27	225
Pahang	2	1	15	3	9	17	1	1	0	7	7	10	73
Terengganu	5	1	6	12	14	19	3	1	2	5	12	6	86
Kelantan	2	1	17	13	21	33	3	1	1	1	17	11	121
Sabah	3	7	20	17	33	56	9	8	1	8	7	29	198
FT Labuan	0	0	2	0	5	3	1	5	2	16	13	10	57
Sarawak	13	4	10	20	54	38	25	12	77	14	36	41	344
MALAYSIA	**73**	**30**	**140**	**157**	**289**	**372**	**114**	**84**	**117**	**230**	**267**	**308**	**2181**

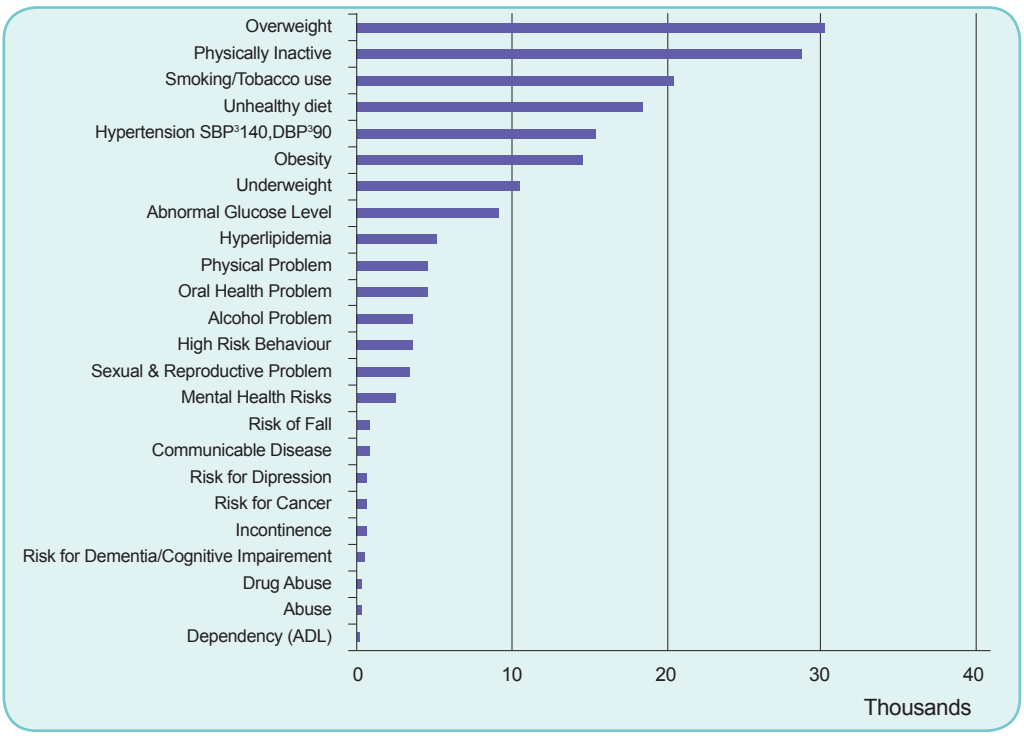
Source: Family Health Development Division, MoH

Primary Healthcare

- **Health Screening and Intervention at the Primary Care Clinic**

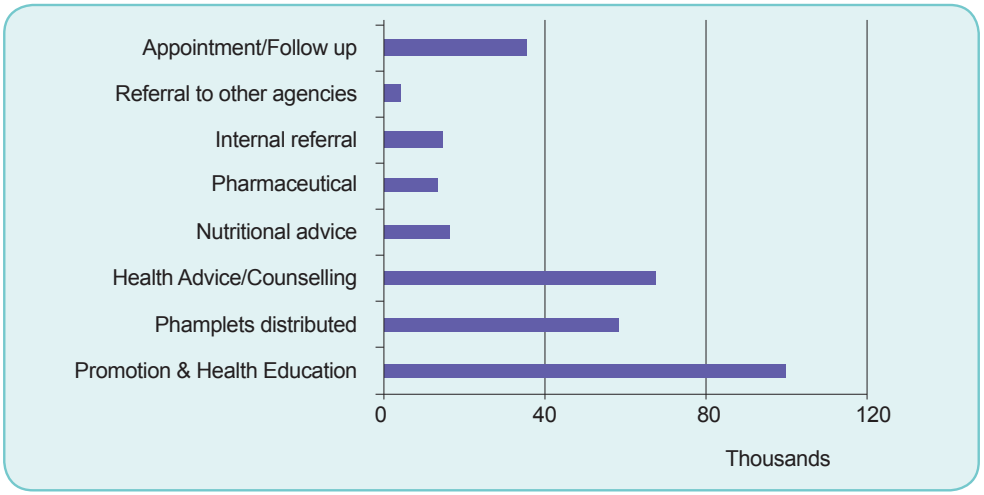
Since it started in 2008, almost a half million people had been screened. The approach of upstream care is one of the strategies taken to reduce disease burden in Malaysian population. In 2011, a total of 317, 766 clients (2.7% of the total outpatient attendance) were screened, of whom 43% were found to have at least one risk factor. The most common risk factors detected were overweight, physically inactivity and smoking (Figure 23). The most common intervention for those detected with risk factors was promotion, health education, distribution of health education materials and counseling (Figure 24).

FIGURE 23
HEALTH RISKS IDENTIFIED



Source : Family Health Development Division, MoH

FIGURE 24
MODES OF INTERVENTION

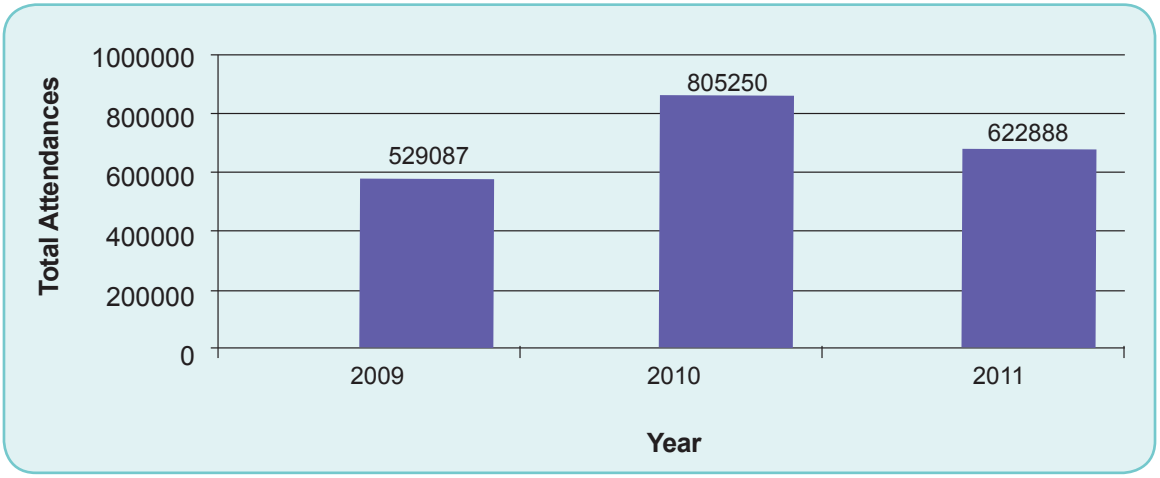


Source : Family Health Development Division, MoH

- **Extended Hours Service In Health Clinics**

A total of 62 health clinics extended their operational hours till 9.30 pm. The number of cases seen during the extended hours increased in 2010, but decreased in 2011 (Figure 25).

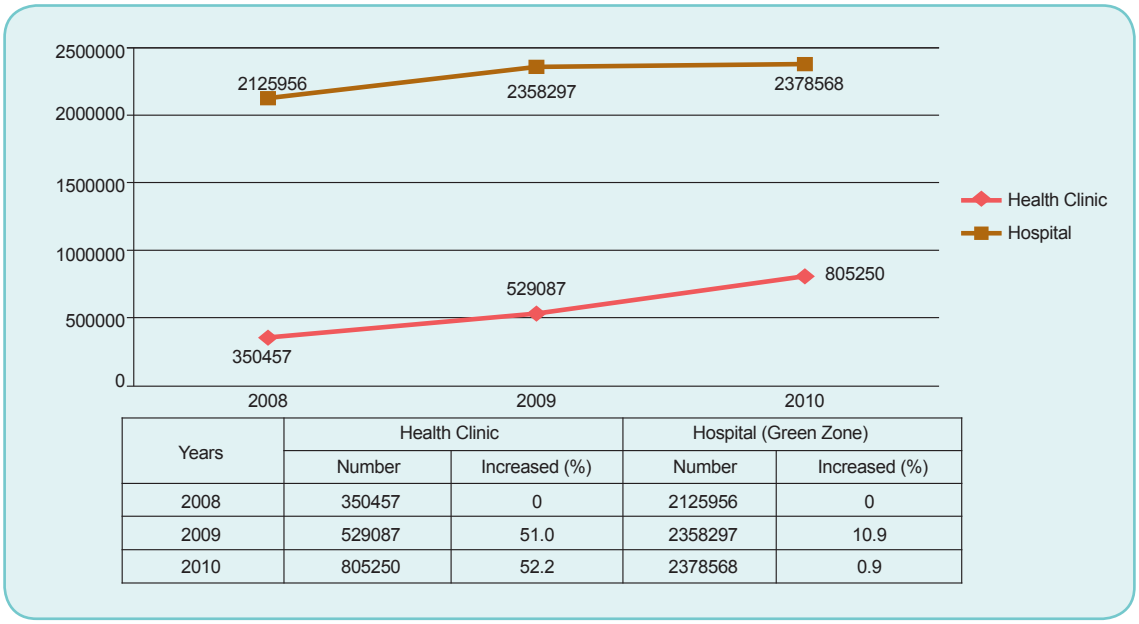
FIGURE 25
ATTENDANCES FOR EXTENDED HOURS SERVICES, 2009-2011



Source : Family Health Development Division, MoH

Further analysis was done to see the impact of extended hours clinic to attendances in hospital's green zone (Figure 26). Although it is still early to see the effectiveness but there was some degree of decreasing trend in the first three years of implementation of this policy.

FIGURE 26
COMPARISON BETWEEN ATTENDANCES TO HOSPITAL (GREEN ZONE) AND THE HEALTH CLINIC, 2009-2011



Years	Health Clinic		Hospital (Green Zone)	
	Number	Increased (%)	Number	Increased (%)
2008	350457	0	2125956	0
2009	529087	51.0	2358297	10.9
2010	805250	52.2	2378568	0.9

Source : Family Health Development Division, MoH

- **National Service Training Program (NSTP), 8/2011 Series**

A total of 81 PLKN camps were operational in 2011. The services provided by the clinics are the treatment of minor ailments & illnesses, emergency services and adolescent screening services for the NSTP trainees in the eighth series. The most common disease recorded was of the respiratory system i.e. Upper Respiratory Tract Infection and Lower Respiratory Tract Infection, at 36.3% (Figure 27).

The placement of the paramedics at PLKN camps also had been permanent as compared to rotational posting in previous years, by filling up the cadre posts. Table 20 illustrates the status of each personnel in 2011. The PLKN camps were also visited by medical officers from the nearby health clinic.

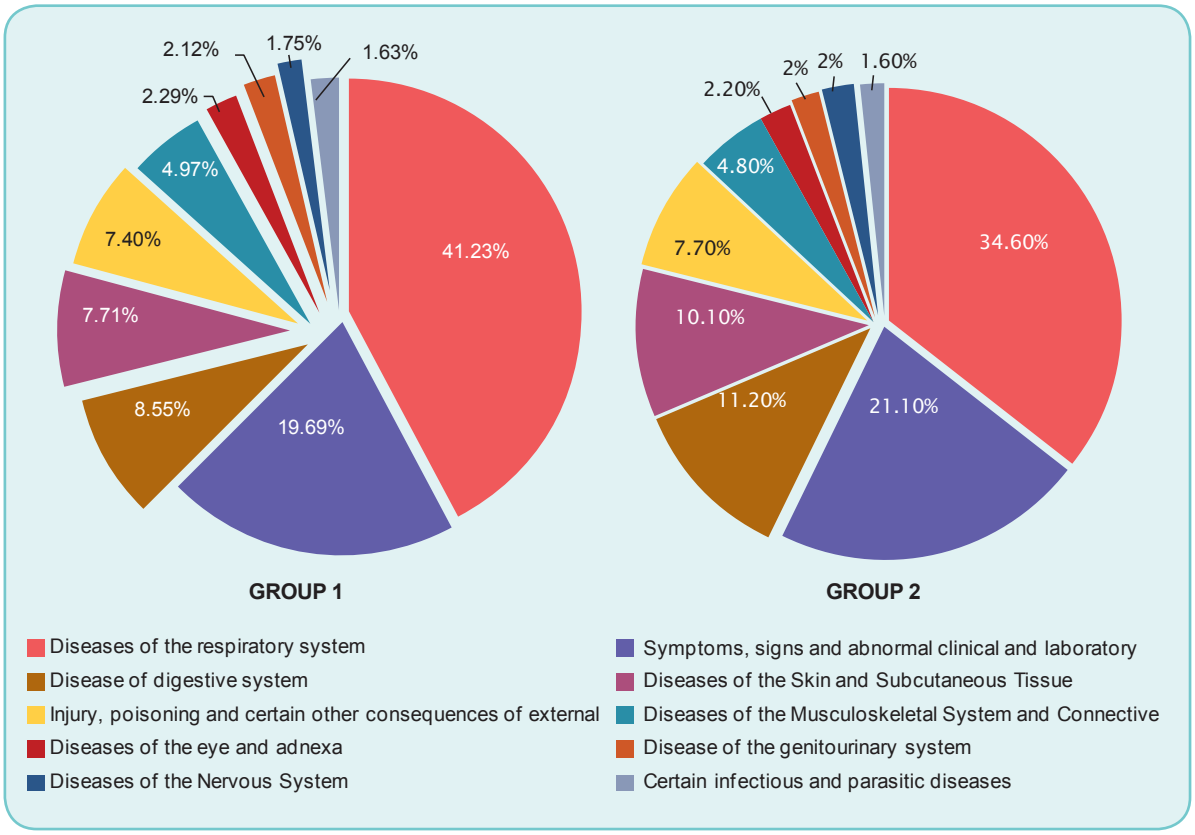
- **Routine Medical Examination (RME)**

In 2011, 29,444 government servants aged 40 and above were examined, of whom 7464 (25.3%) were identified with risk factors and morbidities and referred for further assessment and management.

- **Mobile Services**

The main aim of the mobile services is to increase accessibility to comprehensive health services for the population in remote areas as well as for the marginalized groups. In 2011, there were 206 mobile teams providing such health services; 88 in Peninsular Malaysia, 21 in Sabah and 97 in Sarawak. The basic services provided are maternal and child health including immunization, treatment of minor illnesses, control of communicable diseases, school health services, environmental health and sanitation and emergency care. In 2011, RM 2.4 million was allocated to upgrade the vehicles and equipment for mobile services. This service has been chosen as one of the Key Performance Indicator (KPI) for the Health Minister. Figure 28 showed a remarkable achievement above the target given and this could be due to various improvements made for upgrading vehicles, equipments and teams for mobile services.

FIGURE 27
MORBIDITY AT PLKN CAMPS, 2011



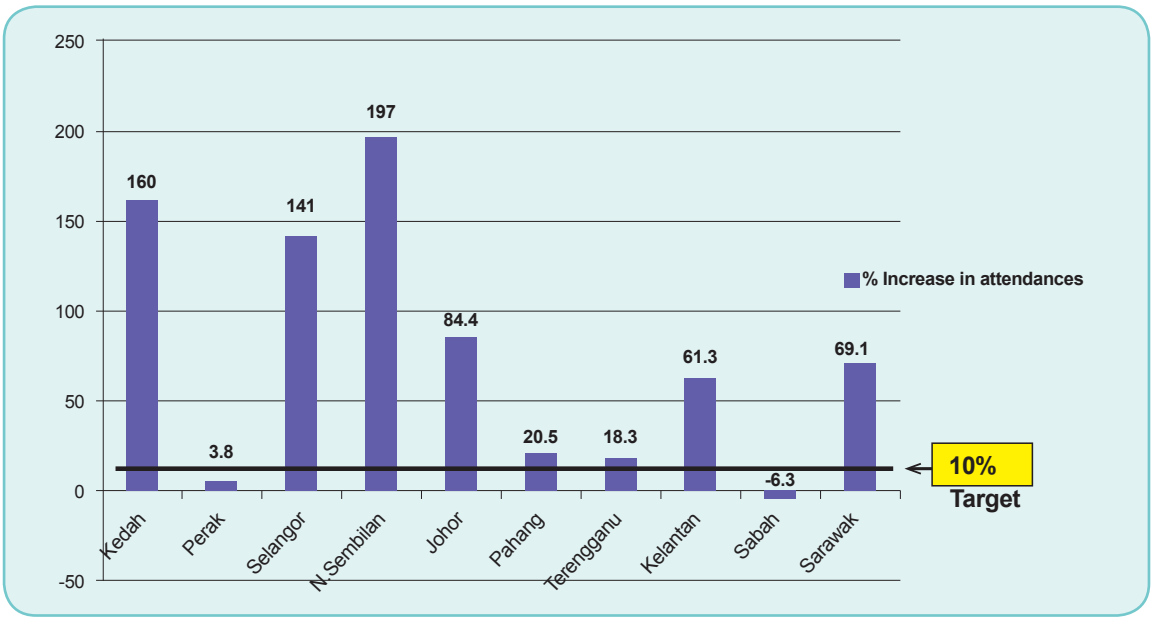
Source : Family Health Development Division, MoH

TABLE 20
STATUS OF PARAMEDICS PLACEMENT IN PLKN CAMPS, 2011

Category	No of Cadre Posts	No of personnel (%)	Vacancy
Assistant Medical Officer, U32	86	69 (80.2%)	17
Assistant Medical Officer, U29	172	106 (61.6%)	66
Nurse, U29	172	100 (58.1%)	72
Community Nurse,U17	86	71(82.6%)	15
TOTAL	**516**	**346(68.4%)**	**170**

Source : Family Health Development Division, MoH

FIGURE 28
KPI ACHIEVEMENT OF YBMK 2011: MOBILE CLINICS

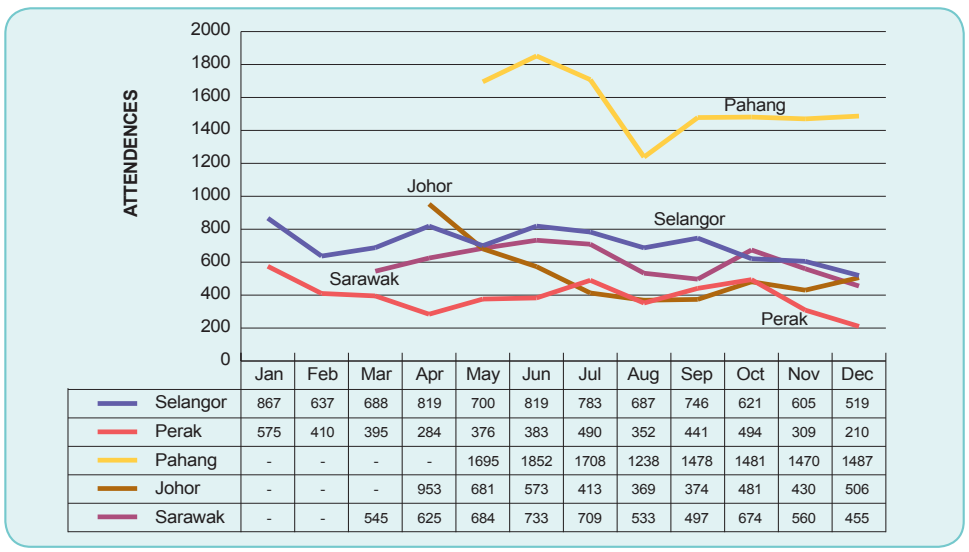


Source : Family Health Development Division, MoH

- **1Malaysia Mobile Clinics**

A special mobile service initiative by the Honourable Prime Minister 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. In 2011, a total of 5 buses has been operating, namely in Perak, Selangor, Johor and Pahang, and a boat in Baram River, Sarawak. The total attendances utilizing these services for each state is shown in Figure 29.

FIGURE 29
1MALAYSIA MOBILE CLINIC ATTENDANCES IN 2011



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Selangor	867	637	688	819	700	819	783	687	746	621	605	519
Perak	575	410	395	284	376	383	490	352	441	494	309	210
Pahang	-	-	-	-	1695	1852	1708	1238	1478	1481	1470	1487
Johor	-	-	-	953	681	573	413	369	374	481	430	506
Sarawak	-	-	545	625	684	733	709	533	497	674	560	455

Source : Family Health Development Division, MoH

- **Primary Emergency Care Services at Health Clinics**

To further improve and upgrade the primary emergency care services at health clinics, 68 unit's new ambulances were procured in 2011 through central tender in order to increase the number of functional ambulances for the needed services. In 2011, only 71% (651/906) unit ambulances were reported as in good condition and were able to function optimally.

TABLE 21
STATUS OF AMBULANCES IN HEALTH CLINICS, AS OF DECEMBER 2011

NO	STATES	Status					Total
		Good	Damaged	Process BER	BER	Condemned	
1	PERLIS	8	1	0	0	0	9
2	KEDAH	44	6	1	5	6	62
3	P.PINANG	24	0	0	0	2	26
4	PERAK	64	12	5	4	3	88
5	SELANGOR	43	15	5	3	4	70
6	FT KL	3	0	6	0	1	10
7	FT LABUAN	1	1	0	0	0	2
8	N.SEMBILAN	36	4	5	2	3	50
9	MELAKA	18	0	0	0	0	18
19	JOHOR	78	0	2	11	5	96
11	TERENGGANU	44	3	3	5	5	60
12	KELANTAN	57	6	11	2	2	78
13	PAHANG	32	20	6	3	7	68
14	SARAWAK	113	19	6	4	19	161
15	SABAH	86	13	5	4	0	108
Total		**651**	**100**	**55**	**43**	**57**	**906**

Source : Family Health Development Division, MoH

- **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 2011, 41 General Practitioners had signed contracts to work in 37 government health clinics throughout Malaysia.

- **Health Clinic Advisory Panels**

As of December 2011, a total of 9,868 health clinics advisory panel members have been appointed to serve from 1st July 2010 till 30th June 2013 in 727 (89%) health clinics. 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. For the first time, each health clinic with advisory panels received allocation of RM 5000 to carry out activities especially in combating Non Communicable Disease burden. Training for health clinic advisory panels was also conducted at state level. The 5th National Convention for Health Clinic Advisory Panels was held and officiated by The Honorable Minister of Health Malaysia, attended by almost 400 participants. There were 12 project papers presented and 24 posters exhibited by health clinic advisory panels.

- **Family Medicine Specialist (FMS)**

A total of 15 FMS had reported duty and placed in various states with priority attention is to Sabah and Sarawak. This made up a total of 196 FMS throughout the country. Ten (10) FMS were completed their gazettement process. A technical meeting was held and chaired by newly appointed Deputy Director General (Public Health). Amongst issues discussed were role and function of FMS and 6 Key Performance Indicators (KPI) for FMS were:

i. % reduction in HbA1c Diabetes patient
ii. No. of student FMS trained
iii. Client Satisfaction
iv. Research paper
v. Publication /report
vi. CPD

- **Monitoring of Waiting Time in Health Clinics**

Monitoring of patient waiting time has been monitored as one of MoH's KPI in 2011. The target groups were clinics that implementing Teleprimary Care (TPC) comprising of 70 clinics from the states of Johor, Perlis, Sarawak, Kuala Lumpur and Selangor. The point of monitoring started once the patient registered at the registration counter until they were called by the first provider. Generally, the proportion of patients who achieved the targeted waiting time of less than 30 minutes was 80% in December 2011.

TABLE 22
STATES AND NATIONAL ACHIEVEMENT IN WAITING TIME MONITORING, 2011

STATE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	CUM
	%	%	%	%	%	%	%	%	%	%	%	%	%
Perlis	74	82	85	79	79	83	85	90	85	82	88	90	86
Selangor	70	68	74	75	78	80	80	65	60	74	80	81	75
FT KL	30	69	85	82	84	83	84	78	82	77	77	77	80
Johor	38	52	63	62	65	70	82	78	68	69	73	79	69
Sarawak	49	55	70	72	73	72	73	73	61	71	80	77	70
MALAYSIA	**66**	**63**	**71**	**71**	**73**	**76**	**80**	**75**	**67**	**73**	**78**	**80**	**74**

Source : Family Health Development Division, MoH

- **Quality Assurance Programme (QAP) In Primary Healthcare**

In 2011, the percentage of clinics that participated in the Appropriate Management of Asthma and Client Friendly Clinic had increased as compared to 2010. The increase in Appropriate Management of Asthma was still due to increased number of clinics with medical officers. Nationally, 91.1% of the respondent perceived the clinics as client friendly and 24.5% respondent received appropriate management of asthma. The guideline on asthma management and client friendly manual has been reviewed and improvement made, taking into consideration the current recommended management of asthma and new policies in primary healthcare delivery system. The reviewed guideline is expected to be used in 2013.

TABLE 23
QUALITY ASSURANCE PROGRAMME (QAP) IN PRIMARY HEALTH CARE, 2011

Performance	Asthma						Client Friendly					
	2006	2007	2008	2009	2010	2011	2006	2007	2008	2009	2010	2011
Total no. of participating clinic	393	337	412	477	424	445	545	542	595	548	704	762
Percentage (%)	53.3	46.3	55.4	59.5	85.0	88.2	74.0	67.8	78.0	68.3	92.0	93.7

Source : Family Health Development Division, MoH

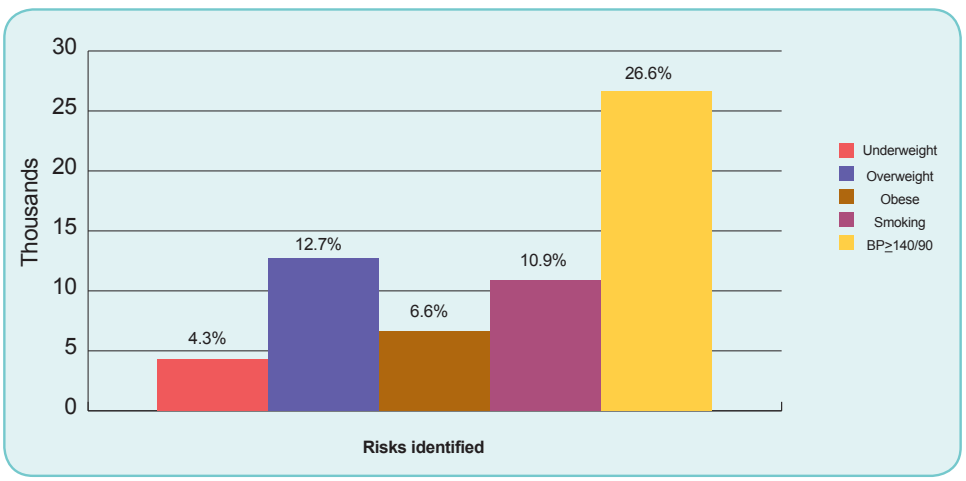
- **1Malaysia Clinic**

1Malaysia Clinic was an initiative by the Honourable Prime Minister and was announced in the 2010 Budget. It is a special primary care service in urban area to provide basic medical services to the urban poor. Nurses and medical assistants provide the basic medical treatment. It was started in 7th January 2010 and as of 31st December 2011; there are 87 1Malaysia Clinics with 1,986,535 attendances. The total cumulative attendances from 2010 till December 2011 were 3,314,115. The most common problems seen were cough and cold, body aches and skin problem.

- **Self Monitoring**

Self care 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. In 2011, this service was utilized by 72, 921 people. 5.9% of them were underweight, 17.4% were overweight and 9.1% were obese. Almost 15% of them were active smokers and 36.4% were hypertensive. Most probably, this service was mostly used by patients during their follow up at the clinic that have attributed to the large number of high blood pressure recordings detected.

FIGURE 30
RISKS IDENTIFIED BY SELF MONITORING SERVICE



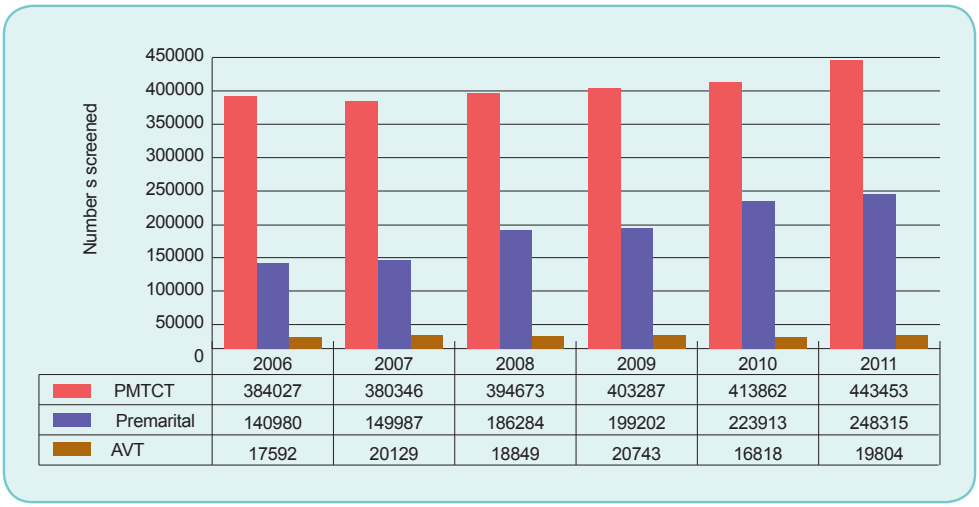
Source : Family Health Development Division, MoH

- **HIV Management in Primary Health Care**

HIV management in primary health care includes screening program which comprises anonymous screening, premarital screening and antenatal screening. Health education on HIV and treatment are also provided at health clinics. Anti retroviral therapy for HIV patients has been introduced since 2000 and those HIV positive cases and those fulfill the criteria, are managed by trained Family Medicine Specialist at Health Clinics.

The number of screening activities at health clinics had shown an increase trend since then the program implemented at health clinics. There was an increase of 7.1%, 10.9% and 17.8% in 2011 for PMTCT (Prevention Mother to Child Transmission), pre marital screening and anonymous voluntary testing (AVT) compared to 2010 respectively.

FIGURE 31
NUMBERs OF HIV SCREENING, 2006-2011



	2006	2007	2008	2009	2010	2011
PMTCT	384027	380346	394673	403287	413862	443453
Premarital	140980	149987	186284	199202	223913	248315
AVT	17592	20129	18849	20743	16818	19804

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 Programme (NSEP) were introduced in primary health care since 2005 and 2008 respectively. In 2011, a total of 168 health clinics provided MMT and a total of 76 health clinic provided NSEP.

TABLE 24
NUMBERS OF HEALTH CLINIC WITH HARM REDUCTION SERVICES, 2006-2011

Number of Health Clinic with	2006	2007	2008	2009	2010	2011
Methadone Maintenance Therapy (MMT)	2	32	32	77	134	168
NSEP	0	0	6	22	73	76

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

- **Non-communicable Disease Management in Primary Health Care**

  a) Diabetes

  A new indicator was introduced in 2008 to assess the quality of care of diabetes patient in MoH health care facilities. This indicator measures proportion of diabetes patient seen at TPC clinics with HbA1c <6.5% with a target of >30% of patients. However the target has increased to 80% in 2011. In 2011, 445,810 diabetic patients attended 73 Health Clinics that has TPC system. Of these, 42,810 samples of HbA1c were taken and only 5.8% (2481) diabetics were under control with HbA1c <6.5%. The achievement in 2010 was only 7.7%.

  b) Hypertension

  Hypertension was also commonly seen in health clinics. Data from 73 Health Clinics that has TPC system showed there were 65,784 patients attendances in 2011 and 29,294 (57.4%) 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 50% of the hypertensive patients in the health clinics to be under control. The achievement for 2010 was only 26%.

Mental Health Services

Mental health services in health clinics or also known as community mental health service was established in health clinics in 1996 as part of the expanded scope of Family Health Development Division programme. The objective of this programme is to promote healthy mind through instilling healthy lifestyle and coping skills, to reduce prevalence of mental disorders through screening and early intervention at the Primary Health Care (PHC) level, to provide treatment and care for those with mental health problems and illnesses at PHC level and to facilitate optimal psychosocial functioning of the mentally ill individual in the community.

The main activity of mental health services in health clinics are health promotion and education, mental health screening, intervention, treatment, counseling and psychosocial rehabilitation. Mental health service has involved more than 800 health clinics.

- **Mental Health Screening in Outpatient Services**

A total of 317, 766 clients has been screened using the integrated health status screening format (BSSK) in 2011. Out of this, a total 2478 or 0.78% has been found to have mental health risks, in which 691 clients or 27.9% has the risk for depression.

TABLE 25
MENTAL HEALTH RISK SCREENING IN OUTPATIENT SERVICES BY AGE GROUP, 2011

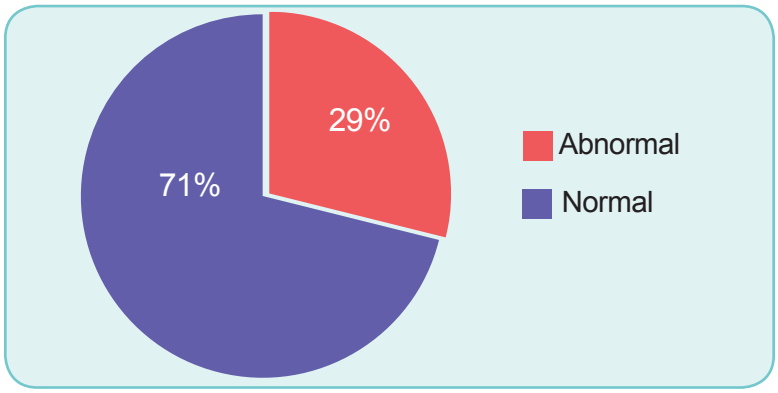
Age Group	Number of Screening	Number of Clients with Risk	% Clients With Risk
Adolescent	1618	43780	3.7 %
Adult Man	303	31643	1.0 %
Adult Woman	399	32527	1.2 %
Elderly	152	33029	0.5 %

Source : Family Health Development Division, MoH

- **Mental Health Screening Using DASS**

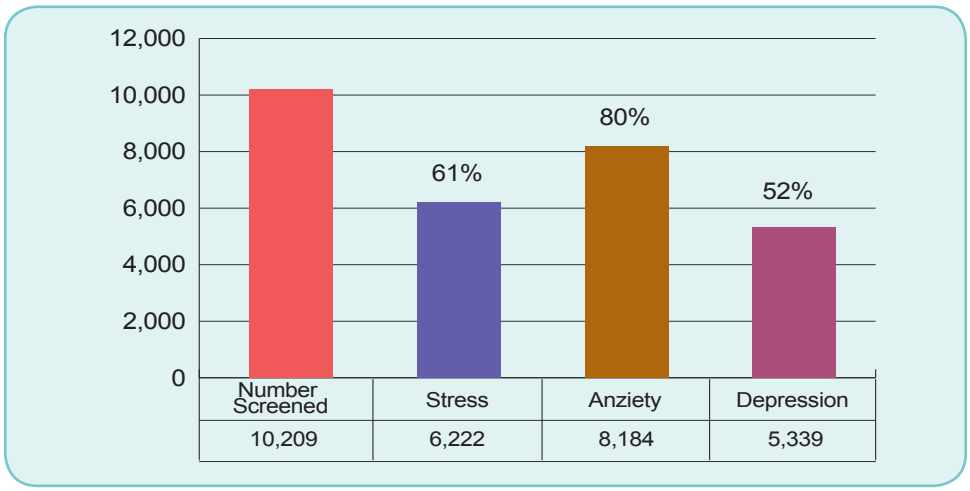
A total of 35,279 were screened for DASS whereby 25,070 or 71% was normal and 10,209 or 29 % was abnormal (Figure 32). Out of those 10,209, 61% (6222) having stress, 80% (8184) have anxiety and 52% (5339) have depression (Figure 33).

FIGURE 32
DASS SCREENING, 2011



Source : Family Health Development Division, MoH

FIGURE 33
DASS SCREENING IN HEALTH CLINICS BY TYPES, 2011



Source : Family Health Development Division, MoH

- **Follow-Up of Mentally Stable Patient at Health Clinics**

Mentally stable patients were being follow-up in health clinics. Apart from medical treatment, they were monitored for the drugs and their side effects, given counseling and also psychosocial therapy. In 2011, there were 21,416 mentally ill cases that been followed-up in health clinics whereby 1324 cases were new cases. 419 cases (32%) were diagnosed in the health clinics and 905 cases (68%) were referred from hospital. However, 3,417 cases were defaulter cases, hence giving rise to 16% defaulter rate.

- **Psychosocial Rehabilitation Service (PSR) in Health Clinics**

The main aim of having psychosocial rehabilitation in health clinic is to assist patients with long-term psychiatric disabilities to understand and control their illness, to achieve optimal level of function and to enable them to live independently. Till December 2011, there were 27 health clinics with psychosocial rehabilitation services. The services were run by occupational therapist and trained paramedics. Among activities include training the patient back on activities of daily living and socializing.

Radiology Services

In 2011, there were 177 clinics providing radiology services with 96% of the radiographer posts filled. A total 631,689 of X-ray examinations were performed in 2011, an increase of 34.1 % as compared to 2010.

There was a general improvement in the performance of the QAP indicators monitored for radiology services in health clinics as shown in Table 26. More clinics participated in 2011 for the % film rejected and the percentage of clinics not achieving standard was reduced in 2011 as compared to 2010. % X-ray examination among outpatient in health clinic; % appropriate of X-ray request and % accuracy radiography reports as the QAP before was not made mandatory in 2011 and not as the National QA for 2011.

TABLE 26
QAP OF RADIOLOGY SERVICES IN PRIMARY HEALTH CARE, 2010-2011

Indicator	No. of participating clinics		Standard	No. (%) clinics not achieving standard	
	2010	2011		2010	2011
% x-ray examination among outpatient in health clinic	106	0	<10%	1 (0.94%)	0
% film rejected	135	151	<5%	3 (2.22%)	149 (1.25%)
% appropriate X-ray requests	35	0	>80%	1 (2.86)	0
% accuracy radiography reports	26	0	>80%	3 (11.84)	0

Source : Family Health Development Division, MoH

Pharmacy Services

The pharmaceutical services are a mainstay of primary health care services. There was an increase of 3.59% in the prescriptions handled at the pharmacy counters in 2011 as compared to 2010. Out of 25,791,960 prescriptions received in 2011, 95.7% (24,689,794) were received during office hours while the balances were received after office hours. There was also a tremendous increase (48.47%, 51,333) in 2011 for SPUB prescriptions received at the pharmacy counter. To facilitate drugs procurement and distribution, CPS (Clinic Procurement System) were available in 743 health sites, 2.4% more than the previous year.

Percentage of prescription wrongly filled and detected before dispensing is monitored as part of the QAP program for pharmacy services in health. Although there is a declining trend in terms of numbers of clinics achieving the standard, however the national performance for this indicator had slightly improved from 0.10% in 2010 to 0.09% in 2011. The percentage of prescriptions counterchecked also had increased annually (87.17% in 2011, 82.45% in 2010 and 56.58% in 2009).

TABLE 27
QAP OF PHARMACY SERVICES IN PRIMARY HEALTH CARE, 2008-2011

Indicator	Standard (%)	No. (%) clinics participating				No. (%) clinics achieved standard			
		2008	2009	2010	2011	2008	2009	2010	2011
QAP 1: % prescription wrongly filled and detected before dispensing	0	440 (70%)	387 (63%)	445 (55%)	472 (58%)	378 (86%)	331 (86%)	326 (73%)	306 (65%)

Source : Family Health Development Division, MoH

Pathology Services

The number of tests done in pathology laboratories in the health clinics had increased by 10.2% in year 2011 as compared to 2010. The most frequently requested analytical tests are biochemistry (64.6%) followed by haematology (18.8%) and microbiology (8.2%). By end of 2011, there were 615 haematology analyzers, 227 chemistry analyzers and 295 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. Since midyear of 2009, the number was increased to 120 laboratories.

There was a general improvement in the performance of QAP indicators for pathology services in health clinics as shown in Table 28. Overall 2011 performance showed an improvement as compared to 2010 and 2009. QAP indicators for pathology services in the health clinics were reviewed in 2011 and TTAT Urine FEME (manual) and FBC (manual) was discarded as most laboratories were using automated FBC and Urine FEME.

TABLE 28
QAP PERFORMANCE OF PATHOLOGY SERVICES, 2009-2011

Item	2009	2010	2011
Total number of labs reported	371	401	448
Number (%) health clinics achieved 90% TTAT FBC (automation) <60 minute	349 (95.6%)	397/399 (99.5%)	-
Number (%) health clinics achieved 95% LTAT FBC (automation) <45 minute	-	-	433/448 (96.25%)

Source : Family Health Development Division, MoH

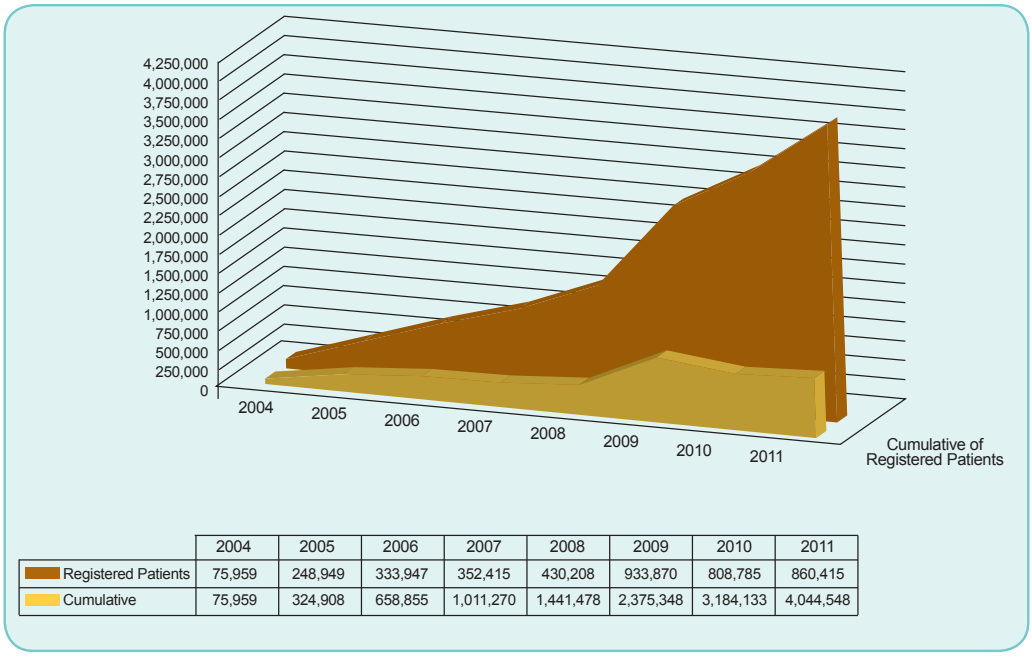
Teleprimary Care (TPC)

In 2011, TPC is being used in 88 primary health care facilities and specialist outpatient clinics in 7 hospitals. States involved included Johor, Sarawak, Perlis, Selangor, FT Kuala Lumpur, Pahang and Sabah.

- **Patient Registered**

The number registered in TPC showed an increasing trend from 75,959 to 4,044,548 people in 2011. This information is vital to get a snapshot of individuals accessing health care within the facility's operational area.

FIGURE 34
NUMBER OF PATIENTS REGISTERED (CUMULATIVE) IN TPC, 2004-2011



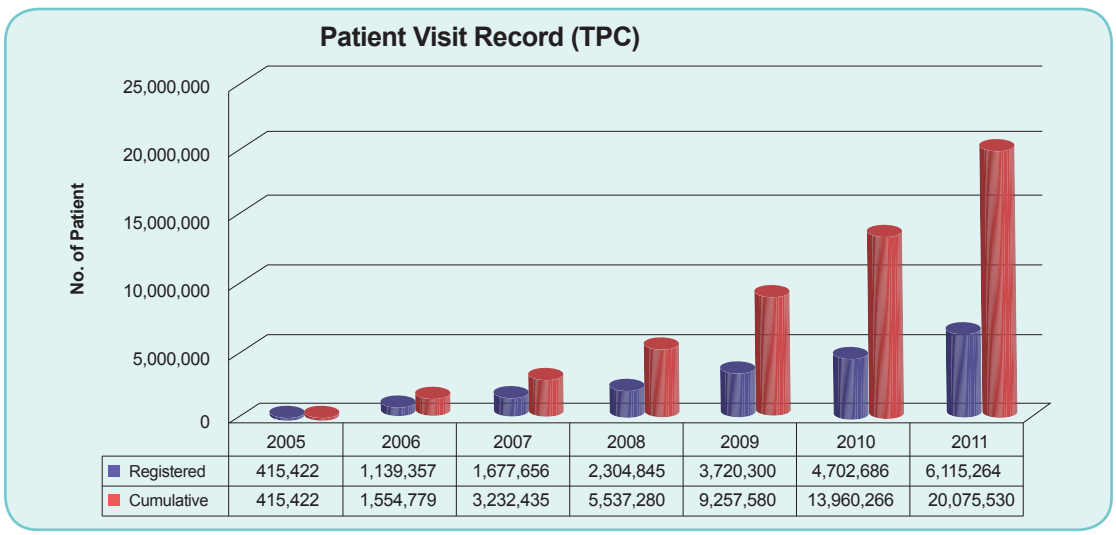
	2004	2005	2006	2007	2008	2009	2010	2011
Registered Patients	75,959	248,949	333,947	352,415	430,208	933,870	808,785	860,415
Cumulative	75,959	324,908	658,855	1,011,270	1,441,478	2,375,348	3,184,133	4,044,548

Source : Family Health Development Division, MoH

- **Visit Record**

Visit record has increased from 415,422 in 2005 to 6,115,264 in 2011, bringing the cumulative total to 20,075,530 in the 7 years of TPC implementation. This increase is also contributed by the expansion in number of TPC sites.

FIGURE 35
NUMBER OF ATTENDANCES RECORDED IN TPC (CUMULATIVE), 2005-2011



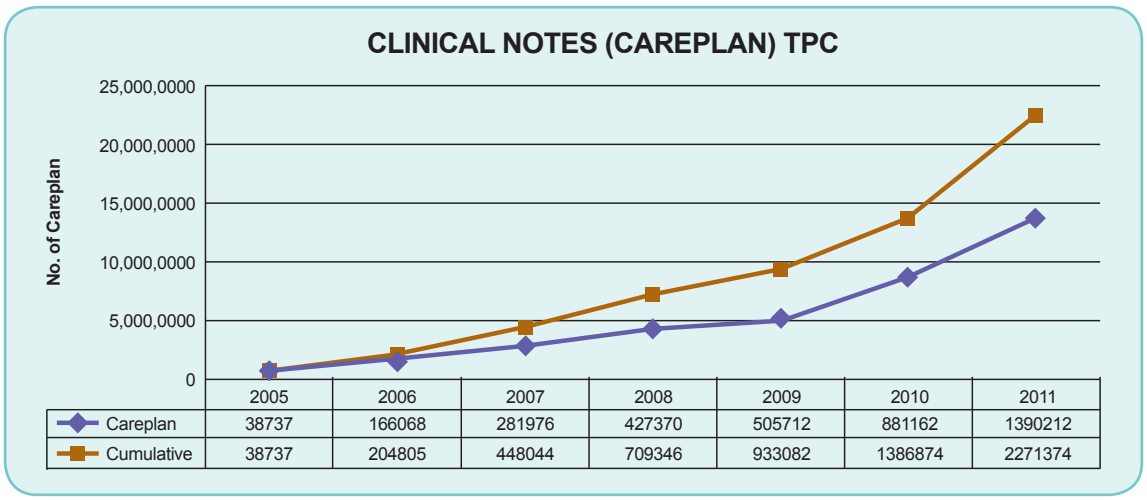
	2005	2006	2007	2008	2009	2010	2011
Registered	415,422	1,139,357	1,677,656	2,304,845	3,720,300	4,702,686	6,115,264
Cumulative	415,422	1,554,779	3,232,435	5,537,280	9,257,580	13,960,266	20,075,530

Source : Family Health Development Division, MoH

- **Clinical Notes (Careplan)**

The Careplan contains patient's clinical information including presenting complaints, histories, clinical interventions, orderables and management plan. The built up to the use of careplan was slow initially with 38,737 in 2005, followed by a rapid escalation to 1,390,212 in 2011, giving a cumulative total of 2,271,374 throughout the 7 years.

FIGURE 36
NUMBER OF CAREPLAN IN TPC (CUMULATIVE), 2005-2011



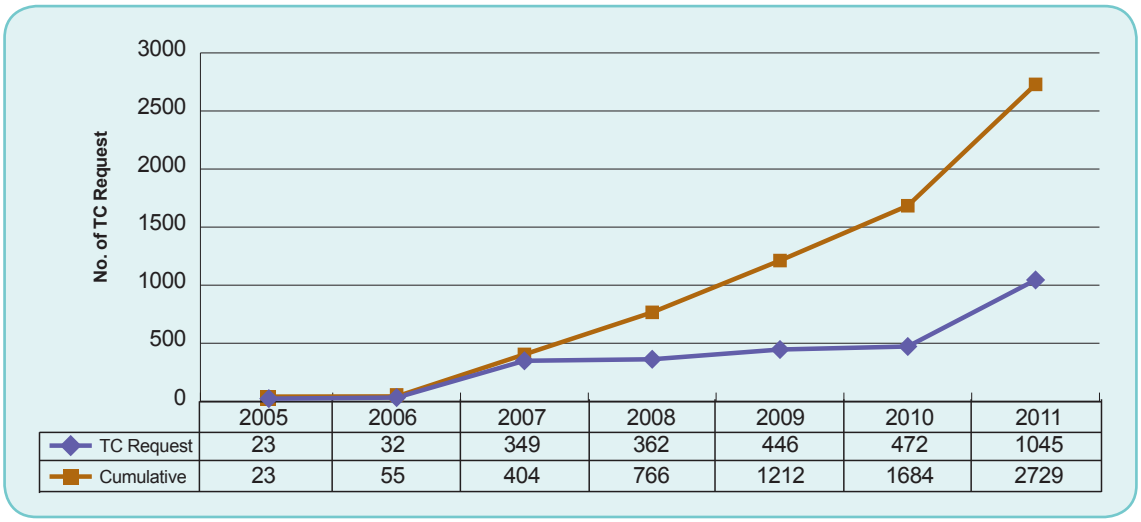
	2005	2006	2007	2008	2009	2010	2011
Careplan	38737	166068	281976	427370	505712	881162	1390212
Cumulative	38737	204805	448044	709346	933082	1386874	2271374

Source : Family Health Development Division, MoH

- **Teleconsultation (TC)**

Teleconsultation in TPC is enabled through store and forward and real-time within the same state. Over the seven years period, it has been noted that real-time teleconsultation from a primary care facility to secondary care is not yet well utilised. In spite of that there is an increasing trend in TC, with a cumulative total of 2,729 cases by 2011.

FIGURE 37
NUMBER OF TELECONSULTATION REQUEST IN TPC (CUMULATIVE), 2005-2011



	2005	2006	2007	2008	2009	2010	2011
TC Request	23	32	349	362	446	472	1045
Cumulative	23	55	404	766	1212	1684	2729

Source : Family Health Development Division, MoH

- **e-Appointment**

This service has been piloted under the e-Kuala Lumpur project in Kuala Lumpur dan Selangor. Appointment reminders are sent 3 days prior to patients via SMS. This is expected to reduce defaulters and guide patients to attend clinics as scheduled. As of 2011, a total of 518,271 SMS reminders have been posted.

TABLE 29
APPOINTMENT REMINDERS VIA SMS FOR SELANGOR AND KUALA LUMPUR, 2009-2011

No.	State	2009	2010	2011
1.	Selangor	6540	321259	434949
2.	FT Kuala Lumpur	295	47897	83322
TOTAL		**6835**	**369156**	**518271**

Source : Family Health Development Division, MoH

HEALTH PROMOTION

Young Doctor Program (Program Doktor Muda)

The "Young doctors" are year 4, 5 and 6 students whom are trained as Peer Educators. They are trained in basic health to convey the health information to their peers. In 2011, a total of 151 new primary schools have set up Young Doctors Club. A total of 1,392 (18%) primary schools throughout Malaysia have implemented Young Doctors Club. Meanwhile, the numbers of appointed Young Doctors in the year 2011 were 3,290 people and the overall total stands at 36,370.

In order to identify the skills' level of the selected "Young Doctors", Young Doctors Competency Level Test has been introduced. As a start, a pilot test of the "Aspiring Young Doctors" Competency Level Test was conducted simultaneously across the country on 21 September 2011. A total of 107 schools were involved and the candidates who passed were 871.

In addition, a convention was held from 5-8 July 2011 at the TaHa D'Mutiara, Kompleks Tabung Haji Bayan Lepas, Pulau Pinang to appreciate and recognize the efforts of the Young Doctors, teachers and medical personnel who carried out this program. The Fourth National Young Doctors Convention opening was officiated by Datuk Dr. Lokman Hakim b. Sulaiman, the Deputy Director General of Health (Public Health).

IMAGE 3
CO-CURRICULAR & ARTS DIRECTOR PRESENTED GIFT TO ONE OF THE YOUNG DOCTOR CANDIDATES IN CONJUNCTION WITH THE NATIONAL YOUNG DOCTORS CLUB 2011 CONVENTION

Source: Health Promotion Division, MoH

Healthy Lifestyle Promotion

During 2011, several programs and activities have been conducted to encourage people to practice a healthy lifestyle. Among them is the Healthy Lifestyle Media Campaign which was implemented from July to December 2011 involving TV, radio, newspapers and magazines. The objective of this campaign was to raise public awareness about diseases related to unhealthy lifestyles and to encourage community to adopt a healthy lifestyle.

In order to encourage university students to adopt a healthy lifestyle, the 1Malaysia Healthy Student Program was introduced in 2011. This program was implemented in four zones:

- Northern Zone (University Utara Malaysia) - 23 & 24 September 2011
- Central Zone (University Kebangsaan Malaysia) - 8 & 9 October 2011
- Eastern Zone (University Malaysia Terengganu) - 28 & 29 October, 2011
- Sabah Zone (University Malaysia Sabah) - 12 & 13 November 2011

Various activities were conducted such as exhibitions, sports, U-race, U-robic, U-games, healthy cooking demonstrations and catering briefing to cafeteria operators. The universities have also cooperated by providing 10,000 steps walking tracks for the benefit of its members.

An effort to promote healthy lifestyle was also done through the “Health Gegaria Carnival” jointly organized with Harian Metro in Temerloh and Seberang Perai. It is another way to deliver health messages to the community.

IMAGE 4
PARTICIPANTS JOINING AEROBICS AT "HEALTH GEGARIA CARNIVAL" CO-ORGANISED WITH HARIAN METRO

Source: Health Promotion Division, MoH

In line with the National Strategic Plan for Non-communicable Disease in 2008, Obesity Prevention Campaign among Children has been implemented in collaboration with the Sin Chew Daily Newspaper. The campaign's objective was to give exposure to school students about the importance of physical activity and healthy eating in preventing obesity. Five schools were selected for the campaign.

In addition, talk show program hosted by Malaysian actor Fahrin Ahmad was held to educate the public about the latest health issues and how to prevent non-communicable diseases. The program has a total of 20 episodes aired on RTM 2 from October to December 2011. Also embedded in this program were tips on how to do correct exercise and physical activity from professional instructors. Several local celebrities were invited in this program to share their experiences on how to tackle the diseases encountered.

Efforts to educate public about healthy lifestyle have also been expanded through facebook (www.facebook.com/ncdkkm) and twitter (www.twitter.com/ncdkkm). Among the activities included in this social networking site is "Creative Pantun Competition", Attractive Healthy Lifestyle Photo Contest, and several celebrities' video clips who adopt healthy lifestyle.

Smoking Prevention and Control

The Say "No" to Smoking Media Campaign was implemented from June to December 2011 to strengthen the promotion of smoking prevention activities at the community level. The campaign was carried out in major media such as TV, radio and newspapers. In addition, the campaign messages were also advertised on Rapid KL buses and cinemas, including creating a facebook account specifically focusing on Say "No" to Smoking. The main focus of this campaign was to:

- educate non-smokers not to start smoking
- encourage the passive smokers to express their right to be free from tobacco smoke
- encourage smokers to stop smoking

Another initiative to encourage smokers to quit smoking is through the Stop Smoking Infoline (03-88834400). The caller will be provided with tips of stop smoking and the list of Stop Smoking Clinics near their homes. In 2011, a total of 197 calls were received and 133 (67.5%) of them have been successful in their efforts to quit smoking. In conjunction with the coming of Ramadan each year, the

"New Breath Beginning Ramadan" Campaign has been implemented to create new resolutions to quit smoking. In addition, the Fatwa Education Seminar was held to explain the fatwa concerning banning smoking and adverse effects of smoking on smokers and society.

The "World No Tobacco Day", was held on June 5, 2011 in Bandar Hilir, Malacca. It was officiated by YB Dato' Sri Liow Tiong Lai, Minister of Health, Malaysia with the theme "WHO Framework Agreement on Tobacco Control". The objective was to draw the attention of the target groups and highlight government's efforts in protecting the target groups affected by the cigarette industry.

Dengue Prevention and Control

Dengue Prevention Media Campaign has been carried out from August to December 2011 in the main media aimed at encouraging people to spend 10 minutes each week to find and destroy mosquito breeding places in and outside their homes. The campaign also encouraged people to seek treatment if they experienced any signs of dengue symptoms.

Apart from above, Asean Dengue Day 2011 and Re-Launch of COMBI on 16 June, 2011 were held by Health Minister at the HGH Convention Centre, SKJ (C) Sentul, Kuala Lumpur. These events were officiated by YAB Tan Sri Dato' Hj. Muhyiddin bin Hj. Mohd. Yassin, Deputy Prime Minister of Malaysia. The theme for the Asean Dengue Day was "Combating Dengue is Everyone's Responsibility" with the slogan "Tidak Peduli:Maut Menanti:Jom Ganyang Aedes" The objective was to rebrand COMBI across the country and to increase community participation as well as non-governmental organizations (NGOs) in fighting against dengue.

As a token of appreciation for the support of volunteers in helping the government to overcome dengue, a National COMBI Convention was held on October 23, 2011 at Hotel Holiday Villa, Subang. This convention was officiated by the Health Minister of Malaysia. Efforts to prevent and control dengue using COMBI approach was further strengthened by using change agents to influence the changes of community health behavior. Until December 2011, a total of 2,225 COMBI projects have been successfully established throughout Malaysia.

IMAGE 5
DENGUE PREVENTION BILLBOARD IN ONE OF THE PRIMARY SCHOOLS

Source: Health Promotion Division, MoH

Apart from these, three well-known TV and radio hosts were appointed as Ambassadors of Healthy 1Malaysia. They were Mr. Aznil Hj. Nawawi, Ms. Phoebe Yap Siok Wah and Mr. Uthayakumar Gopal. They play an important role in promoting healthy lifestyle among the community, including prevention of dengue fever. The contract signing ceremony was held on December 15, at the MoH Operation Room.

Other initiatives included installation of billboards in the hotspots, primary schools and bus stations, advertisements on Transnasional express buses, Mobile Dengue Fever Interactive Exhibition Lorry Service, publication of COMBI Community Guidelines and Guidelines on Monitoring Form for Health Promotion Activities.

NUTRITION

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.

Technical Working Groups (TWG)

Various activities were carried out by the Technical Working Groups (TWGs) under the National Coordinating Committee of Food and Nutrition (NCCFN) in 2011.

- **TWG Nutrition Guidelines**

As a continuation of the Malaysian Dietary Guidelines 2010 and Guidelines for the Feeding of Infants and Young Children, this TWG is in the process of producing Malaysian Dietary Guidelines for Children and Adolescents. This guideline is expected to be published in 2012.

- **TWG Nutrition Training**

The TWG Nutrition Training has updated the nutrition training modules for Balance Diet, Healthy Lifestyle and Assessment of Nutritional Status to be in-line with the recommendations in Malaysian Dietary Guidelines 2010.

- **TWG Nutrition Research**

TWG for the Malaysian Food Composition Database in collaboration with the Institute for Public Health and the Institute for Medical Research has developed the Malaysian Food Composition Database software which is the continuation of Malaysian Food Composition Database published in 1997. In 2011, 691 abstracts of nutrition research done in Malaysia from 1985 until 2010 were compiled and published as 'Nutrition Research in Malaysia – Selected Bibliography of Published Journal from 1985 to 2010'.

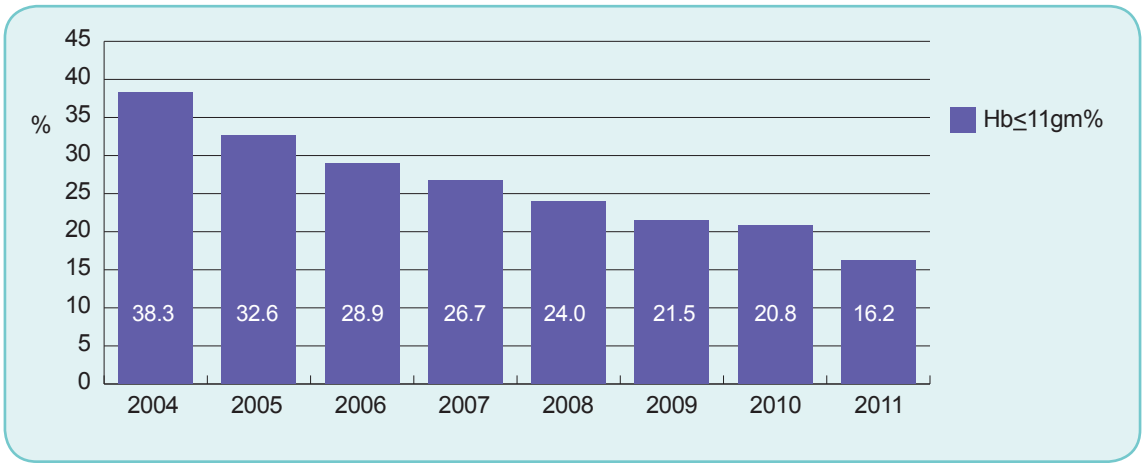
- **TWG Nutrition Promotion**

The TWG Nutritional Promotion has integrated and combined the efforts of government and non-government sectors and also private sectors in promoting healthy eating habits in the society. A seminar on Healthy Eating for all the major media representatives had been conducted to create awareness.

Anaemia Prevention amongst Pregnant Mothers

Status of anaemia among antenatal mothers attending Government Health Clinics was monitored based on their haemoglobin level at 36 weeks gestation period. Pregnant mothers attending antenatal care were given haematinics containing iron (Ferrous Fumarate), Folic Acid, Vitamin C and B12 (Cobalamin) for prevention of anaemia during pregnancy, and also as a curative measure. Health educations and nutrition counseling were also given to encourage mothers to consume food high in iron and to increase Vitamin C intake in their daily diet. In 2011, the prevalence of anaemic mothers (haemoglobin level < 11 gm%) was reduced from 20.8% in 2010 to 16.2% in 2011 (Figure 38).

FIGURE 38
PERCENTAGE OF ANAEMIC MOTHERS (Hb < 11 GM%) ATTENDING GOVERNMENT HEALTH CLINICS, 2004-2011



Source: Health Informatics Centre, MoH

Baby-Friendly Hospital Initiative (BFHI)

As of 31st December 2011, 125 out of 126 MoH hospitals (99%) with the Paediatric service were designated as Baby Friendly Hospitals. In 2011, 3 new hospitals have been recognised as Baby Friendly Hospitals; Hospital Jempol (Negeri Sembilan), Hospital Sungai Buloh (Selangor) and Puteri Specialist Hospital (Johor). 42 hospitals which were reassessed in 2011 have successfully retained their Baby Friendly Hospitals status.

TABLE 30
DISTRIBUTION OF BABY FRIENDLY HOSPITALS IN MALAYSIA

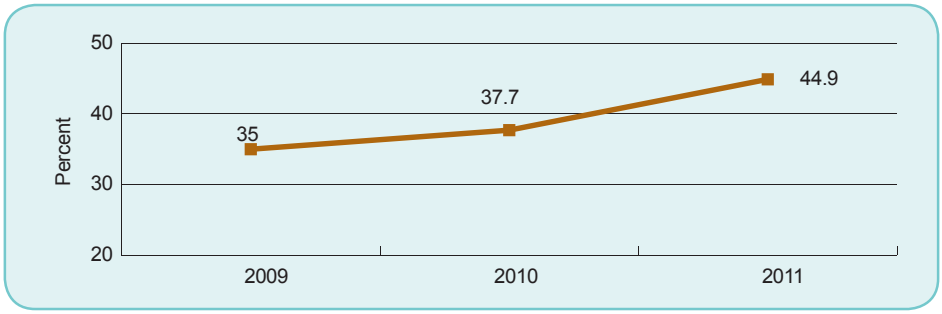
No.	Item	No. of Hospitals
	MINISTRY OF HEALTH	
1.	Total MoH hospitals with Paediatric service	126
2.	MoH hospitals as Baby Friendly Hospitals	125
	MINISTRY OF EDUCATION	
3.	Total government hospitals in the Ministry of Education	3
4.	Government hospitals in the Ministry of Education as Baby Friendly Hospitals	2
	MINISTRY OF DEFENSE	
5.	Total government hospitals in the Ministry of Defense	3
6.	Government hospitals in the Ministry of Defense as Baby Friendly Hospitals	2
	PRIVATE HOSPITAL	
7.	Private hospitals as Baby Friendly Hospitals	7

Source: Nutrition Division, MoH

Infant and Young Child Feeding

The percentage of exclusive breastfeeding amongst babies aged 4 months attending government health clinics had increased from 37.7% (2010) to 44.9% (2011) (Figure 39).

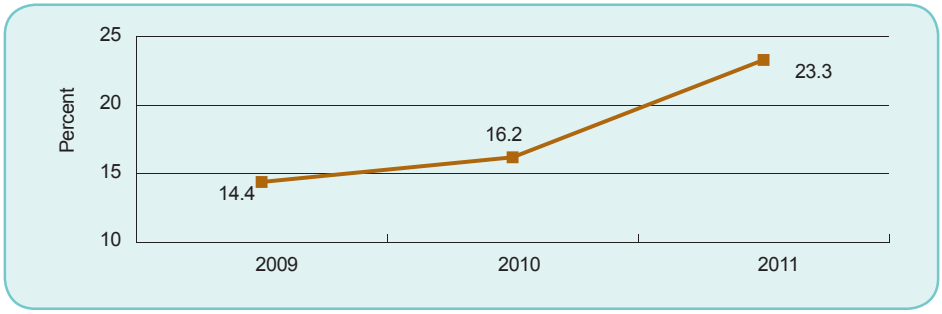
FIGURE 39
EXCLUSIVE BREASTFEEDING PRACTICES AT 4 MONTHS, 2009-2011



Source: Nutrition Division, MoH

Exclusive breastfeeding rate amongst babies aged 6 months attending government health clinics had also increased from 16.2% (2010) to 23.3% (2011) (Figure 40).

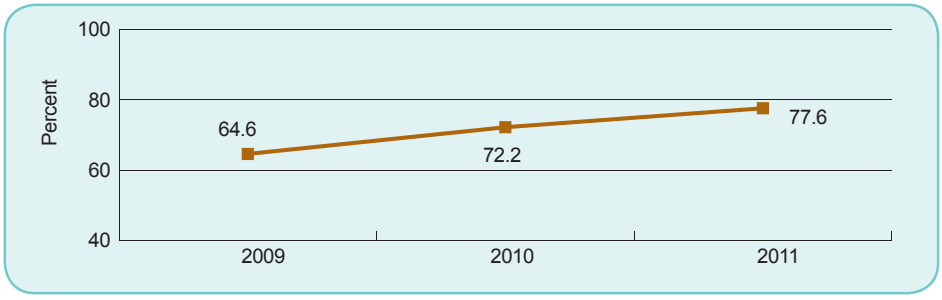
FIGURE 40
EXCLUSIVE BREASTFEEDING PRACTICES AT 6 MONTHS, 2009-2011



Source: Nutrition Division, MoH

In 2011, 77.6% infants aged 6 to 10 months had received timely complementary feeding as compared to 72.2% in 2010 (Figure 41).

FIGURE 41
TIMELY COMPLEMENTARY FEEDING PRACTICE AT 6 MONTHS, 2009-2011



Source: Nutrition Division, MoH

World Breastfeeding Week 2011

The World Breastfeeding Week is celebrated throughout the world on the 1st -7th August every year to create awareness and encourage breastfeeding amongst mothers. In Malaysia, this celebration was launched by the Deputy Minister of Health Malaysia on 25th July 2011 at Istana Hotel, Kuala Lumpur with the theme "Talk to Me! Breastfeeding – A 3D Experience".

IMAGE 6
WORLD BREASTFEEDING WEEK 2011, MALAYSIA

Launching of the event by The Honourable Deputy Health Minister of Malaysia

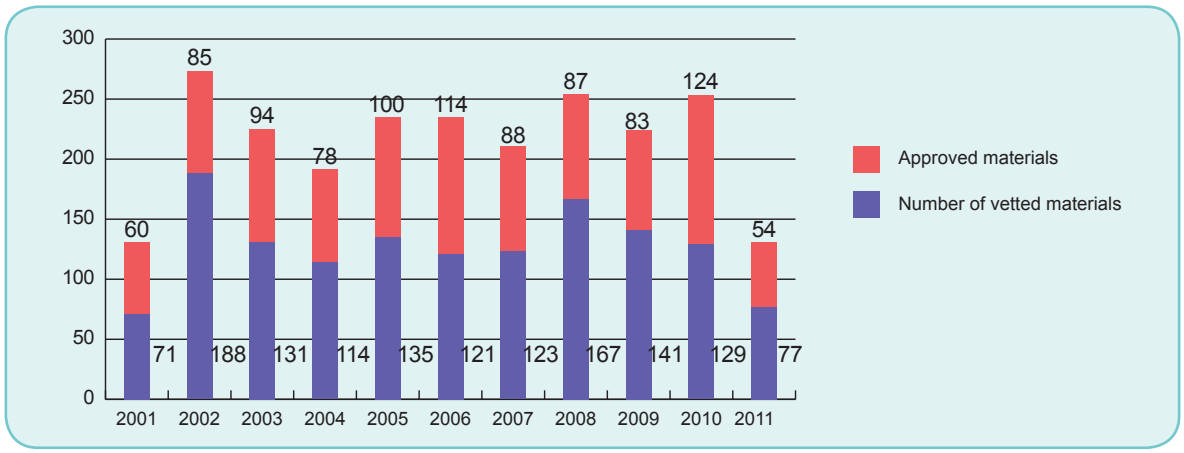
Participants attending the celebration

Source: Nutrition Division, MoH

Code of Ethics for the Marketing of Infant Foods and Related Products

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 MoH to protect, promote and support breastfeeding. In 2011, a total of 77 materials related to infant food and related products were vetted. Out of these, 54 (70.1%) materials were given approval codes by the Vetting Committee.

FIGURE 42
VETTING INFORMATION MATERIALS AND PRODUCT LABELS RELATED TO BREASTMILK SUBSTITUTES PRODUCTS AND COMPLEMENTARY FOOD

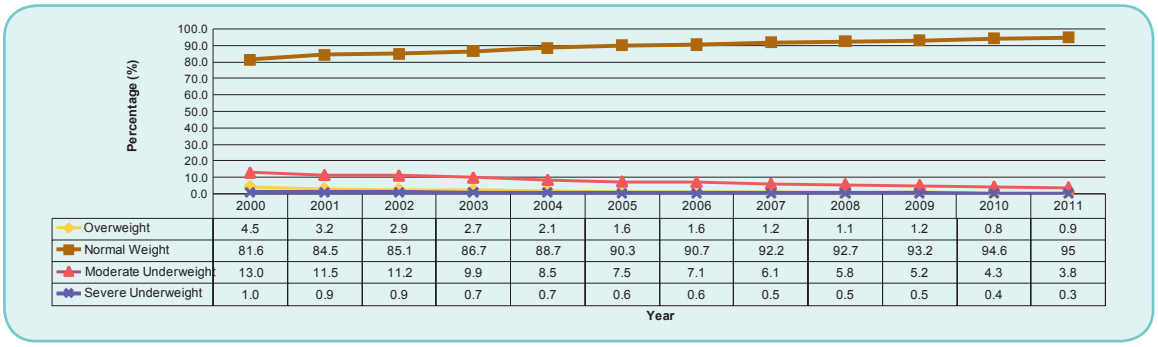


Source: Nutrition Division, MoH

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. As shown in Figure 43, the nutritional status of children below five years old continued to improve throughout the years. In 2011, the percentage of children with normal body weight increased from 94.6% to 95.0% while the percentage of moderately and severely underweight children declined from 4.7% in 2010 to 4.1% in 2011. However, there was a slight increase in the percentage of overweight children that is from 0.8% in 2010 to 0.9% in 2011.

FIGURE 43
NUTRITIONAL STATUS OF CHILDREN BELOW 5 YEARS IN MALAYSIA, 2000-2011



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Overweight	4.5	3.2	2.9	2.7	2.1	1.6	1.6	1.2	1.1	1.2	0.8	0.9
Normal Weight	81.6	84.5	85.1	86.7	88.7	90.3	90.7	92.2	92.7	93.2	94.6	95
Moderate Underweigh	13.0	11.5	11.2	9.9	8.5	7.5	7.1	6.1	5.8	5.2	4.3	3.8
Severe Underweight	1.0	0.9	0.9	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.4	0.3

Source: Health Informatics Centre, MoH

Rehabilitation Programme for Malnourished Children

The Rehabilitation Programme for Malnourished Children, also known as the Food Basket Programme, is carried out to rehabilitate malnourished children from hardcore poor households. In 2010, MoH has collaborated with the Ministry of Women, Family and Community Development in distributing the 1AZAM Food Basket to rehabilitate malnourished children from poor households. A total of 4,767 malnourished children from hardcore poor households received the food baskets in 2011. Out of these, 27.8% were successfully rehabilitated (Table 31). Meanwhile, in 2011, a total of 7, 211 children from poor household received food baskets through the 1AZAM Food Basket and 20.4% were successfully rehabilitated.

TABLE 31
NUMBER OF CHILDREN RECEIVED THE FOOD BASKETS IN THE REHABILITATION PROGRAMME FOR MALNOURISHED CHILDREN AND PERCENTAGE REHABILITATED, 2001-2011

Year	No. of receiver	No. of receiver successfully rehabilitated	% of receiver successfully rehabilitated
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
2011	4,767	1,327	27.8

Source: Nutrition Division, MoH

***'Kembara Riang Ria Pemakanan'* in Primary School**

In line with MoH's efforts to improve the nutritional status of the school children, the 'Kembara Riang Ria Pemakanan' programme was launched on the 21st April 2011 at Sekolah Wawasan USJ 15, Subang Jaya, Selangor. The event which was launched in Health Minister of Malaysia, Dato' Sri Liow Tiong Lai. The objectives of the programme were:

i. To enhance the knowledge and skills of primary school children on healthy eating practices.
ii. To enhance the knowledge and skills of parents and teachers about healthy eating and healthy food preparations for the children.
iii. To enhance the knowledge and skills of school canteen operators in preparing healthy meals for primary school children.

IMAGE 7
THE KEMBARA RIANG RIA PEMAKANAN EVENT

Launching ceremony of 'Kembara Riang Ria Pemakanan' in primary school.

Explanations on Malaysia Food Pyramid by The Honourable Minister of Health Malaysia, Dato' Sri Liow Tiong Lai to the school children.

Source: Nutrition Division, MoH

Healthy Eating Promotion In Supermarkets

The Healthy Eating Promotion in Supermarkets was launched on 8th October 2011 at the Giant Hypermarket Shah Alam, Selangor. The event was officiated by The Honourable Health Minister of Malaysia, Dato' Sri Liow Tiong Lai and was attended by the Deputy Director General of Health (Public Health) and the Deputy Secretary General (Management).

The main activity during this event was 'Kembara Pemakanan Sihat' or Supermarket Tour. Participants were brought to 5 food sections and were briefly explained on healthy eating. The sections covered were rice, fruits and vegetables, milk, fish, fats and cooking oils and also label reading.

Other divisions in MoH also took part in this event; Food Safety and Quality Division, Dental Health Division and Health Education Division. Other government agencies also contributed towards the success of this event, namely the Ministry of Domestic Trade, Cooperatives and Consumer Affairs and the Federal Agricultural Marketing Authority. A celebrity chef, Chef Zaidah was invited for cooking demonstrations during this event.

IMAGE 8
THE KEMBARA PEMAKANAN SIHAT EVENT

Cooking Demonstration

Event Launching

Source: Nutrition Division, MoH

Seminar on Healthy Food Preparations During Meeting in the Government Sector
This activity was held on 7 December 2011 at the Main Hall in Level 9, Block E12, Ministry of Education Malaysia with the participation of ministries' representatives from 20 Ministries and 13 institutions from the Ministry of Health Malaysia. The objective of the seminar was to increase knowledge on the principles of serving healthy meals during meetings.

The topics covered were the Non-Communicable Diseases Burden and the Nutrition Situation in Malaysia, Implementation of Serving Healthy Menus at Meetings at government sectors and the Guide for The Serving of Healthy Menus at Meetings. Practical sessions to prepare healthy meals during meetings were conducted as well as real food displays.

IMAGE 9
THE SEMINAR ON HEALTH FOOD PREPARATIONS EVENT

Practical Session

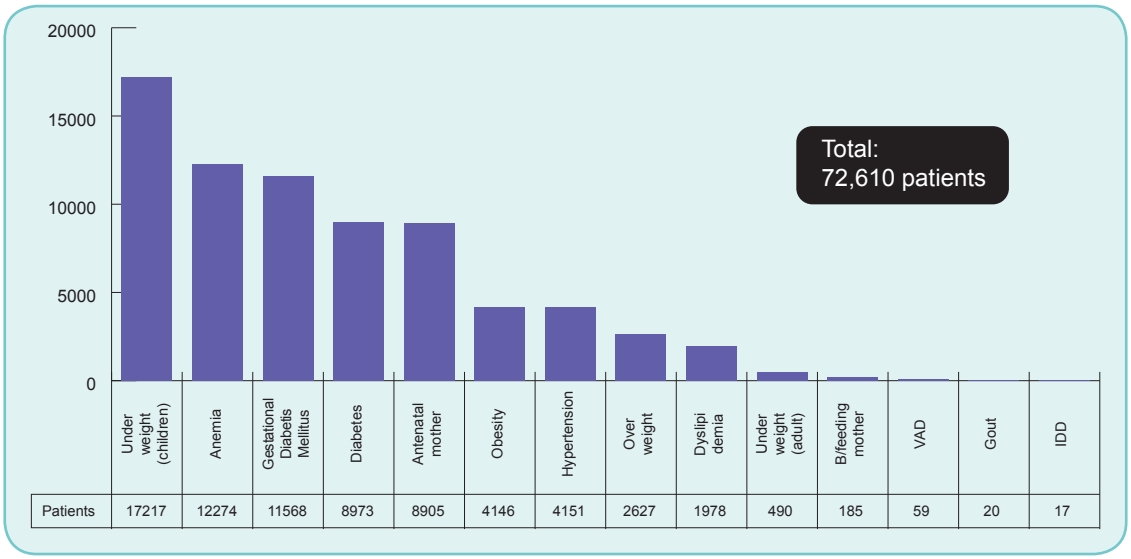
Food Displays

Source: Nutrition Division, MoH

Nutrition Counselling Services at the Government Health Clinics

Nutrition counselling services by trained nutritionists were offered to patients who were referred by the Family Medicine Specialist or Medical Officer in charge of the clinics. A total of 72,610 patients nationwide were given nutrition counselling in 2011 especially for NCD cases such as diabetes, hypertension, overweight and obesity as well as other cases such as underweight and anaemia

FIGURE 44
TYPES OF CASES AND NUMBER OF PATIENTS COUNSELLED BY NUTRITIONISTS, 2011



	Under weight (children)	Anemia	Gestational Diabetis Mellitus	Diabetes	Antenatal mother	Obesity	Hypertension	Over weight	Dyslipi demia	Under weight (adult)	B/feeding mother	VAD	Gout	IDD
Patients	17217	12274	11568	8973	8905	4146	4151	2627	1978	490	185	59	20	17

Source: Nutrition Division, MoH

Nutrition Information Centres and Healthy Community Kitchens

The Nutrition Information Center or NIC acts as a medium to disseminate nutrition information to the public meanwhile the existence of Healthy Community Kitchen is to improve implementation and effectiveness of nutrition promotion activities by the health personnel. 15 NICs and 57 Healthy Community Kitchens had been set up throughout the country.

Various nutrition and nutrition related activities had been carried out at NICs and Healthy Community Kitchens for the benefit of the community such as nutritional status screenings, nutrition counseling, cooking demonstrations, recipes testing and nutrition talks.

The main activities carried out by the Nutrition Information Center in Putrajaya were nutritional status screening and counseling services. A total of 3602 clients have frequented the NIC in 2011 which includes new and existing clients. Most of the clients are the government servants from Complex E, Precinct 1, Putrajaya.

IMAGE 10
NUTRITION INFORMATION CENTRE AND HEALTHY COMMUNITY KITCHEN

Nutrition Counselling in NIC, Putrajaya

Cooking Demonstration in Health Community Kitchen

Source: Nutrition Division, MoH

PUBLIC HEALTH LEGISLATION

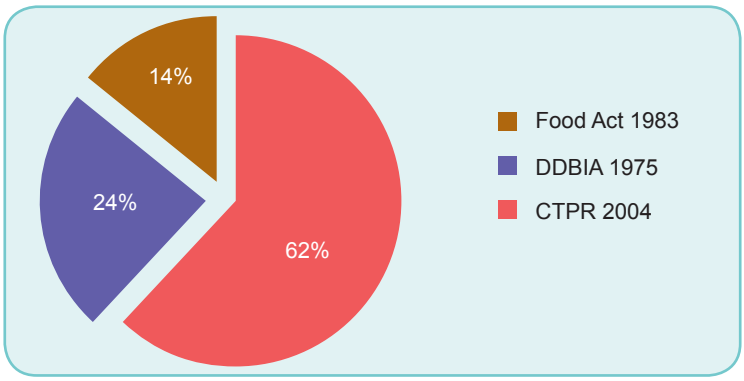
Prosecution Activities Achievements in Public Health Legislation
Prosecution activities under the Public Health Law for the year 2011, a total of 8,184 cases have been brought to court and a total of 2,528 cases were convicted by the amount of fines RM 1,715.085.00. Breakdown by the Act are as follows:

i. Destruction of Disease-Bearing Insects Act 1975 (APSPP 1975)
   - A total of 1,944 cases have been brought to court
   - A total of 609 cases had been convicted of an offense under Section 13 DDBIA 1975
   - The amount of the fine imposed was RM 281,080.00

ii. Food Act 1983
   - A total of 1,191 cases have been brought to court
   - A total of 1,027 cases were convicted
   - The amount of the fine imposed was RM 1,178,800.00

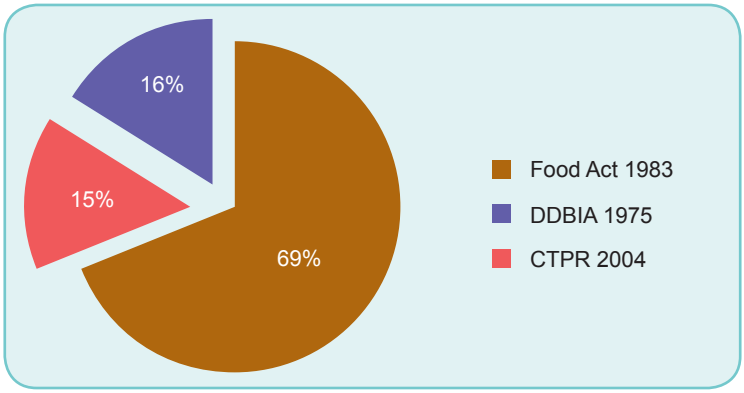
iii. Control of Tobacco Products Regulations 2004
   - A total of 5.049 cases have been brought to court
   - A total of 892 cases were convicted
   - The amount of the fine imposed was RM 225,205.00

FIGURE 45
NUMBER OF COURT CASES UNDER THE PUBLIC HEALTH LEGISLATION, 2011



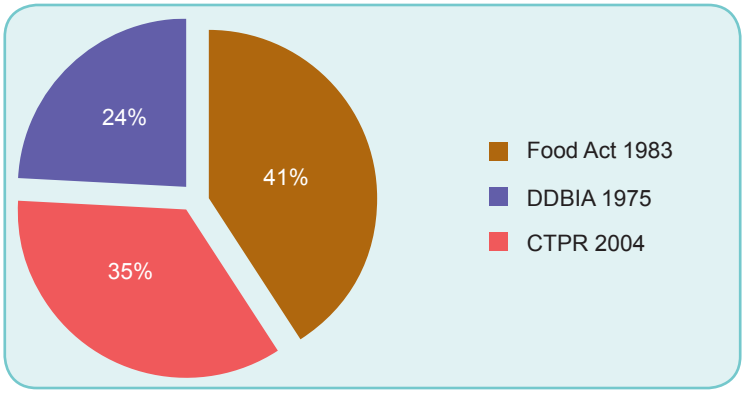
Source: Nutrition Division, MoH

FIGURE 46
FINES COLLECTED UNDER THE PUBLIC HEALTH LEGISLATION, 2011



Source: Nutrition Division, MoH

FIGURE 47
PENALTY UNDER THE PUBLIC HEALTH LEGISLATION, 2011



Source: Nutrition Division, MoH

Issuance of Fumigation Licence

Under the Hydrogen Cyanide (Fumigation) Act 1953 for the year 2011, a total of 227 licenses were issued to 22 new applicants who have passed fumigation test and 205 existing license holders.

MoH Fumigation Exam

The Hydrogen Cyanide (Fumigation) Act 1953 (Revised 1981) and the Regulations Hydrogen Cyanide (Fumigation) Act 1953 requires any person who wishes to use hydrogen cyanide must be licensed by MoH. In this Act, the Director General of Health Malaysia may issue license to any person who is competent to carry out fumigation using both materials.

To ensure the competent level of fumigation operators, all new applicants as Licensed Operator are required to take the examinations. For 2011, the fumigation examination was held on 18- 20 July, 2011 at the Quarantine Station located at the Department of Agriculture, Serdang, Selangor. A total of 40 candidates sat for the examination and 14 candidates have passed successfully.

IMAGE 11
FUMIGATION EXAMINATION

The candidate is sitting the written examination and identification of fumigation equipment

Safety aspects of practical examination

Source: Nutrition Division, MoH

CONCLUSION

Throughout 2011, 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.

5 | Medical

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 Sciences 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, Medical Legislation, and Medico-legal Sections. It is also the secretariat for the Malaysian Medical Council, the Malaysian Optical Council, and the Medical Assistant Board.

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 upon approval by the Cabinet. The Telehealth Division is responsible to facilitate in the planning, implementation and monitoring of Health ICT initiatives in MoH. Units under the Telehealth Division are specifically designed to enable the division to manage Health ICT projects and systems.

Allied Health Sciences Division, established in 2009 under the Medical Programme is mainly responsible for the development of competency and professionalism of 32 categories of allied health professions, to ensure optimal services are provided to patients or clients. The Division is divided into five units namely Professional Development, Human Resources, Quality, Research & Development, and Administrative Units.

The Nursing Division is a restructured body under Medical Programme, 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. The Division has taken measures to improve service delivery by having 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.

MEDICAL DEVELOPMENT

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.

- **Policy and Guidelines Development**
  Steps were taken to produce and review a total of two policies and guidelines in efforts to improve the performance of services at the hospitals and institutions in 2011. They were Filming Guidelines in MoH Hospitals which has been distributed to all MoH hospitals and institutions, the Specialty and Subspecialty Framework for 10th Malaysian Development Plans which has been finalized and General Hospital Operational Policies which is still in progress.

- **Information Technology**
  The two major health ICT projects, whole hospital enterprise, under the purview of Hospital Management service are the Sistem Pengurusan Pesakit (SPP), and the Hospital Project for 3 Hospitals (HISPRO).

  a. SPP

  The home-grown Sistem Pengurusan Pesakit (SPP) was implemented in 2008. The initial version implemented was SPP version 2.1 and was further upgraded to version 2.5 which uses an Open Source platform. 2011 achievements include minor upgrading of SPP version 2.5 to version 2.6, implemented at 2 hospitals namely Hospital Tuanku Ja'afar, Seremban and Hospital Port Dickson. Meanwhile, collaboration between MoH and Multimedia Development Corporation (MDeC) has further upgraded SPP into version 3.0 (2009-2011) in which the development phase was completed at end of 2011. However, the product was not tested in live environment yet. The development of OTMS module, totally in-house by MoH, was still ongoing in 2011, and with plans to be integrated later with SPP.

  b. HISPRO

  The HISPRO project kicked off on 9 January 2009 and planned for completion of implementation on 8 January 2011. The three hospitals involved were Hospital Sultanah Nur Zahirah, Kuala Terengganu (HSNZ), Hospital Sultan Haji Ahmad Shah, Temerloh (HOSHAS) and Hospital Bintulu (HBTU). The processes of turning a manual hospital, without infrastructure readiness of old buildings to an IT based hospital were underestimated.

  All three hospitals were using proprietary products as below:
  - HSNZ uses the Fisicien application, developed by Strateq.
  - HoSHAS also uses Fisicien, where the developer was collaboration between GCS and Strateq.
  - HBTU uses Profdoc, a product application from Sweden, in a joint venture development between PJ Medica and Perangsang Jati.

  Hospital Bintulu went live on 7 August 2011, followed by HSNZ on 20 November 2011. HOSHAS was still at the Final Acceptance Test phase by end of 2011.

The legalisation of various systems existing and operational in MoH hospitals was certified through the MoH ICT Steering Committee (JPICT) in May 2011, co-chaired by the Secretary General and the Director General of Health. The systems were certified for further use, until a government application is available to replace the licensed system when applicable. The use of licensed application incurred a substantial amount annually.

The SPP application shall be upgraded to a full fledge health ICT system at par to the global HICT worldwide, and shall replace the old system in MoH hospitals when applicable. The future system, SPP rebranded as HIS@KKM belongs to the government of Malaysia, with no licensing fee for its use in all 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. The first phase of implementation of the Case-Mix system involves only the Inpatient Services, which was started on May 5th, 2010 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. Phase 1 involves in-patient services only.

Efficiency elements are included in the development of Clinical Module Case-Mix System, where clinical data required by the Medical Care Information System (SMRP), will be exported to the Case-Mix System database. The work processes starts by entering information on diagnosis, procedures and assign code for both information. In generally, a total of 25 Major Diagnostic Categories (MDC) have been developed; 24 MDC for in-patient services whereas 1 MDC for out-patient services. In all 25 MDC earlier, 966 Diagnosis-Related Groups (DRG) have been developed.

The expansion of Phase 2 has commenced on 1st November 2011 in four hospitals; Hospital Permaisuri Bainun (Ipoh), Hospital Melaka, Hospital Slim River and Hospital Port Dickson.

- **Facility Development and Utilisation**

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 132 hospitals, six medical institutions and one National Blood Bank in 2011 (Table 1 and 2).

Under the Specialty and Subspecialty Services Development plans, the Ministry aims to increase the state hospital specializations and services from 15 to 45 services, Major Specialist Hospitals from 15 to 25 services and Minor Specialist Hospitals from 6 to 10 services to improve access to specialist services and strengthened level of quality of the services made available to the population. However, the specialist and subspecialty services will be strengthened in phases in tandem with infrastructure upgrades, budget and manpower availability.

There are hospitals with tertiary services for Cancer, Rehabilitation, and Women & Child planned since the Ninth Malaysian Development Plan (2005-2010) to enhance the quality of services. By end of 2011, the Cheras Rehabilitation Hospital was nearly completed and is expected to be operational by June 2012. The Putrajaya National Cancer Institute, and The Women's and Children Hospital in Kuala Lumpur were still in development and under construction at the end of 2011. Selected hospitals were also planned to be replaced during the Ninth Malaysian Development Plans where by end of 2011, Hospital Permai and Hospital Alor Gajah had been totally replaced with new hospitals. At the same time, the Ministry had completed the purchase of 2 new additional hospitals, the Sabah Medical Centre renamed as Hospital Queen Elizabeth II in Kota Kinabalu and the Cardiology Center Sarawak, Samarahan in Kuching to be as part of the Sarawak General Hospital in efforts to improve medical infrastructure and increase access to specialist services available to local population.

TABLE 1
MINISTRY OF HEALTH SPECIALIST HOSPITALS AND INSTITUTIONS, BY TYPE, 2011

Specialist Hospitals and Institutions			
HKL + State Hospitals (14)	**Major Specialist Hospitals (25)**	**Minor Specialist Hospitals (25)**	**Special Medical Institutions (6+1)**
1. Hospital Kuala Lumpur	1. Hospital Putrajaya	1. Hospital Labuan	1. Institut Perubatan Respiratori, Kuala Lumpur
2. Hospital Tuanku 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 Kulim	3. Hospital Kepala Batas	3. Pusat Kawalan Kusta Negara, Sungai Buloh
4. Hospital Pulau Pinang	4. Hospital Seberang Jaya	4. Hospital Bukit Mertajam	4. Hospital Bahagia, Ulu Kinta
5. Hospital Raja Permaisuri Bainun, Ipoh	5. Hospital Taiping	5. Hospital Sri Manjung	5. Hospital Permai, Johor Bahru
6. Hospital Tengku Ampuan Rahimah, Klang	6. Hospital Teluk Intan	6. Hospital Slim River	6. Hospital Mesra, Kota Kinabalu
7. Hospital Tuanku Jaafar, Seremban	7. Hospital Sungai Buloh	7. Hospital Grik	7. Hospital Sentosa, Kuching
8. Hospital Melaka	8. Hospital Ampang	8. Hospital Kuala Kangsar	
9. Hospital Sultanah Aminah, Johor Bahru	9. Hospital Selayang	9. Hospital Banting	
10. Hospital Tengku Ampuan Afzan, Kuantan	10. Hospital Serdang	10. Hospital Port Dickson	
11. Hospital Sultanah Nur Zahirah, Kuala Terengganu	11. Hospital Kajang	11. Hospital Kluang	
12. Hospital Raja Perempuan Zainab II, Kota Bharu	12. Hospital Tuanku Ampuan Najihah, Kuala Pilah	12. Hospital Kota Tinggi	
13. Hospital Umum Sarawak, Kuching	13. Hospital Pakar Sultanah Fatimah, Muar	13. Hospital Kuala Lipis	
14. Hospital Queen Elizabeth, Kota Kinabalu	14. Hospital Sultan Ismail, Pandan	14. Hospital Bentong	
	15. Hospital Sultanah Nora Ismail, Batu Pahat	15. Hospital Pekan	
	16. Hospital Segamat	16. Hospital Tanah Merah	
	17. Hospital Sultan Haji Ahmad Shah, Temerloh	17. Hospital Kapit	
	18. Hospital Kemaman	18. Hospital Limbang	
	19. Hospital Kuala Krai	19. Hospital Sarikei	
	20. Hospital Sibu	20. Hospital Sri Aman	
	21. Hospital Miri	21. Hospital Datin Seri Endon Lahad Datu	
	22. Hospital Bintulu	22. Hospital Keningau	
	23. Hospital Duchess of Kent, Sandakan	23. Hospital Beaufort	
	24. Hospital Tawau	24. Hospital Kota Marudu	
	25. Hospital Queen Elizabeth II, Kota Kinabalu	25. Hospital Wanita dan Kanak-Kanak, Likas	

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

Source: Medical Development Division, MoH

TABLE 2
MINISTRY OF HEALTH NON-SPECIALIST HOSPITALS, 2011

Non-Specialist Hospitals (68)			
Kedah • Hospital Baling • Hospital Jitra • Hospital Kuala Nerang • Hospital Sik • Hospital Yan Pulau Pinang • Hospital Balik Pulau • Hospital Sungai Bakap Perak • Hospital Batu Gajah • Hospital Changkat Melintang • Hospital Kampar • Hospital Parit Buntar • Hospital Selama • Hospital Sungai Siput • Hospital Tapah Selangor • Hospital Kuala Kubu Baru • Hospital Tanjung Karang • Hospital Tengku Ampuan Jemaah, Sabak Bernam	Negeri Sembilan • Hospital Jelebu • Hospital Jempol • Hospital Tampin Melaka • Hospital Alor Gajah • Hospital Jasin Johor • Hospital Mersing • Hospital Pontian • Hospital Tangkak • Hospital Temenggong Sri Maharaja Tun Ibrahim, Kulai Pahang • Hospital Jengka • Hospital Jerantut • Hospital Muadzam Shah • Hospital Raub • Hospital Sultanah Hajjah Kalsom, Cameron Highlands	Terengganu • Hospital Besut • Hospital Dungun • Hospital Hulu Terengganu • Hospital Setiu Sarawak • Hospital Bau • Hospital Betong • Hospital Daro • Hospital Dalat • Hospital Kanowit • Hospital Lawas • Hospital Lundu • Hospital Marudi • Hospital Mukah • Hospital Rajah Charles Brooke Memorial, Kuching • Hospital Saratok • Hospital Serian • Hospital Simunjan Kelantan • Hospital Gua Musang • Hospital Jeli • Hospital Machang • Hospital Pasir Mas • Hospital Tengku Anis, Pasir Puteh • Hospital Tumpat	Sabah • Hospital Beluran • Hospital Kinabatangan • Hospital Kota Belud • Hospital Kuala Penyu • Hospital Kudat • Hospital Kunak • Hospital Papar • Hospital Pitas • Hospital Ranau • Hospital Semporna • Hospital Sipitang • Hospital Tambunan • Hospital Tenom • *Hospital Tuaran

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

The total inpatient beds in MoH hospitals had decreased to 36,148 beds in 2011 due to hospital upgrade works. Hospital admissions in 2011 were 2,139,392, an increased by 0.41%. HKL and State Hospitals showed better operational efficiency of available beds compared to other group of hospitals in terms of BOR and TOI. Average Length of Stay (ALOS) and Total Patient Days (TOD) were higher in HKL and State Hospitals as these hospitals functioned as referral hospitals for the management of complex cases (Table 4). Bypassing of the population served by Minor Specialists Hospitals and Non Specialists Hospitals were still persistent as shown by the low BOR, low total patient days and relatively higher TOI at these hospitals. The rise in patients' expectations has contributed to patients' demand for specialty care and they tend to seek medical care from Specialist Hospitals that can offer a larger scope of services. One of the ways to reduce bypassing is to improve the availability of resident specialists services in Minor Specialist Hospitals according to scope of services required.

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

Subject	2008	2009	2010	2011
Bed Number (Hospital and Institution)	37,836	38,057	37,903	36,148
Bed Occupancy Rate (%)	65.46	65.45	66.26	68.63
Total Admission	2,072,633	2,115,617	2,130,563	2,139,392
Total Population	27,730,000*	28,306,700*	28,250,500* 28,558,160**	28,964,300**

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

TABLE 4
PERFORMANCE OF MOH HOSPITALS BY FUNCTIONAL CATEGORIES, 2010-2011

Type of Hospital by Functional Classification	Bed Occupancy Rate (BOR) %		Average Length of Stay (ALOS) days		Turn Over Interval (TOI)		Total Patient Days (TOD) days	
	2010	2011	2010	2011	2010	2011	2010	2011
HKL and State Hospitals	71.68	79.71	4.05	4.40	1.74	1.21	3,445,004	3,574,879
Major Specialists Hospitals	67.91	75.61	3.62	2.41	1.78	1.39	2,699,376	2,679,046
Minor Specialists Hospitals	58.79	53.00	3.77	3.10	2.89	3.77	703,700	733,481
Non Specialists Hospitals	46.22	47.30	2.76	2.77	3.95	3.84	914,951	943,377
Medical Institutions	69.57	66.08	133.69	204.1	58.49	78.7	1,166,476	1,124,519

Source: Health Informatics Centre, MoH

- ***Full Paying Patients Services Scheme***

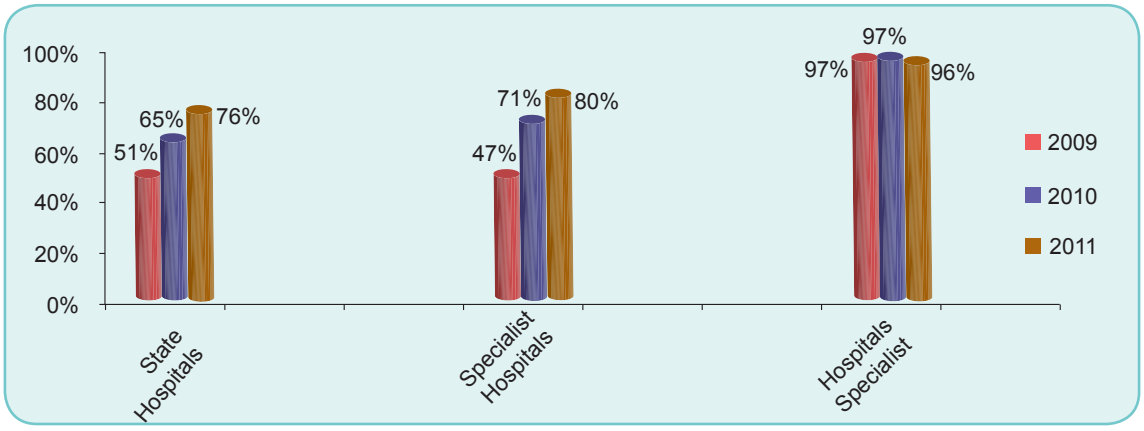
The implementation of Full Paying Patient Service Scheme was continued in Hospital Selayang and Hospital Putrajaya, since August 2008. A total of 2,452 new patients joined this scheme, showing an increase of 108.5% with participation of non-citizen showing an increase of 26.8% from 2010. By types of services, both hospitals showed the number of outpatient visit was highest (81.62%), followed by in-patients (17.35%) and outpatient visits (1.03%). Three disciplines recorded highest number of patients were Obstetrics & Gynecology, Surgical Department and Ophthalmology for both hospitals. The revenue collected in 2011 from both hospitals amounted to RM5, 503,479.18 million, an increase of 71.8% from 2010. Inpatient services collected the highest yield (81.58%), followed by outpatient services (16.18%) and outpatient services (2.24%).

- ***Medical Records***

The centralisation of medical records using the 'one patient one folder' concept was further strengthened within the existing limited spaces. In 2011, 58 out of 135 hospitals involved had completed centralization of the records. 4 hospitals itemized the records by discipline, while another 4 hospitals itemized the records based on outpatient services. Thus, only 50% of hospitals had actually completed centralization. Among the constraints faced include space availability and lack of staffing.

Nearly 250,000 medical report applications were received in 2011. To enhance service delivery to the public, duration to produce medical reports had been shortened to four (4) weeks in the State Hospitals and Specialist Hospitals while a period of two (2) weeks were set for Hospitals without Specialist. On average, 76% of State Hospitals' records, 80% of Specialist Hospitals' records and 96% of Hospitals without Specialist's records were prepared within the time frame. The delays in State Hospitals were due to multiple factors but lack of staffing, storage space availability and increased workload were the main contributors.

FIGURE 1
ACHIEVEMENTS OF PREPARATION MEDICAL REPORTS, 2009-2011



Source: Medical Development Division, MoH

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 3.49% in 2011 as compared to 2010. Attendances at most clinics showed an increase with highest being Psychiatry. Table 5 shows the total number of patients who received outpatient treatment at specialist clinics of the various medical disciplines in 2010 and 2011.

TABLE 5
TOTAL NUMBER OF PATIENTS WHO RECEIVED TREATMENT AT MEDICAL SPECIALIST CLINICS BY DISCIPLINE, 2010-2011

Discipline	No. of patients at specialist clinics		% +/- difference between 2010 and 2011
	2010	2011	
General Medicine	871,729	914,672	4.93
Dermatology	271,511	287,805	6.00
Respiratory Medicine	284,831	287,920	1.08
Psychiatry	448,563	494,561	10.25
Nephrology	226,849	196,007	-13.60
Neurology	32,156	32,728	1.78
Radiotherapy & Oncology	66,467	71,794	8.01
Cardiology	112,495	109,781	-2.41

Source: Health Informatics Centre, MoH

Table 6 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 Dermatology and Neurology. An increase in inpatients was most prominent for the discipline Respiratory Medicine and Nephrology.

TABLE 6
TOTAL ADMISSIONS FOR THE SPECIALIST MEDICAL DISCIPLINES, 2010-2011

Discipline	2010	2011	% +/- difference between 2010 and 2011
General Medicine	509,220	504,087	-1.01
Dermatology	1,060	991	-6.51
Respiratory Medicine	7,040	8,532	21.19
Psychiatry	17,996	18,308	1.73
Nephrology	11,771	14,005	18.98
Neurology	4,414	4,313	-2.29
Radiotherapy & Oncology	11,574	12,688	9.63
Cardiology	12,683	14,209	12.03

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

A Clinical Update in Tropical Infections was held in July 2011 to update doctors on the latest in the management of tropical diseases. A total of one hundred and seventy physicians and family medicine specialists attended.

The Palliative Care Services Technical Meeting was held for the first time over two days in November 2011. The meeting saw involvement of three facilitators from Australia and India whereas the participants were from MoH hospitals, the university hospitals and NGOs.

The Guidelines for the Management of Adults and Adolescents with HIV Infection with Antiretroviral Therapy were launched in October 2011, outlining the latest treatment regimes for HIV/AIDS.

The Psychiatric and Mental Health Services Operational Policy was developed and published in 2011, setting the standards for psychiatry and mental health services in the Ministry of Health.

Obstetrics & Gynaecology (O&G) Services

The O&G discipline remains as one of the largest and busiest clinical disciplines in Ministry of Health. The 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. The Advanced O&G as a sub-specialty has been discontinued from mid-2011 onwards.

The various sub-specialists services have expanded with time and are now more accessible to the population. Maternal Fetal medicine services are now available in all states except in Terengganu. There are a total of 9 gazetted sub-specialists and another 7 undergoing training. It is expected that by the end of 2012, all state hospitals should be able to provide this service. Urogynaecology services are provided by 6 centres with 4 gazetted subspecialists, with another 8 undergoing training. Gynae-onclogy is provided in 8 centres with 9 gazetted sub-specialists with another 6 in training. Reproductive medicine has 4 centres providing ART services and another 4 providing satellite service. There are 9 gazetted sub-specilalists and another 5 in training.

The O&G fraternity too has been able to improve its performance in daycare surgery with more services being provided on daycare basis. All tertiary hospitals are able to provide daycare surgery. The common procedures are offered for daycare surgery is endometrial sampling, hysteroscopy, laparoscopic tubal ligation, lap & dye, and others.

All specialists hospitals are "baby friendly" and efforts are being made to expand this to all facilities. The "husband-friendly" labour suite concept too is being introduced in various hospitals.

The O&G fraternity was also involved in 2 major international conferences which were successfully organised. The 1st National Obstetric Registry Report was published in 2011. This report was the effort of the fraternity to get a database on MoH obstetric population. Thus, all 14 state hospitals are part of the registry and the expansion plan is to include other 44 specialist hospitals by end 2012.

There are also policy papers being written up by the JKKPOG for the:
- Introduction of the O&G registrars post in MoH hospitals
- Establishment of Low Risk Birthing centres
- New career pathway for midwives
- New "House-officers" competency based log book

There are also 2 major guidelines which are being finalized, which are Termination of Pregnancy and Thromboprophlaxis in O&G.

Paediatric Services

2011 saw a substantial increase in paediatric workload with a 46.49% increase in inpatients across the country as shown in the table. This unprecedented increase which amounted to more than 100 percent in Sabah may reflect better documentation rather than an absolute increase. A new format to analyse all fewer than five deaths was launched as part of the efforts to achieve the Millennium Development Goals.

Paediatricians have been placed on a rotational basis in peripheral hospitals like Grik in Perak and Keningau in Sabah. In addition child neurology services expanded to Ipoh, a neonatologist was placed in HSAH Sungai Petani and a paediatric gastroenterologist reported to the Paediatric Institute in Kuala Lumpur.

As part of the upgrading of neonatal services facilities for cooling neonates with encephalopathy were introduced at Paediatric Institute, HTAA Kuantan and the Sabah Women and Children's Hospital. The neonatal service in Sibu Hospital was also upgraded, increasing the ventilator capacity to 8 beds in the NICU.

The new log book for houseman incorporating work based assessments was introduced nationwide and has helped to standardize training of young doctors across the country. In keeping with the national drive towards Key Performance Indicators, the paediatric services have proposed 13 KPIs to monitor and benchmark all departments with resident specialists.

TABLE 7
TOTAL NUMBER OF PAEDIATRIC INPATIENTS AND BOR, BY STATE, 2009-2011

State	Total No. of Inpatients			% +/- Differences		Bed Occupancy Rate (BOR), %		
	2009	2010	2011	2009/ 2010	2010/ 2011	2009	2010	2011
Perlis	6,094	5786	8041	-5.05	38.97	117.39	109.47	121.93
Kedah	37,559	39,492	46584	5.15	17.96	88.25	84.42	91.99
Pulau Pinang	21,034	22,366	27635	6.33	23.56	74.03	80.6	81.28
Perak	28,931	28,101	50470	-2.87	79.60	57.66	56.91	70.68
Selangor	40,026	41,326	53054	3.25	28.38	77.55	80.38	80.98
FT KL	26,096	25,237	30979	-3.29	22.75	82.32	85.2	91.42
FT Putrajaya	3,447	3,336	3913	-3.22	17.30	123.41	118.1	112.61
FT Labuan	721	689	1419	-4.44	105.95	44.97	35.73	49.71
N. Sembilan	16,242	16,665	19862	2.6	19.18	68.31	76.31	76.02
Melaka	13,979	13,334	15883	-4.61	19.12	108.92	101.69	95.04
Johor	29,139	30,561	59418	4.88	94.42	58.02	58.54	62.19
Pahang	15,863	16,222	30290	2.26	86.72	69.32	68.35	73.18
Terengganu	15,723	15,447	27988	-1.76	81.19	75.47	65.07	75.44
Kelantan	17,127	16,768	22433	-2.1	33.78	68.88	71.59	72.46
Sabah	19,842	20,868	44021	5.17	110.95	57.83	58.25	60.28
Sarawak	31,651	23,225	25925	-26.62	11.63	58.6	51.9	61.66
Total	**323,474**	**319,423**	**467915**	**-1.25**	**46.49**			

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 increased in number of patients in all surgical disciplines. The core activities of all surgical specialties were operations performed as shown in Table 9. Overall, there was a reduction in number of operation performed in 2011 in both elective and emergency operation as compared to 2010. The numbers of inpatients in all surgical (specialty) wards are shown in Table 10. Like surgical outpatient attendees, there was overall increment in admission in 2011 as compared to 2010.

TABLE 8
NUMBER OF OUTPATIENTS AT SURGICAL (SPECIALTY) CLINICS, 2010-2011

Disciplines	Number of Outpatients		% +/- difference between 2010/2011
	2010	2011	
General Surgery	594,159	610,384	+2.6
Orthopaedic	770,150	829,472	+7.1
Opthalmology	749,994	837,871	+10.4
Otorhinolaringology	422,638	453,655	+6.8
Urology	106,002	117,399	+9.7
Neurosurgery	31,634	34,931	+9.4
Cardiothoracic Surgery	12,206	17,344	+29.6
Plastic Surgery	41,135	45,653	+9.9
Hand & Microsurgery	8,383	8,982	+6.6
Total	**2,736,301**	**2,936,713**	**+6.8**

Source: Health Informatics Centre, MoH

TABLE 9
NUMBER OF ELECTIVE AND EMERGENCY OPERATION PERFORMED, 2009 - 2011

Disciplines	Number of Operation Performed					
	Elective			Emergency		
	2009	2010	2011	2009	2010	2011
General Surgery	97,013	82,550	78,843	219,145	209,975	214,801
Orthopaedic	65,569	68,232	68,694	201,836	213,197	204,005
Opthalmology	42,594	45,383	48,544	6,876	7,476	8,224
Otorhinolaringology	27,784	32,555	36,238	12,108	12,578	14,201
Urology	17,067	15,876	16,785	6,106	5,076	5,747
Neurosurgery	1,943	1,386	2,382	7,058	7,717	8,644
Cardiothoracic Surgery	1,295	1,147	1,201	367	462	548
Plastic Surgery	6,172	5,458	5,814	3,329	3,213	3,304
Others	32,568	32,431	34,183	34,928	44,080	52,080
Total	**332,318**	**323,520**	**292,684**	**579,045**	**589,736**	**508,250**

Source: Health Informatics Centre, MoH

TABLE 10
NUMBER OF BEDS, INPATIENT AND BED OCCUPANCY RATE OF SURGICAL (SPECIALTY) WARD, 2009 – 2011

Discipline	Number of Beds			Number of Inpatients			Percentage (%) ± Inpatient Difference Between		Bed Occupancy Rate (BOR), %		
	2009	2010	2011	2009	2010	2011	2009/2010	2010/2011	2009	2010	2011
General Surgery	3,823	3,802	3,695	234,402	233,993	230,430	- 0.17	-1.5	58.46	69.00	58.95
Orthopaedic	2,794	2,763	2,849	123,555	122,736	130,469	- 0.66	5.9	68.21	69.00	70.15
Opthalmology	660	638	630	35,530	37,562	35,957	+ 5.72	-4.4	45.88	47.85	42.87
Otorhinolaryngology	392	362	367	16,082	16,011	17,675	-0.44	9.4	49.32	49.47	52.76
Urology	222	203	221	9,183	9,700	10,774	+5.63	9.9	69.80	67.26	68.48
Neurosurgery	272	247	236	6,801	6,249	6,932	- 8.12	9.8	62.86	68.50	76.51
Cardiothoracic	68	60	72	959	892	1,088	-6.99	18.0	69.74	55.69	66.02
Plastic Surgery	141	122	108	2,972	2,433	3,066	- 18.14	20.0	50.72	48.56	60.92
Hand & Microsurgery	18	18	18	463	580	488	+25.27	-18.8	40.14	40.68	33.09
Hepatopancreaticobiliary	N/A	64	N/A	N/A	3,032	N/A	N/A	N/A	N/A	70.06	N/A
Total	**8,390**	**8,279**	**8,196**	**429947**	**433,188**	**436,879**	**+ 0.75**	**+0.84**			

Note: N/A = not available
Source: Health Informatics Centre, MoH

Achievements for the Surgical Services in 2011 included:

1. The Paediatric Cardiothoracic Surgical Services were established in Hospital Serdang with the first surgery performed on 1 April 2011 while MoH continued sending paediatric patients with congenital heart disease to Narayana Hospital Bangalore, India for surgery which contract is due to expire on 18 June 2012. The service in HRPZ II was resumed with covering consultants from other hospitals.

2. MoH Cardiac Centre for Sarawak opened in the Sarawak International Medical Centre at Kota Samarahan replacing the previous centre in the Sarawak General Hospital in January 2011.

3. Cardiothoracic Surgery Services Operational Policy was printed and circulated to hospitals in January 2011.

4. In order to increase the standard of management for trauma cases in MoH hospitals, ATLS Course (owned by American College of Surgeon) which was successfully brought to Malaysia continues in 2011 with 4 provider courses and 2 instructor courses and all courses were conducted by local ATLS teams.

5. The Standard of Sleep facility in MoH was implemented in April 2011 and the facility in Hospital Serdang was expanded due to rising demand. The ORL services were established in Hospital Seberang Jaya with a resident surgeon.

6. The Hepatobiliary Surgery Services were extended to HDOK, Sandakan by regular networking as well as HRPZ II, Kota Bharu and HTAA, Kuantan. In November 2011, a resident HPB surgeon was placed in HSNZ, Kuala Terengganu. Paediatric Surgery services resumed in HRPB, Ipoh by a surgeon from HKL. Neurosurgery services were extended to HSNZ, Kuala Terengganu with the presence of a neurosurgeon.

7. OT Managers services were further strengthened by annual training organized by MoH.

8. A new program was introduced in 2011 where a Health Carnival was successfully organized in Hospital Sarikei, Sarawak. Two full complement of surgical teams were brought in from Hospital Putrajaya alongside teams from the Sarawak General Hospital. The total surgical procedures performed from 21 November until 2 December 2011 was 289 cases.

9. Till end of December 2011, the cumulative number of cochlear implant surgery undertaken was 100 and extra fund was provided for the programme to progress in 2011.

10. Collaboration and donations from other government agencies has increased for cataract surgery services where a satellite clinic cum cataract surgery centre was established in Kuala Lumpur. MoH has approved funds to set up for two mobile cataract surgery centres in Sarawak and Pahang. Two more mobile cataract services were planned for Sabah and Kedah, funded by IMDB. The vehicles will transfer equipments and medical personnel to perform cataract surgery in district hospitals with OT Services.

11. Cooperation with the Malaysian Armed Forces which have been in existence for several years for urological services in HKL was further boosted via the Blue Ocean Strategy when the Ophthalmology team from Hospital Selayang operated in Hospital Tengku Mizan.

12. Elective surgeries were performed on Saturday since February 2008 as a measure of reducing waiting time for operation. This is a very important milestone for Surgical (Specialty) Service and Anaesthetic Service, complying with the Director-General's circular. In 2011, the total number of Saturday elective lists performed were 5,441 lists (number of lists performed), markedly increase from previous year. Saturday Elective OT lists are performed in 34 hospitals with high operative workload in 2011.

Anaesthesiology Services

Anesthesiology Services consisted of Anaesthetic Operation Theatre Service, Intensive Care Service and Pain Service. In 2011, there were 83 MoH hospitals providing Anaesthesiology Services with 47 having resident specialists; an increase number of hospitals having such service in 2010. For the rest of the hospitals, the services were given by anesthetic medical officers and visiting specialists.

Workload for the Anesthesiology Services in 2010-2011 is as depicted in Table 11. The number of anaesthetic 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 47 general intensive care units with 502 beds in 2011, as compared to 486 beds in 2010.

TABLE 11
WORKLOAD FOR THE ANAESTHESIOLOGY SERVICES IN 2010-2011

Items	2010	2011
Number of Anesthetic Administered	319.628	339,844
Number of Attendance at Anaesthetic Clinic	52,880	61,873
Number of ICU Admissions	30,089	32,621
Number of Attendance at Chronic Pain Clinic	6,281	7,368

Source: Anesthesiology Census 2010 and 2011, MoH

Emergency and Trauma Services

The Emergency and Trauma Services have shown marked development in the past 10 years; specialty level care is now available in almost every MoH Specialists Hospital and the scope and extent of emergency care, interventions and critical care monitoring have increased as well. In 2011, more than 7 million Malaysians sought treatment at Emergency Departments, a 5.4 % increase from previous year. Table 12 reflects the total number of cases seen at the Emergency Departments nationwide. Furthermore, MoH has 83 Emergency Physicians within its ranks, serving in specialists hospitals all over the country. Emergency Critical Care and Toxicology have joined Disaster Medicine, Trauma and Pre-Hospital Care as areas of sub-specialty development. Future emphasis includes advanced training for nurses, paramedics and allied health personnel in high level emergency care.

Other areas of progress include the pre-hospital care, where total numbers of ambulances have steadily increased over the last few years. Further development of Medical Emergencies Coordinating Center (MECC), including expansion beyond the Klang Valley, and incorporation of CAD, has assisted in improving the management of emergency medical services. The way forward for Emergency Services is to strengthen the capability of the emergency workforce within existing specialists hospitals, and to build the emergency care capability in non-specialists hospitals; allowing for greater seamless emergency care within the entire health system.

TABLE 12
TOTAL NUMBER OF CASES SEEN IN THE EMERGENCY DEPARTMENTS, 2011

State	Attendances by Zone Category			Attendances by Type of Cases									TOTAL	Daily Average
								Local Crisis Centre						
	Red	Yellow	Green	Operation	Paediatric	Trauma	Medical	Rape	Sodomy	Abuse	Others	Non-emergency		
Perlis	1,265	8,580	56,651	10,807	5,484	14,006	36,072	48	0	69	10	18,365	84,861	232.50
Kedah	20,983	116,859	326,729	65,882	79,562	102,930	214,598	375	30	283	911	113,145	577,716	1582.78
Pulau Pinang	4,899	74,780	237,877	18,177	79,675	58,448	160,658	215	6	348	29	125,948	443,504	1215.08
Perak	81,055	160,031	368,926	87,248	116,164	92,544	310,312	340	11	1,383	2,010	129,132	739,144	2025.05
Selangor	31,407	181,218	551,745	64,102	182,067	110,568	405,674	493	34	1,163	269	220,618	984,988	2698.60
Federal Territories	11,330	31,114	200,337	8,916	71,220	50,831	109,466	253	16	767	1,312	188,528	431,309	1181.67
Negeri Sembilan	15,695	85,776	170,106	28,453	61,730	31,372	141,626	235	9	497	7,655	39,137	310,714	851.27
Melaka	9,004	32,359	158,825	9,763	46,579	21,746	121,470	129	5	310	186	23,961	224,149	614.11
Johor	15,569	128,456	373,027	54,065	103,775	109,141	248,463	581	16	583	428	301,638	818,690	2242.99
Pahang	11,772	71,847	249,925	44,078	69,232	36,084	183,451	285	17	276	121	84,416	417,960	1145.10
Terengganu	8,989	84,188	120,781	26,500	57,442	34,380	95,340	155	8	44	89	41,251	255,209	699.20
Kelantan	10,737	83,165	188,980	36,027	63,834	39,292	142,481	234	7	301	706	88,063	370,945	1016.29
Sabah	12,670	134,834	579,822	47,700	210,579	42,178	417,527	390	11	479	8,462	221,862	949,188	2600.52
Sarawak	14,432	119,797	309,216	42,182	126,867	56,361	214,100	202	9	545	3,179	91,611	535,056	1465.91
TOTAL	**249,807**	**1,313,004**	**3,892,947**	**543,900**	**1,274,210**	**799,881**	**2,801,238**	**3,935**	**179**	**7,048**	**25,367**	**1,687,675**	**7,143,433**	**19571.05**

Sources: Health Informatics Centre, MoH

Transplantation Services

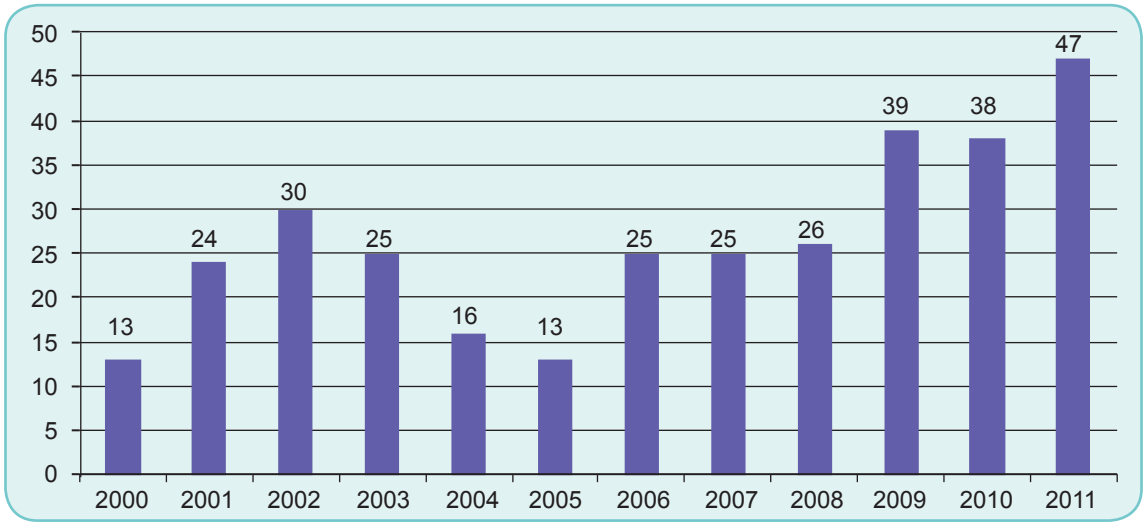
MoH has developed and published the guideline on Unrelated Living Organ Donation Policies and Procedures in November 2011. This guideline serves as part of the Ministry's commitment to implement the WHO Guiding Principles on Human Cell Tissue and Organ Transplantation 2010 and the National Organ and Tissue Transplantation Policy 2007. The purpose of this guideline is mainly to safeguard and emphasize the interest and safety of organ donor. In addition, it also aims to ensure that transplantation activities within the country are performed in an ethical manner according to international standards.

MoH has also revised the Immunosuppressant Drug Policy for patients who have undergone transplant surgery in October 2011. This is intended to curb human organ trading by discouraging Malaysian from undergoing commercial transplantation overseas. The change in the policy was announced by the Honourable Minister of Health; Dato' Sri Liow Tiong Lai at the Opening Ceremony of Organ Donation Awareness Week on 16th October 2011.

In 2011, there were 47 organ donors which is the highest number recorded since 1975 (Figure 2). Out of these 47 donors, 42 kidneys, 8 livers, 6 hearts, 4 lungs, 67 pairs of cornea, 10 bones and 11 heart valves were successfully procured. The youngest tissue donor was aged 2 whereas the youngest organ donor was 4 years old. The oldest donor was aged 78 years old. Despite the increasing number of donors, these numbers are still considered low compared to the number of patients with end stage organ failure in the national waiting list who in need for transplant. According to the Global Observatory On Donation and Transplantation (GODT) WHO, the organ and tissue donation rate in Malaysia was only 1.66 per million population in 2011 (Figure 3). By December 2011, there were approximately 13,000 patients with end stage renal failure in waiting for kidney.

There was also an increasing number of new organ pledgers seen in 2011 which was 27,205 (Figure 4) contributing to total number of 186,344 pledgers in this country. 55% of them are Chinese, 24% Indian, 18% Malay and 3% is from other ethnicity.

FIGURE 2
CADAVERIC ORGAN DONOR, 2000-2011

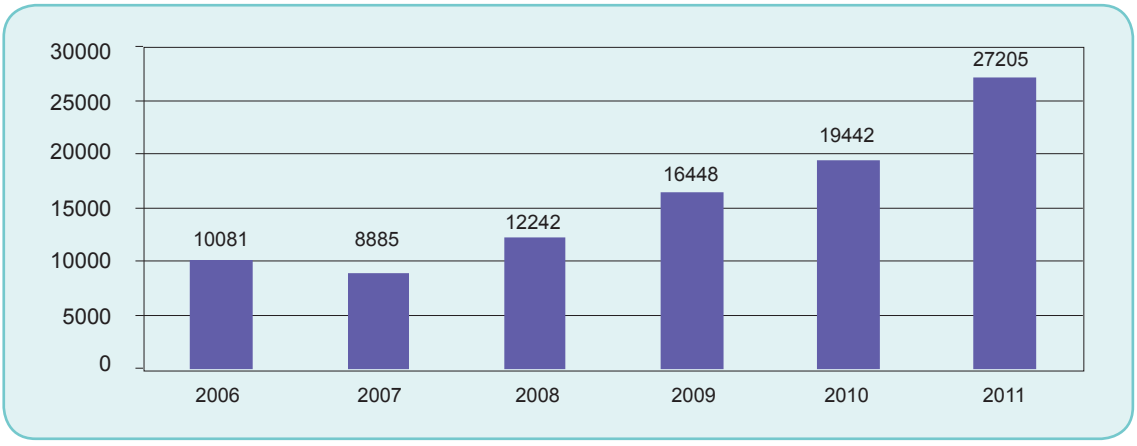


Source: National Transplant Resource Centre, Hospital Kuala Lumpur

FIGURE 3
CADAVERIC ORGAN/TISSUE DONATION RATE (PER MILLION POPULATION), 2000-2011

Source: National Transplant Resource Centre, Hospital Kuala Lumpur

FIGURE 4
NEW ORGAN DONOR PLEDGERS, 2006-2011



Source: National Transplant Resource Centre, Hospital Kuala Lumpur

To increase awareness among the public, MoH via the National Transplant Resource Centre has actively organized various promotional efforts involving government bodies, media and the public.

Pathology Services

The main role of Pathology services is to provide an efficient comprehensive diagnostic and consultative medical pathology service for patient management as well as public health in the country. Services offered include Histopathology, Cytopathology, Haematology, Chemical Pathology (including drug abuse), Medical Microbiology and Transfusion Medicine.

The number of disciplines and clinical diagnostic tests offered by each clinical laboratory depends on the medical specialties and extent of medical service available in the hospital where the laboratory is located. In the year 2011, 359 different tests were offered by the pathology service and a total of 199,166,111 tests were conducted. In most states there was an increase of between 5-29% in the volume of testing compared to 2010 (Figure 5). The highest workload was noted in Selangor where clinical laboratories in Selangor had performed 34,531,535 tests. In addition, pathology departments in certain hospitals are actively involved in various research and clinical trials activities conducted by the hospitals.

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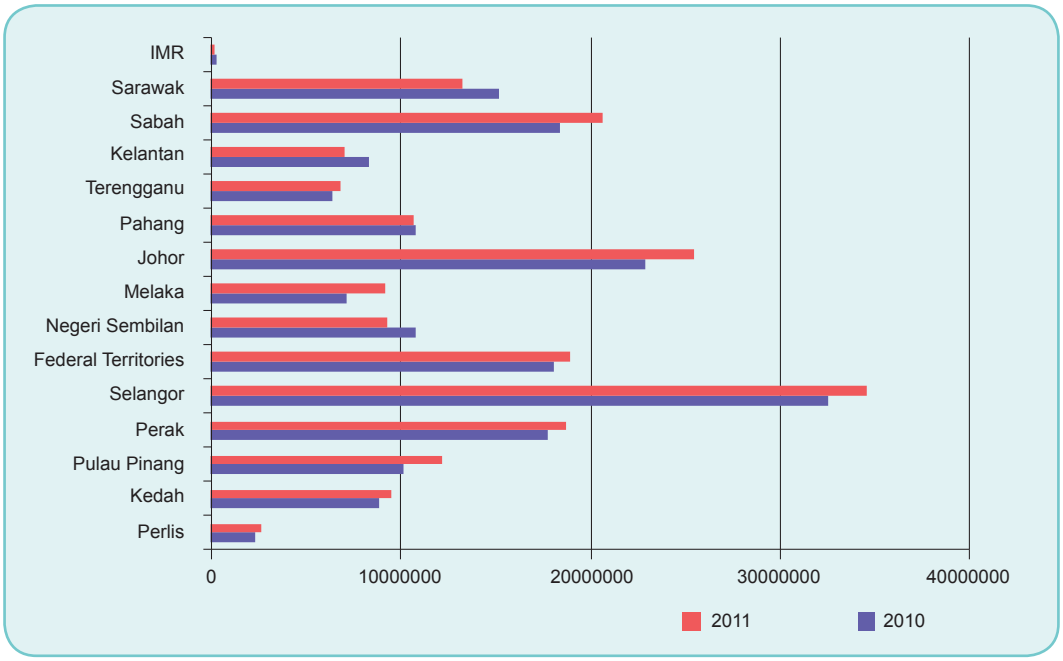
FIGURE 5
NUMBER OF DIAGNOSTIC TESTS PERFORMED BY PATHOLOGY LABORATORIES BY STATE, 2010-2011



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 2011, IMR provided 220 different tests conducted by 14 different unit/laboratories. IMR performed 179,100 tests in 2011 compared to 287,854 in 2010 (Table 13). The drop in number of tests performed in 2011 was due to a short suspension of laboratory service following a fire in April 2011.

Many laboratories had developed their own quality management systems and some had obtained for accreditation including HRPZ II, HTAA 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, 2010-2011

No.	Field of tests	No. of tests performed	
		2010	2011
1.	Allergy and Immunology tests	65,931	29,647
2.	Human leukocyte antigen (HLA) typing	7,272	5,127
3.	DNA analysis of alpha globin gene	7,350	1,954
4.	Haemoglobin analysis	2,051	1,487
5.	Array comparative genomic hybridization (CGH) analysis	100	66
6.	Leukaemia translocation analysis	110	246
7.	Bone marrow cytogenetic analysis	4,006	1,175
8.	Histopathological examination	7,515	1,658
9.	Endocrinology tests	15,108	15,070
10.	Nutrition related tests	9,094	-
11.	Toxicology and Pharmacology tests	3,003	1,987
12.	Bacteriology and mycology tests	40,953	39,039
13.	Parasitology tests	1,615	1,694
14.	Virology tests	80,481	37,476
15.	Abnormal proteins analysis	20,178	21,473
16.	Biochemistry and Biochemical genetics tests	23,087	21,001

Source: National Advisor, Pathology Services, MoH

Blood Transfusion Service (BTS)

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 healthcare needs of the nation. The service is being coordinated by the National Blood Centre, Kuala Lumpur, 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 regional centre for the Federal Territory, 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.

To accommodate the ever increasing demand for blood and blood products, the BTS has steadily increased its blood collection. In 2001, total blood collected was 384,711 donations and in 2011 it was 627,518, showing an increment of more than 60% over the last 10 years. To demonstrate recent workload, the table below show the number of donations registered over the past two years (Table 14). One of the strategies for provision of safe blood is to collect blood from repeated donors. Of the total number of donations recorded in both 2010 and 2011, most of the collection came from mobile activities with repeated donations making up the majority of collection (Table 14).

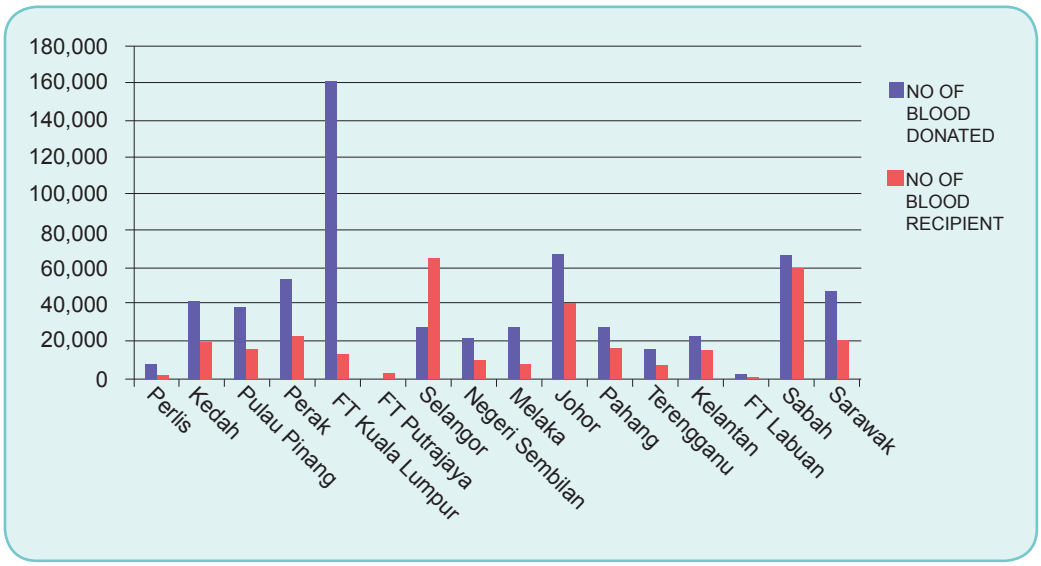
TABLE 14
ACHIEVEMENT IN BLOOD TRANSFUSION SERVICES, 2010-2011

ACTIVITY	2010	2011
Blood Collected At Centre/Blood Bank	133,949	137,433
Blood Collected At Mobile	456,568	490,085
Total	**590,517**	**627,518**
New Donation	225,465	233,567
Regular (Repeat) Donation	365,029	393,951

Source: Health Informatics Centre, MoH

For 2011, Federal Territory Kuala Lumpur achieved the highest blood collection followed by the states of Johor, Sabah, Perak and Sarawak. Despite the improvement in the total collection for the whole country, seasonal blood shortages still occurred in some states. Meanwhile, the number of recipients of blood and blood products increased by 2.8% from 315,235 in 2010 to 324,089 in 2011.

FIGURE 6
TOTAL UNITS OF BLOOD DONATED AND RECIPIENTS BY STATES IN 2010



Source: National Blood Centre, MoH

Medical Social Work Services

Interventions provided by the Medical Social Work Officers consist 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 placem ent, discharge planning and networking with government organizations and non-governmental agencies (GO's and NGO's). The Medical Social Work Officers work with inter-disciplinary medical teams to achieve total patient care. In year 2011, a total of 181,728 patients were referred, comprising of 73,461 requiring Therapeutic Support and 103,075 Practical Support.

TABLE 15
ANNUAL REPORT MEDICAL SOCIAL WORKS SERVICES, 2011

Intervention	In patient	Out patient	Total
1	2	3	4
Interview	99,950	81,778	**181,728**
Multidisciplinary Team Discussion	55,204	47,928	**103,132**
Ward round	36,339	0	**36,339**
Networking	56,504	50,752	**107,256**
Home visit	6,523	4,809	**11,332**
Socio- economic Assessments	50,475	44,520	**94,995**
Total	**304,995**	**229,787**	**534,782**

Note : Total patient were given intervention
1. Supportive Therapy : 73,461
2. Practical Support : 103,075
Source: Medical Social Work Services, MoH

The main achievements include the compilation of the Standard of 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 Ministry of Health. 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 **Half-way Homes** for patients requiring long term treatment and **Nur Hasanah Transit Home** for abandoned patients.

Forensic Medicine Services

Forensic Medicine Services started in 2002 after it was separated from the Pathology Department. It includes Forensic Pathology Clinical Forensic and Management of the Decease. The center of Medical Forensic service for Malaysia is situated at National Institute of Medical Forensic in Hospital Kuala Lumpur. The activities of medical forensic services include management of the decease, forensic pathology services, clinical forensic services and forensic lab investigations for various analyses. Table 16 shows the brief summary for 2011 workload for Forensic Medicine.

TABLE 16
WORKLOAD OF FORENSIC SERVICES BY STATE, 2010

State	Died in Ward (No PM)	Died in Ward (PM)	BID (No PM)	BID (PM)	Clinical Forensic Cases	Specialist 'Out' Cases	Police Case (No PM)	MO/Specialist attending court	Total
Federal Territories	2460	48	0	545	21	55	252	-	3381
Selangor	7421	122	343	2324	28	149	757	50	11194
Negeri Sembilan	2692	643	126	88	12	10	126	21	3718
Melaka	2087	131	125	374	-	8	27	11	2763
Johor	7313	191	714	1878	0	41	886	26	11049
Pahang	2935	133	238	644	287	29	121	7	4394
Terengganu	1923	3	209	359	171	-	14	0	2679
Kelantan	2238	-	-	395	0	49	0	174	2856
Perlis	571	-	-	109	-	-	42	-	722
Pulau Pinang	3767	285	0	1362	2	38	12	30	5496
Kedah	4540	325	350	686	1	65	283	0	6250
Perak	7878	-	1769	-	11	1	-	-	9659
Sarawak	3287	-	268	-	45	0	-	-	3600
Sabah	4940	-	546	-	7	53	-	-	5546
Total	**54052**	**1881**	**4688**	**8764**	**585**	**498**	**2520**	**319**	**73307**

Note: PM = Post Mortem

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.

The number of radiological examinations in state hospitals for 2010 and 2011 are shown in Figure 7.

FIGURE 7
THE NUMBER OF RADIOLOGICAL EXAMINATIONS IN 15 STATE HOSPITALS, 2010-2011

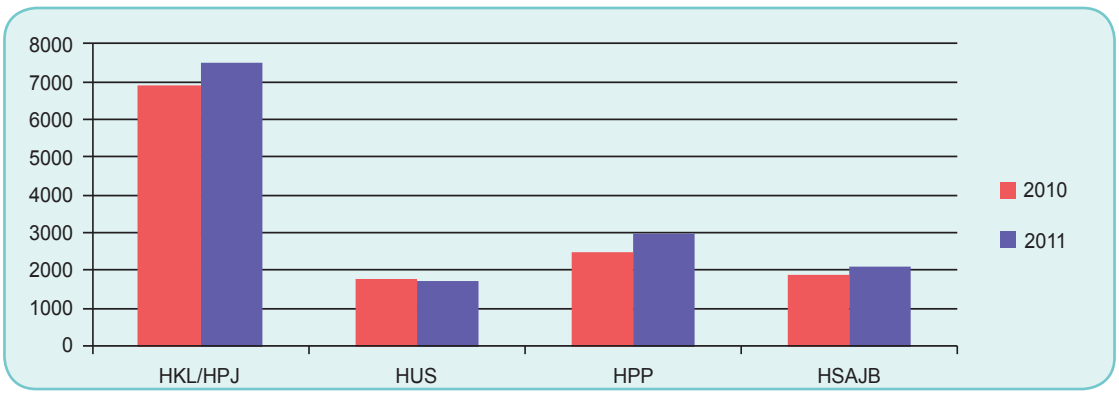
Source: National Advisor, Diagnostic Imaging Services, MoH

Nuclear Medicine Services

Nuclear Medicine includes 3 main areas i.e. clinical, radiopharmacy and physics. Clinical nuclear medicine includes diagnostic, therapeutic and interventional. Radiopharmacy plays an important role in assuring the radiopharmaceutical drugs is safe to be given to the patient. Nuclear Medicine Services also emphasize on quality assurance of instruments and equipment used, and monitors radiation safety level.

The number of nuclear examinations in five hospitals for 2010 and 2011 are shown in Figure 8. From the table, it can be concluded that there is increasing number of nuclear medicine examination done from 2010 to 2011.

FIGURE 8
NUMBER OF NUCLEAR MEDICINE EXAMINATION, 2010-2011



Source: National Nuclear Medicine Advisor, MoH

Nuclear Medicine Service future plans include:

i. Hospital Kuala Lumpur - To upgrade radioisotope lab in order to fulfill Good Preparation Practice
ii. Hospital Umum Sarawak - To provide Radioiodine Treatment
iii. Hospital Pulau Pinang - To buy a new SPECT-CT machine and to provide Radiosynovectomy service
iv. Hospital Sultanah Aminah Johor Bharu - To build a new block for Nuclear Medicine Department
v. Hospital Putrajaya - To produce more radiopharmaceutical drugs rather than F18-FDG
vi. A new Nuclear Medicine Department to be opened at Hospital Wanita dan Kanak-Kanak Likas, Sabah.

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

Operational Expenditure for Medical Programme had raised by 15.98% in 2011 as compared to 2010, meanwhile allocation for 2011 had also increased by 11.98% from 2010 (Table 17). These are due to increase cost and quantity of consumables required by MoH (Table 18). In 2011, 43.52% of the total expenditure had been used for consumables /drugs and 0.52% for assets, as compared to 41.3% and 0.94% respectively in 2010. The rest of expenditures were for emoluments in 2011. The overall increase in expenditure compared to allocation in 2011 was 4.73% (Table 17), whereby expenditure for consumables/drugs was only 1.64% (Table 18). Allocation and expenditure for assets in 2011 has much reduced as compared to 2010 (Table 19).

Medical Resource Unit was also involved in co-coordinating the Dasar Baru 2013-2014, Perjanjian Program 2013-2014 and Laporan Pengecualian 2011 which were part of the Modified Budget System (MBS) requirements.

TABLE 17
MANAGEMENT EXPENDITURE (OA), 2007-2011

Year	Allocation	Expenditure	Expenditure compared to Allocation (%)	Increment in Expenditure (%)
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
2011	8,993,843,980.00	9,419,186,546.00	104.73	15.98

Source: Finance Division, MoH

TABLE 18
ALLOCATION AND EXPENDITURE FOR CONSUMABLES/DRUGS, 2007-2011

Year	Allocation	Expenditure	Expenditure compared to Allocation (%)
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
2011	4,101,418,547	4,101,148,547.65	101.64

Source: Finance Division, MoH

TABLE 19
ALLOCATION AND EXPENDITURE FOR ASSETS, 2007-2011

Year	Allocation	Expenditure	Expenditure compared to Allocation (%)
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
2011	49,575,125	48,710,752.12	98.26

Source: Finance Division, MoH

Medical Equipments

a. Procurement of medical equipments

In 2011, there were 8 central tenders implemented by Medical Resource Unit as compared to, 32 in 2007, 37 in 2008, 6 in 2009 and 5 in 2010. This slight increase in number of central tenders was mainly due to increase overall budget and financial capabilities. Although decentralization process of medical equipment tenders to states are still continuing, complicated tenders on technical and financial grounds will still come under direct supervision of the Medical Resource Unit. This unit is mainly involved in equipment specifications, technical evaluation and monitoring of the projects to ensure all projects were completed within schedules. Apart from this, Medical Resource Unit also represented Medical Development Division as one of the members in MoH price negotiation committee whenever necessary.

b. Procurement of consumables

There was no new central tender for consumable items in 2011.

c. Product (medical equipment and consumables) demonstration.

On a 2 weekly basis, the Medical Resource Unit will organize product demonstration on latest medical products introduced by various manufacturers and medical trading companies. Clinicians as well as officers from other relevant divisions in MoH are usually invited to give technical and financial input regarding the product involved. In 2011, the unit organized 22 product demos ranging from complex medical equipment like linear accelerators (LINACS) to simple consumables such as safety syringes.

Hospital Support Services

Medical Resource Unit is one of the committee members in monitoring the privatized hospital support services in collaboration with the MoH 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 is responsible to give advices and opinions to enhance better services provided to end-users in MoH hospitals.

This unit also collaborates with the MoH 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 2011, there were 182 product evaluations done for MoH Adoption Scheme whereas 3 new APPL products undergo technical evaluation. APPL products complaints were also 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 2011, there were several hospitals audited and some of the main issues highlighted involve medical equipment management protocol. Issues such as procurements that were done without proper permission, delay or failure of supply of equipment to designated sites as applied in the contract and failure of imposing fines to contractors for contract breech were the among indentified. Apart from that, failure of applying online system of E-Perolehan in the procurement process in 2011 was also highlighted. These audit issues have been investigated and the reports submitted to respective auditors.

Strategies taken in order to manage these issues include issuance reminders to respective hospitals and planning to organize continuous courses on procurement procedures. A Government Procurement Procedures course was organized by the unit in June 2011 at the EPF Training Institute, which includes introduction of the e-Perolehan System and was attended by 40 participants from various Pathology Department in MoH hospitals. The unit had also organized another course in NIOSH Bangi on 23-25 October 2011 with 60 participants among MsH Hospital Directors, and in subsequent years, the course will be organized at least twice yearly.

MEDICAL PROFESSIONAL DEVELOPMENT

Medical Professional Development Section is involved in planning and monitoring the specialities and subspecialties development and also training of the house officers. It also oversees and gives technical input to MoH's Human Resource Division in reviewing the doctors' service scheme and placement of local and contract specialists according to the service's need. This Section also gives technical input to Human Resource Division regarding the recruitment of contract specialist base on their qualifications, clinical experience, service need and placement.

Clinical Specialists Requirement

In 2011, there was an increase of 7.9 % in the number of clinical specialists working in MoH hospitals. The total number of specialists was 3192 from various specialties (Table 20) 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 20
NUMBER OF SPECIALISTS IN MoH HOSPITALS, 2009-2011

Discipline	No. of Specialists			
	2009		2010	2011
Anaethaesiology	328	(17)	319	328
Cardiology	49	(9)	48	49
Cardiothoracic Surgery	19	(6)	17	19
Dermatology	32	(7)	30	32
Emergency Medicine	89	(1)	71	89
Forensic	21	(1)	21	21
General Medicine	461	(42)	387	461
General Surgery	231	(36)	242	231
Hand & Microsurgery	1	-	1	1
Nephrology	57	(1)	54	57
Neurology	23	-	24	23
Neurosurgery	30	(1)	27	30
Nuclear Medicine	6	-	6	6
Obstetrics & Gynaecology	276	(20)	262	276
Ophthalmology	188	(15)	183	188
Orthopaedic	222	(10)	215	222
Otorhinolaryngology	124	(11)	116	124
Paediatric	315	(15)	289	315
Paediatric Surgery	16	(5)	15	16
Pathology	201	(7)	186	201
Plastic Surgery	28	(2)	28	28
Psychiatry	135	(3)	125	135
Radiology	208	(3)	188	208
Radiotherapy & Oncology	22	(5)	21	22
Rehabilitation Medicine	26	-	22	26
Respiratory Medicine	31	(3)	26	31
Sports Medicine	9	-	8	9
Urology	31	-	27	31
Transfusion Medicine	13			13
Total	**3192**	**(220)**	**2958**	**3192**

Note: () Contract Officers/Subspecialty Trainees
Source: Medical Professional Development Section, Medical Development Division, MoH

Employment of Medical Officers and Specialists as Contract Officers in MoH

MoH is still facing a problem of inadequate number of Medical Officers and Specialists particularly for Sabah and Sarawak. Employment of Medical Officers and Specialists either from Malaysia or from other countries on contractual basis as practiced before is still being implemented. The employment of these officers is the responsibility of MoH's Contract Officers Selection Committee, chaired by Deputy Director-General of Health (Medical) with the Human Resource Division, MoH as secretariat. The Medical Development Division, MoH and the Malaysia Medical Council are responsible to provide technical inputs related to the qualification, experience and skills. In 2011, there were 726 doctors employed by MoH on contractual basis compared to 667 in 2010 (Table 21).

TABLE 21
NUMBER OF DOCTORS EMPLOYED ON CONTRACTUAL BASIS, 2010-2011

Category Of Doctors	Number of Doctors by Year	
	2010	2011
Medical Officers	445	389
Specialists	222	337
Total	**667**	**726**

Source: Human Resource 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 2011, there were 15 applicants from the private practitioners to provide service to MoH compared to 23 applicants in 2010 (Table 22).

TABLE 22
NUMBER OF PRIVATE PRACTITIONERS EMPLOYED ON SESSIONAL BASIS, 2010-2011

Hospital	Discipline	Number	
		2010	2011
Hospital Umum Sarawak	Neurology	1	1
	Radiology	1	1
	Ophthalmology	1	-
	Plastic Surgery	1	-
	Subtotal	4	2
Hospital Sultanah Aminah, JB	Internal Medicine	-	1
	Pathology	1	-
	Plastic Surgery	1	-
	O&G	1	-
	Paediatric	2	-
	Radiology	1	-
	Subtotal	6	1

Hospital	Discipline	Number	
		2010	2011
Hospital Kuala Lumpur	Anaesthesiology	5	3
	Paediatric	3	1
	Nephrology	1	-
	Internal Medicine	-	1
	Ophthalmology	1	1
	ORL	-	1
	Urology	1	-
	Subtotal	11	7
Hospital Pulau Pinang	General Surgery	-	2
	Paediatric Surgery	-	1
	Subtotal	-	3
Hospital Pakar Sultanah Fatimah, Muar	Dermatology	-	1
	Subtotal	-	1
Hospital Sultan Ismail	Anaesthesiology	1	-
	Subtotal	1	-
Hospital Melaka	Pathology	-	1
	Subtotal	-	1
Hospital Ipoh	Dermatology	1	-
	Subtotal	1	
Grand Total		**23**	**15**

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

Gazettement of Clinical Specialists

The Special Gazettement Committee (Jawatankuasa Khas Perubatan) meets at least 3 times a year to review and approve the gazettement of specialists. The committee also makes decision through "circulation" to facilitate the gazettement process. The specialist log book introduced in 2005 has been used as supporting evidence for gazettement approval. In 2011, 397 specialists were gazetted, a 27% increment as compared to 311 in 2010. The largest number of specialist gazetted in 2011 was the discipline of Internal Medicine followed by Anaesthesiology and Obstetric & Gynaecology as shown in Table 23.

TABLE 23
NUMBER OF SPECIALISTS GAZETTED BASED ON SPECIALTY, 2009-2011

Specialty/Subspecialty	No. of Gazetted Specialists*		
	2009	2010	2011
Anaesthaesiology	31	34	43
Cardiac Anaesthaesiology	2	0	3
Intensive Care	1	1	2
Pain Management	-	-	1
Obstetric Anaesthaesiology	-	-	2
Paediatric Anaesthaesiology	-	-	1
Breast & Endocrine Surgery	2	1	1
Cardiology	7	4	7
Cardiothoracic Surgery	1	4	1
Dermatology	-	3	3
Emergency Medicine	9	12	15
Endocrinology	-	0	3
Forensic	-	2	2
Gastroenterology	4	2	2
Geriatric	-	0	2
Internal Medicine	50	66	64
General Surgery	18	20	16
Hepatology	-	-	1
Palliative Medicine	-	-	2
Hand & Microsurgery	-	1	-
Nephrology	3	5	1
Neurology	1	1	1
Neurosurgery	4	7	3
Nuclear Medicine	-	0	1
Obstetrics & Gynaecology	19	17	33
Feto-Maternal Medicine	1	0	1
Uro-Gynaecology	1	0	-
Advance O&G	1	0	-
Gynae-Oncology	-	-	4
Ophthalmology	22	21	18
Orthopaedic	26	23	29
Otorhinolaryngology	15	14	10
Pathology	13	0	22
Paediatric	28	22	30
Paediatric Cardiology	1	0	2

Specialty/Subspecialty	No. of Gazetted Specialists*		
	2009	2010	2011
Paediatric Neurology	-	0	-
Paediatric Dermatology	-	-	1
Paediatric Rheumatology	-	-	1
Paediatric Adolescent Medicine	-	-	1
Paediatric Infectious Disease	-	-	1
Paediatric Surgery	1	0	1
Paediatric Endocrine	2	0	-
Plastic Surgery	2	3	2
Psychiatric	5	18	17
Radiology	10	17	31
Interventional Radiology	2	1	-
Musculoskeletal Radiology	-	-	1
Radiotherapy & Oncology	2	6	6
Rehabilitation Medicine	5	2	3
Respiratory Medicine	4	1	1
Rheumatology	3	3	2
Sports Medicine	2	0	2
Transfusion Medicine	-	-	1
Upper Gastroenterology	-	0	-
Urology	2	0	-
Total	**300**	**311**	**397**

*Note: * including Contract Specialists*
Source: Medical Professional Development Section, Medical Development Division, MoH

Specialist Training Program

The Masters Programme for basic medical specialties is jointly managed by the public universities; namely the National University of Malaysia (UKM), the University of Malaya (UM), University of Science, Malaysia (USM), the International Islamic University of Malaysia (IIUM), Putra University, Malaysia (UPM) and University of Malaysia Sarawak (UNIMAS), in collaboration with MOH. Within the MOH, the Training Management Division is responsible for the general administration of the Masters Programme, whilst the Medical Development Division is responsible in providing technical inputs for planning, implementation and monitoring. As of 2011, 22 were disciplines offered in the programme.

The number of scholarship slot for the Masters Programme 2011/2012 session was increased to 800 as compared to 600 in the previous years. However, due to constraints and limitation faced by the universities, only 735 slots were offered for this session. Out of the 735 offers, only 690 candidates were accepted and registered in the programme. 76.3% (561 slots) of candidates were for the 'Open System' and the remaining 23.7% (174 slots) were for the 'Close System'. As compared to the 2010/2011 session, 66.6% slots were in the 'Open System' and '33.3% in the Close System. The detailed numbers of offers given and candidates who finally accepted and joined the programme are as shown in Table 24.

TABLE 24
DISCIPLINES OFFERED AND NUMBER OF TRAINEES FOR THE 2009/2010, 2010/2011 AND 2011/2012 SESSIONS

Disciplines	2009/2010 Session		2010/2011 Session		2011/2012 Session	
	No. of Offers	No. of Acceptance	No. of Offers	No. of Acceptance	No. of Offers	No. of Acceptance
Anaesthaesiology	76	73	81	78	79	78
Clinical Oncology	5	4	7	7	9	9
Emergency Medicine	40	38	44	42	52	52
Family Medicine	52	42	51	46	58	52
General Surgery	45	44	52	51	61	60
Internal Medicine	46	39	49	46	56	43
Neurosurgery	4	4	3	3	8	7
Nuclear Medicine	5	5	6	6	3	3
Obstetrics & Gynaecology	37	36	25	25	40	39
Ophthalmology	36	32	36	34	39	39
Orthopaedic	44	42	42	42	47	47
Otorhinolaryngology	21	18	24	24	25	25
Pathology	33	32	29	29	49	44
Paediatric	34	30	35	26	47	41
Paediatric Surgery	4	4	4	4	3	3
Plastic Surgery	5	4	7	7	4	4
Psychiatry	23	20	29	27	37	34
Public Health	44	42	61	57	51	48
Radiology	37	36	42	40	46	44
Rehabilitation Medicine	10	10	10	9	10	8
Sports Medicine	3	3	4	4	5	5
Transfusion Medicine	10	9	6	6	6	5
Total	**614**	**567**	**647**	**613**	**735**	**690**

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

In 2011, 307 Clinical Specialists reported back to the MoH upon completion of their specialist training as compared to 277 in 2009 and 299 in 2010. To further strengthen the Masters Programme, various strategies have been taken such as providing more scholarships depending on the capacity and capability of the public universities, more slots will be made available for the 'Open System' and more disciplines to be offered with the number of slots for each discipline increased accordingly.

In addition to the Masters Programme, medical officers can also pursue the alternative pathway to become specialists in various basic specialties (Table 25). This parallel programme is conducted either partially or fully within the country with certification awarded by international organizations.

TABLE 25
EXAMPLES OF THE ALTERNATIVE POST- GRADUATES MEDICAL PROGRAMMES, 2011

DISCIPLINE	EXAMPLES OF THE ALTERNATIVE PROGRAMMES
Internal Medicine	Member of the Royal College of Physicians (MRCP), UK
Paediatric	Member of the Royal College of Pediatrics and Child Health (MRCPCH), UK
Obstetric & Gynaecology	Member of the Royal College of Obstetricians and Gynaecologist (MRCOG), UK
Radiology	Fellow of the Royal College of Radiologists (FRCR), UK
Anaesthesiology	Fellow of the Australian and New Zealand College of Anaesthesia (FANZCA)
Pathology	Fellow of the Royal College of Pathologist (FRCPath), UK

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

Subspecialty/Fellowship Training

In the effort to further increase the number of subspecialists for the country, the subspeciality training has been strengthened whereby in July 2011 the Treasury and the Public Service Department approved MoH's application for the provision of scholarship for specialist who wish to pursue subspeciality training. Partial scholarship will be awarded to those pursuing the local training, while full scholarship is awarded to those who pursue their training overseas. Annually as on average the MOH provides 150 scholarship slots for subspeciality training. The total cumulative numbers of trainees in 2011 were 390 while there were 395 in 2010.

The most popular subspecialties were cardiology followed by nephrology, rheumatology, gastroenterology, urology, breast and endocrine surgery, reproductive medicine, and maternal fetal medicine. Other subspecialties that showed increasing trend were respiratory medicine and dermatology.

Human Capital Development and In-service Training Activities

This Section coordinates sponsorship and selection of the candidates to attend courses, workshops and seminars locally or internationally. In the year 2011, RM 23,000,000 had been allocated to the Medical Programme for in-service training locally or internationally, a reduction from RM 25,000,000 which was allocated in 2010. Out of the RM 23 million, about RM 19 million was allocated for local training of which 15,989 courses were conducted and attended by 171,365 participants. The balance of RM 4 million had been allocated for oversea courses of which 131 participants had been sent abroad for training (Table 26).

TABLE 26
HUMAN CAPITAL DEVELOPMENT AND IN-SERVICE TRAINING ACTIVITIES, 2008-2011

Year	Total Allocations (RM)	Expenditure (RM)	No. of Training Activities	No. of Participants
2008				
Overseas Training	4,000,000.00	5,711,389.74	108.00	190.00
Local Training	20,875,486.00	18,493,255.00	9,886.00	133,118.00
Total	**24,875,486.00**	**24204644.74 (97%)**	**9,994.00**	**133,308.00**
2009				
Overseas Training	6,000,000.00			
Local Training	25,400,000.00			
Total	**31,400,000.00**			
2010				
Overseas Training	4,000,000.00	4,859,256.38		
Local Training	21,000,000.00	20,666,122.12	14,465.00	
Total	**25,000,000.00**	**25,525,378.50**		
2011				
Overseas Training	4,000,000.00		87	131
Local Training	19,000,000.00	18,752,075.76	15,989	171,365
Total	**23,000,000.00**		**16,076.00**	**171,496**

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

Continuous Professional Development (CPD)

CPD is a broader 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.

MoH has developed and launched its online CPD system in 2007 which is known as myCPD. MoH's myCPD was used by 126,554 registered users since its launching in 2007 till December 2011 with 10,737,998 transactions made online not only by various health professional or health schemes in MoH but also by private sector. The use of myCPD had been made compulsory for the Medical Officers, Dental Officers and Pharmacists in MoH since 2008 whereby the credit points collected and accumulated by attending CPD activities had been used as part of the evaluation for competency level (*Penilaian Tahap Kompetensi,* which was known as PTK-CPD). Since January 2010 this PTK-CPD program had been extended to other service schemes in MoH which include Engineers, Researchers, Nurses, Assistant Medical Officer and Allied Health Personnel for the same purpose.

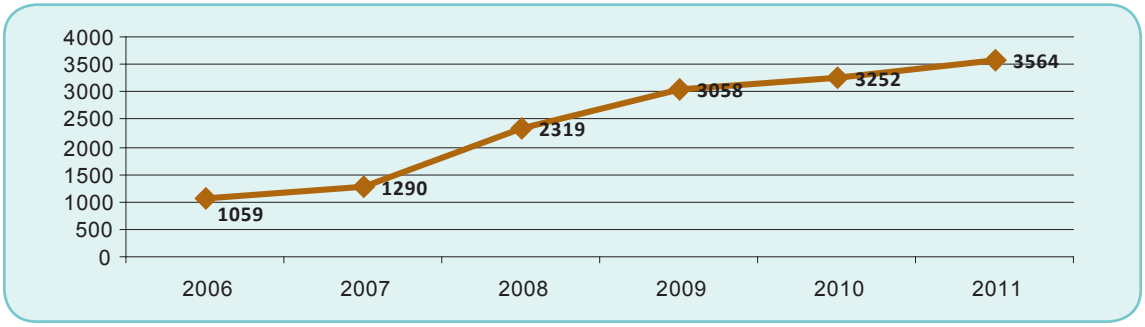
Following the Government announcement on the abolishment of PTK in 2011, CPD programs still continued to be used for various other purposes such as the renewal of Annual Practice Certificate (APC) by nurses. It is worth mentioning here that the review of the Medical Act (1971) if approved in the parliament, the collection of CPD points will become the compulsory requirements for renewal of APC for medical officers. Apart from that, CPD points will also be taken into consideration for specialist registration and renewal in the National Specialist Registry in future.

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 3,564 (2011). 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 with different background, clinical exposure and clinical experiences.

FIGURE 9
NUMBERS OF HOUSE OFFICERS, 2006-2011



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

In 2011 there were 41 hospitals including 3 public university hospitals provided housemanship training programme as shown in Table 27. MoH is looking forward for more hospitals to be accredited as housemanship training centre.

To further enhance the housemanship programme, the training period was extended from one year to two years since 2008, with a minimum period of four monthly rotations in the six major disciplines, namely Internal Medicine, Pediatrics, Surgery, Obstetric and Gynecology, Orthopedics, Emergency Medicine or Anesthesiology. Hence since 2008, House Officers will be under the supervision of specialists for a longer period as compared to only one year prior 2008. The extension of the housemanship training to two years provide more opportunities for House Officers for more hands-on training such as clinical tagging, clinical work in the ward and clinics setting, to be involved in the Continuing Professional Development (CPD) and teaching activities.

The Medical Qualification Board, which is the highest level of committee responsible for housemen training programme establish under the Medical Act 1971, has made the policy decision in 2011, that all housemen are only required to undergo 5 compulsory postings before can be given full registration by the Malaysian Medical Council (MMC). The sixth posting is considered as an obligatory posting.

Since 1st September 2011, MoH has implemented the flexi working system replacing the traditional long hours of on-call system. With this flexi working system, housemen are required to work for an average of 60 hours with 2 days off per week and these housemen are entitle for special flexi allowance of RM 600 per month.

TABLE 27
LIST OF ACCREDITED HOSPITALS FOR HOUSEMANSHIP TRAINING, 2011

NO	HOSPITAL	NO	HOSPITAL
1	Hosp. Tuanku Fauziah, Kangar	22	Hosp. Pakar Sultanah Fatimah, Muar
2	Hosp. Sultanah Bahiyah, Alor Setar	23	Hosp. Sultanah Aminah, Johor Bahru
3	Hosp. Sultan Abdul Halim, Sungai Petani	24	Hosp. Sultanah Nora Ismail, Batu Pahat
4	Hosp. Kulim, Kedah	25	Hosp. Sultan Ismail, Pandan
5	Hosp. Pulau Pinang	26	Hosp. Tengku Ampuan Afzan, Kuantan
6	Hosp. Seberang Jaya	27	Hosp. Sultan Haji Ahmad Shah, Temerloh
7	Hosp. Taiping	28	Hosp. Sultanah Nur Zahirah, Kuala Terengganu
8	Hosp. Raja Permaisuri Bainun, Ipoh	29	Hosp. Kemaman
9	Hosp. Teluk Intan	30	Hosp. Raja Perempuan Zainab II, Kota Bharu
10	Hosp. Seri Manjung	31	Hosp. Kuala Krai
11	Hosp. Kuala Lumpur	32	Hosp. Tanah Merah
12	Hosp. Putrajaya	33	Hosp. Umum Sarawak
13	Hosp. Tengku Ampuan Rahimah, Klang	34	Hosp. Sibu
14	Hosp. Selayang	35	Hosp. Miri
15	Hosp. Kajang	36	Hosp. Queen Elizabeth, Kota Kinabalu
16	Hosp. Serdang	37	Hosp. Tawau
17	Hosp. Ampang	38	Hosp. Duchess of Kent, Sandakan
18	Hosp. Sungai Buloh	39	UM Medical Centre (UMMC), Petaling Jaya
19	Hosp. Tuanku Jaafar, Seremban	40	UKM Medical Centre (UKMMC), Cheras
20	Hosp. Tuanku Ampuan Najihah, Kuala Pilah	41	Hosp. Univ. Sains Malaysia (HUSM), Kubang Kerian
21	Hosp. Melaka		

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

At the moment, all new house officers are employed by the government on the grade of UD41. Upon successful completion of 5th posting and obtained full registration from the MMC, they will be promoted to grade UD44, subjected to fulfilment of other criteria.

MEDICAL QUALITY CARE SERVICES

Quality Assurance

The main activities include the management and surveillance performance (Performance Management and Surveillance). Performance management activities include the following; the formulation of indicators and technical specifications, review of standards, monitoring of policy management, monitoring system development and training. For surveillance activities, its do include an analysis of the performance, reporting and review of improvement actions SIQ (shortfalls in quality). These also include the management and monitoring of top management performances, i.e. KPI of YB Minister of

Health (Medical Program), KPI of Director General of Health Malaysia, KPI Deputy Director General of Health (Medicine), Director of Medical Development and performance indicator of Medical Program.

- **Performance Management and Surveillance**
  - ***i. Medical Program Performance Indicators***

    Cumulatively all 129 indicators which were monitored in 2011 achieved the target of 90% from the standards set. It was in the range of 0.928 to 1.335 performance index (Table 28). Based on 2011 performance analyses, the Otorhinolaryngology discipline (1.3350) showed the best performance followed by the Discipline of Nephrology (1.2900) and General Medicine (1773).

TABLE 28
CLINICAL DISCIPLINE PERFORMANCE INDEX 2011*

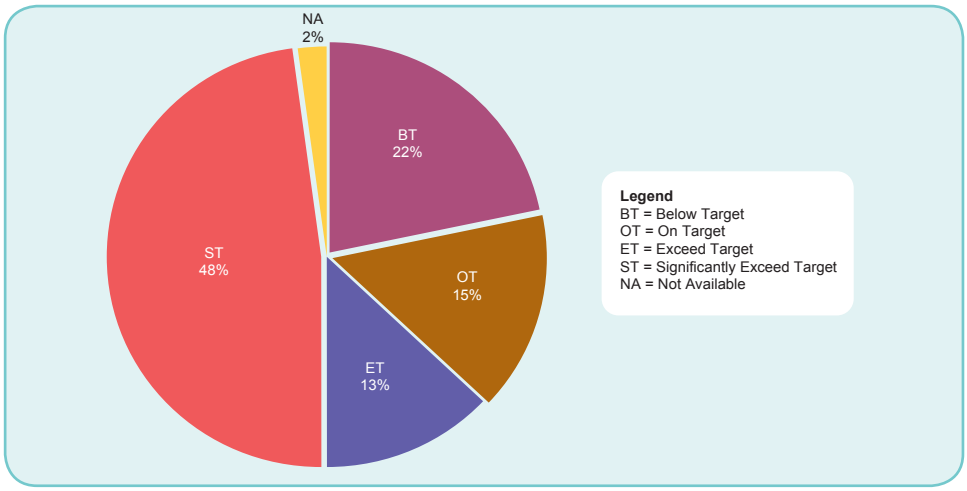
Discipline	Cumulative Performance Index 2011	Total Number of State with SIQ of all Indicator	SIQ Index	Corrected Performance
General Medicine	1.19	11	0.0127	1.1773
Paediatric Medical	1.10	14	0.0162	1.0838
Dermatology	1.15	3	0.0063	1.1438
Nephrology	1.29	0	0.0000	1.2900
Psychiatric Medicine	1.09	3	0.0052	1.0848
General Surgery	1.05	15	0.0223	1.0277
Ophthalmology	1.12	16	0.0238	1.0962
Otorhinolaryngology	1.36	12	0.0250	1.3350
Obstetrics & Gynaecology	1.14	22	0.0286	1.1114
Orthopedic	1.12	19	0.0283	1.0917
Neurosurgery	1.07	1	0.0021	1.0679
Urology	1.08	10	0.0149	1.0651
Anaesthesia	0.94	9	0.0117	0.9283
Emergency Medicine & Trauma	1.11	7	0.0122	1.0978
Diagnostic Imaging	1.09	5	0.0104	1.0796
Rehabilitation Medicine	1.12	4	0.0083	1.1117
Occupational Therapy	1.18	2	0.0208	1.1592
Physiotherapy	1.07	2	0.0104	1.0596
Medical Records	1.03	8	0.0417	0.9883
Dietitian	1.03	13	0.0451	0.9849

*Note: *Based on feedback and data received from State Health Offices of July-December 2011*
***Performance Index** = The measurement of indicator performance toward its standard*
***Cumulative Performance Index** = The total of performance index which being summed from each indicator that reported by clinical services*
***Total Number of State with SIQ of all Indicator** = The total number of state/ PTJ which having SIQ of each reported indicators.*
SIQ Index = *The measurement of total number of SIQ towards the SIQ opportunity.*
***Corrected Performance** = The final performance index measurement by taking the SIQ index as the performance component*
Source: Medical Quality Care Service, Medical Development Division, MoH

ii. Key Management Performance Indicators

In 2011, one of the indicators has been monitored as a proxy indicator for the Honorable Minister of Health. The indicator is the rate of Elective Surgical Cancellations in all hospitals with surgical services (47 hospitals). In 2011, this indicator showed an excellent achievement with the national case cancellation rate of 6.51% (9,006 / 138,408) as compared to the standard of ≤ 10%. For the Key Performance Indicators (KPI) of the Director General of Health Malaysia, 35 from 45 indicators have reached the target with 22 of them were significantly exceeding the target (ET) (Figure 10). This achievement was presented to the Department of Civil Service.

FIGURE 10
DIRECTOR GENERAL OF HEALTH KPI PERFORMANCE, 2011



Source: Medical Quality Care Service, Medical Development Division, MoH

- **Implementation and Monitoring Strategy**

To ensure the achievement of all indicators, the Quality Assurance Unit of Medical Care Quality Section has produced the updated the policies based on currents need. It refers to the directive letter our YBhg. Dato' Sri Director General of Health Malaysia (refer; KKM87/P3/12/6/11 vol.2 (9) dated July 5, 2011. This unit also has constructed the Performance Indicator Matrix System 2011 which was first used on July 1, 2011 for performance reporting purposes. Furthermore, this Unit has revised and simplified the NIA/KPI-4 reporting form to make more effective and comprehensive.

Several discussions were held with groups of medical consultants and specialists with the National Service Advisors from 20 clinical disciplines to review the current standards of achievement and setting new standard. As a result of the discussions, 141 indicators were decided to be monitored in 2012 as compared with 129 indicators in 2011. As a general rule, all disciplines were required to fix fewer Key Performance Indicators and others remain as just Performance Indicators or NIA Indicators (National Indicator Approach). Apart from that, this unit has held Regional Consolidation Meeting and Presentation of National/ State Performance Indicators 2010/2011 Medical Program involving all five zones with their Director / Deputy Director (Medical) Health Department, the National Advisory Multi-Disciplinary, Multi-Disciplinary Head of Department, various Discipline Experts, Directors of Hospital and Health Department QA Coordinator / Hospital (Table 29).

TABLE 29
SCHEDULED REGIONAL ACTIVITIES OF QUALITY ASSURANCE, 2011

Date	Zone/ Region
13-16 June 2011	North Zone (Kedah, Penang, Perak & Perlis)
16-18 November 2011	Central & South Zone, (Johor, Melaka, Negeri Sembilan, Selangor, Federal Territories of Putrajaya & Kuala Lumpur)
11-13 October 2011	Eastern Zone (Kelantan, Terengganu & Pahang)
9-11 November 2011	Zone of Sabah and FT Labuan
20-22 July 2011	Zone of Sarawak

Source: Medical Quality Care Service, Medical Development Division, MoH

Infection Control

- **Healthcare Associated Infection**

Based on data compiled from state hospitals, the trend of Healthcare Associated Infection (HCAI) and Methicillin Resistant Staphylococcus Aureus (MRSA) in hospitals has shown a decline. The national HCAI prevalence rate over the 7 years has shown progressive reduction from 4.59% in March 2005 to 1.74% in September 2011. The national trend of MRSA rates have reduced markedly from 0.23% in 2005 to 0.11% in 2011. The reduction is more than 50% when compared to rates in 2005. However national ESBL rates, over the 6 years span seems to be minimally fluctuating in a range of 0.14% in 2005 to 0.13% in 2011.

- **Hand Hygiene Compliance**

Infection control is very much related to practice of hand hygiene. National average for hand hygiene compliance rates in the state hospitals was 60% in Jan 2009 and climb up steadily to 74% in October 2011. An update on infection control surveillance system course was conducted in September 2011 involving Infectious disease physician, microbiologist and infection control personnel to discuss on reports and finding of infection control activities.

- **CRE Guidelines And Surveillance**

As a response towards global apprehension on superbug 'Carbapenem Resistance Enterobacteriaceae: New Delhi Metallo β-lactamase1' (NDM-1), a group of technical committee had launched a guideline on management and notification of this bug in August 2011. About 29 cases of CRE were reported with 22 cases were NDM-1 positive.

- **Anti-Microbial Resistance Promotion (In Collaboration with Pharmacy and HECC)**

A media health awareness campaign was carried out in collaboration with Pharmacy and HECC to create awareness on combating antimicrobial resistance. This includes TV, radio and newspaper.

- **Annual Scientific Meeting on Antimicrobial Resistance 'ASMAR' 2011**

An annual event held on the 22nd and 23rd of October 2011. This symposium gathers experts to discuss and share on new development regarding antimicrobial resistance. The meeting was officiated by the Director General of Health Malaysia.

Patient Safety

The Surgery Saves Life Program in MoH hospitals has started since 2010. Evaluation of the implementation showed that number of hospitals implementing this program has increased from 38 hospitals in 2010 to 60 hospitals in 2011. Nevertheless, training of staff on this program has not been comprehensive and hence need to be increased. A workshop was conducted from 11 to 13 October 2011 to review the Safe Surgery Guidelines and to produce 2nd Edition of the Guidelines.

The Director General's Circular regarding implementation of Incident Reporting at MoH facilities, i.e. hospitals, health clinics and dental clinics was endorsed in 2011. This circular provides directives on the need to notify incident and conduct root cause analysis if incident involving patient safety happen. Examples are error in surgery, transfusion error, medication error and patient fall.

A book on Achieving Excellence in Clinical Governance produced in collaboration with WHO Consultant, Mr. Stuart Emslie has been circulated to MoH hospitals throughout the country. This book explains the concept of Clinical Governance in ensuring patient safety. It also contains a soft ware which enable health organization assesses its own implementation Clinical Governance easily.

The National Patient Safety Goals 2012-2015 has been drafted by the Patient Safety Council Malaysia Secretariat and to be presented at the Patient Safety Council Malaysia Meeting in January 2012. Patient Safety Goals outline the essential goals on patient safety in this country. The draft contains 15 goals dan 59 key performance indicator.

Medical Staff Safety and Health

The Guidelines on Chemical Management in MoH Healthcare Facilities was launched during the First Annual Occupational Safety and Health Seminar for MoH Hospitals on the 27th September 2010. Following which in 2011, the training on Chemical Management for Hospitals under MoH was conducted in five zones throughout Malaysia (Table 30). MoH staff showed keen interest during the training in an effort to protect their staffs from chemical hazard at the workplace.

TABLE 30
TRAINING ON CHEMICAL MANAGEMENT IN MoH HEALTHCARE FACILITIES, BY ZONE, 2011

Date	Zone
19-21 April 2011	East Zone
26-29 April 2011	North Zone
26-29 April 2011	South Zone
8-10 June 2011	Sabah Zone
2-4 November 2011	Middle Zone

Source: Medical Quality Care Service, Medical Development Division, MoH

The 2nd Annual Occupational Safety and Health Seminar for MoH hospitals was conducted on the 18th July 2011 in the Auditorium Parcel E, Putrajaya with the theme "Occupational Diseases – The Silent Killer". It was attended by an estimated 300 hospitals staffs throughout the country. The aim of the seminar was to give exposure on Occupational Diseases. The seminar was officiated by the Director General of Health, YBhg. Dato' Seri Dr. Hasan Abdul Rahman; and attended by the Deputy Director General of Health, YBhg. Datuk Dr Noor Hisham Abdullah, and the Director of the Medical Development Division, YBhg. Dato' Dr Azmi Shapie.

The medical examination for MoH staff above 40 years of age in Block E1 was conducted from the 26th till 28th September 2011 which involved 207 (44%) of its 482 staffs. The medical examination showed that a large number of the staff were overweight (pre obese/obese); 94 of its staff (53.1% of the total staffs screened). The other medical problem was high blood sugar levels (Random Blood Sugar >8mmol/L); which 15 of its 137 staffs (10.9%) had.

A fire drill in collaboration with the Fire and Rescue Department was conducted on the 16 February 2011. During the drill, emphasis was on evacuation as a method for preparation for disaster.

Hospital Accreditation

Identification of hospitals with problems to undergo the accreditation process has been actively conducted by gathering feedbacks from the hospitals. Other activities include preparation of the MoH Hospital Guidelines for Accreditation Programme; planning for the Panel Expert Committee and planning for workshops on standardization of accreditation activities at Peninsular Malaysia, Sabah and Sarawak. For the year 2011, out of 136 MoH hospitals, 107 hospitals had successfully undergone the accreditation survey and attained accreditation status awarded by the Malaysian Society for Quality in Health (MSQH). Out of these, 20 hospitals achieved accreditation for the first time. 17 hospitals achieved accreditation for the second time, 7 hospitals for the third time while 12 hospitals achieved accredited status for the fourth time. Another 14 hospitals are still waiting for their survey results.

MS ISO 9001:2008 Quality Management System Unit

In order to attain the MS ISO 9001:2008 Quality Management System certification; a variety of activities in accordance to the SIRIM standards were held for the staff of the Medical Programme. These include courses for internal auditors and document controllers; awareness programme for new staffs and regular meetings. The internal audit and the follow up activities were done before external audit by SIRIM. The unit also monitors and analyses of the Quality Objectives of 11 sections and units within the Medical Programme as well as the MS ISO certification activities for the MoH hospitals.

The Medical Programme has successfully attained the MS ISO certification 9001:2008 for a period of three years commencing from 31st of October, 2011 until 25th of September, 2014 from SIRIM. The certification exercises include annual surveillance audits by SIRIM as the external organizational auditor for the Quality Management System. Out of a total of 136 MoH hospitals, 75 hospitals attained their ISO certification within a variety of scopes. The pilot project on synchronization of MS ISO certification for MoH hospitals with Pahang State Health Department and 7 hospitals in Pahang has been successful.

Complaint Management/Medical Value-Ethics

Since the Complaint Management/Medical Value-Ethics Unit being established in 2008 until 2011, the average number of complaints managed per year is about 428 every year. This unit has been established to assist the Director of Medical Development Division in managing complaint related to hospital services in a more systematic and efficient manner. In 2011, 438 cases of complaint were received. This is higher compared to 318 cases in 2010 and 432 cases in 2009. Many of the complaints received are related to ineffective communication and attitude of staff.

MALAYSIAN HEALTH TECHNOLOGY ASSESSMENT SECTION (MaHTAS)

MaHTAS was established in August 1995, under the Medical Programme, in keeping with the Ministry's policy of ensuring that safe, effective and cost effective technology is being used in the MoH facilities in this country. MaHTAS also has been reappointed as the WHO Collaborating Centre for Evidence-based Health Care Practice for Asia Pacific region for the third term (2012 – 2014).

The main functions of MaHTAS are to provide technical input based on scientific evidence in decision-making process at various levels of health care particularly in clinical management; health policy and research; provide input for formulation of policies related to health technologies; coordinate the development of Clinical Practice Guidelines (CPG); plan and provide training on evidence-based policy and decision making among health care providers; review research proposals to be conducted in government hospitals and coordinate research project under Medical Program, Ministry of Health at headquarters level.

The main activities of MaHTAS are conducting assessment on Health Technologies in the form of health technology assessment and rapid assessment (Technology Reviews); developing evidence based CPG and ensures its implementation. This section also conducts training in Health Technology Assessment (HTA), Systematic Reviews for Clinical Practice Guidelines (CPG) development & Evidence Based Medicine (EBM).

In 2011, four HTA reports and eight CPG were produced by MaHTAS (Table 31). From the 30 TR reports approved by council in 2011, seven technologies were recommended for use, thirteen technologies can be used in research environment and ten technologies were not recommended to be used (Table 32). All reports and the CPG can be accessed at www.moh.gov.my.

TABLE 31
HTA REPORTS AND CPG PRODUCED IN 2011

	Reports / Guidelines
	Health Technology Assessment Reports
i.	HPV DNA-Based Screening Test for Cervical Cancer
ii.	Transnasal Oesophagoscopy (TNE)
iii.	Computerised Cognitive Behavioural Therapy for Adults with Depression
iv.	Immunochemical Faecal Occult Blood Test (IFOBT) for Colorectal Cancer (CRC) Screening
	Clinical Practice Guidelines
i.	Screening of Diabetic Retinopathy
ii.	Management of Chronic Kidney Disease in Adults
iii.	Management of Unstable Angina/Non ST Elevation Myocardial Infarction
iv.	Management of Dyslipidemia (4th edition)
v.	Management of Pulmonary Arterial Hypertension
vi.	Management of Acne
vii.	Management of Ischemic Stroke (2nd Edition)
viii.	Management of Severe Early Childhood Caries (2nd edition)

Source: Health Technology Assessment Section, MoH

MaHTAS conducted annual training on Health Technology Assessment and Clinical Practice Guidelines development and implementation. In 2011, two courses for health care professionals namely “Meta analysis Methods in Evidence Synthesis” and “Workshop on Economic Evaluation in Health Care” were conducted. Two trainings on Systemic Review for Evidence-based CPG Development and Implementation were conducted on 12-14 April 2011 and 11- 13 July 2011 respectively.

MaHTAS also collaborated with other divisions to train MOH personnel. Four courses on Evidence-based Medicine and Critical Appraisal were conducted with Pharmacy State Division of Perak and Negeri Sembilan, TCM Division as well as with Kedah CRC. In 2011, MaHTAS received attachment officers from Bhutan Ministry of Health, four Masters students from Oral Health Department, University Malaya, three Pharmacist from Hospital Putrajaya/Pharmacy Division, one Master student and three PHD students from the Universiti Kebangsaan Malaysia.

TABLE 32
TECHNOLOGY REVIEW REPORTS PRODUCED IN 2011 BASED ON RECOMMENDATIONS

Recommended technologies
• Prolotherapy
• Nucleic Acid Technigue Testing (NAT) for Blood Banking - An update
• Pathogen inactivation in donated blood
• Deep Brain Stimulation
• Biologics for psoriasis
• Gadoxetic Acid Sodium (Gd-EOB-DTPA) Liver-specific Magnetic Resonans Imaging Contrast Agent
• Coway Water Purifier System
Technologies recommended for research purpose
• Mobetron® 1000
• Versajet™ Hydrosurgery System
• G.TEC System (G>USBAmp, G.TRIGbox, G.PAH)
• Extracorporeal shockwave therapy for chronic plantar fasciitis
• Folic Acid Supplementation and Cancer
• Cyrus Infection Control Unit
• Photo Catalytic PURE AIR
• Hybrid Cochlear Implant
• Solution® Algorithm for Wound Care
• Exogen Therapy
• Neuromonics Tinnitus Treatment
• Lung Ultrasonography
• Systagenic Wound Care Products
Not recommended technologies in clinical setting
• Electrostatic Air Cleaner and UV-C Lamps
• Environmental friendly chemical (Emulgen)
• Complete Systematic Decontamination and treatment on HVAC System
• Mosquito Repellant Wristband
• Electrostatic Field Therapy
• BCG revaccination
• Ozone Therapy (An Update)
• NAGAIKI 9000
• HF 9000NP
• Air Purifier Systems

Source: Health Technology Assessment Section, MoH

CPG Implementation activities

Five CPG were launched in 2011 namely Management of Cancer Pain, Management of Breast Cancer (2nd Edition), The Use of Growth Hormone in Children & Adults, Screening of Diabetic Retinopathy and Management of Chronic Kidney Disease in Adults. All the CPG were launched by the Director General of Health Malaysia.

In 2011, three Quick Reference (QR) namely Management of Cancer Pain, The Use of Growth Hormone in Children & Adults, Management of Breast Cancer (2nd Edition) and Management of Chronic Kidney Disease in Adults had been developed and distributed to the public and private health care providers.

Training Modules on Transfusion Dependent Thalassaemia and Management of Breast Cancer (2nd Edition) were developed and used to train a total of 124 core trainers using both modules.

Patient Information Leaflet on Dementia and "What You Need to Know about CANCER PAIN" were developed together with patient/career based on the related CPG.

Selected CPGs namely CPG on Management of Major Depressive Disorder and Management of Hypertension were published in Malaysian Family Physicians Journal (MFPJ) in order to increase the utilisation of the CPG among primary care provider.

Research and evaluation activities
A continuous survey on utilisation of HTA and Technology Review reports was conducted using MaHTAS user feedback form. This form was sent to all HTA and TR recipients. Analysis on the feedback received for two HTA reports revealed that 80.86% of the respondents used the report and 97.7% of the respondents felt that the quality of the reports were excellent or good. A survey on utilisation of Quick Reference on Type 2 Diabetes Mellitus (4th edition) was conducted on selected hospitals and health clinics. The result showed that the overall percentage of QR utilisation was 89.5%.

MEDICAL PRACTICES DIVISION

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.

List of health laws under the responsibility of the Medical Legislation Section
There were positive developments seen in the year 2011, namely Bills and Regulations successfully drafted and sent to the Attorney General's Office for approval.

- **Allied Health Profession Bill**

Allied Health Profession Bill involving 24 Allied Health professions was completed in 2011. The completed Bill was presented to YB Minister of Health in March 2011 and it was later forwarded to Legal Advisor Office in October 2011.

- **Pathology Laboratory Act 2007**

This Act was gazetted in 2007. The stakeholders were given a briefing on matters pertaining to this Act in June 2011.

- **Pathology Laboratory Regulation (Compoundable Offences)**

Upon completion of the Pathology Laboratory Regulations draft, it was sent to the Legal Advisor Office in February 2011. The approval from the Attorney General's Office was sought two month later, and successfully achieved in June 2011.

- **Assisted Reproductive Technology Bill**

The draft of the Assisted Reproductive Technology Bill was presented to the National Committee of Assisted Reproductive Technology in November 2011. The committee agreed to the content of the drafted Bill.

- **Medical Act 1971(Amendment)**

The draft of the amendment of the Medical Act 1971 has been presented to YB Minister of Health in January 2011.

- **Organ Transplantation Bill**

The drafting committee of the Organ Transplantation Bill was selected by Director General of Health in March 2011. A total of 5 drafting meetings were held in 2011.

- **Medical Assistant (Registration) Act 1977 and Regulations 1979 (amendment)**

This new Act looks into registration of the Assistant Medical Practitioner as well as recognized qualifications and specialization requirements. A total of two drafting meetings were held and the drafting is still ongoing.

- **Guidelines on Aesthetic Medical Practice for Registered Medical Practitioners**

The drafting of the Guidelines on Aesthetic Medical Practice for Registered Medical Practitioners commenced in 2011 with input from various stakeholders involved in this industry. The National Committee of Aesthetic Medical Practice and the Main Credentialing and Privileging Committee of Aesthetic Medical Practice were formed and much work had been done in deciding the process of credentialing registered medical practitioners practicing aesthetic medical practice.

The scope of practice, training modules and syllabus as well as the minimum level of competency required were determined for the 3 main groups of practitioners, mainly general practitioners, medical specialists and surgical specialists. These Guidelines shall include policies on foreign medical practitioners intending to be involved in Aesthetic Medical Practice training in this country too. The first draft of these Guidelines was presented to the Director General of Health in October 2011. MoH anticipates the completion of these Guidelines in 2012.

Lists of Liberalisation Activities

- **ASEAN Coordinating Committee on Services (CCS) and Healthcare Services Sectoral Working Group (HSSWG)**

Two meetings were held in 2011 in Thailand and Indonesia where issues on Mutual Recognition Arrangements (MRA) of Medical Practitioners and Dental Practitioners were discussed. Concurrent to the CCS meeting, a meeting on Healthcare Services Sectoral Working Group (HSSWG) was organized to discuss on the execution of the three Mutual Recognition Arrangements (MRA) of the Medical Practitioners, Dental Practitioners and Nursing Practices. All three MRAs were signed in February 2009 and the discussions on their implementation are still ongoing.

- **Free Trade Agreements Malaysian-India Comprehensive Economic Cooperation Agreement (MICECA)**

Commitment in terms of foreign equity and trade barriers were submitted to MITI. The Malaysia-India Comprehensive Cooperation Agreement was concluded in June 2011.

Training

- **"The Basics of Legislation Drafting"**

The Medical Legislation Section conducted a one day course on "The Basics of Legislation Drafting" on 14th of November 2011. The speaker, an officer from the Attorney General's Office, highlighted on the legislative scheme and structure as well as the process of tabling bills in parliament. The workshop was attended by 40 officers from various Units in the Ministry of Health.

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 MoH. 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.

Medico Legal Courses

The increasing number of PML cases and medico legal cases had led the need of medico legal awareness training and courses among the Ministry of Health personnel and in cooperation with the Judicial and Legal Training Institute (ILKAP), three medico legal courses had been organised for medical specialists, medical officers (clinicians and administrators) and medical supporting staff in 2011.

Management of Complaints

In general, the number of complaints received by the Medico Legal Section showed an increasing trend from year 2006, with 1394 complaints received in 2011. However, the significant low prevalence of medico legal cases from 2006 to 2008 as compared to 2010 (62.4%) and 2011 (35.8%) were contributed by the segregation of complaints related to Private Healthcare Facilities And Services which were placed under the Private Medical Practice Control Section starting 2009 (Table 33).

TABLE 33
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
6.	2011	285	102	35.8
Total		**1394**	**520**	**37.3**

Source: Medico Legal Section, MoH

Meetings on Ex Gratia for potentially medico legal (PML) cases

For 2011, a total of 12 ex gratia meetings had been held to consider PML cases for ex gratia payment.

Ex Gratia Payment (EGP)

The total amount of compensation payment for 2011 was RM 21,583,168.65 with RM 5,107,106.21 paid out via ex gratia offers for PML cases. There was a noticeable increase in the amount of payment made in 2010 from RM 6,558,608.12 to RM 8,664,085.53 in 2011. This was due to the increase in payment for court cases after a directive that was issued in 2009 by the Government to all courts to expedite clearance of backlog cases. This had resulted in the increase from RM 5,652,242.91 in 2010 to RM 5,741,385.53 in 2011 for the amount of payment for court cases (Table 34).

TABLE 34
AMOUNT OF COMPENSATION PAID BY COURT ORDER AND OUT OF COURT (EGP), 2006-2011

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
6.	2011	5,741,385.53	2,922,700.00	8,664,085.53
Total		**16,476,062.44**	**5,107,106.21**	**21,583,168.65**

Source: Medico Legal Section, MoH

Training

At the end of 2011, the total of 96 MoH personnel participated in the medico legal awareness courses. A sharp decrease in the number of nurses trained in 2011 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 35
NUMBER OF PERSONNEL TRAINED IN MEDICO LEGAL AWARENESS COURSES, 2006-2011

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
6.	2011	32	32	21	11	96
Total		**114**	**190**	**133**	**119**	**566**

Source: Medico Legal Section, MoH

MALAYSIAN MEDICAL COUNCIL (MMC)

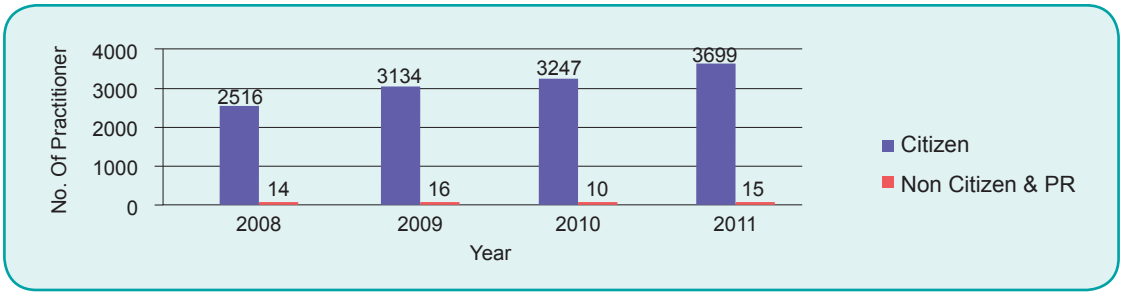
The MMC, which is headed by the Director-General of Health as the ex-officio President and elected or nominated registered medical practitioners as the Council members and appointed by MoH, is established under section 3 of the Medical Act 1971 and functions mainly to maintain the quality of medical 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.

Registration

- **Temporary Registration**

The total number of temporary registration for 2011 is 384.

FIGURE 11
NUMBER OF MEDICAL PRACTITIONERS PROVISIONALLY REGISTERED, BY CITIZENSHIP, 2008-2011



Source: Malaysian Medical Council, MoH

- **Full Registration**

A total of 3407 medical practitioners were registered under section 14 and subsection 14(3) of the Medical Act 1971 respectively in 2010 (Table 36).

TABLE 36
NUMBER OF PRACTITIONERS GRANTED FULL REGISTRATION, 2010-2011

Type of Registration	2010	2011
Full registration according to section 14*		
• Malaysians – completing housemanship locally	2306	2706
• Malaysians – completing housemanship overseas	80	50
Total	**2,386**	**2756**
Full registration according to section 14(3)		
• Foreigners – completing housemanship locally	20	4
• Foreigners – completing housemanship overseas	186	647
Total	**206**	**651**
Grand Total	**2592**	**3407**

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

- **Annual Practising Certificate (APC)**

The total numbers of APCs issued increased yearly, with 24,782 issued in 2011 compared to 23,055 in 2010. The table below illustrates the increment of the number of APCs issues according to states and sectors between 2010 and 2011. Table 37 illustrates the number of APCs issues according to state between 2010 and 2011.

TABLE 37
NUMBER OF APC ISSUED ACCORDING TO STATE AND SECTOR, 2010-2011

State	2010		2011	
	Public	Private	Public	Private
FT Kuala Lumpur	2,856	1,958	2,987	1,967
FT Labuan	21	16	16	16
FT Putrajaya	364	13	398	14
Johor	957	1,085	1,075	1,135
Kedah	646	482	729	484
Kelantan	1005	222	1117	228
Melaka	364	408	417	419
Negeri Sembilan	524	398	675	402
Pahang	587	350	699	292
Penang	702	975	785	982
Perak	903	871	1,092	885
Perlis	142	37	149	37
Selangor	1,791	2,738	1,962	2,883
Terengganu	357	204	357	195
Sabah	690	390	867	405
Sarawak	596	403	681	418
Total	**12,505**	**10,550**	**14,018**	**10,764**
Grand Total	**23,055**		**24,782**	

Source: Malaysian Medical Council, MoH

- **Letter of Good Standing**

In 2011, 620 Letters of Good Standing were issued upon request to registered medicals practitioner wishing to register with medical councils or professional registering bodies abroad.

Approval and Accreditation

As of 31st December 2011, 20 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 38). In addition, 19 more local undergraduate medical programmes are still awaiting accreditation (Table 39).

TABLE 38
LIST OF ACCREDITED LOCAL INSTITUTES OF HIGHER LEARNING/MEDICAL UNDERGRADUATE PROGRAMMES (AS OF 31st DECEMBER 2011)

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)
9.	Universiti Sains Islam Malaysia
Private	
10.	Penang Medical College
11.	Melaka-Manipal Medical College
12.	Royal College of Medicine, Perak (University of Sheffied Programme)
13.	Royal College of Medicine, Perak (MBBS Malaya Programme)
14.	Asian Institute of Medicine, Science and Technology (AIMST) University
15.	Allianze College of Medical Sciences (ACMS) (Universitas Sumatera Utara – International Class Programme)
16.	Monash University Sunway Campus
17.	UCSI University
18.	Cyberjaya University College of Medical Sciences
19.	International Medical University
20.	Management & Science University - International Medical School, Bangalore

Source: Malaysian Medical Council, MoH

TABLE 39
LIST OF APPROVED LOCAL UNDERGRADUATE MEDICAL SCHOOLS AWAITING ACCREDITATION (AS OF 31ST DECEMBER 2011)

	Institution/Programme	Year Established	Year Expected To Be Accredited
1.	Universiti Kebangsaan Malaysia - Universitas Padjadjaran, Indonesia	2004	2011
2.	UniKL Royal College of Medicine Perak	2006	2011
3.	Management & Science University, Shah Alam Campus	2008	2013
4.	Universiti Sultan Zainal Abidin	2009	2014
5.	Universiti Kebangsaan Malaysia-Allianze University College of Medical Sciences	2009	2014
6.	UniKL Royal College of Medicine Perak–Vinayaka Mission's University, India	2009	2014
7.	Universiti Sains Malaysia - KLE Belgaum, India	2009	2014
8.	Allianze University College of Medical Sciences - National University Of Ireland, Galway (NUI)	2009	2014
9.	Allianze University College of Medical Sciences - University College Cork, Ireland (UCC)	2009	2014
10.	Newcastle University Medicine Malaysia	2009	2014
11.	MAHSA University College	2009	2014
12.	Taylor's University College	2010	2015
13.	Melaka-Manipal Medical College Extension Programme	2010	2015
14.	Universiti Tunku Abdul Rahman	2010	2015
15.	SEGI University College	2010	2015
16.	Masterskill University College of Health Sciences	2010	2015
17.	Perdana University – Johns Hopkins Graduate School of Medicine	2010	2015
18.	Perdana University – Royal College of Surgeons, Ireland	2010	2015
19.	Universiti Pertahanan Nasional Malaysia	2010	2015

Source: Malaysian Medical Council, MoH

Requests for recognition by foreign medical institutions have been withheld since 2011 following the review of the Second Schedule in conjunction with the amendment to the Medical Act 1971.

Complaints and Disciplinary Problems
The Ethics and Disciplinary Unit addresses all complaints that are put forward to them and it mainly addressed the complaints pertaining to ethical issues and not on negligence matters.

TABLE 40
OUTCOME OF COUNCIL INQUIRY, 2011

Types of Punishment	2011
Charge dismissed and registered medical practitioner not found guilty	9
Name of registered medical practitioner struck off from the Medical Register	1
Name of registered medical practitioner suspended from the Medical Register	3
Registered medical practitioner reprimanded	5
Suspended suspension	5
TOTAL	**23**

Source: Malaysian Medical Council, MoH

MALAYSIAN OPTICAL COUNCIL (MOC)

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 2011, the number of registered optometry practitioners under section 18 and section 19 of the Optical Act 1991 had increased by 6.1% from 3,693 in 2010 to 3,919 optometry practitioners.

- **Opticians**

Similarly, the total number of opticians was also observed to be 2.4% higher in 2011 as compared to 2010 (Table 41).

TABLE 41
NUMBER OF OPTICIANS GRANTED FULL REGISTRATION ACCORDING TO SECTIONS, 2010-2011

No.	SECTION	No. of Opticians (Cumulative)		Increment from 2010 to 2011 (%)
		2010	2011	
1.	18(1) *	1083	115	6.2
2.	18(2)(a) †	1732	1732	0
3.	18(2)(b) ‡	1	1	0
4.	18(3) ¥	0	0	0
Total (Cumulative)		**2816**	**2883**	**2.4**

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 18.1% from 877 in 2010 to 1036 in 2011 (Table 42).

TABLE 42
NUMBER OF OPTOMETRIST GRANTED FULL REGISTRATION ACCORDING TO SECTIONS, 2010-2011

No	SECTION	No. of Optometrists (Cumulative)		Increment from 2010 to 2011 (%)
		2010	2011	
1.	19(1) *	854	986	15.5
2.	19(2) †	23	50	117.4
Total (Cumulative)		**779**	**877**	**1036**

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 2011 had increased by 11.1% for optometrists from 2010 but number opticians remains (Table 43).

TABLE 43
NUMBER OF CONTACT LENS PRACTITIONERS, 2010-2011

No	SECTION	No. of Contact Lens Practitioners (Cumulative)		Increment from 2010 to 2011 (%)
		2010	2011	
1.	Opticians	560	560	0
2.	Optometrist	877	1036	18.1
Total (Cumulative)		**1437**	**1596**	**11.1**

Source: Malaysian Optical Council, MoH

Annual Practicing Certificate

A total of 3187 (81.3%) optometry practitioners had renewed their annual practising certificates for 2011 and the Malaysian Optic Council had sent reminders to the remaining 670 optometry practitioners to apply for renewal (Table 44).

TABLE 44
TOTAL NUMBER OF REGISTERED OPTOMETRY PRACTITIONERS WHO HAD RENEWED THEIR ANNUAL PRACTISING CERTIFICATES (APC), 2002 - 2011

Item	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Registered practitioners	2,069	2,240	2,549	2,660	2,847	2,992	3,200	3,493	3,693	3919
Registered practitioners with APC renewed	1,674	1,674	1,977	2,077	2,220	2,443	2,496	2,707	3,023	3187
APC renewed (%)	80.9	74.7	77.6	78.1	78.0	81.7	78.0	77.5	81.9	81.3

Source: Malaysian Optical Council, MoH

Workshop for Auditors of Optometry Audit Manual for MoH Optometry Services

Malaysian Optical Council had organized a workshop for Auditors of Optometry Audit Manual for MoH Optometry Services on March 23, 2011 held at the National Institute of Occupational Safety & Health (NIOSH), Bandar Baru Bangi, Selangor. The workshop was organized as a step to ensure the Optometry Service audit conducted smoothly. The objectives that have been achieved:

- Provide exposure and training on how to perform the audit.
- Appoint Optometrist to be the auditor.
- Conduct pilot audits in some selected hospitals to ensure that the developed Audit Guidelines can be used and to identify problems that may arise if the actual audit carried out later.
- Provide exposure to Optometrist on how to analyze data, presentation of audit findings and techniques of data obtained from the audit.

Workshop on Assessor of Optometry/Opticianry Programmes 2011

Workshop on Assessor of Optometry/Opticianry Programmes 2011 was held on 31 March 2011 to 2 April 2011 at the Malaysian Qualifications Agency (MQA), Petaling Jaya, Selangor. The workshop was held to train members of Malaysian Optical Council Evaluation Panel that will evaluate the program of Optometry / Opticianry from any institution of higher education seeking to operate the program or to apply for program accreditation. Participants of this workshop consists of lecturers from IPTA & IPTS, MoH Optometrists and Optometrist and registered opticians who is working in private practice to ensure that the assessment process are more transparent taking into account the views of industry.

Workshop on Enforcement of the Optical Act 1991

In enhancing the knowledge on enforcement among selected Ministry of Health personnel, the Malaysian Optical Council organised an Optical Act 1991 Enforcement Workshop on 21-23 November 2011 at Hotel Sri Malaysia Melaka. The objectives of the workshop were to:

- Develop an enforcement team that will carry out enforcement of Optical Act 1991
- To expose the participants who have been appointed as an enforcement officer the scope and manner of enforcement to be carried out

MEDICAL ASSISTANTS BOARD

Medical Assistants Board is the only national organization that represents Assistants Medical Officer in terms of recognition, training, credentialing, accreditation and discipline of Assistants Medical Officer in Malaysia. Establishment of the board:

- Medical Assistant Board (Medical Assistant (Registration) Act 1977
- Estate Hospital Assistant Board (Estate Hospital Assistant (Registration) Act 1965

Scope and functions of the board:

1. Registration of persons entitled to be registered as Assistant Medical Officer and matters connected therewith,
    - To ensure that any person who wishes to practice as a Assistants Medical Officer is registered with the Medical Assistants (Registration) Board, provided he fullfills all the criteria set by the Board.
    - To ensure all practicing Assistants Medical Officer have a valid Annual Practicing Certificate, issued by the Board.
    - To ensure that every registered Assistants Medical Officer maintains a high standard of professional conduct and a personal integrity in the delivery of health care to the public.
2. Training of persons intending to be registered as Assistant Medical Officer and matters connected therewith.
3. Responsible in Assisting Accreditation body MQA for recognizing Institution or private colleges for the purpose of licensing their graduates to practice in Malaysia.
4. To upgrade the standard of professionalism, code of etiquette and enforcement.

5. To determine or approve and set the syllabus, the contents of the courses of instructions and examination of the basic of Assistants Medical Officer.

Registration Report of Medical Assistant
The total number of Assistant Medical Officer registered with the Board from 1974 until 2011 is 13,004 (cumulative).

Annual Practice Registration Report (APC) of Medical Assistant
The total Annual Practicing Certificate produced in January till December 2011 was 10,554 which was 81% of the total registered Assistant Medical Officer (AMO) and 19% of the active registered AMO application were made after December 2011. Revenue collected due to late fee until end of the year 2011 contributed a total amount of RM 24,125.

Estate Hospital Assistants (Registration) Board
The Estate Hospital Assistant (EHA) Board (Registration) for Peninsular Malaysia was established under section 2(1) Act 435 EHA (Registration) no.12, 1965. The Estate Hospital Assistant Board (Registration) has to ensure the quality of the Estate Hospital Assistant is maintained which will enhance quality of services provided and only those that have been registered with the Board are to be employed by the estate and mines sectors.

Functions of the EHA Board:
1. Main Functions of the EHA Board are as follows:
    - To appoint members of the Board, committee or body formed for any purpose affecting the EHA.
    - To approved any government institution or suitable estate hospitals or other institution approved by Minister as training institution for training of EHA.
    - To determine or approve and set the syllabus, the contents of the courses of instructions and examination of the basic of EHA.
    - Registration of persons entitled to be registered as probationer EHA and matters connected therewith.
    - Registration of the potential candidate for EHA and the probationary EHA which in line with the rules and regulation and the minimum qualification required under the Act no.12 of the EHA Act 1965. Registration of persons to be registered as qualified estate hospital assistants after they passed the prescribed respective grades of examination.
    - To conduct EHA yearly examination of grade I, II, & III and issuing of certificates to candidates who passed the examination. Managing the examination requirement for the EHA grade I, II, III. Since 2006, examination is to be conducted within College of the Medical Assistant in Seremban, Negeri Sembilan and the Nursing College Sandakan, Sabah.
    - To visit from time to time the estates hospital and clinics as to ensure the health facilities are in accordance to the minimum standard set by the Minister.

2. Other Functions of the EHA Board.
   To ensure adequate training and accordance to requirement;
    - Preparation of training module for the Estate Hospital Assistant.
    - Selection of training centre integrating by the board depending upon
        - Facilities
        - Equipments
        - Environment
    - Managing the Intensive Course for candidates before sitting for the examination.
    - Conducting updates, seminars and workshops
    - Integrating with other bodies like MMA and SOEM in conducting workshop updates.

Members of the EHA Board (Registration) are appointed by the Health Minister for a term of three years and can be reappointed. The Board Members consisting of;

- Three Medical Officers from Government department in which, one is from the Ministry of Defense.
- Two Registered Medical Practitioner attached to the estates which is proposed by the MMA
- One Estate Hospital Assistant representing AMESU (All Malaya Estate Staff Union).
- One representative from Planting Industry nominated by the Malaysian Palm Oil Association (MPOA).
- One representative from Ministry of Human Resource.

The Deputy General of Health (Medical) is appointed by the Minister of Health as the Chairman of the Board and the Head of Medical Assistant is the Secretary of the board (Ex-Officio). The present Members of the Board:

- YBhg. Datuk Dr. Noor Hisham bin Abdullah (Chairman of the Board) - Government Representative
- YBhg. Dato' Dr. Azmi bin Shapie - Government Representative
- YBhg. Brig. Jen (Dr) Zakaria bin Awang - Government Representative
- Dr. P.Vythilingam - MMA Representative.
- Dr. Chandran a/l Rajagopal - MMA Representative
- YBhg. Dato' Mamat bin Salleh - MPOA Representative
- Encik Che Mohd Rokman bin Che Awang - Ministry of Human Resource
- Encik S.Gunaseelan - AMESU Representative
- Tn.Hj. Siri bin Narudin - Secretary of the Board

Activities of the EHA Board

- **Board Meetings**

The EHA Board (Registration) 93th meeting was held on the 1 December 2011 @ 3.00pm at Meeting Room 5, Block E1, Ministry of Health, Putrajaya.

- **Examination**

The EHA examination consisting of 2 components, the written paper and the practical test which was conducted in Medical Assistant College in Seremban and Nursing College in Sandakan, Sabah from the 3th October till 7th October 2011, held concurrently. Practical test for Laboratory Technique was held in Medical Research Institute Kuala Lumpur for candidates from West Malaysia and as for candidates from East Malaysia being held in Nursing College Sandakan, Sabah.

Fees for the EHA Examinations are as follows

i.	Grade I Examination	-	RM 150.00
ii.	Grade II Examination	-	RM 100.00
iii.	Grade III Examination	-	RM 50.00

Qualification requirement to determine grading for EHA,

i. Grade I - Registered EHA grade II with four years experience
ii. Grade II - Registered EHA grade III with three years experience.
iii. Grade III - Registered Probationary EHA with two years experience working with EHA grade 1.

Hospital Assistant from Ministry of Defence (AMN/AMA) under section 10 (2)(b) EHA Board Regulation (Registration), will be graded in accordance with declaration from the Army Commander in Chief.

TABLE 45
EHA EXAMINATION FEE COLLECTION, 2011

Payment	Total Registrations	Total Collections (RM)
Registration of probationary Estate Hospital Assistant	35	875.00
Registration of Certificates		
Grade I	12	600.00
Grade II	6	300.00
Grade III	7	350.00
TOTAL REGISTRATION	**60**	**2125.00**
Examination Fee		
Grade I	6	900.00
Grade II	9	900.00
Grade III	18	900.00
TOTAL EXAMINATION	**33**	**2700.00**
GRAND TOTAL	**92**	**4,825.00**

Source: Medical Assistants Board, MoH

The EHA Board had recognised two examination centres and one for practical purposes.
- College of Medical Assistant in Seremban caters for West Malaysian candidate.
- Nursing College in Sandakan, Sabah caters for East Malaysian candidate.
- Medical Research Centre, Kuala Lumpur for Laboratory Technique test.

Results of the examination was released during the 93rd meeting of the Board held on 1 December 2011.

TABLE 46
NUMBER OF REGISTERED CANDIDATES WITH THE EHA BOARD FOR 2011

State	Grade I	Grade II	Grade III	Probationary	Total
Perlis	-	-	-	-	-
Kedah	1	-	-	2	3
Pulau Pinang	-	-	-	1	1
Perak	-	-	-	1	1
Selangor	-	-	-	-	-
Negeri Sembilan	1	-	-	2	2
Melaka	1	1	-	3	5
Johor	3	-	-	2	5
Pahang	-	-	-	4	4
Terengganu	-	-	-	-	-
Kelantan	1	-	-	-	1
Kuala Lumpur	-	-	-	-	-
Sarawak	-	-	-	1	1
Sabah	5	5	7	19	36
Total	**12**	**6**	**7**	**35**	**60**

Source: Medical Assistants Board, MoH

TABLE 47
TOTAL ESTATE HOSPITAL ASSISTANT REGISTERED WITH THE BOARD, 2006-2011

	2006	2007	2008	2009	2010	2011
GRADE I	187	193	209	217	222	234
GRADE II	106	107	115	116	117	123
GRADE III	88	88	105	110	114	121
Probationary	530	552	593	617	649	684
Total	**911**	**940**	**1022**	**1060**	**1102**	**1162**

Source: Medical Assistants Board, MoH

***Program Penempatan Wajib* (PPW)**
Any Assistant Medical Officer (AMO) Grade U29 that is newly appointed by MoH is to undergo PPW in accordance to Director General of Health Circular No. 10/2007 beginning January 1, 2008. In 2008 to 2011 eight (8) groups have successfully attended the program in 34 hospitals respectively. As for 2011, specifically:

i. PPW Series 01/2011
286 participants reported for the program from 7 February 2011 to August 6, 2011, including Sabah and Sarawak. 258 participants had graduated and posted in various places on 1 November 2011, while 28 (9%) participants continued placement.

ii. PPW Series 02/2011
429 participants reported to the program from July 18, 2011 to January 17, 2012, including Sabah and Sarawak. 411 participants had graduated and were posted out on March 15, 2012, while 18 (4%) participants continued placement.

Monitoring and supervision had been made by the Secretariat of Medical Assistant Board PPW evaluation Committee Assistant Medical Officers headed by the Emergency Physician-related hospital to ensure that the objective of the program is implemented in accordance with the guidelines set. Series of monitoring visits to participants 01/2010 and series 02/2011 have been reached 100%.

A PPW Workshop was held from 11-13 September 2011 at the Tiara Beach Resort, Port Dickson. A total of 43 participants from across the country attended the workshop which consists of state coordinators, and a few local preceptor including Sabah and Sarawak. The opening was done by Assistant Chief Medical Officer, Malaysia, Tn. Hj. Siri bin Narudin on 11 September 2011. The workshop was closed and officiated by Director of Medical Practice Ministry of Health Malaysia. Objectives of the workshop:

i. Enhanced understanding of the concept of AMO in guiding newly appointed specialization MoH related clinical skills.
ii. Strengthened the role of State Coordinator of AMO and professional local Preceptor AMO.
iii. Strengthen the partnership between the secretariat of Medical Assistant Board and respective hospitals for better networking and facilities.

Training and CME
Training Unit is a sub-unit under Services and Operations Unit of Medical Assistants Board (MAB) and is responsible in planning of training for MAB Secretariat itself and also the assistant medical officer in the country. For the past few years, the MAB training course was focused on the promotion of AMO. This is because the 'Provision of Human Capital', which was received annually, was sufficient for these purposes even though the MAB Secretariat intend to organize several courses (training) for the AMO 'on field'. In 2011, the Secretariat has organized a series of following courses:

- **Technical Courses**

The Assistant Medical Officer Technical Course was held for all Assistant Medical Officers which have been promoted either from U29 to U32, U32 to U36, or U36 to U42 annually. These courses were held according to zones (Zone North, South, East and Sabah & Sarawak). In view of financial constraints and funding, courses were planned for only three zones. Technical Course No. 1/2011 was conducted (covering all western states - from Perlis to Johor) in Allson Hotel Putra, Nilai, Negeri Sembilan. A total of 100 AMOs on promotion from U29 to U32 and U32 to U36 had attended and were given 'input' from the various aspects of information and leadership.

The 2nd Technical Course (2/2011) was carried out (Sabah and Sarawak) at the RH Hotel in Sibu, Sarawak. A total of 82 people attended the course. The 3rd Technical course (3/2011) was carried out (for all east coast states - from Pahang to Selangor) at the Hotel Grand Continental Kuala Terengganu. A total of 69 people attended the course.

- **Pre-Retirement Course.**

Medical Practice Division in collaboration with the Medical Assistants Board Secretariat has organized courses for future retirees for AMO from all grades (U29 to U42) on 3-6 May 2011 at the Grand Continental Hotel, Kuala Lumpur. A total number of 78 participants comprised of AMOs from around the state who will retire in June 2011 to June 2012 were attended the course.

- **Continuous Medical Education (CME)**

CME is held monthly specifically for the AMO from the MoH HQ, Serdang Hospital, Putrajaya Health Clinics and Putrajaya Hospital, performed by scheduled rotation. Average attendances are 30-50 and these programs are conducted to ensure that all AMOs kept abreast of the clinical knowledge and development.

PRIVATE MEDICAL PRACTICE CONTROL

The Private Medical Practice Control Section (PMPCS) undertakes the role to implement the Private Healthcare Facilities and Services Act 1998 [Act 586] which has come to its fifth year of implementation in 2011. 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

Private medical clinic (PMC) and private dental clinic (PDC) are required to be registered. In total, up to 31st December 2011, 7,495 applications for PMC were received and 7271 (97%) were registered and 1,754 applications for PDC were received and 1708 (97%) were registered. As 31st December 2011, 682 PMC and 132 PDC closed. Therefore, total number of registration of PMC and PDC, by state, as of 31 December 2011 are as listed in Table 48.

TABLE 48
NUMBER OF REGISTERED PMC AND PDC IN MALAYSIA (AS OF 31ST DECEMBER 2011)

No.	State	Number of Clinics	
		Private Medical Clinics	Private Dental Clinics
1.	Johor	786	162
2.	Kedah	324	52
3.	Kelantan	190	55
4.	Melaka	272	36
5.	Negeri Sembilan	260	47
6.	Pahang	225	48
7.	Pulau Pinang	477	114
8.	Perak	607	116
9.	Perlis	30	4
10.	Selangor	1628	441
11.	Terengganu	153	39
12.	Sabah	329	88
13.	Sarawak	316	83
14.	FT Kuala Lumpur & Putrajaya	983	287
15.	FT Labuan	9	4
Total		**6589**	**1576**

Source: Private Medical Practice Control Section, MoH

Approval and Licensing

Licensing of private hospitals (PH) and other private healthcare facilities other than private clinics consists of two stages namely approval to establish or maintain and license to operate or provide. In deciding whether or not to grant approval to establish a private healthcare facility or service, it shall be subjected to zoning criteria which considering the following matters:

- the nature of the healthcare facility or service to be provided;
- the extent to which the healthcare facilities or services are already available in an area
- the need for the healthcare facility or service in an area; or
- the future need for the healthcare facility or service in an area.

The total number of approved applications on approval for establishment or maintenance of PH and other healthcare facilities up to 31st December 2011 are 625. Whereas, total number of approved applications on licence to provide or operate of PH and other healthcare facilities, according to state and type of facility up to 31st December 2011 as listed under Table 49.

TABLE 49
NUMBER OF LICENSED PRIVATE HEALTHCARE FACILITIES AND SERVICES OTHER THAN THE PRIVATE CLINICS IN MALAYSIA AS OF 31st DECEMBER 2011

No.	State	Number of Licensed Private Healthcare Facility or Service			
		Private Hospitals	Private Haemodialysis Centres	Others*	Total
1.	Johor	30	47	11	88
2.	Kedah	9	27	1	37
3.	Kelantan	3	7	2	12
4.	Melaka	4	17	1	22
5.	Negeri Sembilan	9	24	1	34
6.	Pahang	8	13	3	24
7.	Pulau Pinang	23	30	9	62
8.	Perak	16	37	1	54
9.	Perlis	0	3	1	4
10.	Selangor	56	83	29	168
11.	Terengganu	1	6	2	9
12.	Sabah	6	10	2	18
13.	Sarawak	13	8	7	28
14.	FT KL & Putrajaya	41	32	23	96
15.	FT Labuan	0	0	0	0
Total		**220**	**344**	**92**	**656**

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

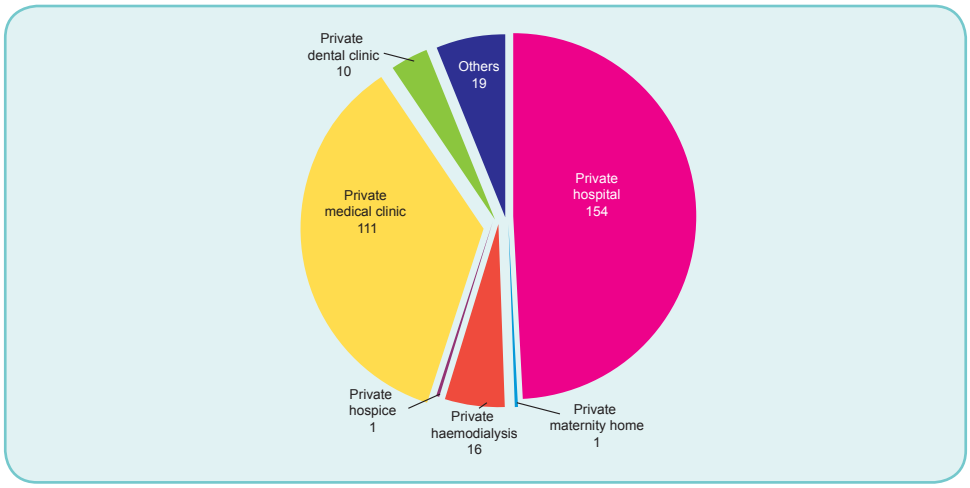
Complaints

Management of complaints related to private healthcare facilities and services had been placed under the care of the PMPCS starting from 2009. In 2011, PMPCS received a total of 312 complaints, as shown in Figure 12.

75.8% of the complaints received involved grievances towards the services provided. The remaining 14.4% and 9.8% were directed towards the personnel rendering the treatment and/or care and the facilities and/or equipments used while having treatment, respectively.

Complaints received from the patients or patients' representative were dealt according to the patient grievance mechanism plan, as stipulated under Act 586. For complaints that were received from other parties, further investigations will be carried out, followed by necessary actions.

FIGURE 12
COMPLAINTS RECEIVED ACCORDING TO FACILITIES REGULATED UNDER ACT 586, 2011



Note: No complaints received involving private psychiatric hospital, private ambulatory care centre, private nursing home, private psychiatric nursing home, private blood bank, private community mental health centre and combined facilities

Source: Private Medical Practice Control Section, MoH

Enforcement

Enforcement activities under the Private Healthcare Facilities and Services Act 1998 were also monitored by PMPCS since 2009. Throughout 2011, a total of 17 raids were done by various states, targeting the unlicensed or unregistered healthcare facilities as stipulated under Act 586, and the licensed or registered facilities which hire/employ unregistered or unqualified healthcare professionals. These activities were usually triggered by public information or complaints, or the facilities were caught red-handed during our surveillance activities towards registered and licensed facilities.

Incident Reporting and Notification of Assessable Death

All licensed facilities under Act 586 were required to report their unexpected incidents (Incident Reporting – IR) and occurrence of Assessable Death (AD), as directed under **Arahan Ketua Pengarah Kesihatan Bil. 1/2010** since 1st January 2011. The aim of monitoring these IR and AD are mainly for the purpose of quality improvement. Thus, all reporting and notifications will not be subjected to punitive action.

For 2011, the purpose of IR and AD is mainly to gather data and inputs regarding incidents and deaths that occurred in private healthcare facilities. As first step, reporting and notifications are on voluntary basis, using these forms;

- Form IR-1 : per incident as listed in the form
- Form IR-2 : 6-months statistical summary of incidents that occur (incidents that are not listed to be reported under IR-1)
- Form AD-1 : for assessable death occur within 72 hours of death

Throughout 2011, a total of 26 AD notifications, 21 IR-1 reports, and 27 IR-2 reports were recorded.

Board of Visitors for Private Hospitals
Arahan Am Menteri Kesihatan Malaysia Bilangan 1 Tahun 2011, enforced on 1st January 2011, directed all licensed private hospitals with bed capacity 50 and above to establish their respective Board of Visitors. The appointments for 650 members of this Board of Visitors were done on 1st August 2011 and 1st December 2011, involving 68 private hospitals. A Board of Visitors for Private Hospitals Convention/Conference is scheduled to take place in early 2012, participated by members of the board and management team of the respective hospitals.

TELEHEALTH DIVISION

The Telehealth Division provides advisory role and assistance to other MoH agencies and implements specific Health ICT projects. For 2011, the KPIs for the Division are:

- To prepare User Access Control Policy (UACP) document for MoH
- Implementation of MyHIX (Malaysia Health Information Exchange) service. Currently, MyHIX is being implemented in phases beginning 2011.
- To continue maintaining Ask The Expert Service section in the MyHEALTH portal, Continuous Professional Development (myCPD), Teleconsultation (TC) Services and Virtual Library (VL).

Telehealth Division is working together with the Information Management Division (BPM) to monitor the implementation of Information Technology Strategic Plan (ISP) 2011-2015. Telehealth Division is also part of the Project Management Office and act as the Coordinator and Subject Matter Expert (SME) in the Integrated Open Source Hospital Information System (Integrated OpenHIS - developed together by MoH with MAMPU).

Telehealth Division is also part of the project team in the development and implementation of Hospital Information System at three hospitals namely, Hospital Sultanah Nur Zahirah, Kuala Terengganu; Hospital Sultan Haji Ahmad Shah, Temerloh and Hospital Bintulu. Together with MDeC, Telehealth Division organised and coordinated Connectathon 2011.

Other activities and achievement of the Division are:

i. Audit for User Access Control Policy (UACP)

- 8 hospitals and 2 clinics: -
  - Hospital Sg. Buloh
  - Hospital Serdang
  - Hospital Ampang
  - Hospital Putrajaya
  - Hospital Sultanah Nur Zahirah, Kuala Terengganu
  - Hospital Sultan Haji Ahmad Shah, Temerloh
  - Hospital Selayang
  - Hospital Sultan Ismail
  - Klinik Kesihatan Putrajaya
  - Klinik Pergigian Kuala Kubu Baru
- Review of National Telehealth Policies on Teleconsultation (TC) Services was conducted.

ii. Content Development for MyHEALTH Portal

- FAQ - 8 new topics had been identified and created.
- 12 FAQ existing topics translated.

iii. Health ICT promotions

a. Other Government Agencies
- Ministry of Information Communications and Culture
- Ministry of Youth and Sport
- Ministry of Education
- Ministry of Higher Education
- Universiti Malaya
- Universiti Pendidikan Sultan Idris

b. Road shows (Public) – 4 events/exhibitions
- Karnival Jom Masuk U – Ministry of Higher Education
- World Youth Day 2011 – Ministry of Youth and Sport
- Langkawi International Dialogue 2011 – Ministry of Foreign Affairs
- Seminar Peranan Media Dalam Meningkatkan Taraf Permakanan Rakyat – Ministry Of Health

c. Printed Materials – 54,370 has been printed and distributed to the public, hospitals and all state Health Department.

iv. Teleconsultation (TC)
- Migration of TC network from MOH*net to 1Gov*net.
- Audit of TC services.
- Continuation of maintaining TC services.

v. Change Management Workshop for TC
- MoH HQ - 1 workshop
- Regional - 16 workshops (Central, North, East Coast, Sabah and Sarawak)

vi. MyCPD
- Integration of the MyCPD system with the APC system under the Nursing Division.
- Preventive maintenance and upgrading of MyCPD to accommodate more than 200,000 health personnel.

vii. MyHIX

The pilot project was started in May 2011 in 3 hospitals (Hospital Port Dickson, Hospital Seremban and Hospital Putrajaya) and 1 clinic (Putrajaya Health Clinic).

viii. Hospital Information System (HIS@KKM)

Project development was initiated in April 2011.

ix. Statistics of services achievement
- 59, 765 patients registered with MyHIX and 5,136 discharge summaries shared
- 771 questions in Ask The Expert Service (MyHEALTH Portal) answered within 3 days.
- TC services – 11400 cases from 1st January 2011 to 21 Dis. 2011.

ALLIED HEALTH SCIENCES

The Allied Health Sciences Division comprised of 4 Units: (1) Professional Development, (2) Quality, (3) Research & Development, and (4) Administrative & Finance. There are 32 categories of Allied Health Professionals which comprised of three main groups : Clinical, Public Health and Laboratory, with a total of 27,000 staff. They work closely with the medical, dental and other healthcare professionals in a multidisciplinary approach for patient care at the primary, secondary and tertiary level.

Each category of the Allied Health Professionals, is trained in their own area of technical expertise and play a vital role in contributing towards achieving the Mission and Vision of the Ministry of Health and Nation. The Allied Health Sciences Division strives to ensure that this group of human resource practise based on scientific evidence and are competent and professional in their delivery of service to the patients or clients in the scope of promotion, prevention, curative and rehabilitative.

TABLE 50
HUMAN RESOURCE OF ALLIED HEALTH PROFESSIONALS, AS OF 31ST DECEMBER 2011

Category of Allied Health Professions (AHP)	No. of osts	No. of posts filled	No. of posts vacant	% of posts vacant
Clinical Group (18 AHP professions)	14,428	12,363	2,065	14.3
Public Health Group (6 AHP professions)	5,166	4,535	631	12.2
Laboratory Group (8 AHP professions)	7,549	6,817	732	9.6
Total	**27,143**	**23,715**	**3,428**	**12.6**

Source: Human Resource Division, MoH

The Allied Health Sciences Colleges, MoH trained 9 of the 32 AHP categories like Physiotherapist, Occupational Therapist, Diagnostic Radiographer, Radiation Therapist, Environmental Health Officers, Pharmacist Assistant, Dental Therapist, Dental Technologist and Medical Assistants. The number of AHPs in each profession varies. Data as of 31 Dec. 2011 showed a total of 23,713 staff with an average of 12.6 % vacant. The least number of staff were Clinical Psychologists (5), Embryologists (6) and Medical Geneticist Scientist (14) and the three largest were Medical Laboratory Technologists (5,257), Assistant/Environmental Health Officer (3,849) and Diagnostic Radiographers (2,206). AHPs work closely with the doctors in specialty/subspecialty clinical disciplines to support the care delivery. In manpower planning, effort was taken to be inclined with focus on the services highlighted in the 10th Malaysia Plan and to achieve the Vision and Mission of 2020.

Appointment of Heads of Professions

On 30-31 May 2011, a Seminar on Professional Development was held and in conjunction, the Director- General of Health officiated the appointment of 32 Heads of Professions for each respective AHP, for the term from 1 June 2011 to 31 May 2013.

Charting Directions for AHPs and Human Resource Planning

The Allied Health Sciences Division worked closely with Divisions and agencies on needs assessment for manpower, address technical expertise capacity development and norms, through various discussion groups and workshops. This was planned to be in line with the planned advancement of the various clinical disciplines for specialty / subspecialty under the 10th Malaysia Plan. In bridging the primary, secondary and tertiary care for patients, in the year 2011, a few clinical AHPs posts are located at the Health Clinics besides the hospitals to provide facilitation to the patients. Effort is also taken to address the career pathway development for the various AHPs with each category being unique in their training, expertise and potential.

Compliance of Continuing Professional Development (CPD)
With effect from 1 Jan 2010, the MoH circular require all AHPs in the Management & Professional Group to attain continuing professional development and achieve a minimum of 40 CPD points annually. For 2011, it involved 25 categories of AHPs with a total of 4,042 staff and 88% managed to achieve a minimum of 40 CPD points. There is plan to extend this requirement to AHPs in the support group in the next phase.

Training
Various sessions of training were conducted through meetings, workshops and group discussions to develop AHPs who are competent and professional. Training involved human capital capacity development, leadership, creative & innovative, professionalism, soft skills, etc to complement the technical expertise of an individual. Training in evidence –based practice and on how to conduct research were also organised. Three stages of research courses (Research Methodology, Statistical Analysis and Write – up) were conducted to provide the knowledge and skills for each of the 32 categories of AHPs to be involved in research projects.

Provision of Technical Consultation, Advice and Monitoring of Training of Student AHPs
This Division provides consultation and advice to the Malaysian Qualifications Agency (MQA) upon request on matters related to curriculum development and audit visits to sites of private Institutes of Higher Learning (IPTS). This is to give feedback to MQA regarding the training provided to students for their attention to ensure compliance with the quality framework required by MQA.

Memorandum of Agreement (MoA) for IPTA/ IPTS
A total of 41 MoA documents were approved and signed between the government of Malaysia and the representatives from the Institutes of Higher Learning (public/private) for Allied Health Sciences Courses. The MoA provide terms and conditions for use of MoH facilities by IPTA/IPTS for a period of 5 years.

Development of Standards of Practice for AHP
Effort was taken to develop Standards of Practice for a few AHPs like physiotherapist, Occupational Therapist, Dietitian, Audiologist and Speech Therapist to establish guidelines for evidence-based practice.

Allied Health Professions Bill
Several discussion sessions were held by the drafting committee to finalise the Allied Health Professions Bill. The purpose of this Act is to register and regulate the practice of 23 categories of Allied Health Professions to ensure safe and quality care for the patient or client, are provided by qualified Allied Health Professionals.

NURSING

The Division is divided into 2 sections namely Practice and Regulatory which are subdivided into few various units. Nursing Practice which monitors and regulates nursing practices according to the Nurses' Act and Regulations, 1985 and also the guidelines stated in the Code of Professional Conduct for Nurses (1st Edition April 1998). The units under this section are:

- Research and Quality Development
- Nursing Practice (Hospitals)
- Nursing Practice (Public Health)
- Continuous Professional Development

Regulatory Body (Comprises of the Nursing Board and the Midwives Board), whose functions are to monitor compliance to the Nursing Act 1950, Midwifery Act 1966 and other nursing rules and regulations through the Nursing Board Malaysia and Midwifery Board Malaysia. The units under this section are Curriculum, Examination, Private Nursing Practice and Facilities, and Registration Units.

Research and Quality Development
This Unit plans and develops strategies to improve nursing services through research, quality activities like accreditation, credentialing, conducting audits, review and updates all Policies related to nursing practice, the Nursing Practice Guidelines, and Standard Operating Procedures.

- **National Nursing Audit**

The audit was done in two phases per year to assess competency of nurses in carrying out procedures in the clinical areas which target a standard conformance of 90%. 4 main indicators set for hospitals (public and private)

- Administration of Oral Medication
- Administration of Intravenous Infusion
- Aseptic Wound Dressing and Blood, and
- Blood Component Transfusion

14 indicators for public health facilities:

- Maternal health
- Child health
- School health
- Nursing management

Results are compiled, analyzed and corrective measures taken accordingly. Audit results are sent to the Health Administrators, Hospital Administrator, State and Hospital Matrons. Hospitals with achievements below the intended target are required to relook into the practices and have a more comprehensive plan of actions for improvement. Audit results and strategies for improvements by hospitals are also presented during the National Matrons Technical Meeting. Tables 51 and 52 show the results on overall performance of the National Nursing Audit done in the 16 state hospitals, 7 participating private hospitals and Public Health. Meanwhile, the nursing audit of the public health sector showed an overall improvement, as depicted in Table 53.

TABLE 51
OVERALL PERFORMANCE FROM ALL STATE HOSPITALS, 2011

No.	State	PHASE 1 (MAY)				PHASE 2 (NOV)			
		Administration of Oral Medication %	Administration of IV Infusion %	Aseptic Wound Dressing %	Blood Component Transfusion % .	Administration of Oral Medication %	Administration of IV Infusion %	Aseptic Wound Dressing %	Blood Component Transfusion %
1	Perlis	96.1	97.5	88.5	96.5	99.0	99.1	90.0	97.8
2	Kedah	98.5	96.4	97.8	98.9	99.4	98.5	98.8	97.8
3	Pulau Pinang	94.1	88.1	93.0	95.5	92.8	89.0	94.0	94.5
4	Perak	97.0	92.8	96.0	94.1	96.6	89.6	94.0	91.6
5	Selangor	93.0	66.7	75.4	83.0	93.0	66.7	75.4	83.0
6	Negeri Sembilan	98.5	97.0	98.2	99.2	97.3	94.7	96.5	98.5
7	Melaka	99.0	94.3	93.0	100.0	99.4	93.0	92.4	100.0
8	Johor	96.5	93.3	95.2	94.8	97.4	94.6	97.4	94.6
9	Pahang	89.1	90.2	88.7	94.9	84.6	86.3	85.9	90.7
10	Kelantan	92.7	93.2	90.1	91.7	95.2	95.7	95.1	95.7
11	Terengganu	87.2	84.1	89.1	90.0	83.3	78.6	83 .2	84.8
12	Sabah	96.6	94.3	94.7	94.3	94.5	90.5	91.2	90.0
13	Sarawak	87.0	81.5	82.0	76.4	88.6	85.9	83.8	83.1
14	FT Labuan	95.3	82.5	89.0	87.5	93.7	65.0	79.0	75.0
15	FT Putrajaya	94.0	58.7	71.3	97.1	97.9	60.0	72.0	94.1
16	FT KL	98.8	80.0	67.5	98.5	99.2	96.9	99.2	96.9
Rate (%)		**94.5**	**86.9**	**88.1**	**93.2**	**94.4**	**90.9**	**89.2**	**91.7**

Note: The added total may differ due to rounding.

Source: Nursing Division, MoH

TABLE 52
OVERALL PERFORMANCE OF THE 7 PARTICIPATING PRIVATE HOSPITALS, 2011

	PHASE 1 (MAY)				PHASE 2 (NOV)			
	Administration of Oral Medication %	Administration of IV Infusion %	Aseptic Wound Dressing %	Blood Component Transfusion % .	Administration of Oral Medication %	Administration of IV Infusion %	Aseptic Wound Dressing %	Blood Component Transfusion % .
Average Achievements For Private Hospitals	80.8	72.7	66.9	80.3	94.0	90.0	59.7	61.4

Source: Nursing Division, MoH

TABLE 53
NURSING AUDIT (PUBLIC HEALTH) RESULT, 2011

No.	Indicators	Total Sample	Target	Achievement	
				2010	2011
1.	Management of High Risk Mother – Colour Coding	37,966	80.0%	70.0%	82.7%
2.	Management of High Risk Mother – Anemia in Pregnancy	5,811	70.0%	48.0%	62.3%
3.	Management of High Risk Mother – Gestational Diabetes	5,186	70.0%	50.0%	71.0%
4.	Management of High Risk Mother – Pregnancy Induced Hypertension	2,793	70.0%	54.2%	66.7%
5.	Management of High Risk Mother – Heart Disease	270	70.0%	57.0%	74.1%
6.	Postnatal Home Nursing – Mother	2,606	80.0%	78.0%	87.4%
7.	Postnatal Home Nursing – Neonate	2,623	80.0%	78.0%	87.4%
8.	Child Immunization	3,291	100%	85.0%	91.8%
9.	Maintenance of Cold Chain	2,624	100%	85.0%	93.0%
10.	Child Growth and Development Evaluation	3,998	80.0%	82.0%	92.1%
11.	Preparation of Vision Test Among School Children	927	100%	96.0%	96.5%
12.	Performed Vision Test Among School Children	927	100%	94.0%	96.0%
13.	Nursing Leadership and Clinical Governance	839	70.0%	69.0%	80.9%
14.	Management of Human Resource Under Primary Health Care	1,985	70.0%	67.0%	90.4%

Source: Nursing Division, MoH

- **Managing Customer Satisfaction**

The Nursing Division received a total number of 72 complains in 2011 of which 19 (26.39%) come from staff and 53 (73.61%) from public. Generally, complains are about communication skill and soft skill among nurses. All complains are investigated and dealt with within 3 days to 1 month.

The division has taken steps and strategies to reduce complains by getting feedback from patients on service provided by staff, discussing on complains received by hospitals and issues faced by staff during the supervisory visits. Presentation on number of complains and prevention strategies are also done during the National Nursing Technical Meetings held every three months.

- **Professional Development Unit**

The objective of this unit is to plan and organize training programs, conferences, seminars and workshops. The unit awards CPD points to all participating nursing institutions that organize training for their nursing personnel and trainers.

a. CPD Credit Points

This 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. CPD Credit Points was improved in 2010 whereby all the nurses are able enter CPD points direct to the MyCPD.

b. Nursing Career Road Show

This programme started in 2009 by Profession Development Units (CPD) of the Nursing Division in collaboration with MoH's Training Division. The target group was the students in secondary schools particularly non-Malays to encourage them to take up nursing as their career. This programme was done in eight schools in four states that is the state of Kedah, Perak, Negeri Sembilan and Johor. A total number of 949 students attended.

- **Regulatory Body**

  a. Registration of Nurses

  A total number of 17,288 nurses from all categories are registered with the Nursing Board, 15,167 nurses passed the Nursing Board Examination and 1,079 successfully obtained their post basic certificates in the year 2011.

TABLE 54
REGISTRATION OF NURSES (ALL CATEGORIES), 2009-2011

Categories of Nurses	2009	2010	2011
Staff Nurses	6,995	9,162	15,167
Community Nurses	1,176	2,617	2,050
Assistant Nurses	109	103	71
TOTAL	**8,280**	**11,882**	**17,288**

Source: Nursing Division, MoH

TABLE 55
NUMBER OF NURSES PASSED THE BOARD EXAMINATION, 2011

Year/ Sponsor	Candidates Sat For The Examination	Candidates Have Passed	Registered Candidates
MOH	3,125	3.107	3.107
IPTA	672	645	645
IPTS	13,014	11,415	11,415
TOTAL	**16,811**	**15,167**	**15,167**

Source: Nursing Division, MoH

TABLE 56
REGISTRATION OF NURSES PASSING POST BASIC COURSES, 2009-2011

POST BASIC	2009	2010	2011
Public Health Nurses	91	167	102
Mental Health Nurses	19	26	3
Midwifery Division 1	884	867	974
TOTAL	**994**	**1,060**	**1,079**

Source: Nursing Division, MoH

TABLE 57
RETENTION OF NAMES, VERIFICATION AND ENDORSEMENT, 2009-2011

Activities	2009	2010	2011
Retention of Name	2,304	3,262	4,350
Verification of Registration	572	732	846
Verification of Transcripts	636	732	616
TOTAL	**3,512**	**4,726**	**5,812**

Source: Nursing Division, MoH

b. Annual Practicing Certificate (APC)

It is mandatory for all registered nurses to have a valid APC to practice and application form can be downloaded from the MoH portal.

TABLE 58
NUMBER OF APCS ISSUED TO NURSES IN PUBLIC AND PRIVATE SECTORS, 2009-2011

Categories of Nurses	2009		2010		2011	
	Public	Private	Public	Private	Public	Private
Basic Diploma Nurses	45,478	14,414	56,291	21,118	47,478	24,725
Community Nurses	18,083	500	17,621	167	20,755	338
Assistant Nurses	1,781	2,488	771	957	858	2,027
TOTAL	**65,342**	**17,402**	**74,683**	**22,242**	**69,086**	**27,261**

Source: Nursing Division, MoH

c. Temporary Practice Certificate (TPC)

TABLE 59
TEMPORARY PRACTICING CERTIFICATES ISSUED IN 2009-2011

COUNTRY	2009	2010	2011
India	1012	780	640
Myanmar	91	78	72
Philippines	135	84	62
Indonesia	55	70	60
Vietnam	3	4	2
Singapore	2	1	1
Pakistan	1	1	1
Bangladesh	1	1	1
Australia	1	0	1
Zimbabwe	3	4	3
United Kingdom	1	3	3
Taiwan	2	1	1
USA	3	1	1
Iran	1	0	0
Ireland	2	2	1
Hong Kong	0	0	0
Germany	1	0	0
Netherlands	1	0	2
Britain	2	3	0
Poland	0	1	1
China	0	1	0
Libya	0	0	0
Japan	0	1	0
Sweden	0	0	0
Oman	0	0	0
Nigeria	0	1	1
Kenya	0	0	1
Nepal	0	0	1
TOTAL	**1317**	**1037**	**854**

Source: Nursing Division, MoH

- **Examination and Curriculum Unit**

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, Nurses Act 1950 and Midwives Act 1966. The examination results are announced within one month of the Education and Examination Committee Meeting.

TABLE 60
FINAL EXAMINATION RESULT FOR ALL CATEGORIES OF NURSES, 2011

Categories of Nurses	No. of Candidates	Passed	Percentage (%)
Community Nurse (Certificate)	1916	1912	99.7%
Midwifery Part 1 Nurse (Certificate)	1567	1564	99.8%
Assistant Nurse (Private Sector) (Certificate)	491	491	100%
Basic Diploma (MOH)	3,347	3,329	99.5%
Basic Diploma (Public Sector i.e. IPTA)	672	645	96.0%
Basic Diploma (Private Sector)	13,013	11,428	85.5%
Total	**21,006**	**19,369**	**92.2%**

Source: Nursing Division, MoH

TABLE 61
KPI FOR NURSING DIVISION

No.	Unit	Indicator	Target Set	Achievement
1.	Hospital Practices	Percentage of nurses with Post Basic Courses	40 % of number of eligible nurses	52.9 %
2.	Curriculum	Preparation of reports for documents from IPTA and IPTS	2 reports in 4 working days	95 %
3.	Practicing Certificates	Number of complete APC issued	28 working days	100%
4.	Private Nursing practice And Facilities	Number of monitoring on private colleges on facilities used for training	5 colleges per month	37 colleges (92.5 %)

Source: Nursing Division, MoH

Nursing Portal

The Nursing Division, MoH has established a self designed website in April 2011. The establishment of this website can facilitate communication among the nurses in the country and around the world, especially the ASEAN countries. Our Website was evaluated by MAMPU and MDEC (Malaysia Government Portals and Website Assessment 2011) in July till August 2011 and successfully achieved 4 star rating in October 2011.

Other Activities involved

a. Participation in the 9th National Investment Berhad Quiz Competition and obtained consolation prize
b. Participated in the 5S Programme and ISO

The Nursing profession has to progress in every aspect inorder to keep pace with the advancement in nursing sciences and technology. This also demands change in the role of the nurse managers and it has become a challenge for nurse leaders to adapt to the variety of responsibilities expected from them. Their abilities to adopt and adapt is crucial inorder to be able to lead and be a change agent to achieve the objective of giving excllent nursing service to our clients.

The Nursing Division has one way or another been able to face the many challenges encountered. Attitude, discipline, and work practice has become the driving force to the nursing administration to strive for improvement. Much efforts are planned and done be it at the national or hospital and health level to counteract such situations which has enable us to carry on with our service to its optimum.

The Division will continue its effort in addressing persistent nursing issues constructively and productively by instilling positive values, continue to cooperate and collaborate closely with other Central Agencies such as Ministry of Higher Education, public and private institutions of higher learning and other related agencies.

WAY FORWARD

In striving to provide better services to the community, Medical Programme faces the challenges of rapid advancement in medical and information technology, higher patient expectations, epidemiological and socio-demographic shifts towards an aging population and the changing attitude towards lifestyle. Greater expectations and demands are the natural evolution of better education, higher income, and more access to information. Changing trends in socio-demographic and disease patterns present a major challenge in the containment of health care cost.

Understanding these issues, the Programme needs to constantly revise on the planning, implementation, coordination, monitoring of the existing system to ensure smooth interphasing of medical care and to overcome obstacles in the provision of medical services to the population. Despite the challenges, the Medical Programme will stay focus, that is, to ensure quality and safe care to our clients.

6 | Research and Technical Support

INTRODUCTION

The Research and Technical Support (R&TS) Programme, headed by the Deputy Director General of Health (R&TS), carries out activities that 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 Control and the National Institutes of Health (NIH).

ACTIVITIES AND ACHIEVEMENT

HEALTH PLANNING & DEVELOPMENT

The Planning and Development Division focuses on several crucial activities such as the formulation of the Health Sector Transformation Plan, improving the quality of health data as well as setting the Health Informatics Standards for Malaysia, and Planning, Monitoring and Evaluating the development of programs and projects as planned in the Tenth Malaysian Plan (10MP).

Health Policy and Planning

- **Preparation, Publication and Distribution of the Country Health Plan 2011-2015 and the Ministry of Health Strategic Plan 2011-2015**

2011 is the first year of the Implementation of the Tenth Malaysia Health Plan. The Country Health Plan 2011-2015 was successfully formulated based on input obtained from relevant stakeholders in lined with the way forward set by the government. It outlines the health sector development plan for the 10MP and action plans produced by the NKEA Healthcare laboratory under the Economic Transformation Programme (ETP).

Concurrently, the MoH Health Strategic Plan 2011-2015 was developed based on the Country Health Plan 2011-2015. It's a document which outlines MoH's strategic business plan for a specified period to assist the Programmes and Activities in MoH to carry out their plan of action. These two documents were distributed to all organisations within the Ministry and the relevant stakeholders, and were also uploaded to MoH's official website at www.moh.gov.my.

- **The 10MP Initiatives**

A total of 85 initiatives were identified by the Government to be implemented during the 10MP. These initiatives were efforts identified for the purpose of implementing the planned programmes and activities. Initiatives that involved MoH include:

- Initiative 56 : Transforming delivery of the healthcare system
- Initiative 57 : Increasing quality, capacity and coverage of the healthcare infrastructure
- Initiative 58 : Shifting towards wellness and disease prevention, rather than treatment
- Initiative 59 : Increasing the quality of human resources for health
- Initiative 27 : Strengthening Social Security Net to reduce the vulnerability of the disadvantaged groups
- Initiative 85 : Attracting, Developing and Retaining Top Talent in the Public Service

By end of 2011, the Initiative Monitoring System (SPI) was developed by the Economic Planning Unit (EPU) for the purpose of monitoring action plans of each ministry and government agencies based on the key milestones identified for the relevant initiatives. They were required to update their action plans, and upload their KPIs and targets for 2012-2015 to the SPI. The Health Policy and Planning Unit coordinates this activity for MoH.

Each initiative's achievement for the previous year will be collected at the beginning of the year to plan for any changes proposed for the current evaluated year. From 2012 onwards, all reviews and update in action plans, KPIs and targets proposed will be presented to the top management for endorsement prior to the uploading of these inputs into the SPI.

- **Preparation of the Health Sector Transformation Blueprint**

Health Sector Transformation is one the Ministry's Key Result Areas identified for the 10MP. Since April 2011, the Health Policy and Planning Unit were entrusted to be the secretariat to the Coordination Committee on Health System Transformation. The unit also is the secretariat for the Technical Working Group (TWG) on Strategic Communication and the TWG on Governance. Several important activities were conducted throughout 2011 and the outputs produced will be the input for the preparation of the Health Sector Transformation Blueprint.

- **Consultation with Relevant Stakeholders**

27 consultations were conducted with relevant stakeholders through meetings, briefings, workshops, courses and seminars to gather inputs and suggestion on the proposed transformation plan.

- **Courses, Seminar and Workshops**

Together with United Nations Development Programme (UNDP), the Flagship Course on Health Sector Reform and Financial Sustainability was successfully organized at the Corus Paradise Resort, Port Dickson from 7-16th December 2011, involving 60 participants. A one-day seminar on Health Sector Reform and Financial Sustainability for 200 participants was conducted at the Institute for Health Management (IHM) on 11th December 2011.

In collaboration with the TWG on Strategic Communications, a training module for advocators on health transformation has been developed. Following which, a training session for advocators on health transformation was successfully conducted at the Klana Beach Resort, Port Dickson involving 40 participants, which consisted of clinicians and representatives from the State Health Departments.

Two workshops for the TWG on Governance were organised at IHM on the Development of Autonomous Health Facilities Part I on 7-9th June 2011 and Part II on 5-6th December 2011, attended by 25 and 19 participants respectively. In addition, five meetings/discussions with several major Divisions in MoH were held to develop governance framework and options with regards to the health system restructuring.

- **MoH Policy and Planning Committee Meeting (JDPKK)**

Two meetings were held in 2011, which were jointly chaired by MoH's Secretary General and the Director General of Health, Malaysia with a total number of six papers presented. All six papers were approved and accepted.

- **Development of Outcome-Based Budgeting (OBB)**

The Government has developed an OBB System (MyResults) to strengthen the governance system as part of the Government Transformation Plan towards developing a high-income developed nation by 2020, replacing the current Modified Budgeting System (MBS). The OBB concept links the National Missions Thrust and the 10MP Key Results Areas planned at the central agency to the planning at ministerial, agency or local organization. OBB was meant to be used for the periodic monitoring of development budget expenditure by each organisation within the MoH, and is expected to be fully implemented by 2013.

The Health Policy and Planning Unit have been given the task to lead the Performance Management component, which is the key component of the OBB system. Several officers from the Unit were trained as trainers to assist in the implementation of OBB, and there were three training sessions for

MoH officers conducted since Feb 2011, in collaboration with the Finance Division. Similar training sessions were planned for 2012.

Health Facility Planning and Development

- **Allocation and Expenditure**

The Rolling Plan Concept was introduced in 10MP and is currently used in planning and implementation of health projects/programs. It is implemented every two years with annual review of projects/programs. This will allow more flexibility to manoeuvre the economy as compared to a five-year plan, and allows commitment to be made based on the government's financial status and provides flexibility to respond to new priorities and government spending. In this approach, each Ministry will be given an allocation ceiling for two years in which the government are committed to implement all certified programmes within that period. Based on the allocation ceiling given to the ministries, the Treasury will then provide yearly allocation for implementation of projects.

A development allocation of RM 3.927 billion was approved to carry out 407 health projects for the first Rolling Plan (2011 & 2012) in the 10MP (Table 1). In 2011, a total of RM1.984 billion was allocated which is 49.86% of the first Rolling Plan allocation. Expenditure performance of development projects as of December 31st, 2011 was RM1.958 billion which is 98.65% of the 2011's allocation. (Table 2)

As for new hospital projects, only four (4) projects were approved to be implemented under the 1st Rolling Plan namely Hospital Kuala Krai (Kelantan), Hospital Lawas (Sabah), Hospital Rembau (Negeri Sembilan) and Hospital Petra Jaya (Sarawak). The rest are continuation of the previous Malaysian Plan projects.

TABLE 1
HEALTH FACILITY PROJECT AND DEVELOPMENT ALLOCATION FOR 10MP'S FIRST ROLLING PLAN

Project Detail	Facilities	No. of Projects	Allocation (RM '000)	%	Expenditure (RM '000)	%
001	Training	14	331,792	8.45	171,940	51.82
002	Public Health	228	655,912	16.70	281,310	42.89
003	Upgrading of Hospital Facilities	104	1,499,054	38.18	640,795	42.75
004	New Hospitals	16	698,338	17.78	440,717	63.11
005	Research & Development (R&D)	1	60,000	1.53	21,144	35.24
006	Upgrading & Maintenance	1	165,499	4.21	75,384	45.55
007	Land Acquisition & Maintenance	1	20,000	0.51	11,499	57.50
008	ICT	1	50,000	1.27	46,085	92.17
009	Staff Facilities / Quarters	37	193,683	4.93	126,686	65.41
010	Promotion	0	0	0.00	0	0.00
011	Equipment & Vehicles	4	252,500	6.43	142,202	56.32
Total		**407**	**3,926,778**	**100.00**	**1,957,762**	**49.86**

Source: Planning and Development Division, MoH

TABLE 2
DEVELOPMENT ALLOCATION AND EXPENDITURE FOR HEALTH FACILITIES PROJECT, 2011

Project Detail	Facilities	Allocation (RM '000)	%	Expenditure (RM '000)	%
001	Training	182,516	9.20	171,940	94.21
002	Public Health	283,662	14.29	281,310	99.17
003	Upgrading of Hospital Facilities	641,574	32.33	640,795	99.88
004	New Hospitals	440,724	22.21	440,717	100.00
005	Research & Development (R&D)	21,546	1.09	21,144	98.14
006	Upgrading & Maintenance	86,000	4.33	75,384	87.66
007	Land Acquisition & Maintenance	11,500	0.58	11,499	99.99
008	ICT	46,086	2.32	46,085	100.00
009	Staff Facilities/Quarters	127,113	6.41	126,686	99.66
010	Promotion	0	0.00	0	0.00
011	Equipment & Vehicles	143,734	7.24	142,202	98.93
Total		**1,984,456**	**100.00**	**1,957,762**	**98.65**

Source: Planning and Development Division, MoH

- **Value Management Workshop**

Value Management (VM) is a methodology used to define and maximize capital efficiency in order to get value for money in any projects. It was a directive from the Cabinet to all Ministries to conduct VM in projects which cost more than RM 50 million or any projects identified by the stakeholders that can benefit from VM approach.

In 2011, the Health Facility and Planning Unit has successfully conducted and completed VM exercises for 9 development projects namely the new Hospital Sri Aman, Hospital Petrajaya and Hospital Lawas in Sarawak, Hospital Rembau in Negeri Sembilan, Hospital Kuala Krai, and upgrading of Hospital Jeli in Kelantan, the Obstetric Complex Block for Hospital Tengku Ampuan Rahimah in Selangor, the Obstetric and Cardiology Complex Block for Hospital Ipoh in Perak and the Psychiatric Unit for Hospital Sultanah Nur Zahirah, Kuala Terengganu. The findings were documented, submitted and approved for implementation by the EPU.

- **Post Occupancy Evaluation (POE)**

Post Occupancy Evaluation (POE) is a systematic evaluation of health service buildings or facilities, assumed to occur sometimes after their occupation. For 2011, the unit has successfully conducted a POE of the Ambulatory Care Centre (ACC) of Hospital Tengku Ampuan Afzan in Kuantan. POE was conducted with the cooperation of the Public Works Department (JKR), Engineering Division, Medical Development Division and the Pahang State Health Department. The POE utilizes the standardized questionnaires jointly developed by MoH and JKR. The finding was documented and presented to the hospital director. Since this is the second ever POE involving ACC conducted by this unit, the first was ACC of Hospital Sultanah Nur Zahirah in Kuala Terengganu (2010). The findings will be used to strengthen the planning and development of future ACC throughout the country.

- **New/Revised Standard Plan for Health Clinics**

Besides that, the Unit together with the Public Works Department (JKR) has also successfully completed the new/revised standard plan designs for five different types of Health Clinics (Klinik Kesihatan, KK) and two new designs for Community Clinics (Klinik Desa, KD). These new designs have also been presented to the Standard and Costs Section of the EPU and are now ready for utilisation.

- **Bidding for the World Health and Design Conference 2012**

In July 1st, 2011, the Cabinet has approved to the bidding of The World Health and Design Conference 2012 to be held in Malaysia. Malaysian delegation was lead by YB Deputy Minister of Health has attended the 7th World Congress of Design and Health held in Boston, USA, on 6-10th July 2011. On 9th July 2012, Malaysia was announced as the winner for the next 8th World Health Congress of Design and Health 2012.

The 8th World Congress for Design & Health will be held in the Kuala Lumpur Convention Centre (KLCC) from 27th of June until the 1st of July 2012 and it is estimated to welcome 750 overseas participants and 250 local participants.

- **Outcome Evaluation**

Outcome evaluation of selected projects/programs was conducted annually by the Project Monitoring and Evaluation Unit. In 2011, 5 projects were selected namely the School Dental Clinics and Mobile Dental Team project, the Development of Training Colleges and Hostels Project, the Health Industry Program, the Telehealth Program, and the Water and Environmental Sanitary Projects in Perak. All project reports were presented and evaluated by the Outcome Evaluation Committee in the Prime Minister's Office and were scored in the paper score and outcome score. The target point for each score is 70% and above. For 2011, MoH projects achieved the score of 72.67% (Exceed Target - ET) for the paper score and 66.67% (Below Target – BT) for the outcome score. The reason why the outcome score was lower than the paper score was due to lack of scientific and empirical data to back up the analysis and indicators chosen by the project owner. As for future evaluation outcomes, the Unit is planning to organize workshops to select projects which are suitable to be presented to the committee, as well as to get correct indicators and data.

- **Visits by the Health Minister and Secretary-General to the Development Projects**

For 2011, a total of 22 development projects were visited by the Honourable Health Minister which exceeded the target KPI set at 12 projects per year (one project per month). As for the Secretary-General of Health, the KPI was to visit three (3) delayed/sick projects per month. Nevertheless, a total of 37 delayed/sick projects were visited for 2011.

National Health Financing (NHF)

Having received a mandate from H.E. the Prime Minister and the Economic Council in March 2010 to develop a blueprint for health system transformation for Malaysia, several activities were conducted in 2011 towards achieving this objective. NHF had collaborated with other TWGs, professional organisations, academia, Central Bank of Malaysia, EPU, Employees Provident Fund (EPF), Department of Human Resource, Social Security Organisation (SOCSO), Ministry of Finance (MOF), the Performance, Management and Delivery Unit (PEMANDU) and Department of Statistics Malaysia (DOSM) by conducting meetings, seminars and workshops throughout 2011 towards the blueprint development. NHF are members of each TWG and play an active role in providing input to the activities and work of the other TWGs.

- **Meetings and Workshops**

In 2011, a total of 51 technical meetings and workshops were held with relevant MoH divisions, TWGs, central agencies, professional organisations, academia and other stakeholders and community to

disseminate information, discuss and obtain input for the blueprint development. This information was also shared with stakeholders through the preparation of speeches for the Honourable Health Minister and senior officials, responses to parliamentary questions and information and feedback to public through the mass media.

A total of 12 workshops were conducted, each over the span of 2-3 days, bringing together various stakeholders to build capacity and understanding; and to raise and consider issues and relevant input for the blueprint development specifically in the financing component. The workshops conducted include 4 Provider Payment Mechanism (PPM) workshops, 4 Benefits Package (BP) workshops, 2 Premium Calculation workshops and 2 Population Coverage workshops. These workshops were facilitated by international experts with support from World Health Organization (WHO), the Joint Learning Network (JLN), World Bank and the International Labour Organization (ILO).

- **Collaborative Efforts**

Close collaborative efforts for health system transformation planning with international agencies such as the WHO, World Bank and the UNDP were fostered to support capacity building, engagement of international experts and research for the purpose of evidence-based policy-making. There were five ongoing researches related to the health system transformation blueprint development funded by UNDP and MoH, which includes analysis of financial arrangements and expenditures in health care; Health care analysis on utilisation, equity and demand to develop models and policy stimulation; Mapping of health facilities and services for policy decision-making; Cost analysis of outpatient and ambulatory services in public hospitals; and Community perception on the health care delivery system. These researches were conducted in collaboration with the National Institutes of Health (NIH); namely Institute for Health Systems Research (IHSR) and Institute for Public Health (IPH), and will provide valuable necessary information towards the planning and informed decision-making in the process of transforming the health system of Malaysia for the benefit of the people.

Additionally, as part of capacity building activities to a wider audience, seminars were conducted on the overview of PPMs, Case-Mix diagnosis related groups (DRG), premium calculation and on the Australian health system delivered by international experts. These seminars were attended by various representatives from agencies and organisations in the health sector. A High Level Executive Seminar on Health Sector Transformation was conducted for top officials and management from relevant ministries and central government agencies, facilitated by the Harvard School of Public Health (HSPH), Harvard University, as well as NHF.

- **Capacity Building**

Several officers attended conferences locally as well internationally to gain knowledge and input for the health system transformation plan. A fact-finding visit to Taiwan was organised for 20 MoH officers and 1 private General Practitioner representing the Malaysian Medical Association (MMA) to study the Taiwan Health System and National Health Insurance. The lessons learnt (where applicable to Malaysia) will be incorporated in the blueprint development. MoH officers also participated in SHI course conducted by the International Training Centre of ILO in Turin, Italy; Seminar on Strategies for Private Sector Engagement and Public Private Partnership in Health conducted by World Bank Institute and Asia Network for Capacity Building in Health System Strengthening (ANHSS) and Chulalongkorn University in Bangkok, Thailand; and Expanding Coverage to Informal Sector workshop conducted by JLN in Mombasa, Kenya.

Working with other TWGs and the 1Care Secretariat, a team of consultants with vast international experience on health sector reform were identified to assist in the preparation of the health system transformation blueprint. Drafting of the Terms of Reference (TOR) on the scope of work for consultancy is in progress with input from relevant divisions in the MoH and central agencies.

Apart from the above mentioned activities, NHF was also involved in the Public Expenditure Review conducted by World Bank for MOF and efforts related to the 10MP and Key Performance Indicators at various levels. The output of all activities conducted in 2011 will be used in the development of the health system transformation blueprint particularly in the financing component.

Malaysia National Health Accounts (MNHA)

The exciting and challenging tasks endeavoured over the last two years culminated in the much awaited revised Time Series (1997–2008) and Health Expenditure 2009 data, the MoH sub-accounts data (1997–2009), and the Out-of-Pocket (OOP) sub-accounts data (1997-2009).

- **Improved Data Quality and Comparability**

The need for improvements in the quality of health expenditure data which are comparable over a time period compelled a review of all previous health expenditure data. This was carried out with an international health accounts expert, who after the exercise, advised on the revision of all the previous twelve year analysis of health expenditure data using standardized internationally acceptable methodology before producing the subsequent year data. This was an almost impossible task with limited resources and several hurdles along the way. Nevertheless, the data were recompiled and a new time series raw dataset from 1997 to 2009 was built before carrying out the detailed analysis. The NHA reference documents and close supervision by the consultant guided all the data imputation and analysis.

- **Unified Time Series National and International Database**

A further development in terms of a dual NHA coding system based on the MNHA framework as well as the international framework (SHA framework) was carried out. This new method of double coding during analysis has now equipped MoH with not only the production of national level data but also high quality data for international comparisons.

- **New Method of Data Extraction**

Since total health expenditure is the aggregated expenditure of more than 3000 agencies from both the public and private sector, a large database has to be processed to produce the various tables and figures under both the MNHA and SHA framework. A new method was introduced for the first time to derive at the final NHA outputs using the statistical software Stata.

- **New Sub-accounts**

Besides the revised twelve year and 2009 health expenditure data, two new sub-accounts over the 1997 to 2009 time period were also produced. MOH is the largest funder in the public sector while OOP is the largest funding source of private sector health spending. Therefore, the OOP and MoH sub-accounts data are areas of importance to policy makers. The OOP sub-account provides 1997 to 2009 financial data beyond the standard reporting under the MNHA framework. Similarly, the MoH sub-account provides details of the Ministry's financial flow over the same time period.

- **State Health Expenditure Data**

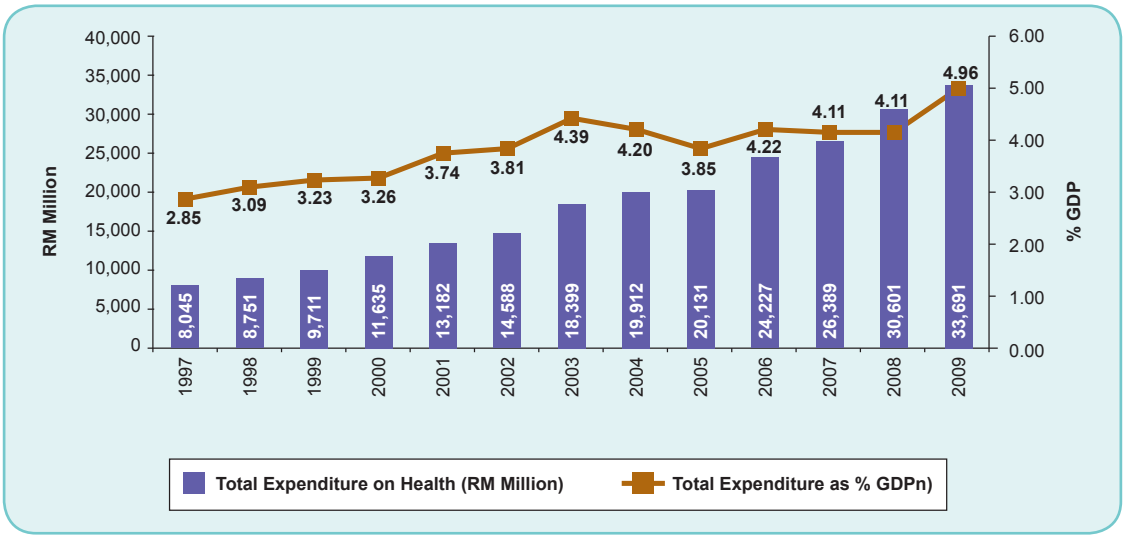
For the first time under MNHA, the state level disaggregation of health expenditure spanning over the period from 1997 to 2009 for the time series as well as the two sub-accounts were produced.

- **MNHA Reports**

After all the three sets of data were approved by the MNHA Steering Committee, they were discussed during the MNHA Policy Dialogue held at the end of the year. Several MNHA reports based on the three sets of data is underway and will be disseminated to stakeholders and others. In brief, the total health expenditure trend shows an increase in national spending from RM 8.045 million in 1997 to RM 33,691 million in 2009 indicating a four-fold rise over thirteen years (Figure 1). In 2009, MoH spent RM

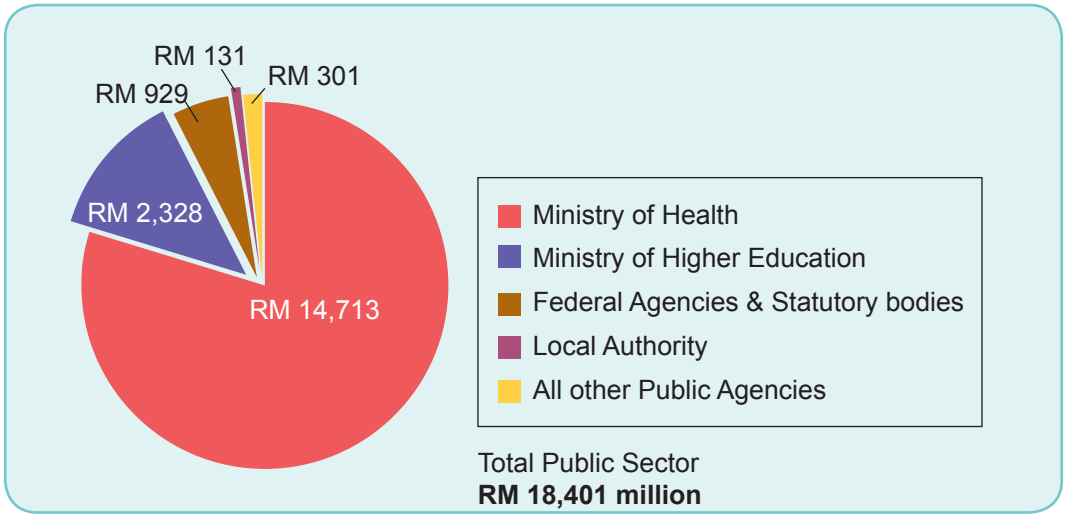
14.713 million equal to 80% of public sector spending (Figure 2). In the same year, the OOP spending was RM 11.986 million or 78% of private sector spending (Figure 3).

FIGURE 1
TREND FOR TOTAL HEALTH EXPENDITURE, 1997 – 2009 (RM MILLION & PERCENT GDP)



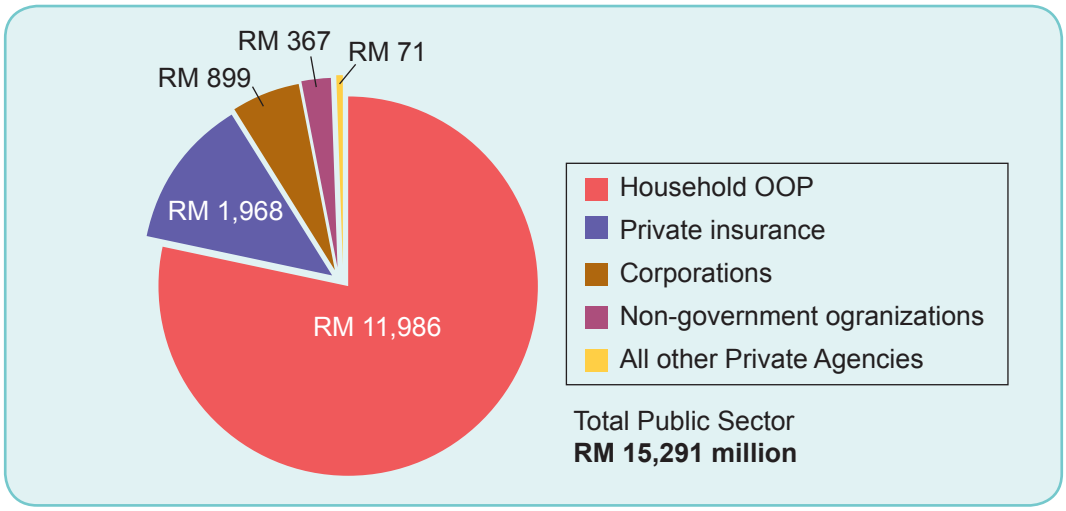
Source: Malaysia National Health Accounts, MoH

FIGURE 2
PUBLIC SECTOR HEALTH SPENDING, 2009 (RM MILLION)



Source: Malaysia National Health Accounts, MoH

FIGURE 3
PRIVATE SECTOR HEALTH SPENDING, 2009 (RM MILLION)



Source: Malaysia National Health Accounts, MoH

- **International Collaborations**

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, presentations and session chairmanship during the 7th 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. MNHA continues to add value to financial policy decisions at national, regional and international levels.

- **Research and Capacity Building**

Besides several international level researches in collaboration with World Bank, Asia Pacific National Health Accounts Network and World Health Organization, the MNHA Unit has been involved in multiple national level researches such as National Health & Morbidity Survey 2011, Public Expenditure Review and others. Capacity building based on the functional requirements of the unit has also been ongoing with multiple NHA related technical and software skill developments.

Health Informatics

Subjects of Health Informatics Standards such as ICD, HL7, SNOMED CT and Data Dictionary, which previously were only mentioned in passing, were heavily conversed as there was now realization of their value. Rapidly growing in line with technology advancements, and as a channel to facilitate the Health System Transformation Plan, it should not be a surprise when MoH has given their attention to Health Informatics.

- **Malaysian Health Data Warehouse (MyHDW)**

It was envisioned for the Health Informatics Center (HIC) to be the Ministry's "one-stop center" and focal point for all health-related information dissemination i.e Health Data Warehouse. As such, a centralised data collection and dissemination system is currently being developed to cater for that purpose, utilising the existing Health Information Management System (HIMS) as the main starting point. With the WHO's funding and endorsement, representative from the Canadian Institute of Health Informatics (CIHI) was appointed as the project consultant for MoH Malaysia.

IMAGES 1
MyHDW WORKSHOP TO PRODUCE GUIDELINE AND BLUEPRINT

Source: Health Informatics Center (HIC)

- **ASIA Medical 2011 : Health Information System (HIS) Interoperability Summit**

Interoperability refers to "the ability of two or more systems or components to exchange information and to use the information that has been exchanged". In healthcare, the ability "to use the information that has been exchanged" means not only that healthcare systems must be able to communicate with one another, but also that they must employ shared terminology and definitions.

This international event, co-organized with the Malaysian Exhibition Services (MES), was meant as a channel to educate and address the public and private regarding the importance of interoperability. Speakers, locally and internationally, has shared their knowledge with 200 participants during this event. The event was considered a success and many participants were eager to participate in the subsequent event tentatively planned in September 2012.

IMAGES 2
ASIA MEDICAL 2011

Source: Health Informatics Centre, MoH

- **Annual Medical Record and Health Data Meeting 2011**

The meeting was held in October 2011, participated by 170 Medical Record staffs, Statisticians, Medical Doctors, and Information Technology officers; the four groups of expertises which are the core role players in Health Informatics. This educational session has enlightened the participants from both public and private sectors with knowledge updates and recent technology advancements. The participants were also informed regarding the recent introduction of Health Informatics education programmes by the Universiti Teknologi Malaysia (UTM), the Universiti Teknologi MARA (UiTM) and the Multimedia University (MMU) should they wish to further their studies in Health Informatics.

IMAGES 3
ANNUAL MEDICAL RECORD AND HEALTH DATA MEETING 2011

Source: Health Informatics Centre, MoH

- **Health Informatics Standards**

i. International Statistical Classification of Disease (ICD)

There were two main factors that contributed to a correct diagnosis coding; (1) the quality of diagnosis documentation written by the doctors, and (2) the skill and knowledge of the coder. As the program coordinator for ICD, these activities were organized by HIC throughout 2011 to improve the quality of ICD coding in Malaysia:

1. Lecture on Documentation of Diagnosis to Doctors
2. Coding Error Rate Validation Study
3. ECHO Training and Coder Certification
4. ICD Committee

IMAGES 4
ICD10 CODING ERROR RATE VALIDATION STUDIES IN 2011

Private Hospital Coding Error Rate Validation Study

Sabah State Health Department Coding Error Rate Validation Study

Source: Health Informatics Centre, MoH

ii. Health Level Seven (HL7)

HL7 is a structured system messaging standard that is at the moment widely being publicised internationally, due to interoperability issues faced globally. In view of the fact that MoH is also facing similar issues within existing IT hospitals, the decision to be actively involved in this particular Health Informatics Standard was made to prevent future interoperability issues in hospitals currently being developed. A HL7 Protem Committee was formed on 11th March 2011, with an objective of formally registering of the proposed HL7 organization. As such, on 1st August 2011, the Pertubuhan Tahap Kesihatan Tujuh was officially registered to the Registration of Society (ROS). Subsequently, the first membership drive was organised on 7th September 2011 while the first Annual General Meeting is planned in mid-2012.

- **Geographical Information System (GIS)**

It was planned for the Ministry to have a GIS in place as a means of health information dissemination. Development activities were started in 2010, in collaboration with the Institute for Public Health, focusing on healthcare facilities as the first layer which is expected for completion by 2012. Then, development on the second layer which contains the services provided by each facility will commence.

- **Sistem Maklumat Rawatan Pesakit (SMRP)**

Further efforts to improve the quality of capturing health information were done in 2011, where the Daycare Component of SMRP was rolled out concurrently with the Clinical Support Component as standalone client server systems. The Daycare Component is planned to be incorporated to the Web-Based SMRP, planned for roll-out in early 2012, whereas the Clinical Support Component was launched in phases. In the first phase, the Clinical Support Component caters the Physiotherapy, Dietetic, Speech Therapy, Audiology, Occupational Therapy and Social Work Services. It was planned

for the development of four more services which are Radiotherapy, Nuclear Medicine, Pathology Laboratory, and Forensic in 2012.

- **Scientific Activities**

As MoH's focal point for information dissemination, active involvement in various scientific activities were deemed vital to solidify and strengthen the function of Health Informatics Center. Four papers have been written in 2011; either published or presented in various scientific events, which are:

1. Health Data Integration
2. Management of Healthcare Databases: Ministry of Health Experience
3. International Classification of Diseases Version 10 (ICD-10) Coding Error Rate in Ministry of Health (MoH) Hospit**als**
4. Evaluating 2008 ICD 10 Coded Mortality Data in Malaysia

Other than the papers mentioned above, HIC also took part in the following ongoing research activities in 2011:

1. Health Risk Assessment of Air Pollution on Morbidity in Klang Valley – organised by UKM, in collaboration with the National Taiwan University (NTU)
2. Penilaian Ekonomi Impak Jerebu Terhadap Kesihatan – organised by UKM
3. National Burden of Disease II – organised by the Institute for Public Health

- **Publication**

In 2011, 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 (Health Indicators), and the HIMS Subsystem Reports. Except for the 2010 Annual Report, the publication backlogs were all cleared by end of 2011.

- **National Health Informatics Committee**

The decision for the formation of this committee was based on the swift Health Informatics breakthrough in Malaysia, and as a reactivation of the Jawatankuasa Penyelaras Sistem Maklumat dan Dokumentasi (JPSMD). A governing committee was needed to monitor all Health Informatics activities, and also current/future activities that may have impact to Health Informatics. The first meeting was held on November 9th, 2011.

Way Forward for Health Planning and Development

Under the 10MP, the Planning and Development Division will focus on activities to crystallise the Health Sector Transformation Plan and develop its blueprint for implementation. Facility planning and development will be actively done since it is still considered the beginning of 10MP. Efforts will also be stepped up to further improve the quality of data 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.

ENGINEERING SERVICES

The Engineering Services Division (ESD) provides:

i. Engineering and technical support services for medical & health programs,
ii. Preventive health programs to ensure all public water supply is safe and protect public health from adverse air quality and indoor environment conditions,
iii. Environmental Health Engineering programs to improve environmental sanitation, proper management of solid, clinical and toxic waste and proper wastewater management systems,
iv. Healthcare Facility and Biomedical Engineering support for effective & proper functioning of building, medical equipment & engineering system,
v. Engineering support for proper maintenance for healthcare facilities to ensure reliability & efficiency of engineering installation facilities; and
vi. Provide timely access to quality, safe & technologically appropriate equipment of ionizing & non ionizing radiation
vii. Provide complete database for the ionizing and non ionizing equipment.

Project Implementation

Under the 10th Malaysia Plan (10MP), ESD has several project implementation activities where construction of new hospitals, replacement of hospitals and clinics, renovation and refurbishment of hospital, and also upgrading and replacing engineering systems were the main activities in 2011. A total of 205 projects is included in the 1st Rolling Plan, of which 106 projects have been completed, 31 projects are ongoing and 68 projects are in the planning stage. Among the major projects managed and completed by ESD are the construction of Hospital Kuala Lipis, Permai Psychiatric Hospital and the new Hospital Kluang.

IMAGES 5
PROJECTS IMPLEMENTED IN 2011

Hospital Kuala Lipis

Upgrading Hospital Kajang's Psychiatry Specialty Ward and Clinic

Hospital Kuala Kubu Baru's Forensic Unit (Mortuary)

Upgrading Hospital Melaka's Genset capacity

Upgrading Hospital Yan's Haemodialysis Unit

Hospital Jasin's Haemodialysis Centre

Source: Engineering Services Division, MoH

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 the MoH Hospitals and Institutions since 1st January 1997.

Clinics Support Services
ESD has implemented a Clinic Support Service pilot project in 10 numbers of Type 3 Health Clinics in the state of Pahang. The project involves Planned Preventive Maintenance (PPM) and Corrective Maintenance (CM) of healthcare facility engineering services and biomedical engineering services, cleaning services and clinical waste management services.

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. These systems produce untreated but wholesome water and therefore the rural people are advised to boil their drinking water. 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 Development Plan. A total of 11,133 of various types of systems were installed in 2011. These systems provided service to 17,470 houses. The overall status of rural water supply coverage is at 95.68 % that represented 1,736,020 rural houses (Table 3).

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 2011, MoH has constructed a total of 527 of pour flush latrines. The coverage of sanitary latrines at the end of 2011 was at 97.29% that represented 1,765,229 rural houses (Table 4).

Sullage and Solid Waste Disposal
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 2011 a total of 187 sullage disposal systems and 232 solid waste disposal systems were constructed and this represent a total household coverage that represent the total coverage of 66.10% (1,199,360) and 70.42% (1,277,655) respectively (Table 4).

TABLE 3
CONSTRUCTION OF MoH RURAL WATER SUPPLY PROJECT, 2011

STATE	TOTAL HOUSES IN RURAL AREA	SANITARY WELL		SANITARY WELL WITH HOUSE CONNECTION		GRAVITY FEED SYSTEM		RAINWATER COLLECTION		JKR/KKM CONNECTION		TOTAL		TOTAL HOUSES SUPPLIED (CUMMULATIVE)	COVERAGE (%)
		Nos. Built	No. of Houses Supplied	Nos. Built	No. of Houses Supplied	Nos. Built	No. of Houses Supplied	Nos. Built	No. of Houses Supplied	Nos. Built	No. of Houses Supplied	Nos. Built	No. of Houses Supplied		
Perlis	37,423	0	0	0	0	0	0	0	0	346	346	346	346	36,996	98.86%
Kedah	190,567	24	46	2	2	2	359	0	0	745	745	773	1,152	186,265	97.74%
P.Pinang	73,272	0	0	0	0	2	3	0	0	249	249	251	252	72,930	99.53%
Perak	153,381	4	4	4	5	10	428	0	0	268	268	286	705	149,724	97.62%
Selangor	111,058	0	0	0	0	0	0	0	0	0	0	0	0	110,576	99.57%
N.Sembilan	67,387	6	9	0	0	8	144	0	0	130	130	144	283	67,282	99.84%
Melaka	72,334	0	0	0	0	0	0	0	0	7	7	7	7	72,276	99.92%
Johor	151,679	0	0	3	3	1	88	0	0	86	86	90	177	147,428	97.20%
Pahang	130,954	11	79	0	0	7	210	3	3	154	154	175	446	124,111	94.77%
Terengganu	140,307	10	10	0	0	0	0	0	0	725	725	735	735	138,477	98.70%
Kelantan	277,149	0	0	488	743	10	421	0	0	6937	6937	7,435	8,101	239,895	86.56%
Sarawak	205,302	0	0	2	69	80	3116	35	668	0	0	117	3,853	198,785	96.83%
Sabah	203,551	3	29	3	196	10	430	758	758	0	0	774	1,413	191,275	93.97%
Malaysia	**1,814,364**	**58**	**177**	**502**	**1,018**	**130**	**5,199**	**796**	**1,429**	**9,647**	**9,647**	**11,133**	**17,470**	**1,736,020**	**95.68%**

Source: Engineering Services Division, MoH

TABLE 4
CONSTRUCTION OF LATRINES, SULLAGE AND SOLID WASTE DISPOSAL SYSTEM, 2011

STATE	TOTAL HOUSES IN RURAL AREA	Latrines			Sullage			Solid Waste Disposal System		
		Nos. Built	No. of Houses Supplied	Coverage (%)	Nos. Built	No. of Houses Supplied	Coverage (%)	Nos. Built	No. of Houses Supplied	Coverage (%)
Perlis	37,423	30	37,077	99.08%	9	22,523	60.18%	4	20,654	55.19%
Kedah	190,567	48	189,030	99.19%	13	127,826	67.08%	6	152,149	79.84%
P.Pinang	73,272	25	73,112	99.78%	95	58,543	79.90%	95	54,971	75.02%
Perak	153,381	26	150,206	97.93%	0	86,035	56.09%	0	89,121	58.10%
Selangor	111,058	0	109,993	99.04%	0	104,906	94.46%	0	103,269	92.99%
N.Sembilan	67,387	63	67,011	99.44%	0	58,207	86.38%	0	56,906	84.45%
Melaka	72,334	15	72,310	99.97%	17	69,401	95.95%	37	67,939	93.92%
Johor	151,679	84	150,272	99.07%	4	137,574	90.70%	0	141,533	93.31%
Pahang	130,954	13	123,734	94.49%	5	87,551	66.86%	29	84,909	64.84%
Terengganu	140,307	37	139,790	99.63%	19	73,651	52.49%	58	89,313	63.66%
Kelantan	277,149	29	273,070	98.53%	25	130,376	47.04%	3	163,140	58.86%
Sarawak	205,302	152	195,392	95.17%	0	119,679	58.29%	0	119,627	58.27%
Sabah	203,551	5	184,232	90.51%	0	123,088	60.47%	0	134,124	65.89%
Malaysia	**1,814,364**	**527**	**1,765,229**	**97.29%**	**187**	**1,199,360**	**66.10%**	**232**	**1,277,655**	**70.42%**

Source: Engineering Services Division, MoH

TABLE 5
SUMMARY OF WATER SAMPLING PERFORMANCE, 2011

STATE/ SAMPLING GROUP	GROUP 1			GROUP 2			GROUP 3			GROUP 4		
	A	B	C	A	B	C	A	B	C	A	B	C
Perlis	1,200	1,024	85.33%	260	260	100%	108	108	100%	82	82	100%
Kedah	10,748	10,237	95.25%	2,268	2,166	95.50%	992	954	96.17%	647	622	96.14%
Pulau Pinang	5,204	4,014	77.13%	1,014	802	79.09%	628	466	74.20%	368	279	75.82%
Perak	13,612	11,904	87.45%	3,232	2,491	77.07%	1,414	1,157	81.82%	1,057	762	72.09%
Selangor	16,840	15,427	91.61%	3,350	3,350	100%	1,600	1,600	100%	1,120	1,085	96.88%
FT Kuala Lumpur	2,964	2,257	76.15%	614	432	70.36%	264	173	65.53%	142	96	67.61%
FT Putrajaya	492	480	97.56%	102	96	94.12%	44	54	122.73%	24	33	137.50%
Negeri Sembilan	6, 568	5, 871	89.39%	1,358	1,273	93.74%	670	627	93.58%	437	427	97.71%
Melaka	4, 248	4, 116	96.89%	868	872	100.46%	420	370	88.10%	242	221	91.32%
Johor	19,616	18,463	94.12%	4,326	4,263	98.54%	1,358	1,301	95.80%	827	830	100.36%
Pahang	17,908	15,672	87.51%	3,938	3,917	99.47%	1,171	1,171	100%	1050	1038	98.86%
Terengganu	6,644	6,424	96.69%	1,434	1,430	99.72%	508	508	100%	308	310	100.65%
Kelantan	6,868	6,674	97.18%	1,482	1,476	99.60%	624	618	99.04%	438	436	99.54%
FT Labuan	592	497	83.95%	122	108	88.52%	66	7	10.61%	47	0	0%
Peninsular Malaysia	**113,504**	**103,060**	**90.80%**	**24,548**	**23,116**	**94.17%**	**9867**	**9114**	**92.37%**	**6,789**	**6,221**	**91.63%**
Sabah	10,852	10,384	95.69%	2,292	2,181	95.16%	1,033	1,008	97.58%	712	659	92.56%
Sarawak	17,512	15,183	86.70%	3,792	2,809	74.08%	1,560	1,043	66.86%	1, 132	739	65.28%
Malaysia	**141,868**	**128,627**	**90.67%**	**30,632**	**28,106**	**91.75%**	**12,460**	**11,165**	**89.61%**	**8,633**	**7,619**	**88.25%**

Note: *A = Number of samples scheduled (ideal schedule)*
B = Number of samples taken
C = Percentage of samples taken (%)
Source: Engineering Services Division, MoH

TABLE 6
PERFORMANCE OF QAP FOR NDWSQP, 2011

STATE	COMBINE RESIDUE CHLORINE AND FAECAL COLIFORM (QAP<0.2)			FAECAL COLIFORM (QAP<0.4)			TURBIDITY (QAP<2.0)			RESIDUAL CHLORINE (QAP<2.3)			ALUMINIUM (QAP<10.2)		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Perlis	728	7	0.96%	728	7	0.96%	728	1	0.14%	728	37	5.08%	176	3	1.70%
Kedah	8,341	15	0.18%	8,355	41	0.49%	8,354	538	6.44%	8,364	154	1.84%	1,696	160	9.43%
Pulau Pinang	3,176	0	0.00%	3,178	2	0.06%	3,183	33	1.04%	3,181	27	0.85%	571	36	6.30%
Perak	9,403	5	0.05%	9,407	62	0.66%	9,494	242	2.55%	9,494	85	0.90%	1,836	205	11.17%
Selangor	12,939	0	0.00%	12,941	8	0.06%	12,943	50	0.39%	12,941	86	0.66%	3,002	58	1.93%
FT Kuala Lumpur	1,942	0	0.00%	1,949	9	0.46%	1,946	4	0.21%	1,946	9	0.46%	358	13	3.63%
FT Putrajaya	465	0	0.00%	465	1	0.22%	465	0	0.00%	465	0	0.00%	89	3	3.37%
Negeri Sembilan	4,393	3	0.07%	4,401	16	0.36%	4,524	224	4.95%	4,520	47	1.04%	898	95	10.58%
Melaka	3,670	0	0.00%	3,670	4	0.11%	3,670	18	0.49%	3,670	10	0.27%	715	49	6.85%
Johor	16,014	7	0.04%	16,053	91	0.57%	16,044	174	1.08%	16,026	293	1.83%	3,656	295	8.07%
Pahang	11,933	68	0.57%	11,933	120	1.01%	11,933	622	5.21%	11,933	409	3.43%	2,898	570	19.67%
Terengganu	5,586	0	0.00%	5,587	1	0.02%	5,591	53	0.95%	5,591	11	0.20%	1,233	42	3.41%
Kelantan	5,212	39	0.75%	5,212	47	0.90%	5,212	1,059	20.32%	5,212	244	4.68%	1,092	152	13.92%
FT Labuan	359	0	0.00%	359	3	0.84%	363	9	2.48%	363	38	10.47%	75	28	37.33%
Sabah	7,177	72	1.00%	7,268	147	2.02%	7,535	707	9.38%	7,469	290	3.88%	1,466	389	26.53%
Sarawak	9,465	16	0.17%	10,172	57	0.56%	8,046	111	1.38%	9,834	565	5.75%	1,815	340	18.73%
Malaysia	**100,803**	**232**	**0.23%**	**101,678**	**616**	**0.61%**	**100,031**	**3,845**	**3.84%**	**101,737**	**2,305**	**2.27%**	**21,576**	**2,438**	**11.30%**

Note: *A = Number of samples analysed*
B = Number of samples violated
C = Percentage of samples violated (%)

Source: Engineering Services Division, MoH

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 is 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) has been implemented by all states in Malaysia since January 1993. The QAP standards are set based on five performance indicators; i.e. Combined Residual Chlorine & Faecal Coliform, Faecal Coliform, Turbidity, Residual Chlorine and, Aluminium content.

For 2011, a total of 175, 517 water samples were analyzed and to which it is divided into Group 1 of 128, 627 samples, Group 2 of 28, 106 samples, Group 3 amounted to 11, 165 and total of 7, 619 water samples for Group 4.

This involves monitoring water samples of 463 water treatment plants and 488 watercourses, while 152 sanitary surveys has been implemented throughout the whole of Malaysia. The water sampling performance for 2011 is shown in Table 5, while Table 6 indicates the performance of QAP in 2011.

Environmental Health Protection Program

The term environmental health, as defined by WHO, addresses all the physical, chemical, and biological factors external to a person, and all the related factors impacting behaviours. It encompasses the assessment and control of those environmental factors that can potentially affect health. It is targeted towards preventing disease and creating health-supportive environments. This definition excludes behaviour not related to environment, as well as behaviour related to the social and cultural environment, and genetics. To address the major environmental health problems and needs for action, many countries in the world including Malaysia have decided to prepare and implement a NEHAP (National Environmental Health Action Plan) which represents strategies on how to improve environmental health within the country and defines the roles and responsibilities of various stakeholders.

- **Areas of Concern in NEHAP Programme**

The scope of environmental health covers multiple and broad areas of concern. In the Charter of the First Ministerial Regional Forum on Environment and Health (Bangkok, 2007) and the Second Ministerial Regional Forum on Environment and Health (Jeju, 2010) has agreed according to priority accept to consider seven environmental health areas of concern such as:

i. Air quality
ii. Water, sanitation and hygiene
iii. Solid and hazardous waste
iv. Toxic chemicals and hazardous substances
v. Climate change, ozone layer depletion and ecosystem change
vi. Contingency planning, preparedness and response in environmental health emergencies
vii. Health Impact Assessment

- **Latest Development of NEHAP Programme**

To implement NEHAP, three reference documents have been developed for the usage of the stakeholders. The documents are as stated below:

i. Part 1- Framework on Environmental Health for Malaysia;
ii. Part 2 - Strategic Plan for Environmental Health for Malaysia; and
iii. Part 3 - Action Plan for Environmental Health for Malaysia.

To strengthen collaboration between ministries and related agencies to promulgate the framework and to ensure a consistent approach and the harmonization of policies for environmental health, the implementation mechanism has to be established. The implementation mechanism comprises of a three-tier approach and they are as follows:

i. Steering Committee (SC)
ii. Technical Committee (TC)
iii. Thematic Working Groups (TWG)

In addition, the initial meeting (Preliminary) for the formation of Thematic Working Group (TWG) was to address issues and problems in the use of materials/equipment that contain asbestos and mercury was held end of last year. Representatives from the Ministry of Natural Resources and Environment, Department of Environment, DOSH, IMR, Pts. Medical Devices Sector and Environmental Health, MoH and Disease Control Division, MoH attended the meeting.

Licensing under the Atomic Energy Licensing Act, Act 304

A total of 802 licences were issued to the private medical institutions in 2011. These comprise of 100 new licenses and 702 for renewal of licenses. Table 7 shows a total of 3,271 premises comprising 820 registered government premises and 2,451 private centers. While Table 8 shows a total of 6,025 registered irradiating apparatus for the different modalities in both government and private sectors. Table 9 on the other hand, shows the total number of registered/licensed radioactive sources in both government and private medical institutions.

TABLE 7
TOTAL NUMBERS OF PREMISES WITH IRRADIATING APPARATUS, AS OF 31ST DECEMBER 2011

Type of Premises	No. of Premises		Total
	Government	Private	
Hospitals	155	124	279
Health Clinics	208	NA	208
Dental Clinics	414	1,047	1,461
Radiotherapy Centres	4	21	25
Nuclear Medicine Centres	5	15	20
Cyclotron Centres	1	1	2
Blood Irradiator Centres	2	4	6
Radiology Clinics	NA	48	48
GP's/Non-X-Ray Sp. Clinics	NA	1,139	1,139
Army Hospitals/ Clinics	29	NA	29
Veterinary Clinics	2	52	54
TOTAL	**820**	**2,451**	**3,271**

Note: NA = Not Applicable
Source: Engineering Services Division, MoH

TABLE 8
TOTAL OF REGISTERED IRRADIATING APPARATUS BY MODALITY, AS OF 31ST DECEMBER 2011

Type of Irradiating Apparatus	No. of Premises		Total
	Government	Private	
General/Mobile X-Ray	1,281	1,475	2,756
Dental (intra oral/OPG)	695	1,375	2,070
Fluoroscopy/C-Arm	246	260	506
Angiography/Cath-Lab	32	70	102
CT Scanner	73	126	199
Mammography	83	130	213
Lithotripter	10	26	36
Bone Densitometer	11	52	63
Linear Accelerator	11	31	42
Simulator	6	19	25
PET-CT	2	9	11
Cyclotron	**1**	**1**	**2**
TOTAL	**2,451**	**3,574**	**6,025**

Source: e-RADIA Database, Engineering Services Division, MoH

TABLE 9
REGISTERED/LICENSED RADIOACTIVE SOURCES, AS OF 31ST DECEMBER 2011

Type of Sources	No. of Premises		Total
	Government	Private	
Sealed Sources	31	230	261
Unsealed Sources	18	121	139
TOTAL	**49**	**351**	**400**

Source: Engineering Services Division, MoH

Monitoring & Enforcement under Act 304

These activities include inspection visits, monitoring compliance with the quality assurance program requirements and enforcement of licensing activities. Enforcement activities are carried out on all government and private clinics/hospitals with ionizing radiation facilities to ensure maximum compliance with Act 304. A total of 539 premises were inspected out of which 102 premises comprised government clinics and hospitals. A total of 438 (81.3%) premises complied with the licensing requirements while 101 (21%) premises did not fully comply with all the licensing requirements. All government clinics and hospitals complied with the safety regulations. A total of 12,600 radiation workers involved in the usage of radiation in medical are registered and monitored to ensure the occupational exposure are within the acceptable limit.

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
Codes & Standards were developed which include the following:

i. Draft Atomic Energy Licensing (Medical, Dental and Veterinary Usage of Radiation) Regulations
ii. Manual Pelaksanaan Quality Assurance Programme (QAP) dalam Perubatan Nuklear di Bawah Akta 304
iii. Manual Pelaksanaan Quality Assurance Programme (QAP) dalam Radioterapi di Bawah Akta 304
iv. Guidelines for Management of Brachytherapy for Prostate Cancer Using Permanently Implanted Radioactive Sources.
v. Pekeliling Bil. 6/2011: Pemasangan Insfrastruktur dan Kelengkapan Telekomunikasi Wayarles Di Dalam Kawasan Fasiliti Kesihatan Kementerian Kesihatan Malaysia (KKM) – was approved on 6th October 2011

Conferences, Symposium, Workshops and Courses

a. Ministry of Health Engineers Conference (MOHEC 2011), 27-30 May 2011, Avillion Admiral Cove, Port Dickson, Negeri Sembilan
b. Seminar Pemantapan Profesion Pegawai Sains (Fizik) KKM 2011; 9-10 July 2011; Balai Seni Lukis Negara, Kuala Lumpur.
c. Seminar Pemantapan Profesionalisme Pegawai-Pegawai Awam Kumpulan Pengurusan & Profesional Tahun 2011, 10-13 July 2011, Ikram Training and Infrastructure Development Institute (ITiDi), Kajang, Selangor
d. International Symposium on QA and QC in Radiation Medicine; 10-12 September 2011; Sheraton Imperial Hotel, Kuala Lumpur.
e. Collaboration and participation in the International Atomic Energy Agency (IAEA) project i.e Distance Assisted Training (DAT) for the Nuclear Medicine Professionals in Malaysia.

Research and Development Projects

a. Study of Radiation Exposure from Computed Radiography (CR)/Digital Radiography (DR) Systems in Malaysia (NMRR-10-439-5430)
b. Study Of Medical Diagnostic Radiation Dose In Malaysia With A View To Participate In The UNSCEAR Study 2011-2015 (NMRR-10-439-5689)
c. Research on indoor environmental quality (IEQ) for Health Facilities in Malaysia (NMRR-10-208-5382).
d. Identification of bioactive compounds from Phyllanthus columnaris and molecular effects on Methicillin Resistant Staphylococcus aureus (NMRR-11-59-8309).

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.

Way Forward for Engineering Services

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 ESD have become more prominent in assisting the medical team to materialize 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.

ESD has now become a major provider of Engineering and Scientific Support Services to the Medical and Health Programmes of MoH. The Division will continue to plan, implement, monitor and coordinate preventive health programs through the application of public health engineering principles and methods. The Division is committed to provide engineering support for the effective and proper functioning of building, equipment and engineering system, ensure reliability and efficiency of engineering installations and ensure all healthcare facilities are well maintained to appropriate standards. It will also continue to provide an effective and efficient control in the use of ionizing radiation in medicine

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.

Status of the Medical Devices Bill and the Medical Devices Authority Bill

On 9th October 2011, the Medical Device Bill and the Medical Device Authority Bill were approved by the House of Representatives. Both Bills were later approved by the Senate on 7th December 2011. The bills are currently in line for Royal Assent and tentatively expected for enforcement in early 2012.

IMAGE 6
AT THE SENATE WITH THE HONOURABLE DEPUTY HEALTH MINISTER, 7 DECEMBER 2011

Source: Medical Devices Control Division, MoH

Voluntary Registration Scheme for Establishment 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 2011, a total of 1472 establishments dealing with medical devices participated in this scheme. Table 10 shows number of establishments registered for each month in 2011.

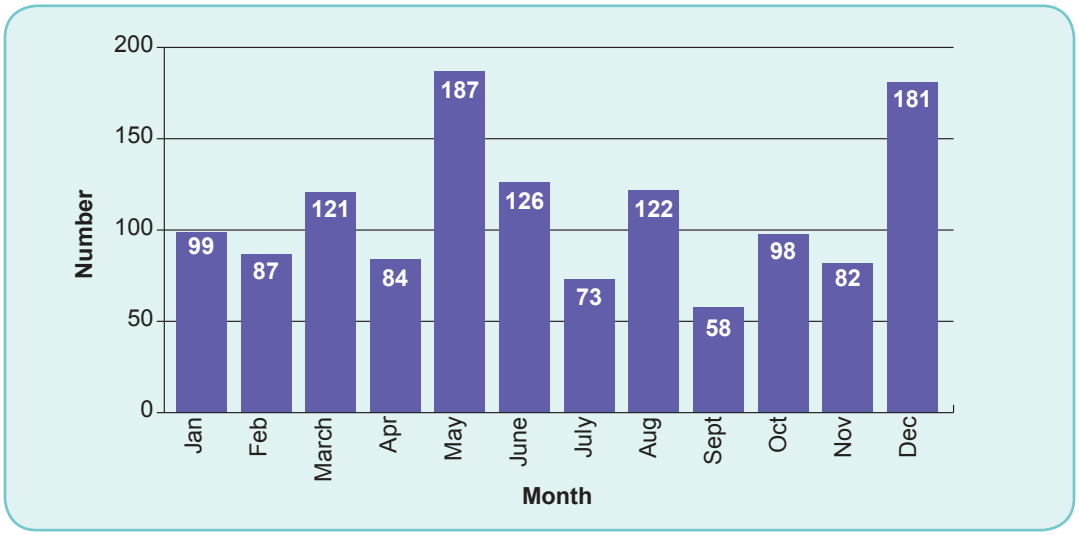
TABLE 10
TOTAL NUMBER OF ESTABLISHMENT REGISTERED EACH MONTH IN 2010

Month	Manufacturer	Exporter	Importer	Distributor
January	2	1	2	2
February	2	1	3	5
March	5	5	11	15
April	2	2	8	17
May	4	3	9	13
June	3	6	12	17
July	5	1	5	8
August	4	3	12	12
September	3	2	7	7
October	7	4	18	21
November	1	2	7	9
December	3	4	7	10

Source: Medical Devices Control Division, MoH

Issuance of Manufacturing and Free-sales Certificates
The medical devices industry is one of the strategic trade industries. Issuance of the manufacturing and free-sales certificate will enhance the opportunity and channel for local medical devices manufacturers to compete in the international market. In 2011 (as shown in Figure 4), a total of 1318 Certificate of Free-Sales (CFS) were issued.

FIGURE 4
NUMBER OF CFS ISSUED IN 2011



Source: Medical Devices Control Division, MoH

Post Market Surveillance and Vigilance

The Medical Devices Control Division also oversees the local medical device market provide information to stakeholders regarding the quality and safety of the medical devices. Post-market control is done by issuing safety alerts on medical devices that has been detected unsafe for use. Medical devices surveillance is capable of identifying and tracking problematic medical device so that appropriate action can be taken. Safety Alert is a safety notice issued to consumers in relation to medical devices. In 2011, a total of 12 safety alerts and 15 recalls were issued by the Division.

Medical Devices Manufacturer and Distributor Audit Activity

The Division also conducted audit activities to medical device manufacturers based on the criteria of ISO 13485:2003: Medical Devices - Quality Management Systems -Requirements for regulatory purposes. Audit in accordance with ISO 13485:2003 criteria also applies to companies that applied for the Manufacturing and/or Free-sales certificates and also companies that wish to participate in the Adoption Scheme under the Ministry of Finance. Additionally the Division also carries out an audit to medical device distributors based on the Good Distribution Practice for Medical Devices (GDPMD) criteria. Throughout 2011, the Division has conducted the 13 audits, with the breakdown as follows:

a. Surveillance Audit : 4 establishment
b. Full Quality Assessment based ISO 13485:2003 : 1 establishment
c. Assessment on Certificate Free Sale requirement : 1 establishment
d. Assessment on GDPMD : 2 establishment
e. Assessment for Adoption Scheme : 3 establishment
f. Observation audit : 2 establishment

Medical Device International Conference

YBhg Dato' Sri Dr. Hasan Bin Abdul Rahman, the Director General of Health, Malaysia, officiated the opening ceremony for the Medical Device International Conference at the Westin Resort and Spa, Langkawi, Kedah. This 2-day conference (24-25th November 2011) was attended by industry participants locally and internationally, and was organized in collaboration with the Malaysia Medical Device Professional Association (MMDPA) at The Westin Resort and Spa, Langkawi, Kedah.

IMAGE 7
BRIEFING TO THE DIRECTOR GENERAL OF HEALTH PRIOR TO THE MEDICAL DEVICE INTERNATIONAL CONFERENCE OPENING CEREMONY

Source: Medical Devices Control Division, MoH

Way Forward for Medical Devices Control

In the Medical Devices Authority Bill, it was proposed for the formation of an agency called Medical Devices Authority to implement the medical devices control program. The agency was also proposed to operate as a statutory body under the MoH's supervision. Once the Bill is gazetted into an Act, appointment of the Board Members will be done by the Honourable Health Minister.

TRADITIONAL & COMPLIMENTARY MEDICINE

Key Performance Indicator (KPI) for 2011

There are two Key Result Areas (KRAs) for the Traditional & Complimentary Medicine Division (T&CMD) in 2011, of which three Key Performance Indexes (KPIs) are measured (Table 11).

TABLE 11
T&CM KRA & KPI, 2011

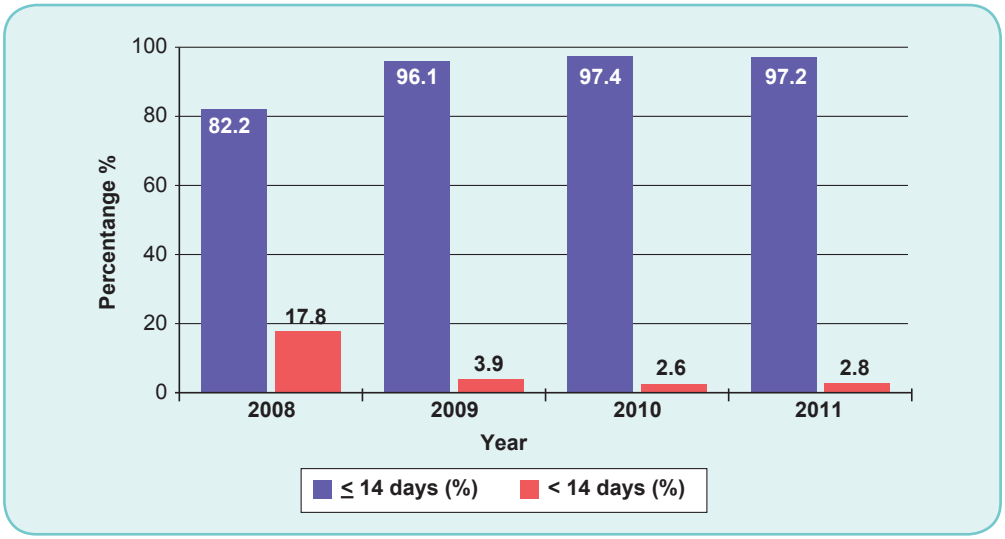
No.	Key Result Area (KRA)	Key Performance Index (KPI)	Performance Target
1	To improve the quality of Traditional and Complementary Medicine (T&CM) healthcare practices	Issuance of supporting letter to foreign practitioners will be processed within 14 days.	90% of support letters to be issued within 14 days
2	To enhance the efficiency of T&CM healthcare practices	To expand T&CM services	Establish 2 T&CM units in public hospital
		Number of premises inspected	750 premises to be inspected in 1 year

Source: Traditional and Complementary Medicine Division, MoH

- **Issuance of supporting letter to foreign practitioners**

One of the client charters for T&CMD was to issue supporting letters to foreign practitioners within 14 days. According to Figure 5, KPI on issuance of supporting letter to foreign practitioner has been on target since 2009.

FIGURE 5
ISSUANCE OF SUPPORTING LETTER TO FOREIGN T&CM PRACTITIONERS WITHIN 14 DAYS, 2008-2011



Source: Traditional and Complementary Medicine Division, MoH

- **Expansion of T&CM services**

In 2011, two more T&CM units were successfully established government hospitals namely Hospital Sultanah Hajjah Kalsom, Cameron Highlands and Hospital Raja Perempuan Zainab II, Kota Bharu. Both units shall provide Traditional Malay Massage and acupuncture for the treatment of chronic pain and post-stroke patients. Besides that, the Malay post natal massage service was started in the Hospital Duchess of Kent, Sandakan and Hospital Sultanah Bahiyah, Kedah as well as the Shirodhara service in Hospital Port Dickson.

IMAGES 8
NEW T&CM ESTABLISHMENTS IN 2011

Hospital Sultanah Hajjah Kalsom

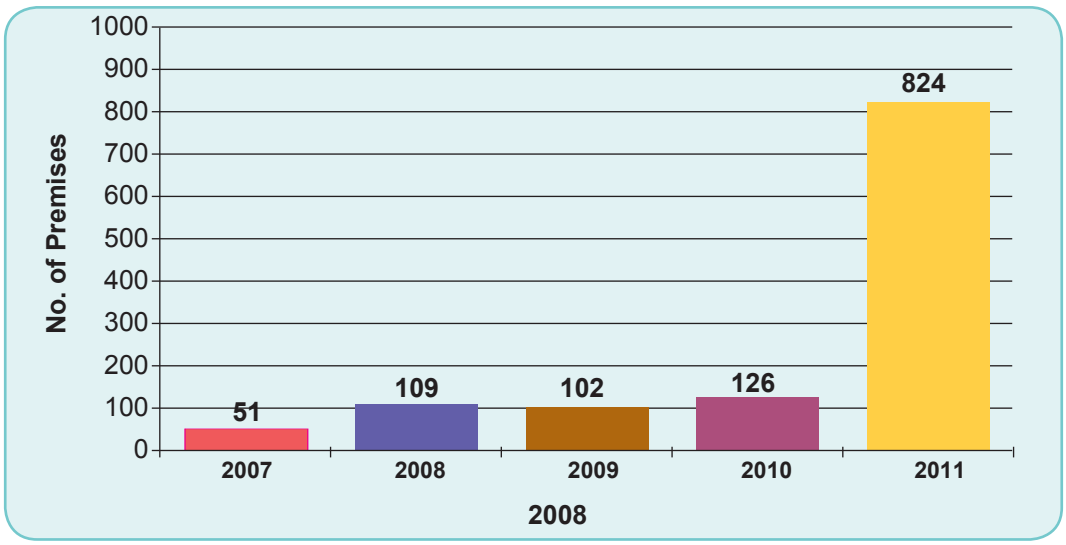
Hospital Raja Perempuan Zainab II

Source: Traditional and Complementary Medicine Division, MoH

- **Inspection of premises**

A total of 824 premises in Malaysia were inspected throughout 2011. Figure 6 illustrated that the KPI for T&CMD in 2011 was on target. There is a surge of the number of T&CM premises inspected in 2011 as compared to the previous year, mainly due to higher workforce resources. 5 officers were placed at the 5 branch offices (Northern, East Coast, Southern, Sabah, & Sarawak) respectively, which further increased the number of Inspection and Expectorate officers in 2011. With team contribution, the Director General of Health's KPI to inspect 12.5% of existing premises in Malaysia was achieved.

FIGURE 6
NUMBER OF INSPECTED T&CM PREMISES, 2007-2011



Source: Traditional and Complementary Medicine Division, MoH

- **5S Programme and Certification**

T&CMD was awarded the 5S certification as such by the Malaysian Productivity Corporation (MPC) on 7th September 2011. The 5S certification programme was intended to enhance the quality of the working environment whilst strengthening the MS ISO quality management system in the whole government sector, of which T&CMD must also abide to.

IMAGE 9
THE 5S CERTIFICATE OF ACHIEVEMENT FROM MPC

MPC

Certificate of Achievement

Malaysia Productivity Corporation hereby certifies that

BAHAGIAN PERUBATAN TRADISIONAL DAN KOMPLEMENTARI
Kementerian Kesihatan Malaysia
Tingkat 1, Blok E
Jalan Cenderasari
50590 Kuala Lumpur
KUALA LUMPUR

Quality Environment

has implemented the standard requirements of Quality Environment Management System

Issue Date : 7 September 2011
Expiry Date : 6 September 2012
Certification No. : AC 2175

Source: Traditional and Complementary Medicine Division, MoH

International Conferences and Seminars

- **1ST INTERNATIONAL CONFERENCE ON HOMEOPATHY 2011 (ICHOM 2011)**

This conference was held on 15-17th July 2011 at the Putra World Trade Centre (PWTC), Kuala Lumpur. The opening ceremony was completed by the Deputy of Director General Health (Research and Technical Support), Dato' Dr. Maimunah A. Hamid, and was attended by 300 participants.

IMAGE 10
ICHOM 2011

Opening ceremony by the Deputy of Director General Health (Research and Technical Support), Dato' Dr. Maimunah A. Hamid

Source: Traditional and Complementary Medicine Division, MoH

- **SEMINAR NUSANTARA 2011**

The seminar was held at the Vistana Hotel, Kuala Lumpur on 25th June 2011. The Honourable Director General of Health, Malaysia officiated the event, in which 228 participants took part.

IMAGE 11
SEMINAR NUSANTARA 2011

Speech by the Director General of Health, Dato' Sri Dr. Hasan Abdul Rahman

Source: Traditional and Complementary Medicine Division, MoH

NATIONAL INSTITUTES OF HEALTH

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 HAS developed a web portal system called the National Medical Research Register (NMRR) for the purpose of research registration, submission and approval of access to any unpublished health information.

Institute for Medical Research

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.

- **Research Activities**

In 2011, staff members of the Institute were engaged in 50 research projects. The Institute has published 93 scientific papers and produced 7 reports. In addition, IMR staffs were involved in 199 presentations at local and international seminars. The following are the various research projects conducted by the staff of the IMR:

i. Identifying and characterising seafood allergens as well as establishing basophil activation test.
ii. Study of the role of autoantibodies in foetal loss, celiac disease and paraneoplastic syndrome.
iii. Role of HLA and anti-aquaporin 4 antibodies in patients with multiple sclerosis.
iv. Research in the association of disease with major histocompatibility complex.
v. Study on patients and families affected by immunodeficiency diseases such as B cell defects, neutrophil dysfunction and Wiskott-Aldrich syndrome.
vi. Study on the role of cytokines and other immune parameters in the pathogenesis of dengue
vii. Single nucleotide polymorphism arrays study in haematologic malignancies.
viii. Array CGH study in multiple myeloma patients.
ix. Stem cell research on multipotency of limbal stomal cells.
x. Preclinical efficacy study on mesenchymal stem cell transplantation in experimental model of liver cirrhosis.
xi. Role of several genes of the Epstein Barr Virus on nasopharyngeal carcinoma cells.
xii. Clinicopathololgical studies of odontogenic cysts/tumours and oral diseases.
xiii. Updating the Malaysian Food Composition Database
xiv. Study of biogenic amines in local fish-based food.
xv. Study on nutritional values of Malaysian seaweeds.
xvi. Study on quality of indoor air in hospital premises supplied by Air Handling Units (AHU)
xvii. Evaluation of medicinal plants eg Brucea javanica and Lignosorus spp for anticancer and antimalarial properties.
xviii. Acarology studies were focused on: the detection of pathogens in ticks, establishment of a PCR based blood meal identification assay and control of acarine pests of public health importance.
xix. Research in forensic acarology initiated

xx. Study on spatial distribution of dust mites in their habitats.
xxi. Research on dengue and chikungunya vectors especially Aedes aegypti
xxii. Continuing research on transgenic mosquito
xxiii. Study using molecular approach to identify forensically important fly species.
xxiv. Study on forensic insect diversity in a high rise building.
xxv. Epidemiology study of locally important medical viruses
xxvi. Development of new technology for rapid diagnosis of locally important medical viruses.
xxvii. Screening methods for detection of IEM (Inborn error of Metabolism)
xxviii. Effectiveness of pneumococcal vacines among Malaysian pilgrims performing the Hajj in 2011
xxix. Health status of Orang Asli in Peninsular Malaysia
xxx. Incidence of human Plasmodium knowles malaria, host-parasite interactions and associated risk factors in Malaysia.

- **Diagnostic Services**

Being the referral laboratory for MoH, IMR continues to provide and improve clinical laboratory tests. IMR provides specialised and referral diagnostic tests, and tests that are not done in other laboratories.

The diagnostic service was severely affected by the fire in the IMR on 18 April 2011 (Image 12) and subsequent closure of half of the main building. The months after the fire had the staff operating under challenging conditions. The immediate post-fire objective was to resume the diagnostic services rapidly, especially for critical tests in which IMR is the sole national provider. The Oral Pathology diagnostic service is temporarily relocated to the Pathology Department, Hospital Kuala Lumpur after the fire.

IMAGE 12
AFTERMATH OF FIRE AT IMR, 18 APRIL 2011

Source: Institute for Medical Research, MoH

Malfunction and defects on crucial analytical instruments such as GCMS, HPLC, spectrophotometers and freezers, meant all biochemical genetic testing were temporarily stopped and a few tests were outsourced to other laboratories which also offer the test. Multiple Myeloma protein profiling services were also temporarily ceased until the rental of a Modular LBS in October 2011.

IMAGE 13
SPECIALIZED DIAGNOSTIC LABORATORY MULTIPLE MYELOMA

Source: Institute for Medical Research, MoH

- **Consultative Services**

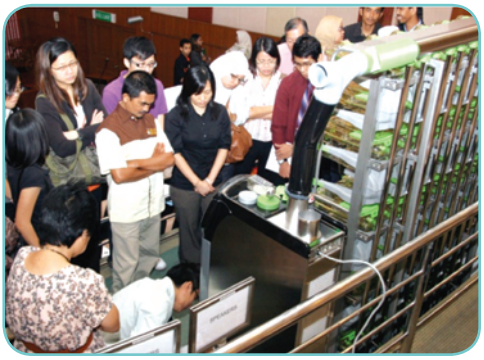
IMR's staff provides advisory and consultative services to MoH, other government departments, as well as international organisations. Most units of the Institute also serve as referral centres for MoH laboratories throughout the country. In 2011, 86 staff members provided consultative services at the national level, while 18 staff members provided such services at the regional/international level.

- **Scientific and Technical Training**

Training activities carried out by the Institute comprise regular courses offered annually as well as ad hoc training programmes 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.

The ad hoc programmes provided training opportunities for 114 scientists, medical doctors and allied personnel from other departments and local and foreign institutes. There were 174 undergraduates from local tertiary institutions who received training through attachments at the various units of the Institute. The Institute also conducted 32 training workshops, 17 seminars and 17 courses in 2011.

IMAGE 14
AMONG THE EVENTS ORGANIZED BY IMR, 2011



Animal House Course, 20 September 2011

WHONET Workshop, 12 September 2011

Source: Institute for Medical Research, MoH

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.

- **Research**

  The Insititute has underwent 27 research projects, in which 23 projects exclusively involving IPH staffs while 4 others in collaboration with other agencies. From the grand total, 4 mega-research projects which involved various agencies in MoH, were continued in 2011 (Table 11).

TABLE 11
FOUR MEGA-RESEARCH PROJECTS CONTINUED IN 2011

No.	Project Title	Main Researcher
1.	National Health and Morbidity Survey	Dr. Noor Ani binti Ahmad
2.	Health Facility Survey : When GIS Really Works	Dr. Tahir Aris
3.	Global Adult Tobacco Survey (GATS) 2011	Puan Helen Tee Guat Hiong
4.	The Second Malaysian Burden of Disease and Injury Study	Dr. Mohd Azahadi Omar

Source: Institute for Public Health, MoH

Other projects performed by IPH in 2011 are as follows:

1. Nutritional Status and Food Practices of Breast Cancer Patients Before and After Chemotherapy Treatment in Selected Government Hospitals – Phase 1
2. Status of Neurobehavioural Effects among Ministry of Health Staffs Exposed to Neurotoxic Chemicals in Hospital Pathology Laboratories in the State of Perak
3. Evaluation of the Partner Notification, Contact Tracing and Case Holding of Human Immunodeficiency Virus (HIV) Positive Patients in the Health District of Bentong, Pahang
4. To Determine the Proficiency of PL Microscopists Detecting Pulmonary Tuberculosis in Selected Primary Health Care Facilities
5. Health Status of National Service Trainees in Malaysia
6. Strengthening Evidence Based Policy in Diabetes Mellitus Management At Community Level
7. Health Status Profile of the Elderly Aged 60 Years and Above
8. *Kajian Tahap KAP Penguatkuasaan Undang-Undang Kesihatan Awam dalam Kalangan Pegawai dan Penolong Pegawai Kesihatan Persekitaran di Kementerian Kesihatan Malaysia*
9. Smoking Behaviour among Assistant Environmental Health Officer (AEHO) Trainee
10. Depression, Anxiety and Stress Among Type II Diabetics Attending Government Primary Health Care Facilities in the Klang Valley
11. To Determine The Trend in HIV and STI Related Risk Behaviour Among Secondary School Children Aged 13 to 17 Years Old in Malaysia
12. Food Safety Knowledge, Attitude and Practice among Food Handlers in School Canteens towards *Program Pemeriksaan Sendiri Kantin Sekolah dan Dapur Asrama* (KENDIRI) in Selected District of Pahang
13. National Clearinghouse for Persons with Disability

14. School-Based Nutrition Survey 2012
15. Effects of the Pictorial Health Warnings on Cigarette Packages on Smokers Behaviour and Perception

Other research projects that were done in collaboration with other institutes are:

1. *Patient's Satisfaction Towards Meals Services of Outsourced Food Services In Hospitals of Ministry of Health* (Dietetic and Catering Services Unit, Disease Control Division, - Pn. Rashidah Ambak as Co-investigator)
2. *Community Perception on Health Care System* (Institute for Health Systems Research - Loe Yak Khoon as Co-investigator)
3. *An Evaluation of The Referral of Diabetic Patients to Dental Clinics In The Ministry of Health Malaysia* (Oral Health Division - Teh Chien Huey & Norhafizah Sahril as Co-investigators)
4. *Global School Health Survey* (GSHS) 2012 (Institute for Health Behaviour Research - Dr. Noor Ani Ahmad as Co-Investigator)

- **Training**

In 2011, IKU has organized 28 training sessions to MoH staffs. The trainings are further divided into three categories; (1) research-oriented training, (2) training in the public health sector, and (3) management and personal development training.

a. Research-oriented training:

i. Data Analysis Using Epi Stat
ii. Basic Data Management Using SPSS
iii. Introduction to Research Methodology
iv. Data Analysis Using SPSS (Advanced)
v. Proposal Development Course
vi. Research Methods & Report Writing For Publication

b. Training in the public health sector:

i. TB Management Course for Paramedic
ii. Akta Keselamatan dan Kesihatan Pekerjaan 1994 - Training of Trainers
iii. National Workshop on Gender and Rights in Reproductive and Maternal Health
iv. EIP Introductory Course
v. Management of Children with Special Needs - Training of Trainers
vi. Comprehension and the Use of Disease Surveillance System Course
vii. Workshop on Reproductive Health in the Workplace
viii. Training on Risk Assessment in the Workplace
ix. STI/HIV Intensive Course
x. DM Updates - Primary Care Management
xi. Engaging the Adolescent Using HEADSS Framework - Training of Trainers

c. Management and personal development training:

i. HRMIS – Leave Management Module
ii. Time and Self Management
iii. Outstanding Assistant Administrator
iv. File and Record Management

- **Achievements in Research Activities**

Participation from IPH technical staffs in performing research projects in 2011 has produced the achievements as shown in Table 12. For the 'Consultancy' item listed below, IPH has collaborated with the Muar State Health District for the 'Teenage Pregnancy' and 'Perinatal Mortality Rate' topics. Collaboration was also done with Hospital Putrajaya for allied health studies and researches.

TABLE 12
IPH RESEARCH ACHIEVEMENTS IN 2011

No.	Item	Achievement	
		International	Local
1.	Technical Report	13	
2.	Publication	16	23
3.	Consultancy	4	5
4.	Oral Presentation	12	
5.	Poster Presentation	26	

Source: Institute for Public Health, MoH

The IPH technical staffs has made several Oral and Paper Presentation in several conferences, such as the Malaysia at Global Adult Tobacco Survey (GATS) Orientation, the 26th Scientific Conference of Nutrition Society of Malaysia, the Public Health Specialist Conference, the 6th National Public Health Conference, and the 9th Ministry of Health Malaysia-Academy of Medicine of Malaysia Scientific Meeting 2011, to name some.

- **Main Reports**

a. Global Adult Tobacco Survey (GATS) Malaysia

GATS is a component of the Global Tobacco Surveillance System (GTSS), which was launched in February 2007. It is the global standard for systematically monitoring adult tobacco use (smoking and smokeless) and tracking key tobacco control indicators using national and sub-national estimates on tobacco use, exposure to second-hand smoking and frequency of quit attempts at the urban/rural and by gender level. GATS indirectly measure the impact of tobacco control and prevention initiatives. It also assists countries to fulfil their obligations under the WHO Framework Convention on Tobacco Control (FCTC) to generate comparable data within and across countries.

In Malaysia, GATS was conducted in 2011 as a nationally representative household survey of persons 15 years of age and older using a standard core questionnaire plus country adapted questions, sample design, and data collection and management procedures. IPH is the implementing agency for GATS Malaysia, in collaboration with the Tobacco Control Unit & FCTC Secretariat of the Disease Control Division, the Health Education Division, and the University of Malaya. A multi-stage stratified probability sampling design was used to select 426 enumeration blocks and 5112 living quarters for the survey. One individual was randomly chosen from each selected living quarter to participate in the survey.

GATS is the first nationwide household survey by IPH to be conducted using handheld devices. The most obvious advantage of using handhelds in data collection is the ability for the software to automatically follow complex skip patterns, interviewers do not need to interpret (and potentially misinterpret) manual skip patterns that would be part of a paper questionnaire. This significantly shortens the overall interview time and burden on the respondent. Studies have shown that it takes 20 percent less time to administer a questionnaire.

The WHO Country Office in Malaysia had generously donated 75 units of HP iPAQ handhelds to IPH for the use in conducting GATS in Malaysia, and subsequently for the use of other surveys to be conducted by IPH. The Ceremony was conducted at IPH on 8th August 2011. Dr Corinne Capuano, WHO Representative for Brunei, Malaysia & Singapore handed over the iPAQs to Dr Tahir Aris, Director of IPH, witnessed by YBhg. Dato' Dr Maimunah A Hamid (Deputy Director General of Health, Research & Technical Support).

Data collection was outsourced to a research company and this is the first time IPH outsourced data collection activity. Data collection was commenced immediately after training of field staff for a period of eight weeks; i.e. from 24 October - 18 December 2011. Data collection was via face-to-face interview using a structured, pre-tested questionnaire.

IMAGES 15
ACTIVITIES OF GATS MALAYSIA, 2011

Handover Ceremony of iPAQ handhelds from Dr Corinne Capuano to Dr Tahir Aris, witnessed by YBhg. Dato' Dr. Maimunah A Hamid

Training of Trainers (TOT)

Data Collection for Full Survey

Source: Institute for Public Health, MoH

b. The National Health and Morbidity Survey (NHMS), 2011

The National Health and Morbidity Survey, or NHMS, was launched by the Honourable Minister of Health, Dato' Sri Liow Tiong Lai, on 12th April 2011 at the Bayu Beach Resort, Port Dickson. This was the fourth time such survey was implemented by MoH. The interval of the NHMS was reduced from every decade since 1986 to cycles of four-yearly survey with yearly data collection targeting different topics and target groups. The first year of each cycle will focus on similar areas that have been monitored on since 1986 to provide trends on prevalence of certain diseases and health behavior.

IMAGES 16
NHMS 2011

Launching Ceremony by The Honourable Health Minister of Malaysia, Dato' Sri Liow Tiong Lai

Data Collectors Training

Data Collection

Source: Institute for Public Health, MoH

The objective of the NHMS was to provide health related community-based data and information so as to support MoH in reviewing its health priorities, programme strategies, activities and planning its allocation of resources. The NHMS covered both urban and rural areas for every

state in Malaysia. The target population was all non-institutionalized individuals residing in Malaysia for at least 2 weeks prior to data collection. Institutional population such as those staying in hotel, hostels, hospitals, etc were excluded from the survey. The sampling frame for this survey was updated in 2010 prior to the National Population and Housing Census 2010. To ensure national representativeness, two stage stratified random sampling design was used. The allocation of the sample size to the state, urban and rural was done proportionally to the population size.

The NHMS 2011 data collection phase was started on April and completed in July 2011. A total of 7752 selected living quarters throughout Malaysia were visited by fifty data collector teams. Distribution of teams was based on regions, where 34 teams were divided throughout Peninsular Malaysia, and the remaining 16 teams were divided in Sabah and Sarawak. Structured questionnaires were used to collect data on the scopes of the survey. The clinical assessment; weight and height/length, was performed for every respondent, while the blood pressure check-up and the biochemistry tests (Fasting Blood Glucose and Cholesterol), were only performed by the nurses for respondents aged 18 years and above.

The NHMS 2011 produced three volumes of reports namely Volume 1: Methodology and General Findings, Volume 2: Non-Communicable Diseases, and Volume 3: Health Care Demands.

Network of Clinical Research Centre (CRC)

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. CRC has been operational since August 2000 and functions as the clinical research arm of the MoH. In 2011, CRC has 26 branches (Table 13 & Figure 6) located among the major MoH hospitals and is headquartered at the Hospital Kuala Lumpur (HKL).

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.

TABLE 13
THE CRC NETWORK, AS OF 31ST DECEMBER 2011

No.	CRC	State	Year Established
1	Hospital Kuala Lumpur	FT Kuala Lumpur	2000
2	Hospital Raja Permaisuri Bainun	Perak	2001
3	Hospital Pulau Pinang	Pulau Pinang	2003
4	Hospital Umum Sarawak	Sarawak	2003
5	Hospital Tengku Ampuan Afzan	Pahang	2004
6	Hospital Sultanah Bahiyah	Kedah	2006
7	Hospital Selayang	Selangor	2006
8	Hospital Tuanku Ja'afar	Negeri Sembilan	2006
9	Hospital Melaka	Melaka	2006
10	Hospital Sultanah Aminah	Johor	2006
11	Hospital Sultanah Nur Zahirah	Terengganu	2006
12	Hospital Raja Perempuan Zainab II	Kelantan	2006
13	Hospital Queen Elizabeth	Sabah	2006
14	Hospital Tuanku Fauziah	Perlis	2007
15	Hospital Ampang	FT Kuala Lumpur	2007
16	Hospital Serdang	Selangor	2008
17	Hospital Tengku Ampuan Rahimah	Selangor	2008
18	Hospital Sungai Buloh	Selangor	2010
19	Hospital Putrajaya	FT Putrajaya	2010
20	Hospital Sibu	Sarawak	2010
21	Hospital Likas	Sabah	2011
22	Hospital Taiping	Perak	2011
23	Hospital Seberang Jaya	Pulau Pinang	2011
24	Hospital Seri Manjung	Perak	2011
25	Hospital Sultan Ismail	Johor	2011
26	Hospital Queen Elizabeth II	Sabah	2011

Source: CRC, MoH

FIGURE 6
MAP OF THE CRC NETWORK

Source: CRC, MoH

- **Functions of National CRC (NCRC)**
  1. To provide leadership in the development and strengthening of clinical research capacity in MoH
  2. To facilitate the establishment of Hospital Clinical Research Centres (HCRCs) and provide technical support to the network of HCRCs
  3. To promote and support the conduct of Investigator Initiated Research among MoH staffs
  4. To coordinate the conduct of Industry Sponsored Research at MoH facilities
  5. To establish clinical database for MoH
  6. To establish collaboration with local, regional and international research organisations in the pursuit for excellence in clinical research in the country.

- **Functions of HCRC**
  1. To support and facilitate research activities in the hospital through the provision of:
     - Database of clinicians interested in research –interest areas, track record on Industry Sponsored Research (ISR) or Investigator Initiated Research (IIR) and publications;
     - Technical support such as statistical analysis;
     - Administrative support such as providing research assistants and study coordinators, facility support such as IT, statistical software, and others, and work station
  2. To assist in the registration of research protocol to NMRR (National Medical Research Register) and application of grants for research
  3. Participates in clinical trials and other research initiated or coordinated by NCRC
  4. To promote research through capacity building in the following ways:
     - Conduct courses like Good Clinical Practice (GCP), Good Research Practice (GRP), research methodology and biostatistics
     - Conduct regular in-house Continuous Professional Development (CPD)
     - Research clinics – providing consultation on research methodology, study design, protocol and statistical analysis

- **Clinical Research Malaysia (CRM)**
  1. CRM launched on June 23, 2011 by the Health Minister of Malaysia, YB Dato' Sri Liow Tiong Lai.

2. CRM is one of the Entry Point Project 2 (EPP2), under the National Key Result Areas (NKRA) for the Economic Transformation Program (ETP).
3. It was established to promote and generate the growth of Clinical Trials, which is sponsored by the enterprises in the manufacturing of new drugs.
4. The main goals of CRM:

    - To attract the Pharmaceutical Industry and Clinical Research Organization (CRO)
    - To choose Malaysia as the preferred destination for doing the Clinical Research Contract (Contract Clinical Research).

This will generate income through foreign investment by foreign drug manufacturing industry and thus provide job opportunities for Malaysians. In addition, the people of Malaysia will also have more opportunities to use technology or new drugs are tested during the research.

On 4-6 October 2011, a meeting for the Planning and Preparation Workshop 5-year Strategic Plan for CRC was held. Among those present at the meeting were the Deputy Director General of Health (Research and Technical Support), YBhg. Dato 'Dr. Maimunah A. Hamid, former directors of CRC; Dr. Zaki Morad Mohamad Zaher and Dr. Lim Teck Onn (Consultant Medical Research), head of the NIH Secretariat Dr S. Asmaliza Ismail, Prof Dr. Sim Kui Hian from Warwick, CRC director Dr Goh Pik Pin, CRC Heads Hospital and Head - the head of the CRC.

The meetings are intended to facilitate the restructuring of CRC strategy for the past five years, to explore and develop the ability to identify the strength of the Clinical Research Centre (CRC), discussing the 5-year Strategic Plan with the objective of enhancing the performance of research centers as a responsive institution.

- **Knowledge Sharing**

There were three medical writing workshops done in 2011 regarding research methodology and biostatistics. The Basic Research Methodology & Biostatistics Workshop was held on 28-30th October 2011 at the Grand Seasons Hotel, Kuala Lumpur, and was attended by 50 participants. The Conference on Standard Operating Procedure for the Conduct Clinical Research Workshop was held on 2-4th November 2011 at the Awana Genting Highlands Resort & Hotel, and was attended by 50 participants. The CRC's Strategic Planning Meeting & Workshop was held on 4-6th October 2011 at the Nilai Springs Resort Hotel, Negeri Sembilan, and was attended by 47 participants.

Sixteen Good Clinical Practice (GCP) Workshops was held in 2011. The aim of these workshops was 'Understanding the Roles Learner Autonomy Plays in the Lifelong Learning and Research Experiences of Physicians and Other Healthcare Professionals'. These 3-day workshops were hosted by various HCRCs in collaboration with the private agencies, with a GCP examination at the end of the session. A total of 691 out of 884 participants (including 42 participants who re-sit), equivalent to 78.17%, has passed the exam.

The Journal Club sessions was held throughout 2011. The topics presented during the session are as shown in Table 14. In a similar note, 451 Research Consultation Clinics (RCCs) were held in 2011, with the breakdown of the sessions as listed in Table 15.

TABLE 14
JOURNAL CLUBS LIST OF TOPICS, 2011

No	Title	Date
1	Journal Club: Relation Between Kidney Function, Proteinuria, and Adverse Outcomes	7th January 2011
2	Journal Club: Severe cases of Pandemic (H1N1) 2009 in Children, Germany	18th February 2011
3	Journal Club: Scoring system: New Strategy for the early detection of acute dengue virus infection in Taiwan	18th March 2011
4	Journal Club: In-Center Hemodialysis Six Times per Week versus Three Times per Week	22nd April 2011
5	Journal Club: Comparing retention in treatment and mortality in people after initial entry to methadone and buprenorphine treatment	27th May 2011
6	Journal Club: Malaysia Shape of the Nation (MySoN): A Primary Care Based Study of Abdominal Obesity In Malaysia	14th July 2011
7	Journal Club: Effects of intracthecal midazolam in spinal anaethesia: a propspective randomised case control study	19th August 2011
8	Journal Club: Systemic Review Introduction	23rd September 2011
9	Journal Club: Regulation of Abdominal adiposity by probiotics (Lactobacillus gasseri SBT2055) in adults with obese tendencies in a randomized	21st October 2011
10	Journal Club: Combined Task Delegation, Computerized Decision Support, and Feedback Improve Cardiovascular risk for Type 2 Diabetic Patients	22nd December 2011

Source: CRC, MoH

TABLE 15
RCC BY SESSION CATEGORY, 2011

CRC National				
Face to Face consultation	Email (study design etc)	Email (Sample Size)	Phone	Skype
145	32	46	31	4
CRC Networks				
CRC Selayang	CRC Seremban	CRC Penang	CRC Klang	CRC Johor Bahru
58	30	51	34	20

Source: CRC, MoH

- **Research Projects**

The CRC-related research projects performed in 2011 are as listed in Table 16.

TABLE 16
CRC RESEARCH PROJECTS IN 2011

No	Projects Name	Principle Investigator	Funding Agency
1	Paediatric H1N1	Adam bin Bujang	MoH
2	Road Traffic Injury Prevention & Analysis Study (R-TRIPS)	Masitah Binti Mohd Salleh	Malaysian Institute of Road Safety Research (MIROS)
3	Dengue Death in Malaysia 2010	Nor Azlinda Binti Md Nordin	MoH
4	Trend and Projection of Dengue and Dengue Death in Malaysia (Dengue Trend)	Nor Azlinda Binti Md Nordin	MoH
5	Highly Active Antiretroviral Therapy Reduces Mortality and Morbidity in Patients with AIDS in Sungai Buloh Hospital (HAART)	Mariana Bt Mohamad Ali	MoH
6	Cross-cultural adaptation of Maslach Burnout Inventory (MBI) and Work-Related Quality of Life (WRQoL) Scale in Malaysia	Rosilawati Binti Rasli	Segi Universiti College & National University of Malaysia (UKM)
7	Validation of Catquest	Rosilawati Binti Rasli	MoH
8	Kawasaki disease	Nor Azlinda Binti Md Nordin	MoH
9	Cancer Survival	Dr Sharmini Selvarajah	MoH
10	NHMS III cohort – Longitudinal	Dr Sharmini Selvarajah / Nuur Amalina Amirah Binti Ghazali	MoH
11	Cardiovascular disease (CVD)	Dr Sharmini Selvarajah	MoH
12	Hip Fracture	Dr Lim Chiao Mei	MoH
13	Johor-Singapore Dengue Modelling Project (Collaborative research)	Nadirah binti Sulaiman / Nor Azlinda Binti Md Nordin	MoH
14	Dengue Death Clinical Study (DDCS)	Nadirah binti Sulaiman	MoH
15	Dengue, Meliodosis and Diabetes-TB Modelling Project (Collaborative research)	Nadirah binti Sulaiman	MoH
16	The Socio Economic Burden of Cancer in ASEAN Countries (ACTION Study)	Dr Nirmala Bhoo Pathy/ Shri Devi Subramaniam	MoH
17	Spinal cord Injury- An Epidemiology Study in HKL, Malaysia	Dr Lee Kun Yun	MoH
18	Empowering patients and primary care providers to improve chronic disease outcome: The EMPOWER Participatory Action Research (EMPOWER-PAR)	Dr Sharmila a/p M.K.Lakshmanan / Rosilawati Binti Rasli	Universiti Teknologi Mara (UITM)
19	Genenews study (Financial oversight)	Dr. Thevendran Sadasivam	-
20	Economic evaluation : transplant (Financial oversight)	Azmi Burhani Consulting	-

Source: CRC, MoH

- **Oral Presentations by CRC (**Table 17)

TABLE 17
CRC ORAL PRESENTATIONS, 2011

NO	TITLE	PRESENTER/GROUP
1	Malaysian Psoriasis Registry (MPR) Latest Update and the Biologic Registry Initiative	National Dermatology Registry (DERM)
2	9th LIVER UPDATE 2011	Malaysia Liver Registry (MLDR)
3	27th Annual Congress of Malaysia Society of Nephrology	Malaysia Dialysis Transplant Registry
4	ADMAN 8th to 10th July 2011	
5	4th East Coast Nephrology Meeting	
6	9th NKF Annual Dialysis Meeting	
7	Reducing Klebsiella infection by reducing use of 3rd generation Cephalosporin	Malaysia National Neonatal Registry (MNNR)
8	Compliance to breastfeeding practice in VLBW upon discharge	
9	Reducing respiratory morbidities in MNNR hospitals	
10	Neonatal infections in Malaysian NICU's	
11	Feeding patterns at MNNR hospitals	
12	Utilization of data from the MNNR to reduce neonatal mortality rate	
13	Transient tachypnoea of the newborn	
14	Perinatal database management	
15	Risk factors associated with pneumothorax in Malaysian neonatal intensive care units. Journal of Paediatrics and Child Health	
16	paper for PSM annual congress 2011- ventilated Meconium Aspiration Syndrome outcome in MNNR 2008	
17	Management of serious Nosocomial Infection	Malaysia Registry of Intensive Care (MRIC)
18	Antimicrobial Resistence Pattern	
19	ASMAR	
20	27th Annual Congress of Malaysian Society of Nephrology	
21	Public Forum Talk on Colorectal Cancer	National Cancer Patient Registry (Colorectal Cancer)
22	CME session presented by Dato Dr Muhammad Radzi Abu Hassan	
23	18th APCC 2011	NCVD-ACS / NCVD - PCI
24	Cataract Surgery Registry Update – intraoperative complications and outcome. Malaysian Singapore Congress (November 2009)	National Eye Database Registry (NED)
25	Malaysia Society of Neuroscience Meeting - Achievement of Key Performance Indexes (KPI) for Ischaemic Stroke Care in Hospital Seberang Jaya (HSJ), Pulau Pinang, 2010	National Neurology Registry: Stroke, Epilepsy
26	Malaysia Society of Neuroscience Meeting - Diurnal Variation in Onset of Ischaemic Stroke: National Stroke Registry, Malaysia	

NO	TITLE	PRESENTER/GROUP
27	Malaysia Society of Neuroscience Meeting - Presenting Risk Factors in Patients with Stroke at Hospital Seberang Jaya, Penang, for Year 2010	National Neurology Registry: Stroke, Epilepsy.
28	Malaysia Society of Neuroscience Meeting - Stroke Demographic of Hospital Seberang Jaya (HSJ), Pulau Pinang	
29	Malaysia Society of Neuroscience Meeting - Study On Risk Factors Of Stroke In Terengganu And Seberang Perai, Penang Population	
30	Malaysia Society of Neuroscience Meeting - Assessment On Patient Compliance With Secondary Stroke Prevention In Terengganu	
31	Asia Pacific Stroke Conference, Sri Lanka (29/9 -1/10/2011) - Determinants of Adherence to Stroke Key Performance Indicator(KPI) in Malaysia	
32	Asia Pacific Stroke Conference, Sri Lanka (29/9 -1/10/2011) - National Stroke Registry: First Report	
33	Asia Pacific Stroke Conference, Sri Lanka (29/9 -1/10/2011) - Diurnal Variation in Onset of Haemorrhagic Stroke: National Stroke Registry, Malaysia	
34	Asia Pacific Stroke Conference, Sri Lanka (29/9 -1/10/2011) - Assessment of NIHSS components involving mastication and swallowing as risk factors for pneumonia in acute stroke	
35	Road Injury Data Collection And Epidemiological Situation In Malaysia	National Trauma Database (NTrD)
36	Patterns of Anatomical Injury Severity to Different Types of Road Users in Road Crashes	
37	Head Injury Characteristics Among Helmeted and Non□helmeted Motorcyclist in Urban Setting	
38	"R-TRIPS"	
39	Empowering patients and primary care providers to improve chronic disease outcomes: The EMPOWER Participitory Action Research (EMPOWER – PAR)	Dr Jamaiyah Hanif/Dr Jaya Purany Stanley Ponniah (CRC HKL)
40	Prevalence and Outcomes of Major Trauma in Malaysia	Dr Sabariah Faizah Bt Jamaluddin (Emergency and Trauma Department, Hospital Sg Buloh)
41	Paediatric Major Trauma Mortality: A Lesson from The Malaysian National Trauma Database (NTrD) 2008	Dr Sabariah Faizah Bt Jamaluddin (Emergency and Trauma Department, Hospital Sg Buloh)
42	Situation Analysis Study (NCCR)	Pn Noriati Baharum

Source: CRC, MoH

- **Poster Presentations by CRC** (Table 18)

TABLE 18
CRC POSTER PRESENTATIONS, 2011

No	Title	Presenter / Group
1	Hearing Status and Outcome in Repaired Cleft Palate Children in Kedah	ORL Dept. (Hospital Sultanah Bahiyah)
2	Demography, Severity and Associated Disabilities of Strokes in Hospital Balik Pulau, Penang	Malinee Neelamegam (Stroke)
3	Incidence of Depression Among Stroke Patients in Hospital Balik Pulau	Dr Savithiri Bandiloo (Stroke)
4	Factors Affecting The Maintenance Dose of Warfarin in Warfarin Clinic, Hospital Melaka	Siti Zainora Binti Mohd Zulkefli (Heart)
5	Computerized Tomographic (CT) Measurement of Lumbosacral Pedicle Diameter in A Malaysian Population and Feasibility for Transpedicular Fixation	Dr Pan Chee Huan
6	Surveillance of Stroke Care in The Malaysia National Stroke Registry	Dr.Khairul Azmi Ibrahim
7	Characteristics and Time-To-Hospital of Patients with Acute Ischaemic Stroke in Hospital Seberang Jaya	Dr. Yeoh Chin Aun (Stroke)
8	A Retrospective Study of Open Fractures Treated in Hospital Tengku Ampuan Afzan, Kuantan	Dr. Kamil bin Mohd. Kasim/ Dr. Nazri Mohd. Yusof (Orthopaedic)
9	Lipid lowering therapy as secondary prevention for ischaemic stroke : A review on Hospital adherence	Norsima Nazifah Binti Sidek (Stroke)
10	Thoracolumbar compression fracture: Should we brace?	Dr Goh Kian Liang (Orthopaedic)
11	Aspirin Treatment Failure in Acute Ischaemic Stroke	Ng Kee Sing (Stroke)
12	Incidence Of Stroke Associated Pneunomia (SAP) in Acute Patient: Data From National Stroke Registry (NSR)	Norsima Nazifah Binti Sidek (Stroke)
13	Does The Prevalence and Components of Metabolic Syndrome Differ Among Different Ethnic Groups? – A Cross Sectional Study Among Obese Malaysian Adolescents	Dr. Punithavathi Narayanan
14	The Correlation Between Occurence of Preclampsia/ Eclampsia and Meteorological Factors	Karanth K L
15	Bacteriological Study of The Two Different Curing Techniques of Acrylic Resin Material Use in Maxillary Obturators.	Dr. Nasser Abbas Abd El Aziz
16	Assessing Impact on Tuberculosis Interventions in Malaysia: A Mathematical Modelling Application for Outbreak and Control	Dr Nurhuda Ismail (Tuberculosis)
17	An Age-Structured Mathematical Tuberculosis Transmission Model as Tool for Outbreak Modelling and Control in Malaysia	Dr Nurhuda Ismail (Tuberculosis)
18	Predictors of Mortality in Very Low Birth Weight (VLBW) Infants in MNNR 2008	Jimmy KF Lee (MNNR)

No	Title	Presenter / Group
19	House Dust Mites in Allergic Rhinitis Patients	Yogesvaran K (Skin)
20	Revealing The Mortality Rate Between Device Interventions and Medical Therapy – IJN Registry	Sheikh Mohammad Norhafiz Bin Abdul Aziz (Heart)
21	Ventilated Meconium Aspiration Syndrome In MNNR 2008	Jimmy KF Lee (MNNR)
22	The Malaysia NCVD-PCI (National Cardiovascular Disease Database- Percutaneous Coronary Intervention) 2007-2009: A Contemporary Review with Focus on Infarct PCI Timeliness	Dr Liew Houng Bang (Heart)
23	The Malaysian NCVD-PCI Registry Report 2007-2009: Highlight on In-Stent Re-Stenosis (ISR)	Prof Dr Wan Azman Wan Ahmad (Heart)
24	The Malaysian NCVD-PCI Registry Report 2007-2009: PCI of LMS (Left Main Stem) and Graft	A/P Dr Chee Kok Han (Heart)
25	The Malaysian NCVD-PCI Registry Report 2007-2009: Summary of Treatment	Dr Azmee Mohd Ghazi (Heart)
26	The Malaysian NCVD-PCI Registry Report 2007-2009: Highlight on Patient Characteristics	Dr Alan Fong Yean Yip (Heart)
27	The Malaysian NCVD-PCI Registry Report 2007-2009: Summary of Procedure	A/P Dr Chee Kok Han (Heart)
28	The Malaysian NCVD-PCI Registry Report 2007-2009: Summary of Outcome of Patients	Dato' Dr Omar Ismail (Heart)
29	The Association Of Diurnal Variations In Ischaemic Stroke Onset, Stroke Severity And Disability: National Stroke Registry, Malaysia	Malinee Neelamegam (Stroke)
30	Ask - Asphyxia Screening Kit	L. Y. Khuan (Neonatal)
31	National Stroke Registry: First Report	Khairul Azmi Ibrahim (Stroke)
32	Outcome Of Hospitalized H1N1 Patients In Hospital Pulau Pinang	Dr Lee Yew Fong (H1N1)
33	Randomized Controlled Trial of Lugol Iodine Treatment Before Thyroidectomy in Patients with Hyperthyroidism	SH Ng (Thyroidism)
34	Prescribing Pattern of Anti-Asthmatics in Emergency & Trauma (E&T) Department- A Single Centre Experience	Chuo Sing Hong (Trauma)
35	Smart ABR System for Universal Newborn Hearing Screening (UNHS)	Sheikh Hussain Bin Shaikh Salleh (Heart)
36	Assessment of The Effectiveness of Mentorship Program Among Staff Nurses in Penang Hospital	Dayang Jok
37	Pharmacokinetics of Gentamicin Estimated From Once Daily Dosing Regiment	Nursahjohana Binti Md Sahak (Drug)
38	National Cancer Patient Registry - Colorectal Cancer: An Overview	Dato' Dr Muhammad Radzi Abu Hassan (NCPR)
39	Outcomes of Colorectal Cancer Patients from The National Cancer Patient Registry - Colorectal Cancer	Dato' Dr Muhammad Radzi Abu Hassan (NCPR)
40	Quality of Life Among Adult Patients with Psoriasis: A Study Using Data From The Malaysian Psoriasis Registry	CC Chang (Skin)

No	Title	Presenter / Group
41	Decision Making In Breast Cancer Surgical Treatment Options	E Noor-Shaari (Cancer)
42	Factors Associated with Immunohistochemistry Subtypes of Breast Cancer: A Study of 730 Consecutively Diagnosed Breast Cancers in Malaysia	Yew-Ching Teh
43	Antibiotic Susceptibility Pattern of Burkholderia Pseudomallei from Melioidosis Cases – Kedah, Malaysia, 2005-2010	Dato' Dr Muhammad Radzi Abu Hassan
44	A Contemporary Review of Rheumatic Heart Disease in Borneo Malaysia	Sattian Kollanthavelu/Liew Houng-Bang (Heart)
45	Review of Metaplastic Breast Cancer in University Malaya Medical Centre (UMMC)	Suraya Othman (Cancer)
46	Correlation Between Medication Beliefs and Adherence Among Diabetic Population in the Seremban District, Malaysia	Fadzilah Shafie (Diabetic)
47	Patterns of Cutaneous Adverse Drug Reactions Seen in Hospital Sultanah Aminah, Johor Bahru, Between 2001-2010	Choon Siew Eng (Drug)
48	Audit of Lipid Lowering Therapy: Are We Doing Enough or Too Much?	Yong Vee Sim (Drug)
49	How Much Improvement in Time-In-Therapeutic Range in Real-World Setting: 2-Year-Review Of Anticoagulation Clinic	Chi Jia Hoong
50	Beta-Blockers in Suboptimal Dose Amongst Heart Failure Patients at Discharge	Yew Sook Foon (Heart)
51	Heart Murmur Analysis System (HMA System) for Detection of Abnormalities In Heart Sound	Sheikh Hussain Bin Shaikh Salleh (Heart)
52	Clinicopathologic Features of Colorectal Cancers in Hospital Sultanah Bahiyah, Alor Setar	Datin Dr Nik Raihan Nik Mustapha (NCPR)
53	Expenditure Of Antidiabetics, Antihypertensives and Lipid Modifying Drugs	Hazimah Bt Hashim (CRC)
54	National Hearing Registry of Hearing Loss and Otology Related Diseases in Hospital Sultanah Bahiyah: Aetiology, Risk Factor and Type of Hearing Loss	Dr Siti Sabzah Mohd Hashim (ENT)
55	National Hearing Registry of Hearing Loss and Otology Related Diseases in Malaysia: A Demography Perspective	Dr Siti Sabzah Mohd Hashim (ENT)
56	The Malaysian Hospital & Specialist Services 2008-2009 – An Overview	Sivasampu S (CRC)
57	A Review on Research Protocols Registered to National Medical Research Registry and Publications by CRC, MoH	Dr PP Goh (CRC)
58	"Exit To New World" - The Ex-Utero Intrapartum Treatment (Exit) Procedure	Dr Khadijah Bt Mohd Nor (Neonatal)
59	Skin Prick Test for Allergen among Patients Underwent Adenotonsillectomies in Hospital Sultanah Bahiyah	Yeoh Zhi Xiang/Anuar Idwan Idris/Masaany Mansor/Ida Sadja'ah Sachlin/Siti Sabzah Mohd Hashim (Skin)

No	Title	Presenter / Group
61	The Malaysian Cataract Surgery Registry: Trend Of Cataract Surgery Practice	Mohamad Aziz Salowi (Eye)
62	The Malaysian Cataract Surgery Registry: Trend Of Intra-Operative Complications And Visual Outcome	Mohamad Aziz Salowi (Eye)
63	Characteristics of Patients With Age Related Macular Degeneration (AMD): The Report from The Age Related Macular Degeneration Registry	Dr PP Goh (CRC)
64	A Review on Type of Anesthesia Used in Cataract Surgery	Dr PP Goh (CRC)
65	Diabetic Retinopathy in Native and Non-Native Sarawakians - Findings from The Diabetic Eye Registry	Dr PP Goh (CRC)
66	Demographic Pattern, Indication and Outcome of Cochlear Implant in Seven Source Data Providers (SDPs) in MoH Hospitals in Malaysia	Dr Siti Sabzah (ENT)
67	Characteristics of Patients with Retinoblastoma : Report from the Retinoblastoma Registry	Mohamad Aziz Bin Salowi (Eye)
68	Severe Diabetic Papillopathy Mimicking Non-Arteritic Anterior Ischemic Optic Neuropathy (NAION) in a Young Patient	PS Mallika (Eye)
69	An Overview on Primary Care Services in Malaysia	Sivasampu S (CRC)

Source: CRC, MoH

Institute for Health Management (IHM)

The idea to establish 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.

- **Training**

In 2011, IHM has conducted a total of 53 courses in areas of leadership: strategic management of hospitals and health clinics; creativity and innovation of scientific writing; economic health and awareness about 1Care. 2500 participants trained in 2011, which exceeded expectations despite allocation restrictions, in which collaboration with other MoH agencies have contributed to achieve that goal. In 2011, IHM has organized three courses in collaboration with international agencies involving overseas participants, aside from the other courses held by IHM.

a. Malaysian Technical Cooperation Programme – Epidemiology Intelligence Management Programme (MTCP-EIMP), 1-22 June 2011

IHM in collaboration with the Ministry of Foreign Affairs, the Disease Control Division, Institute for Medical Research and the Selangor State Health Department, has organized the MTCP-EIMP course for the fifth consecutive time since 2007. MTCP-EIMP has helped strengthen Malaysia's role in the South Nations cooperation and bilateral relations especially with regards to development issues and the sharing of experience and expertise and to increase the quality of human resources among member countries.

This program is fully funded by the Malaysian Government with the Ministry of Foreign Affairs as the coordinator for the Malaysian Technical Cooperation Program. As of 2011, a total of 120 participants from 52 member countries have attended the course. In 2011, a total of 21 participants from 16 selected countries joined the course, in which 11 participants were fully sponsored by the Malaysian Government while 10 others were sponsored by the Colombo Plan.

2011 carved a notch in history as the Health Minister officiated the Opening Ceremony on 2 June 2011. The ceremony was also attended by ambassador representatives of the each participating country, the Ministry of Foreign Affairs, the Colombo Plan, the agencies involved and the MTCP-EIMP participants. The ceremony was graced with the Cak Lempong traditional presentation by the Negeri Sembilan Cultural Troupe and multimedia presentations of the MTCP-EIMP history.

IMAGES 17
MTCP-EIMP 2011

Source: Institute for Health Management, MoH

b. HIV/AIDS Management Programme (collaboration with the Colombo Plan), 14-25 November 2011

The HIV/AIDS Management Programme Course was the first time held in collaboration with the Colombo Plan. Allocation for travel and daily allowances for overseas participants is fully funded by the Colombo Plan. The course was attended by 11 participants from the Maldives, Pakistan, Afghanistan, Brunei, Sri Lanka, Vietnam and Malaysia. All participants are sponsored by the Colombo Plan Secretariat.

The objective of this course is to share Malaysia's experience with the participating countries about ways of preventing and combating HIV/AIDS intervention programs, strengthening the capacity of participating countries in the management of HIV/AIDS and create a sharing of expertise and experience in implementing Harm Reduction in the countries involved.

IMAGES 18
HIV/AIDS MANAGEMENT PROGRAMME COURSE

Source: Institute for Health Management, MoH

c. Child Injury Prevention Course (collaboration with WHO), 13-15 December 2011

Collaboration with WHO regarding child injury was an honor as IHM has undertaken studies related to child injury by UNICEF. The findings were documented via the MCID system, which is the database developed for the purpose of monitoring and evaluation in some selected hospitals.

This course was a platform for the sharing of expertise and experience among the participating countries for the prevention of injuries among children and also to build capacity among professionals in the field of research and related programs.

The course includes a total of 33 participants and officials from Malaysia, Philippines, Vietnam, Brunei, Laos, Cambodia, Mongolia, China and representatives from WHO. A total of 11 participants were sponsored by WHO.

IMAGES 19
CHILD INJURY PREVENTION COURSE

Source: Institute for Health Management, MoH

- **Research Achievements**

In 2011, several research projects have been conducted among research projects Tropical Tuberculosis: Delineating-Host-Environment Pathogen Interactions, a project under the Malaysia Science University (USM) with an allocation of RM 6 million, funded by the Ministry of Higher Education. The Director of IHM was appointed as the Principal Investigator to conduct one of the three subprojects under this project, which was the "Evaluation of the National TB Prevention and Control Programme Towards Achieving the Millennium Development Goal (MDG)". A total of RM 2 million was approved for this subprojects that will take 3 years to implement. Several IHM officers were also involved as co-investigators.

In addition, the Institute was also involved in the planning Good Hospital Impact Study project conducted by the private sector. The list of research projects, publications and presentation of findings IHM findings in 2011 are as shown in Tables 19, 20, 21, 22 and 23.

TABLE 19
IHM RESEARCH PROJECTS IN 2011

No.	Title	Year Start	Projected Year End	Status
1.	The Assessment of the House Officer Competency: Malaysian Experience	June 2011	June 2012	Data collection
2.	Evaluation of National TB Prevention and Control Programme towards achieving Millennium Development Goal	August 2011	July 2014	Planning - conceptual framework
3.	Mentoring Junior Doctors	August 2011	2012	For approval
4.	Role of Primary Care Providers as gate keepers in the Malaysian Public Healthcare System	August 2011	2012	For approval
5.	Good Hospital Impact Study	December 2011	April 2012	Questionnaire Design

Source: Institute for Health Management, MoH

TABLE 20
ARTICLES PUBLISHED IN INTERNATIONAL JOURNAL, 2011

No.	Title (Journal)	Author
1.	The SCIDOTS Projects: Evidence of Benefits of An Integrated Tobacco Cessation Intervention in Tuberculosis Care on Treatment Outcomes (Substances Abuse Treatment, Prevention and Policy Volume 6, Issue 1, pg 26, 2011)	Dr Hjh. Noorliza Mohamad Noordin
2.	Does Connecting Tobacco Cessation Intervention in Tuberculosis Care Improve Quality of Life Outcomes? (SPOR 14th Annual European Congress)	Dr Hjh. Noorliza Mohamad Noordin
3.	Hospital Waiting Time: The Forgotten Premise of Healthcare Service Delivery (International Journal of Healthcare Quality Assurance Volume 24, Issue 7,pg 506-522)	Datin Dr Hjh. Noriah Bidin

Source: Institute for Health Management, MoH

TABLE 21
ARTICLES SUBMISSION FOR INTERNATIONAL JOURNAL PUBLICATION, 2011

No.	Title (Journal)	Author
1.	Job Satisfaction and intention to resign among healthcare employees in Malaysia (Journal of Service Management)	Dr Nor Filzatun Borhan
2.	Measuring Hospital Performance: Review of Global Measures (International Journal Quality In Healthcare)	Datin Dr Ang Kim Teng

Source: Institute for Health Management, MoH

TABLE 22
ARTICLES PUBLISHED IN LOCAL JOURNAL, 2011

No.	Title(Journal)	Author
1.	Food Poisoning Outbreak Among Health Institutes A Staff 1st June 2011 (Journal of Health Management, Volume: 10, 1/2011)	Siti Zubaidah Ahmad
2.	*Pengamalan Etika Kerja Oleh Anggota Yang Bertugas Di Klinik Kesihatan* (Journal of Health Management, Volume: 10, 1/2011)	Evi Diana Omar
3.	Early Retirement: Are We Heading There And Why? (Journal of Health Management, Volume: 10, 1/2011)	Dr Sunita Shanmugam, Dr Magesiwaran, Dr Nor Filzatun Borhan, Sivaganasan Ramalingan

Source: Institute for Health Management, MoH

TABLE 23
IHM POSTER/ ORAL PRESENTATIONS, 2011

No.	Title	Date and Place	Stakeholder(s)
1.	Assessment of House Officer Competency: Malaysian Experience	12 August 2011@ IHM (Flexy duty preliminary findings)	Hospital directors and Medical Development Division
		30 November 2011 @ IHM (Competency)	Hospital Directors, Medical Development Division, SPA, MMC, Human Resource Division
2.	Patient Satisfaction in Government Hospitals, An updated.	4 October 2011 @ IHM	Hospital directors and Medical Development Division

Source: Institute for Health Management, MoH

- **Consultancy services**

In 2011, consultancy services focused on activities such as innovation and creativity, application of the MoH Corporate Culture, Action Research, economy and health financing, policy development, preparation of training modules and curriculum for study analyzes customer satisfaction using SERVQUAL. Applicants consist of hospitals, state health departments, health districts, private and international agencies (such as the Colombo Plan).

- **Corporate activities in 2011**

a. **Effective Leadership in Healthcare Colloquium, 16 May 2011**
IHM has held a colloquium titled “Effective Leadership In Healthcare” by inviting Dr Sanjiv Malik, a renowned speakers in the field of hospital administration and management internationally, He is a medical specialist and the Chief Executive of DM Healthcare in Dubai. The colloquium was attended by 200 participants from different positions and levels of service.

IMAGES 20
EFFECTIVE LEADERSHIP IN HEALTHCARE COLLOQUIUM

Source: Institute for Health Management, MoH

b. Successful Writing for High Impact Journal Publication Colloquium, 3 June 2011
On June 3, 2011, IHM held a colloquium titled "High Impact Successful Journal Writing for Publication". This talk was presented by Prof. Dr. Hj. Kamaruzzaman Jusoff. The objective of this colloquium is to improve the skills and knowledge of the participants about the techniques of writing for scientific journals. Approximately 100 participants were present to attend the colloquium, which consists of all the departments and institutions under MoH.

IMAGE 21
SUCCESSFUL WRITING FOR HIGH IMPACT JOURNAL PUBLICATION COLLOQUIUM

Source: Institute for Health Management, MoH

c. Efficiency in Healthcare Seminar in conjunction with the 6th National Public Health Conference, 11 July 2011

In conjunction with the 6th National Public Health Conference, IHM has conducted a seminar titled "Efficiency in Healthcare" at the Klana Resort, Seremban. A total of 5 people speakers were invited to share their expertise and their experience in the event (Table 24).

TABLE 24
SPEAKERS FOR THE EFFICIENCY IN HEALTHCARE SEMINAR

No.	Title	Speaker
1	Efficiency in Healthcare - Challenges in a Globalised World	Tan Sri Dato' Dr. Abu Bakar Suleiman, International Medical University
2	Measuring Public Sector Hospital Performance	Dr. Paa Mohamed Nazir bin Abdul Rahman Medical Development Division, MoH
3	Measuring Efficiency in Healthcare	Dr. Lim Teck Onn, Stats Consulting Sdn. Bhd
4	Achieving Efficiency In A Public Sector Hospital	Dr.Nor'ai Mohd Said, Hospital Putrajaya
5	Measuring Hospital Performance – The Balanced Scorecard Approach	Ms. Wu Chin Huei, Sime Darby Healthcare Centre, Subang Jaya

IMAGES 22
EFFICIENCY IN HEALTHCARE SEMINAR

Source: Institute for Health Management, MoH

- **Study visit by Delegates from Universitas Diponegoro, Semarang, Indonesia on 16 November 2011**

A total of 15 delegates from Indonesia's Universitas Diponegoro conducted a study visit to IHM. The purpose of this visit is to learn the intricacies of human resource management and administration of health services in Malaysia. The delegation was briefed on IHM and also visited facilities and infrastructure available in IHM.

Institute for Health Systems Research (IHSR)

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. In 2011, IHSR welcomed its new director, Dr. Hjh. Noorliza Mohamad Noordin, on 10th October 2011, after Dr. Hj. Azman Abu Bakar was transferred to the Selangor State Health Department on promotion.

- **Research**

The list of research undertaken by IHSR, which was started in 2011:

i. Community Perception on Health Care Delivery Systems
ii. Health Care Demand Analysis: Models and Policy Simulation for 1Care
iii. Analysis of Financial Arrangements and Expenditures in Health in Malaysia

The list of projects which were continued from the previous year:

iv. To Reduce Shortfalls in The Care of Babies at Risk of Developing or Diagnosed with SNNJ in Kulim District
v. Cost Analysis of Delivering Outpatient Services in Public Hospitals
vi. Assestment of 1Malaysia Clinic: Acceptability, Utilisation, Suitability & Cost
vii. HO Internship Working Hours
viii. Performance of House Officer
ix. Evaluation of QA Programme (Phase II)
x. Prevalence of Sleep Apnea Syndrome
xi. Costing of MoH Primary Care Services (COMPRICASE)
xii. Costing of MoH Primary Putrajaya Health Services (COMPHEC)

- **Evidence Informed Policy Network (EVIPnet)**

An EVIPNet meeting was organised and held on 7-8 April 2011. EVIPNet liaison officers from each state presented feedback on their activities and any issues raised during the meeting were discussed. IHSR also disseminated its research products to be distributed to respective end-users.

IHSR played host to a consultant from the McMaster University Canada, sponsored by WHO, who was in Malaysia for a period of 12 days in August 2011, to analyse the activities of Evidence Informed Policy Network (EVIPNet) in Malaysia. Two workshops were organised concurrently with this consultation visit. The aim of these workshops was to disseminate the concept of Knowledge Translation (KT). Participants for these workshops were staff from the various categories in MoH.

- **Consultation/project assistance**

a. Consultation

i. Knowledge Translation & Research Priority Setting to visitors from the Centre of Humanities, Health Policy and Community Information, National Institute for Health and Research & Development, MOH Indonesia on 14-15 March 2011.
ii. Training of Trainers on Quality Assurance/Improvement in Patient Safety activities in the WHO Western Pacific Region on 23-27 May 2011.
iii. QA programme to three visitors from MOH North Korea on 8-11 November 2011
iv. Priority Setting in Research for the Hanoi School of Public Health, Hanoi on a WHO Consultancy project on 8-14 May 2011.

b. Technical advice

i. Costing methodology Health Sector Reform: Oral Health; on 25 March 2011
ii. Health Systems Research Track for 3rd Asia Pacific Primary Care Research Conference 2011 - to Academy of Family Physicians Malaysia.
iii. Patients' Unvoiced Needs in the Federal Territory & Kedah State Health Offices – including advice on data analysis and report writing on 18 May 2011 & 13 June 2011 respectively.
iv. Questionnaire Validation Procedure

v. Advice cum analysis on research entitled Endometrial Cancer in Malaysia - to O&G Oncology, Hospital Ampang
vi. Sampling methodology for primary care survey – to CRC HKL
vii. Research methodology for projects
viii. Writing Research Highlights "Perak Research Highlights 2010" and processes for publishing to CRC Perak.

- **QA activities**

IHSR as the Secretariat to MoH's Quality Assurance Programme (QAP) has conducted several meetings, trainings as well as presentation on research findings pertaining to Quality Improvement project as follows:

i. Training of Trainers on Quality Assurance/Improvement in Patient Safety activities in the WHO Western Pacific Region on 23-27 May 2011
ii. QA Workshop on Evaluation of QAP on 25-28 July 2011
iii. National QA Convention 2011 on 18-21 October 2011
iv. Workshop on Development of QA Proposal related to NIA with SIQ on 31 October-1 November 2011
v. QA Intensive Course in Measuring & Managing Quality for Kuala Lumpur Hospital on 16-18 November 2011

IMAGES 23
IHSR EVENTS, 2011

Workshop on Knowledge Translation August 2011

Workshop on Evaluation of QAP July

The Director General of Health launched the National QA Convention 2011

Source: Institute for Health Systems Research, MoH

- **Output**

In 2011, outputs from IHSR comprised of the following:

a. Journal publications - 26
b. Oral/posters presentation - 29
c. Report and Research Highlights - 20
d. Books - 1
e. Bulletin - 2

Institute for Health Behavioural Research (IHBR)

IHBR is one of the six institutes which were derived from the structure of the NIH, MoH. Since its founding in 2006, 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 research service that caters to the needs of the focus group.

- **Risk Communication Course**

The course on Risk Communication for the Northern Peninsular Zone was held at the Paradise Sandy Beach Resort, Pulau Pinang from the 23-27 May 2011. Health Education Officers from the Northern Peninsular Zone participated in this course. The primary objective of the course was to:

vi. To identify crisis situation.
vii. To explain concept and process of risk communication.
viii. To practice message principles in handling pre crisis, during crisis and post crisis.
ix. To perform situational analysis and public risk perception and to evaluate the effectiveness of risk communication messages.
x. To frame the risk communication action plan.

- **Development of Survey Instrument Course**

This course was primarily conducted for the Management and Professional Officers and Support Group 1 staffs from Kelantan, Terengganu and Pahang. The course was held at the Grand Riverview Hotel, Kota Bharu, on 11-14 July 2011. Development of Survey Instrument is an important facet of survey research method and researcher must be aware of the important underlying principles. The primary goal of this course was to educate the participant on this important facet.

- **Strategic Management Workshop for Health Education Officers**

The general objective of the workshop was to enable the middle level mangers to develop competencies that are relevant and applicable in their work environment as managers. By the end of the workshop the participants should be able to:

i. Identify management skills necessary for effectiveness in an organization;
ii. Describe the concept of management;
iii. Manage time effectively;
iv. Solve problems with greater foresight and draw on their negotiation skills;
v. Improve on their presentation skills;
vi. Describe mentoring and coaching and their relevance in health;
vii. Develop their negotiation skills.

Roughly around 50 Health Education officers from all over country participated in this workshop which was conducted at the Eagle Ranch Resort, Port Dickson on 25-27 July 2011.

- **Creativity for Media Production Course**

This course was primarily conducted for the Management and Professional Officers and Support Group 1 staffs who were directly involve in Health Promotion Programs. This course was conducted at Hotel Puri, Melaka on 26-29 September 2011. The objective of this course is to educate the participants on preparing creative media educational tools. The knowledge of preparing creative media educational tools is important to promote, inform, educate and motivate the public.

- **Development of Survey Instrument Course**

This course was conducted for the Management and Professional Officers and Support Group 1 staffs from Terengganu. The course was held at the Terengganu State Health Department on 19-20 October 2011. Development of Survey Instrument is an important facet of survey research method and researcher must be aware of the important underlying principles. The primary goal of this course was to educate the participant on this important facet.

- **Workshop on Finalizing Training Module to 1Care Advocaters**

The workshop was used as a platform to review and finalize the training module which is being developed and to discuss issues on the transformation of Healthcare in Malaysia. Participants of the workshop were the Management and Professional Officers from State Health Department, Hospitals and MoH Headquarters. The workshop was held on 10-11 November 2011 at the Klana Resort Seremban, Negeri Sembilan.

- **Community Mobilization Course**

This course was held to train the Health Education Officers on the latest approach to plan and conduct community mobilization program for disease management. The course was held at the Empress Hotel, Sepang on 15-18 November 2011.

- **Community Health Literacy Course**

The general objective of this course was to educate health professionals on the importance of health literacy and their role in providing health information and services and promoting public health literacy. It was conducted at the Bayview Hotel, Melaka, on 21-24 November 2011.

- **Advocator Strategic Communication 1Care Course**

This course was conducted to train the 1Care advocators on the Strategic Communication skills. The course was conducted at the Alison Klana Hotel, Seremban from 29th November to 1st December 2011.

- **Publication and Presentation**

The objective of the IHBR publications and presentations is to achieve the widest possible distribution of research findings in order to realize the organizations' vision. The following publications are available as part of IHBR achievement.

a. Scientific papers (published)

i. Norazilah M.R., Ismarulyusda I. & Mohammad Zabri J. *Pengujian Kognitif Terhadap Instrumen Kajian Tingkahlaku Kesihatan Berisiko Remaja Kebangsaan.* Journal of Health Management: 2011.

ii. Mohammad Zabri J., Sulaiman C.R., Zawaha I., Edawaty U. & Siti Sa'adiah H.N. Corporate Culture in Ministry of Health Malaysia: The Inside Perspective of Two FGD's in Klang Valley. IHBR. Journal of Health Management: 2011.

iii. Dayang Rusnah Wati Z., Kaswandi M.A., Mohammad Zabri J. & Wong Y.Y. 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: 2011.

iv. Hasimah I., Muhamad Hanafiah J., Siti Sa'adiah H.N., Tahir A., Salmiah M.S., Huda Z and Mohd Yunus A. Control Of Glycosylated Haemoglobin (Hba1c) Among Diabetes Type 2 Patients at A Health Clinic, Kuala Lumpur, Malaysia. Medical and Health Science Journal: 2011.
v. Wee, L. H., Shahab, L., Bulgiba, A. and West, R. Stop Smoking Clinics in Malaysia: Characteristics of Attendees and Predictors of Success. Addictive Behaviours: 2011.
vi. Wee, L. H., Shahab, L., Bulgiba, A. & West, R. Conflict about Quitting Predicts the Decision to Stop Smoking Gradually or Abruptly: Evidence from Stop Smoking Clinics in Malaysia. Journal of Smoking Cessation: 2011.
vii. Wee, L. H., West, R., Bulgiba, A. & Shahab, L. Predictors of 3-month Abstinence in Smokers Attending Stop-Smoking Clinics in Malaysia. Nicotine and Tobacco Research: 2011.

b. Research reports (approved and published)

i. Report on High Risk Behaviours Among National Service Trainees in Selangor, December 2008 - July 2009.
ii. Determinants of Wellness and Illness among Older Malaysians: A Health Promotion Perspective.
iii. Youth Behavioral Risk Factor Surveillance System : Statistical Report
iv. Kesedaran Penyakit Tibi Dalam Kalangan Warga Emas Di Pusat Jagaan Harian Di Kelantan
v. Assessment on Acceptance of T&CM Services amongst Doctors in the Klang Valley Area and Putrajaya

c. Research highlights (approved & published)

i. Zawaha H. I., Siti Sa'adiah H.N., Sulaiman C.R., Muhammad Irwan. S & Norrafizah J. Health Risk Behaviours of Youth: Is it a Public Concern.

d Poster Presentations

i. Kajian Kelangsungan COMBI Denggi di Sarawak (6th National Public Health Conference)
ii. Pencegahan dan Pengawalan Denggi: Apakah Persepsi Masyarakat? (National Health Promotion Conference 2011)
iii. Kajian Kelangsungan Combi Denggi di Negeri Kelantan (National Health Promotion Conference 2011)
iv. Penerimaan Terhadap Pendermaan Organ dalam Kalangan Masyarakat Melayu yang Berpendidikan Tinggi (National Health Promotion Conference 2011)
v. Amalan Pengurusan Kendiri dalam Kalangan Pesakit Diabetes Mellitus Jenis 2 di Hospital Serdang, Selangor (National Health Promotion Conference 2011)
vi. Kajian Kelangsungan COMBI Denggi di Pulau Pinang (National Health Promotion Conference 2011)
vii. Association of Diet Practice with Glycaemic Control among Type 2 Diabetes Mellitus Patients Received Treatment from an Urban Clinic in Kuala Lumpur. (Kelantan Health Conference 2011)
viii. Pandemic A (H1NI) 2009 Media Messaging and Reporting: The Malaysian Experience

IMAGE 24
NATIONAL HEALTH PROMOTION CONFERENCE 2011

Source: Institute for Health Behaviour Research, MoH

e Oral Presentations/Symposium

i. Creating Supportive Environment to Promote Smoking Cessation in Malaysia (National Health Promotion Conference 2011)
ii. Sustainability of COMBI Approach as Community Based Intervention in Dengue Control (National Health Promotion Conference 2011)
iii. Dilemma of Dengue Control: In the Eyes of Public Health Professionals (National Health Promotion Conference 2011)
iv. Exploring Population Health Literacy: The Golden Standard Measures (National Health Promotion Conference 2011)
v. Community Empowerment for Malaria Control Measures at Kampung Tong Nibong (National Health Promotion Conference 2011)
vi. Symposium Presentation on Health Literacy: Tool Development (National Health Promotion Conference 2011)
vii. Self-Motivation at Work: A Behaviourist Persepctive of What Triggered Change in Weight Management (Malaysian Association for the Study of Obesity Conference)
viii. Symposium Presentation on Strengtening Community Action - Sustainability of COMBI as Community Based Intervention in Dengue Control, Malaysia (National Health Promotion Conference 2011)
ix. Assessment on Acceptance of Traditional and Complementary Medicine (T&CM) among Medical Doctors in Klang Valley and Hospital Putrajaya (National Health Promotion Conference 2011)

Way Forward for IHBR

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 to form smart partnership with other agencies outside MoH.

The globalization era is witnessing changes in lifestyle of the population. Due to these changes, IHBR is entrusted to conduct health behavioural research in various disciplines to determine the behavioural risk factors which could contribute to health problems in the society. Through this research, IHBR could assist the MoH's programme to implement its activities effectively. This goal can definitely be achieved with the dynamism and expertise of its staff together with the support from the Management.

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.

7 | Oral Health

INTRODUCTION

In its endeavour to fulfil the oral health needs of the population, the Oral Health Division (OHD) undertakes the formulation and development of policies related to the populations' oral health. The division is also tasked to manage the planning, organizing, monitoring and evaluation of oral healthcare whilst giving emphasis to the promotion of oral health and patient-centred care. Of equal importance is the enactment and enforcement of laws and regulations pertaining to ensure the practice of safe and quality dentistry. As a lead agency for oral health in the country, the Division is also responsible for ensuring collaboration between dental and non-dental agencies from both the public and private sectors in the quest for improvement of the quality of life of the population.

ACTIVITIES AND ACHIEVEMENTS

PROFESSIONAL DEVELOPMENT

OHD has made significant strides towards achieving and maintaining an optimal supply of competent oral health care providers. Various initiatives have been proposed to improve personal development as well as career pathways.

Recognition of Post Graduate Dental Qualifications

Full recognition of the postgraduate qualification by the Malaysian Civil Service Department (Jabatan Perkhidmatan Awam Malaysia) was obtained for Master in Clinical Dentistry (Periodontology) at King's College, London and Master in Clinical Dentistry (Periodontology) at University College London.

Recognition of the postgraduate qualifications by the *Jawatankuasa Khas Perubatan* (JKP) were given to Master of Dental Science (Paediatric Dentistry) at University of Leeds, United Kingdom, Intercollegiate Diploma of Membership in Paediatric Dentistry at Royal Colleges of Surgeons and Physicians (Glasgow), Royal College of Surgeons (Edinburgh) and Royal Colleges of Surgeon (England), United Kingdom, Masters of Science (Forensics Odontology) at University of Melbourne, Australia. The recognition of this postgraduate dental qualification was approved as Personnel to Holder to Dr. Norhayati bt. Jaafar, Forensic Odontologist at Hospital Kuala Lumpur.

Recognition of Dental Officers with Dental Public Health (DPH) qualifications was documented via Director General of Health's Circular Bil 8 Tahun 2011 - *"Pengiktirafan Pegawai Pergigian Kesihatan Awam di Kementerian Kesihatan Malaysia"*. A total of 136 were recognised as MoH Dental Public Health Officers.

Post Graduate/Post-basic Training

A total 42 Federal Scholarships for postgraduate training were obtained, 26 slots allocated for local postgraduate training, while 16 slots were for postgraduate training abroad. However, due to limited places only 39 slots were taken. Twenty four (24) Dental Technologists were selected and offered post basic training in Orthodontics at the Children's Dental Centre and Malaysian Dental Training College in Penang.

Improving Trainers' Certification at the Children's Dental Centre and Malaysian Dental Training College
To overcome the critical shortage of Dental Tutors (trainers) at the Children's Dental Centre and Malaysian Dental Training College in Penang, the appointment of Dental Nurse and Dental Technologist as Dental Tutors where identified dental nurse and dental technologist to be sponsored to pursue degree in the related field at either local universities or abroad and identified candidates who have completed the degree program will then be appointed into Dental Tutors Scheme.

Career Pathways and Scheme of Service Improvement
Efforts were taken to pursue the feasibility towards improving the career pathway of dental auxiliaries. Proposal papers prepared include the 'Advanced Diploma' training for Dental Technologists and Dental Nurses and Curriculum for Advanced Diploma in Restorative Dentistry for Dental Technologists. The enhancement of the scheme for Dental Surgery Assistants from Grade U17, U22 and U24 to Grade U19, U24 and U26 was undertaken. The training module for "Amendments to the Scheme of Service for Dental Surgery Assistants was finalised where the duration of the training was proposed to be extended from 2 to 2 ½ years.

Continuing Professional Development (CPD)
In order to facilitate in-service training opportunities both locally and abroad, both Dental Professionals and Auxiliaries participated in various courses, seminars and training programmes **(Table 1)**.

TABLE 1
IN–SERVICE TRAINING FOR DENTAL OFFICERS AND DENTAL AUXILIARIES, 2011

In-Service Training	No. of Dental officers & Dental Auxiliaries involved	Expenses (RM)
Local	14,929	2,014,731
Overseas	23	960,000

Source: Oral Health Division, MoH

FACILITY DEVELOPMENT

A total of five dedicated dental projects under the First Rolling Plan of the 10th Malaysia Plan were approved in 2011 with a total cost of RM 10,800,000. By the end of 2011, two dental projects were completed, which were the fluoridation projects in Perak and Sabah. 3 other projects were carried forward to 2012 which are Klinik Pergigian Pakar Kota Setar, Klinik Pergigian Mak Mandin and Klinik Pergigian Bau, Sarawak.

The Outcome Assessment for the 9th Malaysia Plan was carried on 30 projects (27 School Dental Clinics and 3 Mobile Dental Squads) and was presented to the Jawatankuasa Tindakan Pembangunan KKM, followed by presentation to the ICU of the Prime Minister's Department.

The Brief of Requirement (BOR) and norms for Non-hospital-based Oral Health Specialist Centre was finalized and distributed to all states as reference document. The standard list of equipment for dental specialist facilities (hospital based and non-hospital based) were reviewed and to continue with the final list in 2012.

ORAL HEALTH PROMOTION

OHD participated in various Health Promotion campaigns and exhibitions throughout the year in its continuous effort in empowering the public on the importance of oral health. The Oral Health Promotion activities shall continue in order to promote individual responsibility and community participation towards achieving "optimum oral health for improved health and enhanced quality of life".

Monitoring and Evaluation of Oral Health Promotion Activities
Dental officers and dental nurses in the country carried out a total of 644,827 oral health promotion activities of various categories in 2011 (Table 2). Generally, most activities showed increased output except for Toothbrush Drills (TBD), Puppet Shows and Mass Media related activities.

TABLE 2
ORAL HEALTH PROMOTION ACTIVITIES, 2007-2011

Type of Activity	2007	2008	2009	2010	2011
Toothbrushing Drill	188,286	196,412	206,221	237,910	225,652
Dental Health Talk	178,597	202,654	238,548	282,135	305,740
In-service Training	344	525	497	473	538
Role Play	41,240	28,338	33,769	36,023	39,842
Puppet Show	1,954	2,770	3,036	3,507	2,968
Exhibition/Campaign	2,323	2,683	2,754	3,370	3,832
TV/Radio Programme (Mass Media)	148	122	44	53	40
Community Service	884	579	1,789	658	869
Others	10,109	16,728	30,448	50,587	65,355
Total	**423,885**	**450,811**	**517,106**	**614,716**	**644,842**

Source: Oral Health Division, MoH

Intra-Agency Collaboration

The Oral Health Division collaborated with the Health Education Division of MoH during the Healthy Lifestyle Campaigns by conducting oral health promotion at MoH level which includes screening, promote messages with common risk factors approach, initiation of state oral health activities etc.

The Division participated in the following events:

1. 18th FDI/MDA International Scientific Convention and Trade Exhibition – KLCC 13-16 Jan 2011
2. Exhibition in conjunction with *Majlis Anugerah Kantin Sekolah Bersih 2011* at PICC on 30 March 2011.
3. Smart Kids Exhibition at PWTC on 15-17 April 2011
4. Launching of *Kembara Riang Ria Pemakanan* at *Sek Ren. Peringkat Kebangsaan* on 21 April 2011 at *Kompleks Sekolah Wawasan* USJ 15.
5. 68th MDA/FDI AGM at KLCC on 10-12 Jun 2011.
6. Launching of *Promosi Pemakanan Sihat* at Giant Hypermarket , Shah Alam on 8 October 2011
7. Seminar on *"Peranan media dalam meningkatkan taraf pemakanan rakyat"* on 29 Nov 2011 at *Dewan Perdana, Institut Sukan Negara Malaysia, Kompleks Sukan Negara,* Bukit Jalil.
8. Launching of *"Penyediaan Hidangan Sihat Semasa Mesyuarat"* at *Sektor Awam* on 7 December 2011

Development and Dissemination of Oral Health Information

Several Media Talks on Oral Health topics was planned together with the Health Education Division, MoH. Several Oral Health Promotion materials were produced which include flipchart, pop-up exhibition panels and 3 new pop-up display panels. In addition 32 units of pop-up panels which covered the following topics were distributed to states:

- *Karies gigi dan penyakit gusi*
- *Kurangkan pengambilan gula*
- *Kanser mulut*
- *Enam (6) Langkah Pemeriksaan Mulut Sendiri*

Training

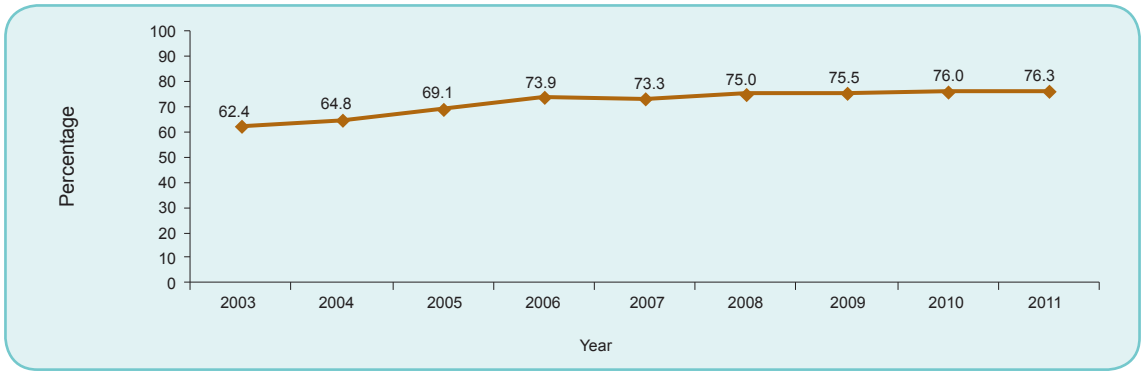
Training sessions were conducted to enhance capacity building among personnel. These were:

- Workshop on digital photography for oral health personnel involved in oral health promotion and identified specialists at the OHD on 25 January 2011.
- Workshop for coordinators was held on 26-28 Jun 2011 at Hotel Vistana, Kuala Lumpur (54 participants including one from each of the 27 teaching training institutes)
- The training for 'Enhancing participation in oral health promotion' was held on the 13-15 December 2011 at the Puteri Resort, Melaka for 45 participants from all over the country.

Water Fluoridation Programme

Fluoridation of public water supplies is a public health measure to prevent and control dental caries at the population level. The nationwide water fluoridation programme was implemented incrementally since 1974 following the approval by the Cabinet in 1972. However, coverage and maintenance of optimum levels of fluoride at water treatment plants and reticulation points remains a challenge in some states, in particular Sabah, Sarawak, Kelantan, Terengganu and Pahang. The estimated population receiving fluoridated water increased from 76.0% in 2010 to 76.3% in 2011 (Figure 1). All states achieved over 90% population coverage except for Sabah, Sarawak, Kelantan, Terengganu and Pahang.

FIGURE 1
POPULATION COVERAGE FOR WATER FLUORIDATION PROGRAMME, 2003-2011



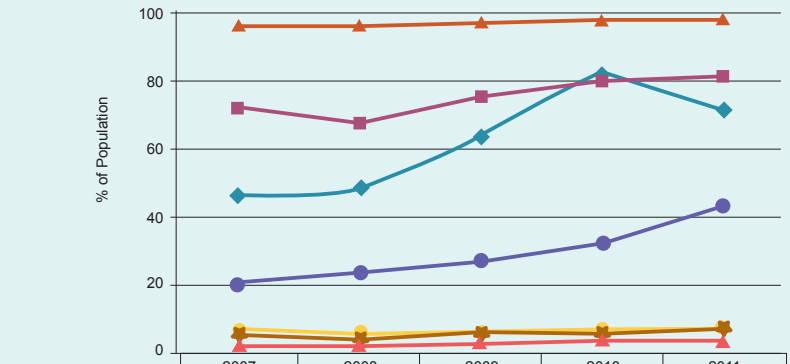
Source: State Oral Health Divisions, 2011

PRIMARY ORAL HEALTHCARE

OHD is responsible for the availability and accessibility of adequate dental care services to the entire population. Care is provided to the population via structured programmes for identified target groups such as pre-school children, schoolchildren, children with special needs, ante-natal mothers, the elderly group and adults.

In 2011, there was an overall increase in the utilisation of primary oral healthcare to 25.7% compared to 25.3% in 2010. The coverage of the target groups showed an increasing trend, while the coverage of toddlers shows a slight reduction (Figure 2).

FIGURE 2
PRIMARY ORAL HEALTHCARE UTILISATION BY CATEGORY, 2007-2011



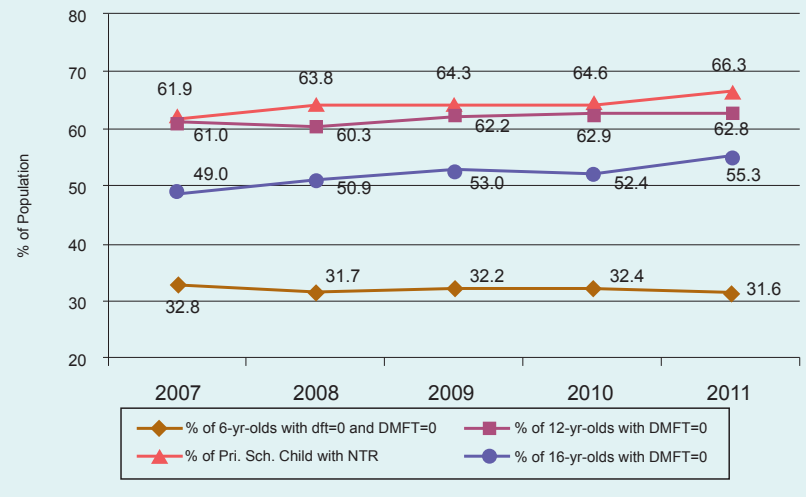
	2007	2008	2009	2010	2011
Toddler[1]	1.3	1.4	2.4	3.4	2.8
Pre School[2]	46.3	48.6	64.3	81.9	70.5
Primary School[2]	95.9	96.5	97.3	98.0	98.2
Secondary School[2]	72.0	67.5	75.6	80.5	81.6
Ante Natal[2]	19.7	23.1	28.1	34.6	40.6
Adult[2]	5.6	5.4	5.3	6.2	6.9
Elderly[2]	5.2	3.4	5.7	6.1	6.3

Note: Revised Figures
Source: [1]Oral Health Division and [2]Health Informatics Centre, MoH

Impact Indicators for School Dental Services, 2007-2011

The impact indicators of caries-free status among the 6 and 12-year-olds showed a slight decrease from the previous year but there was an increase of caries-free dentition among the 16-year-olds (Figure 3). The number of primary schoolchildren who are orally-fit status has however increased to 66.3%. The mean DMFT score remains unchanged for the 12-year-olds and has not reduced much among the 16-year-olds.

FIGURE 3
IMPACT INDICATORS FOR SCHOOL DENTAL SERVICES, 2007-2011



Source: Health Informatics Centre, MoH

Oral Healthcare for Preschool Children

2011 shows another improvement in the coverage of pre-school children utilising the Primary Oral Healthcare services. A total of 717,525 preschool children received primary oral healthcare, which contributes to coverage of 87.5% of the preschool population.

Oral Healthcare for Schoolchildren

Schoolchildren have always been the main priority group in the provision of oral healthcare services and received most coverage compared to other target groups. However, due to increasing disease burden among the younger children forces the division to reassess the delivery/provision of services to schoolchildren. Thus, the division has initiated the study of 2-year recall visit of schoolchildren with the aim to extend dental screening for schoolchildren who are caries-free as well as those not needing treatment thus the limited resources can be channeled to other needy areas and target groups.

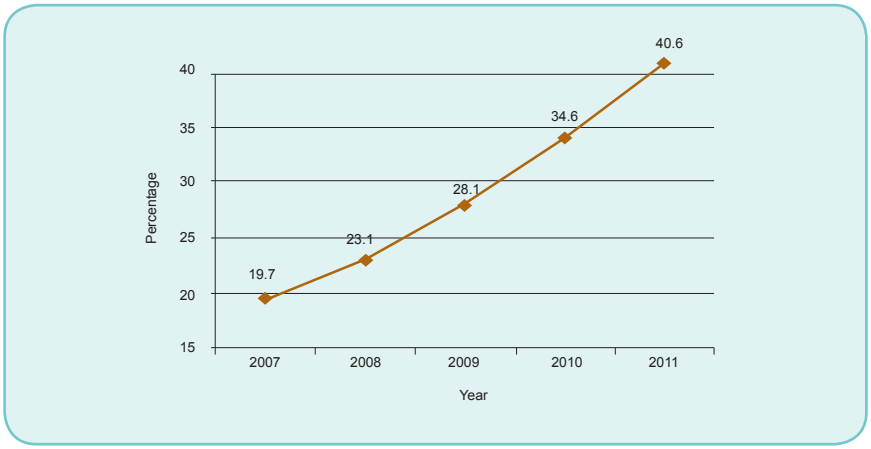
All primary schools are covered by dental nurses and their supporting teams. In 2011, a total of 98.2% (2,811,680/2,864,264) of primary schoolchildren were treated. A majority of 97.3% (2,735,151/2,811,680) of primary schoolchildren were rendered orally-fit, of which 33.4% were children with caries-free mouth and 66.3% not requiring any treatment.

Coverage of secondary schoolchildren was carried out by dental nurses and in some states, by dental officers. However, with emphasis given to daily and extended outpatient clinics, more dental officers will be retained in clinics leaving dental nurses to shoulder the work in secondary schools. In this instance, where resources are stretched, some states may only be able to cover secondary schools in small increments. Year 2011 showed improvement in secondary school coverage of 1.1% with a total of 81.6% (1,842,661/2,259,377) of secondary schoolchildren received oral healthcare.

Oral Healthcare for Antenatal Mothers

Mothers have long been acknowledged as agents of change in instilling good oral health behaviour among family members especially their children and efforts have been made to increase their attendances to dental clinics. The aim is to impart essential oral health knowledge to mothers and to render them orally-fit. The Guidelines on Oral Healthcare for Antenatal Mothers has been reviewed and emphasis is on cooperation with MCH clinics in obtaining referrals of antenatal mothers to dental clinics. A total of 30.9% of antenatal mothers received oral healthcare in year 2011, an improvement of 1.8% from previous year (Figure 4).

FIGURE 4
COVERAGE OF ANTENATAL MOTHERS, 2007-2011

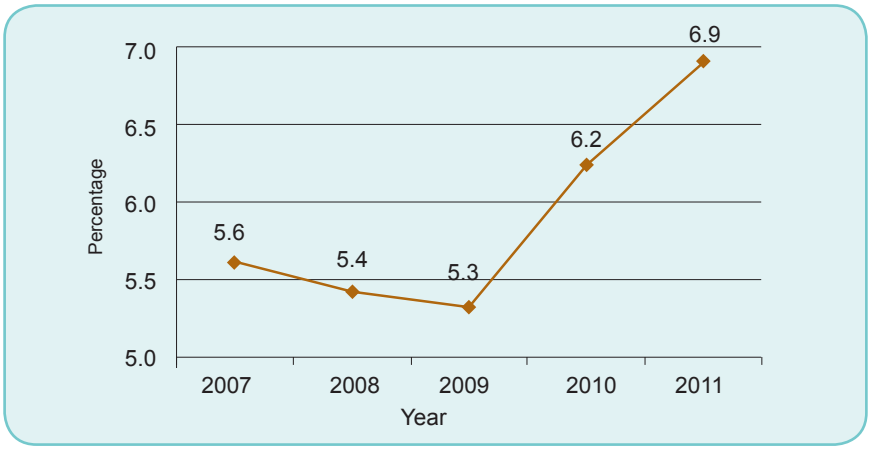


Note: Estimated population of pregnant mothers refers to number of new attendances at MCH Clinics
Source: Health Informatics Centre, MoH

Oral Healthcare for Adults

Oral Healthcare for adults has been provided through various dental facilities as well as through outreach services. As demand for oral healthcare is increasing from this population group, there are calls for dental clinics to provide daily and extended outpatient services. Efforts have been made to accommodate the population at large and to date 74.5% (204/274) of dental clinics with at least 2 dental officers are opened daily for outpatients. In-view of this, utilisation of primary oral healthcare by adults has increased, as seen in Figure 5. To enhance 'touch-points' with the rakyat, the division also plans to set up more clinics offering complex endodontic treatment as well as ensuring all primary care dental clinics offer simple endodontic treatment to their patients.

FIGURE 5
ADULTS RECEIVING PRIMARY ORAL HEALTHCARE, 2007-2011

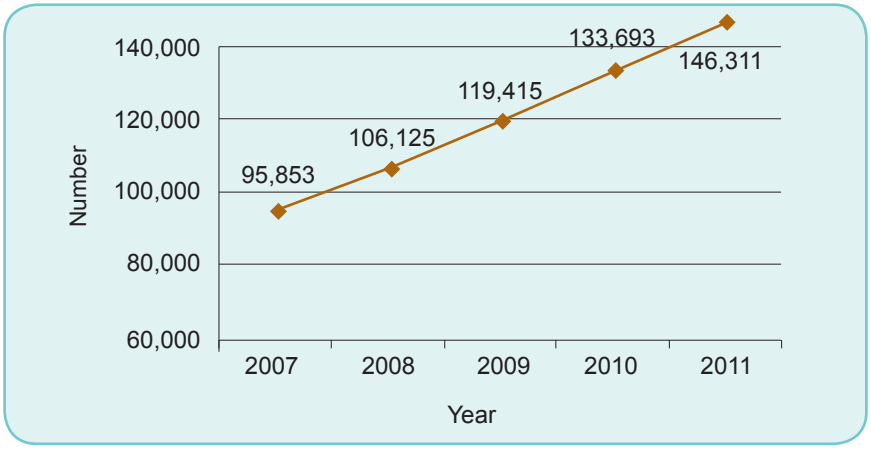


Source: Health Informatics Centre, MoH

Oral Healthcare for the Elderly

More Malaysians are surviving into old age. The elderly population of Malaysia was 7.7% in year 2010 and is projected to increase to 11.1% in year 2020. Oral health and dental service use among older persons have improved during recent years with 146,311 elderly seeking care in year 2011 (Figure 6). However, there are still marked disparities in oral health status and access to care. Some of the strategies mentioned in the reviewed 'Guidelines on Oral Healthcare for the Elderly' are to develop more special needs friendly facilities, establishing dedicated teams to provide care for the elderly, training of careers/health personnel/oral health personnel and increasing outreach programs. With the establishment of these infrastructures, it is hoped that more elderly people will have access to oral healthcare and eventually improvement to their oral health status.

FIGURE 6
ELDERLY POPULATION RECEIVING PRIMARY ORAL HEALTHCARE, 2007-2011



Source: Health Informatics Centre, MoH

Only 35.3% of elderly among the 60-year-olds are with 20 or more teeth (Table 3). This figure is still short of the proposed goal of 60% in National Oral Health Plan 2020. However, the number of edentulous and average number of teeth present in all age groups of the elderly showed some slight improvement from the previous year.

TABLE 3
ORAL HEALTH STATUS OF THE ELDERLY BY AGE GROUP, 2011

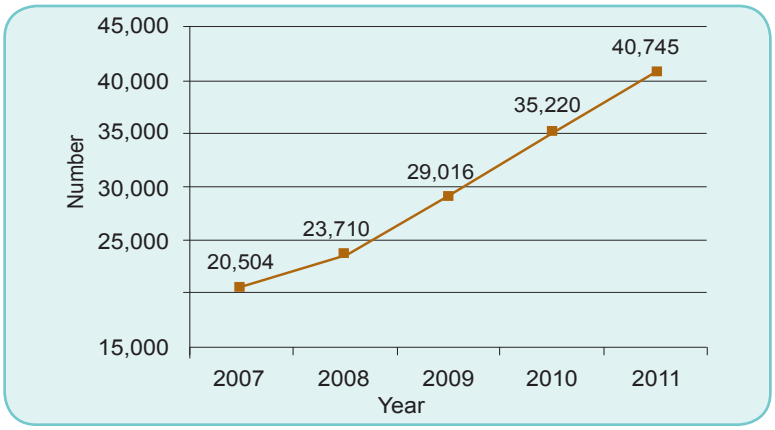
Age group (yr)	Average no. of teeth present	Edentulous (%)	With 20 or more teeth (%)
60	14.6	11	35.3
65	12.9	14.46	28.2
75 and above	9.5	25.8	16.6

Source: Health Informatics Centre, MoH

Oral Healthcare for Children with Special Needs

In strengthening the delivery of services for children with special needs, the division has also collaborated with Family Health Development Division in formulating the 'Ministry of Health Plan for Healthcare for Persons with Disability 2011-2020'. The addendum to the 'Guidelines on Oral Healthcare for Children with Special Needs' was also developed with emphasis on collaborative work with relevant agencies and monitoring of dental services to various special needs institutions. The number of children with special needs utilising primary oral healthcare services has been increasing for the past few years (Figure 7). In 2011, a total of 40,745 special needs children received oral healthcare.

FIGURE 7
CHILDREN WITH SPECIAL NEEDS RECEIVING PRIMARY ORAL HEALTHCARE, 2007-2011



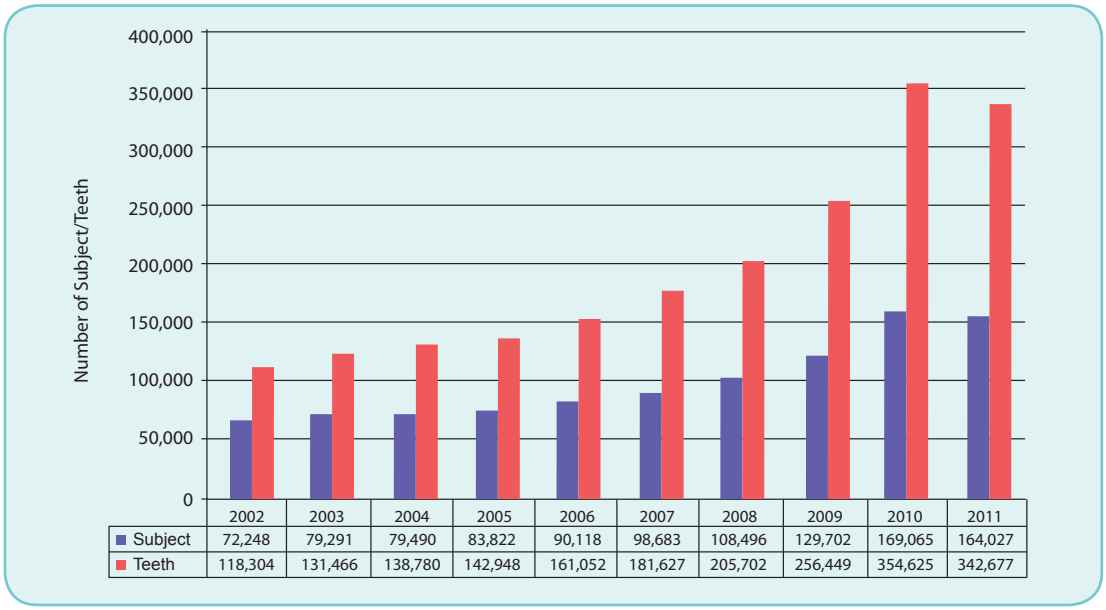
Source: Health Informatics Centre, MoH

School Based Fissure Sealant Programme

Pit-and-fissure sealants are used for caries prevention on an individual basis for at-risk populations. School based fissure sealants programme has been shown to be effective in preventing dental caries. There is an increasing trend of subjects and teeth provided with fissure sealants from year 2002 to 2011 (Figure 8).

A trend data of decayed teeth among selected year 6 schoolchildren over the years (2003-2011) shows that the 66.0% - 71.3% caries experience were in posterior teeth of which 58.4% – 64.2% involved only occlusal surfaces. Therefore fissure sealant provision continues as an integral part of incremental care in primary schoolchildren to prevent pit and fissure caries.

FIGURE 8
SUBJECT/TEETH RENDERED FISSURE SEALANTS, 2001-2011



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Subject	72,248	79,291	79,490	83,822	90,118	98,683	108,496	129,702	169,065	164,027
Teeth	118,304	131,466	138,780	142,948	161,052	181,627	205,702	256,449	354,625	342,677

Source: State Oral Health Divisions, 2011

COMMUNITY ORAL HEALTHCARE

Primary Prevention and Early Detection of Oral Precancer and Cancer Programme
The Oral Health Division continues its emphasis on primary prevention and early detection of oral cancer. Continuing collaboration with community leaders, agricultural plantation authorities, and relevant agencies is important for the Primary Prevention & Early Detection of Oral Pre-Cancer & Cancer programme.

In 2011, two hundred and eighty six identified high-risk villages/estates were visited and residents aged 20 years and above were screened for oral lesions under the Primary Prevention & Early Detection of Oral Pre-Cancer & Cancer programme. A total of 16,512 participants also received dental health education. Of the 7,055 patients seen, 55 were found with oral lesions and of these, 16 patients were referred to oral surgeons for further investigation and management **(Table 4)**.

TABLE 4
PARTICIPANTS SCREENED AND REFERRED, 2007-2011

State	No. Examined		Total Attendances	No. With Lesion		No. Referred	No. Seen by Surgeons	
	New	Repeat		n	%		n	%
2007	3,606	111	3,717	88	2.4	76	50	65.8
2008	4,745	133	4,878	113	2.3	68	48	69.6
2009	7,131	102	7,233	128	1.8	105	47	44.8
2010	5,680	133	5,813	36	0.6	17	8	47.1
2011	7,036	19	7,055	55	0.8	16	5	31.25

Source: State Oral Health Divisions, 2011

SPECIALIST ORAL HEALTHCARE

In year 2011, the Clinical Dental Specialist disciplines available in the Ministry of Health expanded to include the field of Special Care Dentistry. Overall, in 2011, the number of clinical dental specialists of the Ministry of Health had increased to 184 **(Table 5)**.

TABLE 5
CLINICAL DENTAL SPECIALISTS IN MoH, 2006-2011

Discipline \ Year	2006	2007	2008	2009	2010	2011
Oral Surgery	36	42	45	48	53	56
Orthodontic	26	31	30	33	36	46
Paediatric Dentistry	20	21	23	25	30	31
Periodontic	17	19	18	19	21	21
Oral Pathology/ Medicine	6	6	6	8	9	9
Restorative Dentistry	9	10	15	15	16	18
Special Needs Dentistry	0	0	0	0	0	2
Forensic Dentistry	0	0	0	1	1	1
Total Clinical Specialist	**114**	**129**	**137**	**148**	**165**	**184**

Note: Inclusive of specialist on contract and those undergoing gazettement
Source: Oral Health Division, MoH

Besides this, there are 123 Dental Public Health Officers serving the MoH. To strengthen the oral healthcare delivery system, mapping of specialists' services were done to ensure appropriate distribution of existing specialists according to need and also to identify training needs in the future for the various specialties. Presently, there are 45 dental officers being sponsored for post-graduate training in various specialties both locally (29) and abroad (16). In addition, in 2011, a total of 24 dental specialists were sent for various courses abroad under the in-service training programme for human resource development.

Efforts were also continued to establish Centres for the Management of Specific Dental Conditions and by end of 2011, the following centres were established and operational:

- Centre for Oral Oncology
  i. Hospital Umum Kuching, Sarawak
  ii. Hospital Tengku Ampuan Rahimah Klang, Selangor

- Centre for Management of Maxillofacial Trauma
  i. Hospital Sungai Buloh, Selangor

- Centre for Management of Oral & Maxillofacial Deformities
  i. Hospital Tuanku Jaafar Seremban, N.Sembilan
  ii. Hospital Selayang, Selangor
  iii. Hospital Raja Perempuan Zainab II Kota Bahru, Kelantan

- Tertiary Referral Centre for Oral Surgery
  i. Hospital Kuala Lumpur

To optimise the usage of these facilities, efforts need to be taken up in the coming year to disseminate information on services provided at the centres and also to ensure referral systems are in place. In addition, the provision of specialist oral health services were established in 7 more facilities as shown in 2011 **(Table 6)**.

TABLE 6
NEW SPECIALTY SERVICES ESTABLISHED IN 2011

Specialty	No. of new services established	Hospital/ Dental Facilities
Oral Surgery	1	Hosp. Kuala Krai, Kelantan
Paediatric Dentistry	1	Hosp. Kajang, Selangor
Oral Pathology/Oral Medicine	1	Hosp. Sultan Ismail, Johor Bahru, Johor
Orthodontic	1	KP Botanik, Klang, Selangor
Periodontology	1	KP Mentakab, Pahang
Restorative Dentistry	2	KP Jalan Abd Samad Johor KP Johor Jaya, Johor
Total	**7**	

Source: Oral Health Division, MoH

Besides expansion of specialist services, efforts have also been undertaken to improve the quality of services. Key Performance Indicators, National Indicator Approach and Patient Safety Indicators for each discipline have been developed. In addition, Clinical Practice Guidelines (CPG) have been developed to address variations in management of certain identified conditions. CPGs which have been in use for more than 4 years were also reviewed to include current evidences. Currently, the new CPGs being developed are on 'Management of Ameloblastoma' and 'Management of Developmentally Missing Incisors'.

Monitoring of Specialist Oral Healthcare Programme

Data from services rendered by the various dental specialties are collected through the Health Information Management System (HIMS) e-reporting system. The workloads of dental specialists from various disciplines were reflected in the ratio of number of specialist to number of patients **(Table 7)**. Generally, there has been an increase in the quantum of patients seen in each specialty compared to the previous year.

TABLE 7
WORKLOAD OF DENTAL SPECIALIST BY DISCIPLINES, 2010-2011

No.	Specialty	Workload (per patient seen)	
		2010	2011
1	Paediatric Dentistry	1:2,979	1:3,264
2	Oral and Maxillofacial/ Oral Surgery	1:2,799	1:2,950
3	Restorative Dentistry	1:1,244	1:1,332
4	Orthodontics	1:3,235	1:2,754
5	Periodontic	1:1,374	1:1,494
6	Oral Pathology and Oral Medicine	1:463	1:527

Source: Oral Health Division, MoH

ORAL HEALTH EPIDEMIOLOGY AND RESEARCH

Several new research projects were started in 2011. At the same time, uncompleted projects by the end of 2010 were continued in 2011. Research efforts were concentrated at the National and Programme levels.

National Level Research Projects

1. **National Health and Morbidity Survey (NHMS) 2011-2014; Health Care Demand Module**
   The Health Care Demand Module was a collaborative effort with the Institute of Health Systems Research as the Principal Investigator for this module. The items included in the Health Care Demand module were load of illness, health seeking behaviour and utilization of oral healthcare.

   Global School Health Survey Malaysia was conducted with the Institute for Behavioural Health Research as the Principal Investigator for this module. The Oral Health Division participated in the questionnaire development for the survey on oral health aspects based on the original core questions by World Health Organization. Pre-test and data collection for the survey has been planned for 2012.

2. **National Burden of Disease (BOD) Study**
   Data from three national surveys will be utilised as raw data for this study - the National Oral Health Survey of Preschool Children 2005 (NOHPS 2005), the National Oral Health Survey of Schoolchildren 2007 (NOHSS 2007) and the National Oral Health Survey of Adults Year 2010

(NOHSA 2010). In 2011, workshop on codification of mortality was conducted followed by the exercise on the use of DisMod II to calculate YLDs and DALYs.

3. **Analysis of Provider Payment and Expenditures in Health**
   Questionnaire for collection of data for the study was developed and pretested. Data collection was carried out in all states. Data cleaning and analysis will carry forward into 2012.

4. **Collaborative Project on "An Evaluation of Diabetic Patients to the Dental Clinic"**
   The protocol and ethical approval was received in the September and October 2011 respectively. Data collection for Phase I of the study commenced in the test states of Kedah and Negeri Sembilan and, the control states of Johore and Terengganu in November/December. The study will continue into 2012.

5. **National Oral Health Research Initiative (NOHRI)**
   The establishment of NOHRI was formalized with the first NOHRI meeting held in March 2011. Stakeholders from various organisations in the country which are currently represented in NOHRI are:

   - Oral Health Division, Ministry of Health Malaysia
   - Faculty of Dentistry, University of Malaya (UM)
   - Faculty of Dentistry, National University of Malaysia (UKM)
   - Faculty of Dentistry, Science University of Malaysia (USM)
   - Faculty of Dentistry, International Islamic University of Malaysia (UIAM)
   - Faculty of Dentistry, Islamic Science University of Malaysia (USIM)
   - Faculty of Dentistry, Mara University of Technology (UiTM)
   - Faculty of Dentistry, International University of Malaysia (IMU)
   - Faculty of Dentistry, Asian Institute of Medicine, Science & Technology (AIMST)
   - Faculty of Dentistry, Malaysia Allied Health Science Academy (MAHSA)
   - Dental Corp, Ministry of Defence
   - Oral Cancer Research and Coordinating Centre, University Malaya (OCRCC)
   - Malaysian Dental Association (MDA)

Programme Level Research Projects

1. **National Oral Health Survey of Adults (NOHSA 2010)**
   Data cleaning was completed in July 2011 while data analysis and report writing for the unweighted data was completed in October 2011.The preliminary findings were presented at the following meetings:
   - *Mesyuarat Teknikal Bahagian Kesihatan Pergigian Bil.* 11/11, in November
   - *Mesyuarat Jawatankuasa Pemandu* NOHSA 2010, in December.
   - NOHRI Meeting, in December.
   - *Mesyuarat JDPKP* Bil.12/11, in December.

   The NOHSA 2010 National Steering Committee met once in December 2011.

2. **National Healthcare Financing Mechanism (NHFM)**
   Data cleaning and analysis of the combined data was completed in December 2011. Report writing was initiated in 2011 and will continue into 2012.

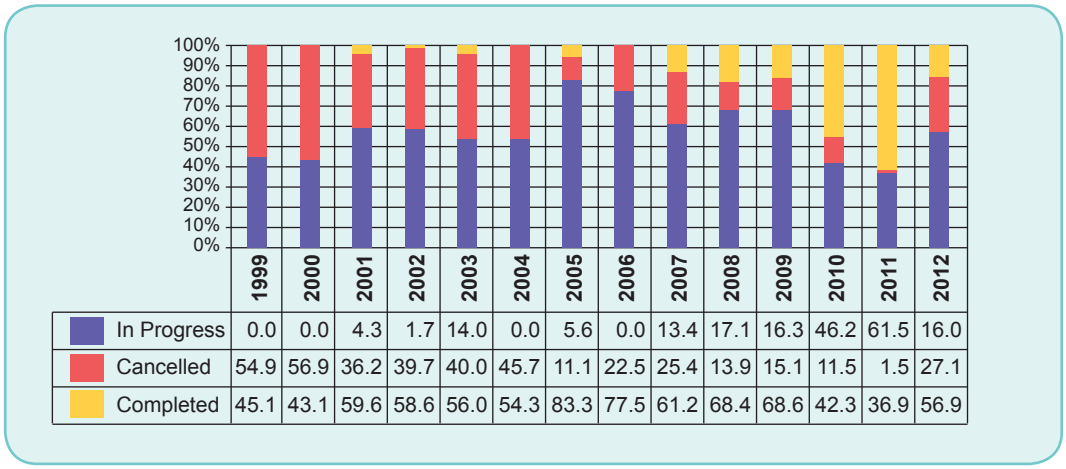
3. **Study on *"Dental Practitioners' Perception on the utilization of Dental Therapists in the Private Dental Practice in Malaysia"***
   In 2011, data entry, data cleaning and analysis was completed. The findings of the survey were

presented at the *Mesyuarat Teknikal Bil*. 6/2011 in June 2011. Preparation of the manuscript for publication will continue into 2012.

4. Health Systems Research (HSR) For Oral Health

Monitoring of health systems research projects conducted by the States began in 1999, and were continued through the years. A total of 745 health system research topics were identified by the states and institution from 1999-2011. Of these, only 424 (56.9%) research projects had been successfully completed. Another 119 (16.0%) projects were on-going and a substantial percentage of projects 202 (27.1%) were cancelled. Delay in project completion and considerable cancellation may partly be explained by transfers and competing priorities of research team members in the states. Projects that were yet to be completed shall be continued into 2012 (Figure 9).

FIGURE 9
STATUS OF HEALTH SYSTEMS RESEARCH PROJECTS, 1999-2011



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
In Progress	0.0	0.0	4.3	1.7	14.0	0.0	5.6	0.0	13.4	17.1	16.3	46.2	61.5	16.0
Cancelled	54.9	56.9	36.2	39.7	40.0	45.7	11.1	22.5	25.4	13.9	15.1	11.5	1.5	27.1
Completed	45.1	43.1	59.6	58.6	56.0	54.3	83.3	77.5	61.2	68.4	68.6	42.3	36.9	56.9

Source: Oral Health Division, MoH

ORAL HEALTHCARE ICT

Oral Health Clinical Information System (OHCIS)

OHCIS project under the 9th Malaysia Plan was officially launched by the Honourable Minister of Health on the 22 Oct 2011 at the Muar Community Health Clinic, Johor. OHCIS was integrated successfully with other IT systems in MoH. It is now fully owned by MoH where all the required documents such as Instruction Manuals, Plan Layout Electrical and Network Point, Layout plans and IP address were updated, documented and handed over in December 2011.

Dental Practitioners Information Management System (DPIMS)

The Malaysian Dental Council (MDC) Dental Practitioners Information Management System (DPIMS) project was developed in-house by the Information Management Division (IMD). Since 2010, registration of practitioners, issuing of Annual Practising Certificate (APC) and Letter of Good Standing is done through the system at MDC by MDC administrators. Bugs in 2011 database was corrected, issues on report generation were resolved to ensure successful 2012 MDC report generation. The User Acceptance Test (UAT) for the Temporary Practising Certificate (TPC) module was done on 20th April 2011 and 8th June 2011. On 17 October 2011, the system was able to go-live for MDC administrators for TPC applications. Training of users for 20 verifiers from the universities (private and public university) and the armed forces was held on 20-21 April 2011 at IMD training lab.

Payment module for DPIMS
The government online payment service of myBayar, of MAMPU will be used as online transaction for applicants. It will go-live once the online payment module is ready targeted by February 2012.

Oral Health Division Website
The Oral Health Division Website (http://ohd.moh.gov.my) offers access to various dental information, guidelines and pamphlets. It is updated weekly and as and when necessary. Web news relevant to OHD is monitored daily. From a total of 1,155 MoH websites/portals, a report by MDeC in April 2011 showed that the OHD website achieved a 4-star rating an improvement of ranking position from 58 in 2010 to 43 in 2011. Majority of visitors were from Malaysia (86.8%) followed by India, Australia, and Singapore.

ICT Training
Besides training conducted under specific ICT projects, two IT personnel from OHD were sent for training of XOOPS (software for development of website) conducted by IMD on 10-11 October 2011.

QUALITY ASSURANCE PROGRAMME (QAP)

The Quality Assurance Programme (QAP) strives to improve the quality, efficiency and effectiveness of the delivery of oral health services so as to ensure the patient, family and community obtained the 'optimum achievable benefit'. The National Indicator Approach (NIA) together with District/Hospital Specific Approach (DSA/HSA) was used under the QAP of MoH. These indicators were periodically reviewed to ensure relevance and appropriateness.

National Indicator Approach (NIA)
In 2011, there were 5 National Indicator Approach (NIA) Indicators to gauge performance of the oral health services mainly the primary and community care programmes (Table 8).

TABLE 8
ORAL HEALTH NIA INDICATORS MONITORED IN 2011

No	Indicator	Standard	2011 Achievement
1	Percentage of primary schoolchildren maintaining orally-fit status	≥ 65%	66.3%
2	Percentage of secondary schoolchildren maintaining orally-fit status	≥ 80%	77.4%
3	Percentage of 16-year-old schoolchildren free from gingivitis	≥ 95%	96.0%
4	Percentage of non-conformance of fluoride level at reticulation points (Level < 0.4ppm)	≤ 25%	18.2%
5	Percentage of non-conformance of fluoride level at reticulation points (Level > 0.6ppm)	≤ 7%	2.8%

Note: The 2011 QAP showed achievement of 80% with 4 out of the 5 NIA Indicators achieving their targets.
Source: Oral Health Division, MoH

District Specific Approach (DSA)
DSA indicators are developed and monitored at state level. DSA indicators of the ante-natal service are the most commonly adopted by all states except Johor and Sarawak. Other commonly used DSA indicators related to toddler, pre-school, primary and secondary schoolchildren are specific to certain states.

MS ISO 9001: 2000
As of 2011, additional three states Perlis, Perak and Johor converted from manual documentation to interactive electronic Quality Management System (eQMS), making a total of eight states using the eQMS. Nationwide, a total of 481 dental clinics (89.9%) out of 535 dental clinics are ISO certified. Sarawak (with a total of 11 divisions) is the only state that still holding on to the original district certification approach.

Innovation
Innovation is one of the quality initiatives activities actively being carried out by oral health personnel throughout the country. In 2011, a total of 57 innovation projects were completed. Several dental projects received awards at state, zone and regional level. Five dental innovations projects were the finalist for the MoH National Awards for Innovation 2011.

Key Performance Indicators (KPI)
The Division continues to monitor 19 KPIs in 2011. Two KPIs i.e. Percentage of dental clinics with 2 or more fulltime dental officers providing daily outpatient service and the percentage of primary schoolchildren rendered orally-fit were chosen as the Director-General of Health KPIs and monitored by the Public Services Department. The percentage of emergency dental cases given prompt treatment in government hospitals contributed towards one KPI for the Health Minister.

PROFESSIONAL DENTAL PRACTICE

Laws and Regulations
The amendments to the Dental Act 1971 were completed and presented to the Malaysian Dental Council. The new Dental Regulations were in the midst of preparation and scheduled for completion in 2012. The Fee Schedule under the Private Healthcare Facilities and Services Act 1998 was reviewed. The final draft of the dental procedures and the relevant fees was submitted to the Medical Practice Division for amendment of the 13th Schedule of the Regulations relating to Registration of Private Hospitals. The amendment of the 7th Schedule of the Regulations relating to Registration of Private Medical and Dental Clinics will follow.

Registration of Dental Clinics
By end of 2011, a total of 1,709 dental clinics had been registered, of which 102 registered in 2011. Of these, 1,547 dental clinics were in operation. Under the Private Health Facility and Services Act '98, 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
OHD has participated in the Healthcare Services Sectoral Working Group (HSSWG) meeting for ASEAN Mutual Recognition Arrangement (MRA). The role of OHD include in the facilitating liberalization process of the ASEAN Framework Agreement on Services (AFAS) and to report on the outcome of the ASEAN Joint Coordinating Committee for Dental Practitioners (AJCCD) meeting on the roadmap template to the HSSWG meeting for further deliberation. OHD also participated in the AJCCD meeting. Under the Trans-Pacific Strategic Economic Partnership Agreement (TPP), the proposed schedules for Negative Listing was prepared and submitted to the Policy & International Relations Division, Ministry of Health to be forwarded to Ministry of International Trade and Industry (MITI).

- **Accreditation of Dental Degree programmes**

Verification and validation of the different levels of accreditation was ongoing in 2011. Preliminary evaluation of the Higher Education Providers (HEPs) database documents was conducted by the appointed panel of assessors and the accreditation process and continued in 2012. SEGi University College was given provisional accreditation and the approval to start a Bachelor of Dental Surgery (BDS) programme. The second surveillance accreditation visit was conducted for Bachelor of Dental Surgery (BDS) at International Medical University (IMU), Melaka-Manipal Medical College (MMMC), International Islamic University Malaysia (IIUM) and Malaysian Allied Health Science Academy (MAHSA). Full accreditation visit was conducted for Windfield International College Dental Surgery Assistant Certificate programme. Re-accreditation visit was conducted for BDS programme at University of Malaya (UM) and Universiti Sains Malaysia (USM)

A total of 8 Memorandum of Agreement (MoA) between MoH and Higher Education Providers (HEPs) for the use of Ministry of Health (MOH) Facilities by students of dental degree undergraduate programmes were endorsed on 26th May 2011 which involved:

Principal Agreement

i. Universiti Sains Islam Malaysia (USIM)
ii. Universiti Islam Antarabangsa Malaysia (UIAM)
iii. Universiti Teknologi MARA (UiTM)
iv. International Medical University (IMU)
v. AIMST University
vi. Melaka-Manipal Medical College (MMMC)

Supplementary Agreement

i. MAHSA University College
ii. Penang International Dental College (PIDC)

WAY FORWARD

2011 was the starting point for our journey through 10MP (2011-2015). Thus far, OHD has been receptive and responsive to the needs of our population, in identifying, planning, implementing, monitoring and evaluating oral health services for the country. This proved to be a challenge since there is a constant struggle between demands and supplies in order to maintain equitable access to quality health services.

In the spirit of ensuring universal access to oral healthcare, there is the need to ensure fairer distribution of dental officers and dental specialists. Also to further enhance on quality and patients safety as well as evidence-based dentistry along with the current knowledge and evidence. The continuity of care through sharing of data via the electronic delivery system is very much required in line with MoH's ICT Strategic Plan (ISP). To ensure the practice of dentistry in the country attain the highest standards, accreditation process of the higher institutions, amendments to the Dental Act 1971 and the Fee Schedule under the Private Healthcare Facilities and Services Act 1998 in the forthcoming year is expected to resolve matters related.

8 | Pharmacy

INTRODUCTION

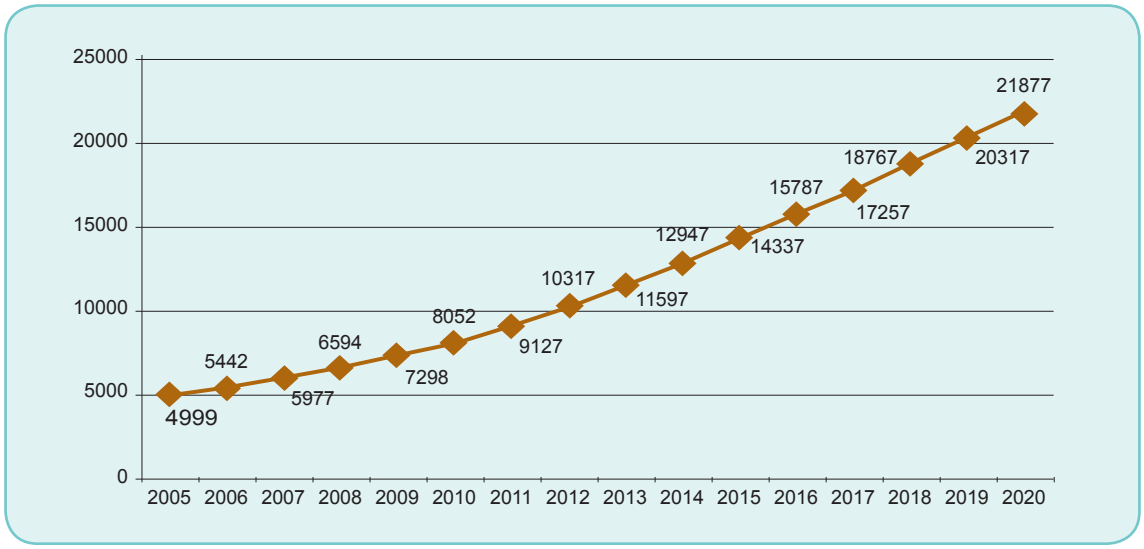
The Pharmacy Programme of the Ministry of Health (MoH), being at the forefront of pharmaceutical care for the nation, carries the responsibility of ensuring all pharmaceutical and health products in the market are of best quality, safe, efficacious and regulated according to relevant legislations and used rationally.

The Programme is headed by a Senior Director who is responsible of four main activities namely Pharmacy Management, Pharmacy Regulatory (National Pharmaceutical Control Bureau, NPCB), Pharmacy Enforcement and Pharmacy Practice and Development. These four main activities play important roles in different aspects and approaches but with the same objective, that is giving the best professional pharmacy service to the public.

PHARMACY WORKFORCE

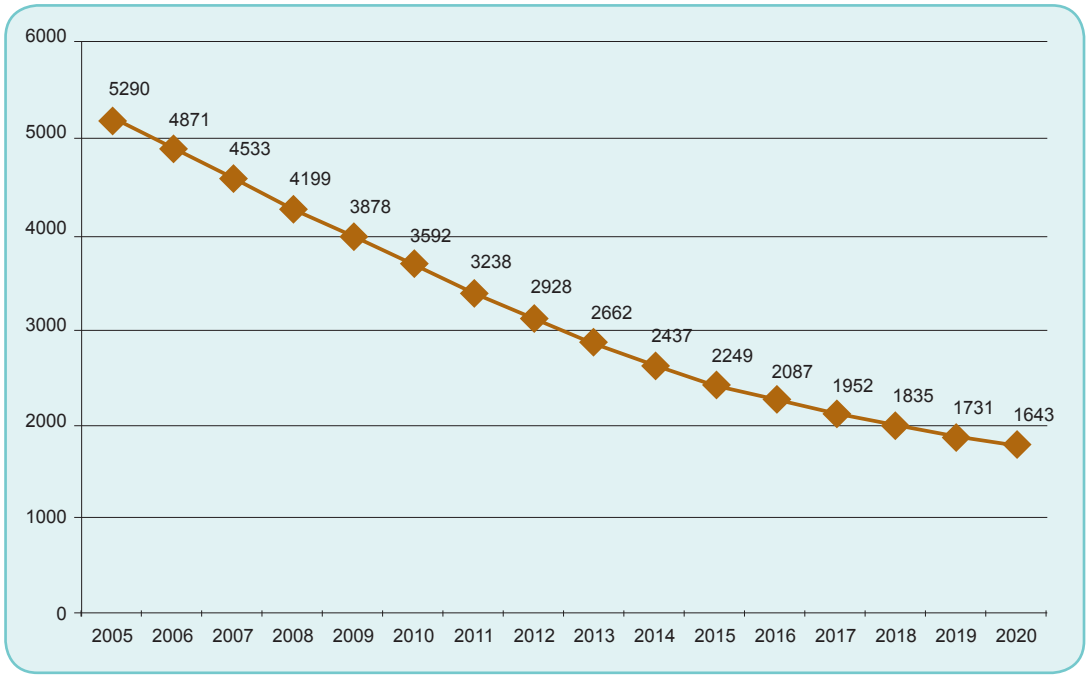
The pharmacy workforce has been steadily rising over the years in order to fulfill the nation's growing needs. In line with its growth, the pharmacist to population ratio has also gradually improving. Figure 1 and Figure 2 shows the pharmacy workforce in Malaysia and its projection until 2020

FIGURE 1
NUMBER OF REGISTERED PHARMACIST IN MALAYSIA



Source: Pharmaceutical Services Division, MoH

FIGURE 2
PHARMACIST TO POPULATION RATIO



Source: Pharmaceutical Services Division, MoH

In Service Training

With the aim of continuous improvement among the staffs, trainings were also provided to Pharmaceutical Services Division officers and support staff, as shown in Table 1.

TABLE 1
TRAINING CONDUCTED BY PSD, 2009-2011

Year	No. of Training	Attendance
2009	50	2,232
2010	61	2,388
2011	74	3,159

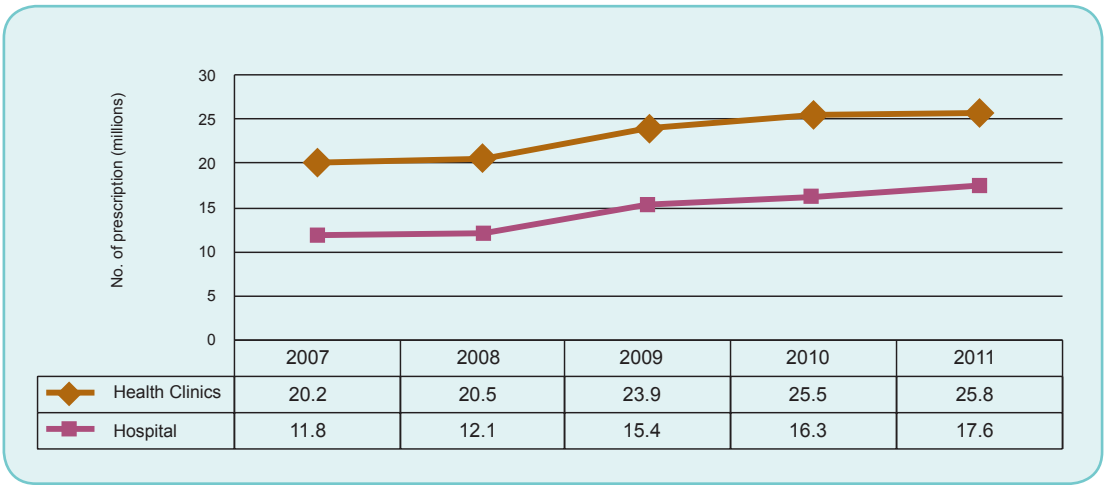
Source: Pharmaceutical Services Division, MoH

PHARMACEUTICAL SERVICES DIVISION (PSD)

Dispensing Activity In MoH Hospitals and Clinics

The number of prescription received shows an increasing trend every year (35.6% since 2007). This indicates increased demand for healthcare in MoH facilities.

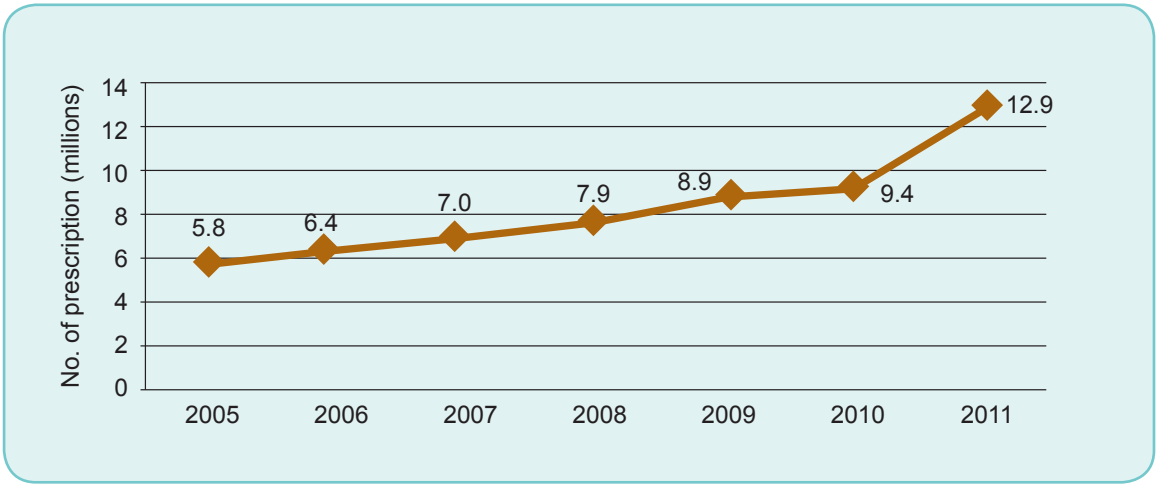
FIGURE 3
NUMBER OF OUTPATIENT PRESCRIPTIONS RECEIVED, 2007-2011



	2007	2008	2009	2010	2011
Health Clinics	20.2	20.5	23.9	25.5	25.8
Hospital	11.8	12.1	15.4	16.3	17.6

Source: Pharmaceutical Services Division, MoH

FIGURE 4
NUMBER OF INPATIENT PRESCRIPTIONS, 2005-2011

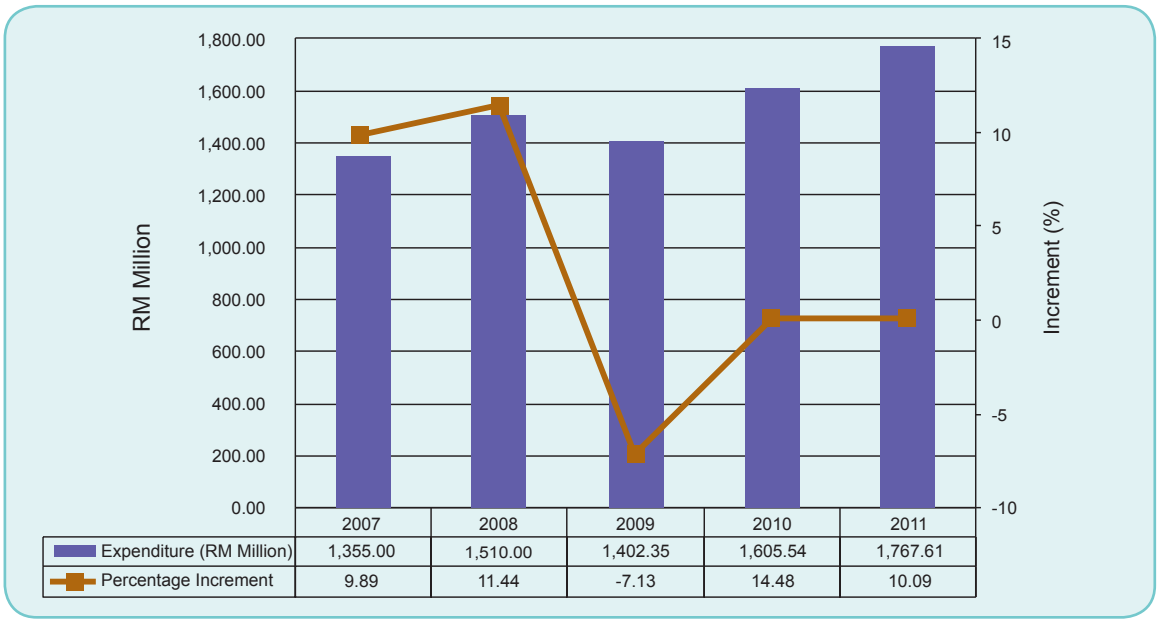


Source: Pharmaceutical Services Division, MoH

MoH Drug Expenditure

The total cost of drug procured in 2011 for all MoH hospitals and clinics was RM 1.767.61 million in 2011, which equals to 10.1% increase from 2010. This reflects an increase in the number of prescriptions received by health facilities.

FIGURE 5
MOH DRUG EXPENDITURE, 2007-2011



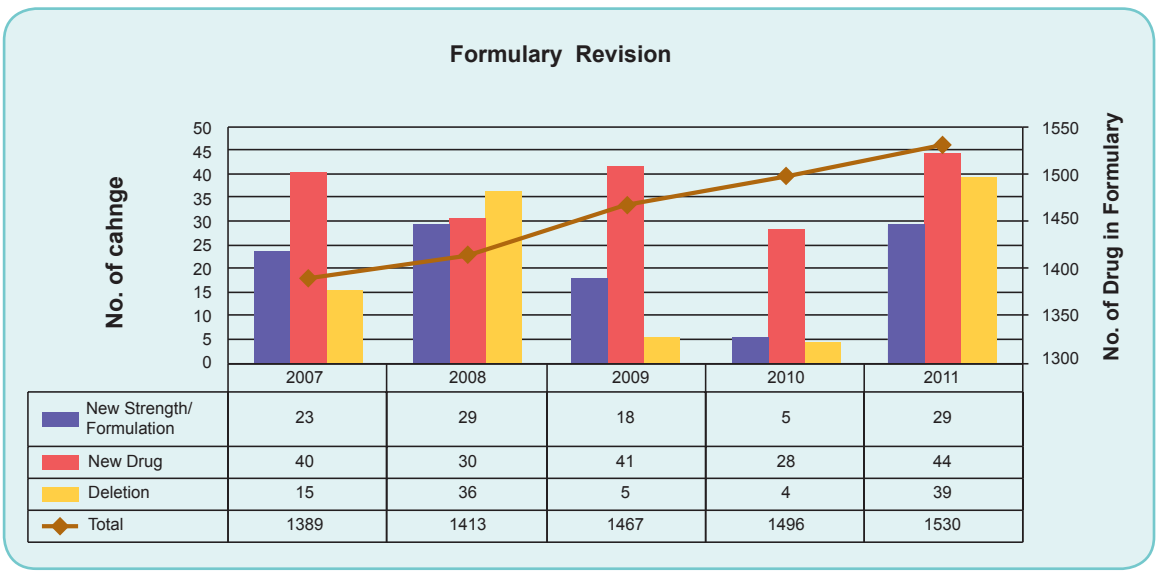
	2007	2008	2009	2010	2011
Expenditure (RM Million)	1,355.00	1,510.00	1,402.35	1,605.54	1,767.61
Percentage Increment	9.89	11.44	-7.13	14.48	10.09

Source: Pharmaceutical Services Division, MoH

MoH Drug Formulary

Circulars on formulary updates are issued after every Drug Review Panel Meeting which is held three times a year. The latest formulary can also be viewed online.

FIGURE 6
NUMBER OF REVISIONS & TOTAL NUMBER OF DRUGS LISTED IN MOH FORMULARY, 2007-2011



	2007	2008	2009	2010	2011
New Strength/ Formulation	23	29	18	5	29
New Drug	40	30	41	28	44
Deletion	15	36	5	4	39
Total	1389	1413	1467	1496	1530

Source: Pharmaceutical Services Division, MoH

Highlights

- **Value Added Dispensing Service**

As an initiative to facilitate refill of medications, to reduce waiting time and increase patient convenience, the Pharmaceutical Services Division encourages value-added dispensing services in MoH facilities. The latest service introduced is the *Ubat Melalui Pos 1Malaysia* (UMP1M) (or / Medicines by Post 1Malaysia)

TABLE 2
FACILITIES WITH PHARMACY APPOINTMENT SYSTEM, 2011

TYPE OF FACILITY	APPOINTMENT CARD	PHONE & TAKE	SMS &TAKE	MEDICINE VIA POS 1MALAYSIA	OTHERS*
Health Clinics	257	121	111	9	44
Hospital	86	67	102	44	28
TOTAL	**343**	**188**	**213**	**53**	**72**

Source: Pharmaceutical Services Division, MoH

- **Ubat Melalui Pos 1Malaysia (UMP1M) / Medicines By Post 1Malaysia**

Ubat Melalui Pos 1Malaysia (UMP1M) is one of the value-added services offered by the Pharmaceutical Services Division to improve medication supply system by hospitals and clinics. Through this service, patients who have trouble obtaining follow-up medication supply need not come to the hospital as the medication will be delivered to patient's home, office or any other destination in Malaysia by Poslaju.

This service was officially launched on January 23, 2011 by the Minister of Health Malaysia, YB Dato' Sri Liow Tiong Lai at Hospital Putrajaya. A pilot project was initiated at Hospital Putrajaya in October 2009 before being extended to other MoH hospitals and clinics. Until December 2011, a total of 44 hospitals and 9 clinics across the country have been providing this service.

IMAGE 1
UMP1M LAUNCHING CEREMONY

Source: Pharmaceutical Services Division, MoH

IMAGE 2
UMP1M OFFICIAL SEAL

Source: Pharmaceutical Services Division, MoH

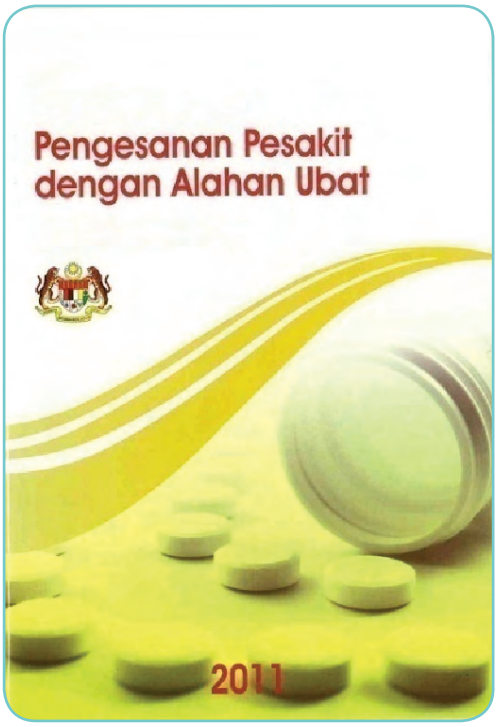
- **Medication Safety**

  a. Management of High-risk Drugs
  The Guideline on Safe Use of High Alert Medications main objective is to become a reference for healthcare professionals in handling high risk medication to ensure patient safety.

  b. Guidelines for Patients with Allergic Drug Detection
  This guideline describes a standard procedure to medication record allergy and usage of Medication Allergy Card.

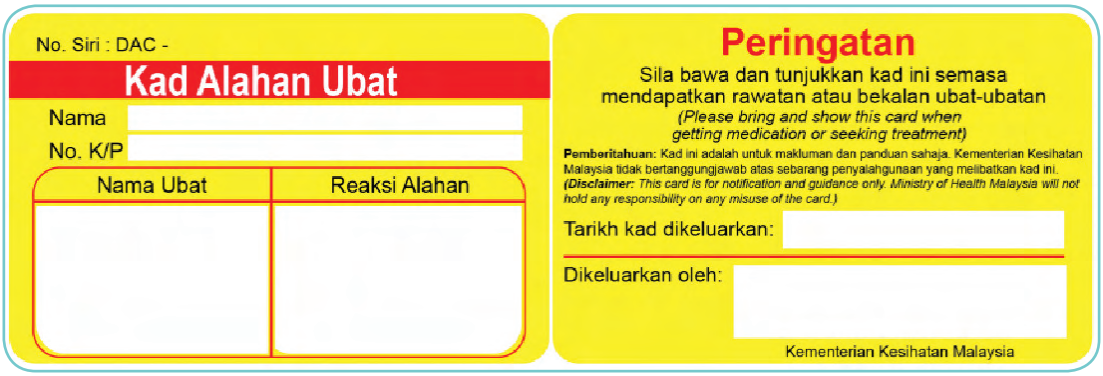
  c. Drug Allergy Card
  In conjunction with the publication of Guidelines for Patients with Allergic Drug Detection, a standardised drug allergy card was introduced as a means/tool to inform healthcare providers about drug allergies experienced by patients.

IMAGE 3
PUBLICATIONS ON MEDICATION SAFETY



Source: Pharmaceutical Services Division, MoH

IMAGE 4
DRUG ALLERGY CARD



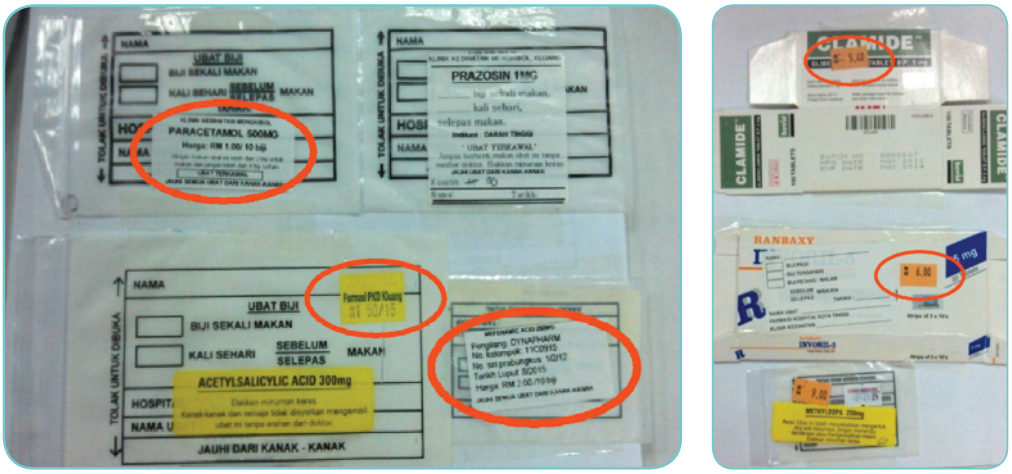
Source: Pharmaceutical Services Division, MoH

- **Medicines Price Label For Outpatient Pharmacy**

PSD has started labelling the price of medicines on the envelope/package supplied to outpatients in all MoH facilities. This is in line with the strategy of the National Medicines Policy (DUNAS) to provide price information to healthcare professionals and consumers.

The purpose of labeling medication cost is to bring awareness and also to increase consumer appreciation towards medicines obtained so as to avoid wastage.

IMAGE 5
LABELLING ON SUPPLIED MEDICINES



Source: Pharmaceutical Services Division, MoH

Drug Information For Public

Starting from August 2011, the public can make inquiry on medicine information to the National Pharmacy Call Center via a toll-free number 1800-88-6722. This is introduced after NPCC started its service in 2006 to further encourage rational and quality drug use.

IMAGE 6
PROMOTIONAL POSTER FOR NPCC TOLL-FREE LINE

Source: Pharmaceutical Services Division, MoH

Good Governance For Medicines (GGM)

PSD in collaboration with the World Health Organization (WHO) was proud to be the organizing committee for the Good Governance for Medicines (GGM) Phase III Inter-Regional Meeting which was held on the 11-15 July 2011 at the Berjaya Times Square Hotel, Kuala Lumpur. The Meeting was inaugurated by the Director General of Health, Malaysia.

Forty (40) international delegates from 13 countries (Saudi Arabia, Germany, Egypt, Switzerland, Philippines, Bolivia, Jordan, Lebanon, Macedonia, Republic of Moldova, Mongolia, Syrian Arab Republic, and Thailand) participated in the workshops.

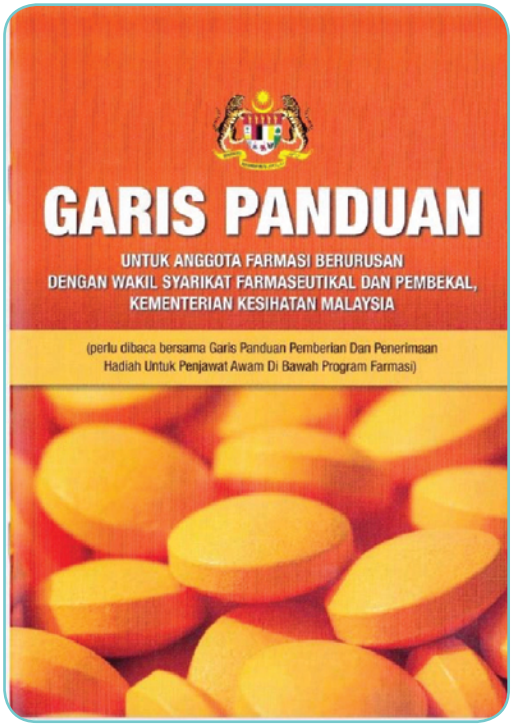
The objective of this workshop was to provide a platform for phase I and phase II countries to share their GGM knowledge and experiences and also to officially launch Malaysia's Phase III GGM Program. As of April 2011, there were 12 countries in Phase I and Phase II programs respectively and Malaysia is one amongst 7 countries in Phase III.

IMAGE 7
GOOD GOVERNANCE FOR MEDICINES PHASE III INTER-REGIONAL MEETING

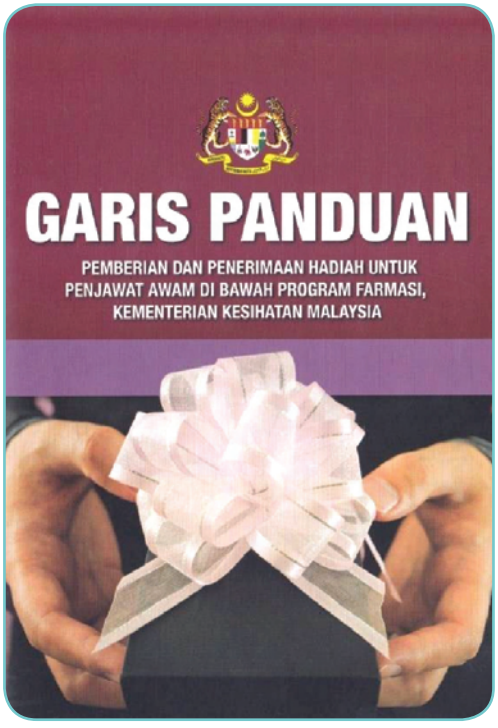
Source: Pharmaceutical Services Division, MoH

In December 2011, the Pharmaceutical Services Division has also produced and distributed two guidelines as part of the GGM initiative, which are as pictured below.

IMAGE 8
GUIDELINES PRODUCED FROM THE GGM INITIATIVE



Guideline for Dealing with Pharmaceutical Company Representative and Suppliers for Pharmacy Staff in Ministry of Health



Guideline for Giving and Receiving Gifts for Civil Servant under the Pharmacy Program, Ministry of Health

Source: Pharmaceutical Services Division, MoH

Pharmacy Innovation and Creativity Convention 2011

This convention is held every 2 years and was recently commenced at the Avillion Legacy Hotel in Melaka from the 30th October to 2nd of November 2011. In line with the theme Innovation and Creativity Generates Transformation and Excellence in Pharmacy, 55 projects selected from 80 submissions competed in four categories of competition which include QA Oral, QA Poster and KIK.

Formerly known as the Quality Convention, the event was inaugurated by the Director General of Health, Dato' Seri Dr. Hasan bin Abdul Rahman, and attended by about 300 pharmacy staffs from the MoH across the country. Three top winners from each category took home the trophy with a cash prize of RM 1000 to RM 2000.

IMAGE 9
PHARMACY INNOVATION AND CREATIVITY CONVENTION 2011

Dato' Seri DG Inaugurating The Convention

Dato' Seri DG Visiting Innovation Exhibition Site

Winners (KIK category)

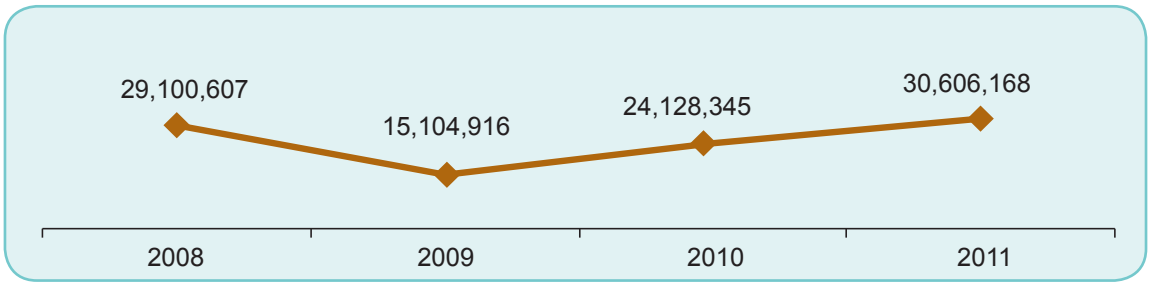
Source: Pharmaceutical Services Division, MoH

Enforcement Activities

- **Intelligence, Operation And Compliance Audit**

The value of items seized through raids, inspection and at entry points in 2011 was RM 30,066,168 which was an increase of about 27% from 2010.

FIGURE 7
VALUE OF ITEMS SEIZED (RM) VIA RAIDING, INSPECTION AND ENTRY POINT, 2008-2011



Source: Pharmaceutical Services Division, MoH

TABLE 3
TOTAL CONFISCATION THROUGH RAIDS BY STATE, 2011

State	Registered Product		Unregistered Product		Grand Total	
	Quantity	Value (RM)	Quantity	Value (RM)	Quantity	Value (RM)
Johor	136	1,237,335	5,968	827,539	6,104	2,064,874
Kedah	871	401,324	802	253,958	1,673	655,282
Kelantan	150	14,178	717	330,224	867	344,402
Melaka	27	28,140	598	93,156	625	121,296
N. Sembilan	96	92,978	795	79,791	891	172,769
Pahang	19	83,233	489	59,122	508	142,355
Perak	340	348,416	551	101,146	891	449,562
Perlis	3	1,204	237	25,187	240	26,391
P. Pinang	977	636,436	1,301	542,743	2,278	1,179,179
Sabah	42	707,013	2,104	802,995	2,146	1,510,008
Sarawak	397	56,461	904	735,500	1,301	791,961
Selangor	492	2,461,790	2,401	15,675,249	2,893	18,137,039
Terengganu	20	18,134	523	139,719	543	157,853
FT KL	207	731,659	1,760	956,935	1,967	1,688,594
FT Labuan	0	0	43	20,432	43	20,432
TOTAL	**3,777**	**6,818,301**	**19,193**	**20,643,696**	**22,970**	**27,461,997**

Source: Pharmaceutical Services Division, MoH

- **Prosecution**

Cases were prosecuted based on four main acts as shown in Table 4. There were 965 cases in 2011 with a total RM 2,172,100.00 of fines collected.

TABLE 4
PROSECUTION (COMPLETED) BY ACTS AND STATES, 2011

	Poison Act 1952	Poison Act 1952 (Psychotropic Substance)	Sales of Drug Act 1952	Medicine (Advertisement & Sales Act) 1956	Total
No. Of Case	396	55	469	45	965
Fine Collection (RM)	640,250	183,550	1,291,500	56,800	2,172,100

Source: Prosecution Section, Pharmaceutical Services Division, MoH

- **Advertisements Monitoring**

The Malaysian Advertisement Board (MAB) published the 'Advertising Guidelines for Healthcare Facilities and Services' in 2011 and has distributed the guideline to all relevant stakeholders in July to aid in the development of health tourism in the country.

Realizing the utilization of new modus operandi such as the Internet for illegal drug sales, transactions and publication of unapproved advertisements, PSD in collaboration with the Malaysian Communications and Multimedia Commission (MCMC) are monitoring this media avenue to block websites that contravene the law, especially overseas based websites

TABLE 5
ADVERTISEMENT APPROVALS, 2009-2011

Year	2009	2010	2011
Total Number of Applications	1,951	1,602	1,634
Total Number of Approvals	1,712	1,418	1,514
Total Number of 'Fast Track' approvals	1,499 (87.56%)	1,327 (93.58%)	1,281 (84.61%)
Fees Collected (RM)	195,100	160,200	163,400

Source: MAB, Pharmaceutical Services Division, MoH

NATIONAL PHARMACEUTICAL CONTROL BUREAU (NPCB)

Product Registration

By end of 2011, there are 44,881 registered products cumulatively in Malaysia (Table 6). Table 7 shows there are 23,580 products from different categories which still registered till 31 December 2011.

TABLE 6
CUMULATIVE NUMBER OF REGISTERED PRODUCTS, 2007-2011

Year	Prescription Products	Non-Prescription Products	Health Supplements#	Traditional Products	Veterinary Products^	Total
2007	11,805	9,099	-	18,199	-	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
2011	13,392	9,973	168	21,242	106	44,881

Note: ^ Applications for registration of veterinary products are only received since August 2007
 # Starting from 1st January 2011, the data for health supplements has been listed separately.

Source: Pharmaceutical Services Division, MoH

TABLE 7
NO. OF PRODUCT STILL REGISTERED TILL 31 DECEMBER 2011

Product Category	No. of registered product
Prescription (A)	7,136
Non-Prescription (X)	4,623
Traditional (T)	11,688
Veterinary (H)	106
Total	**23,580**

Source: Pharmaceutical Services Division, MoH

- ***Guideline for Regulatory Control of Active Pharmaceutical Ingredients (API)***

The National Pharmaceutical Control Bureau (NPCB) under the purview of the Ministry of Health Malaysia will introduce mandatory control of APIs as part of the requirements in the product registration application. This is implemented prospectively according to a phased timeline established by the NPCB. The implementation begun with voluntary submission for New Chemical Entities in April 2011

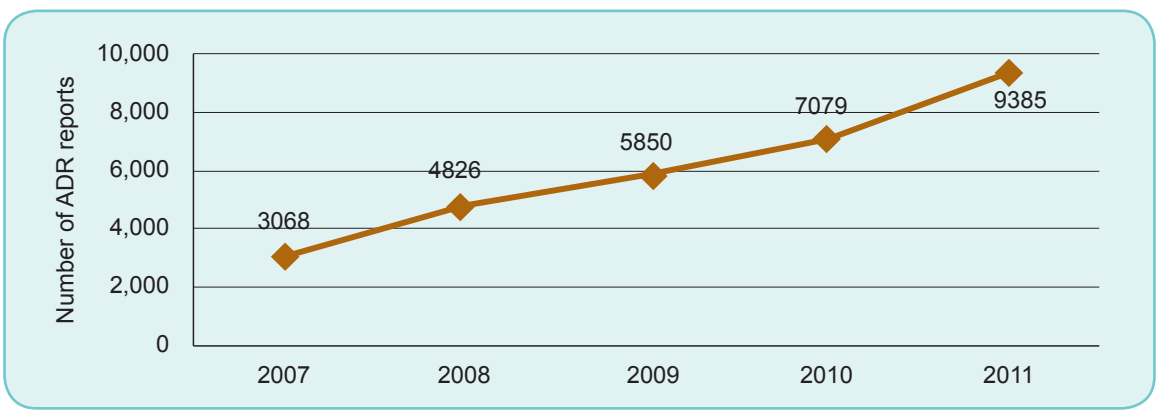
- ***QUEST3***

Quest3 is the new enhanced online submission system for the following users to conduct secured online transactions on registration of products, change request, market sampling, product renewal and other transactions such as licensing. This new system incorporates new modules for the transactions that were used to be done manually such as application for For Export Only products registration, Cosmetic Notification renewal and changes, Adverse Drug Reaction (ADR) Reporting and reporting of SUSAR for products in clinical trials. The Quest3 system will replace the Quest2 system and will be launched in stages.

Post Registration Of Product

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. 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 2011, the Malaysian Adverse Drug Reaction (ADR) Monitoring Program had received a total of 9,385 ADR reports (Figure 8). This is a 24.6% increase as compared to 2010.

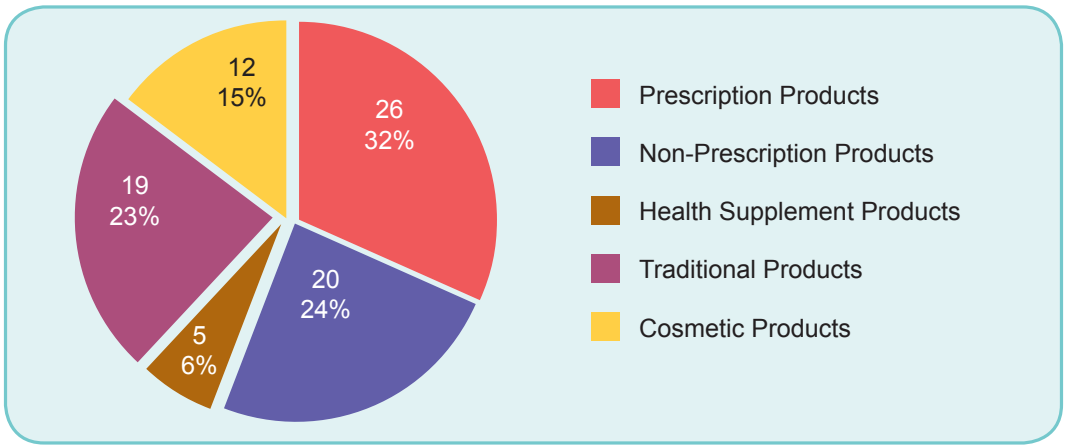
FIGURE 8
NUMBER OF ADVERSE DRUG REACTION (ADR) REPORTS, 2007-2011



Source: Pharmaceutical Services Division, MoH

Based on the outcome of laboratory testing of product sampled, 82 product batches were subjected to Degree III Product Recalls (i.e. within 30 days) due to quality issues. The recalls involved 26 (31.7%) prescription products, 20 (24.4%) non-prescription products, 5 (6.1%) health supplement products, 19 (23.2%) traditional products and 12 (14.6%) cosmetics (Figure 9).

FIGURE 9
NUMBER (PERCENTAGE) OF PRODUCT BATCHES SUBJECTED TO DEGREE III* PRODUCT RECALLS, 2011



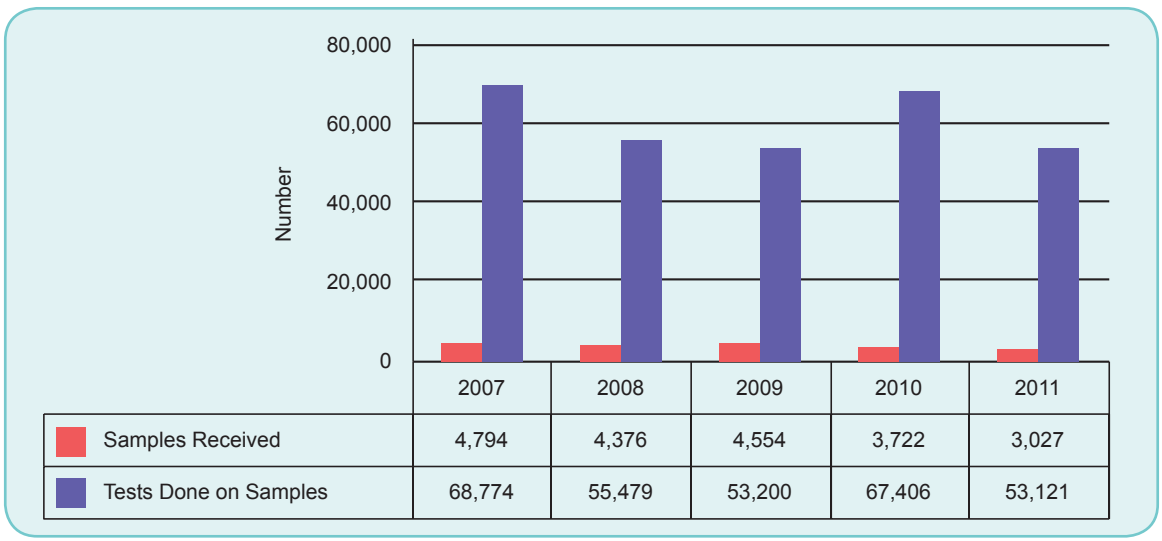
Note: **Products with other reasons for recall other than health risk or substandard. The product should be under an embargo within 30 days or as specified.*

Source: Pharmaceutical Services Division, MoH

Quality Control

Samples to be tested were received from registration samples, surveillance samples, product complaint samples and enforcement activities. A total of 53,121 tests were carried out on 3,027 samples received in 2011 (Figure 10).

FIGURE 10
STATISTICS ON SAMPLE TESTING, 2007-2011



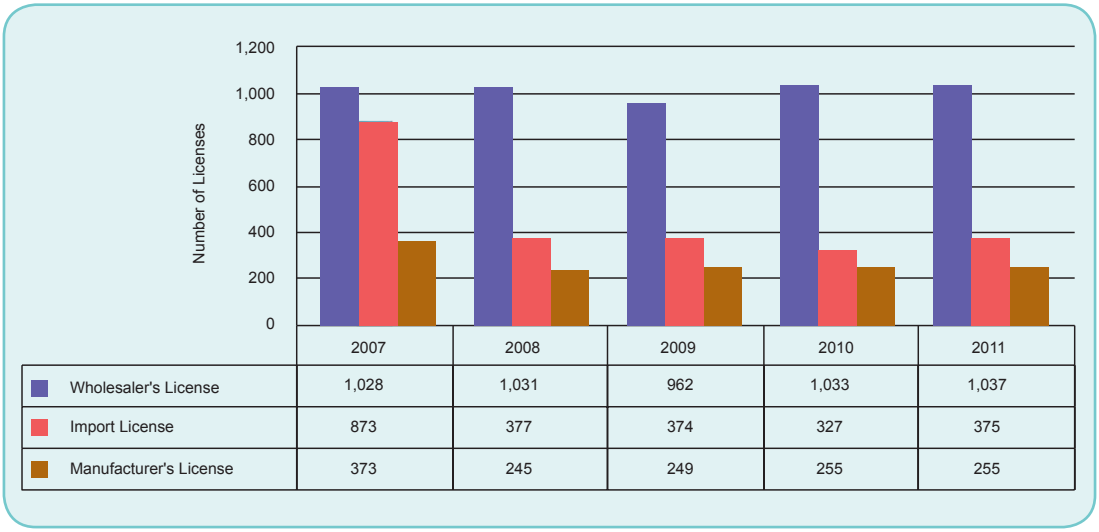
	2007	2008	2009	2010	2011
Samples Received	4,794	4,376	4,554	3,722	3,027
Tests Done on Samples	68,774	55,479	53,200	67,406	53,121

Source: Pharmaceutical Services Division, MoH

Licensing & Compliance

In 2010, 255 manufacturer's licenses and, 327 import licenses were also issued. As for the wholesaler's licenses, 1,037 licenses were issued including wholesalers' licenses for products containing scheduled poison and wholesalers' licenses for dealing with non-poisons, traditional products and cosmetics (Figure 11).

FIGURE 11
LICENSES ISSUED BY NPCB, 2007-2011



	2007	2008	2009	2010	2011
Wholesaler's License	1,028	1,031	962	1,033	1,037
Import License	873	377	374	327	375
Manufacturer's License	373	245	249	255	255

Source: Pharmaceutical Services Division, MoH

- **Good Distribution Practice (GDP) Guideline**

This Guideline is used as a standard to justify status and as a basis for the inspection of facilities as all manufacturers, wholesalers, and importers are required to adopt proper distribution and store management procedures. These procedures should include management of personnel, premises, facilities, and adequate documentary procedures that preserve safety, efficacy and quality of the material or product or cosmetic.

It shows that the wholesaler's license was the highest issued by NPCB, followed by the import license and the least was manufacturer's license

Events

Other than the main activities aforementioned, PSD was also involved in several important events with regards to the development of the Programme (Table 8).

TABLE 8
IMPORTANT PHARMACY EVENTS, 2011

EVENT	DATE	VENUE	OFFICIATED BY, ORGANIZER
The International Conference on Harmonisation-Global Cooperation Group (ICH-GCG) ASEAN Training Workshop on ICH Guidelines Q5C	30-31 May 2011	One World Hotel, Petaling Jaya, Selangor	Dr. Tajuddin Akasah, Deputy Director, NPCB
The 15th ASEAN Consultative Committee Meeting for Standards and Quality on Traditional Medicines and Health Supplements Product Working Group	30th June - 1st July 2011	The Grand Dorsett Hotel, Subang, Selangor	NPCB
WHO Training Workshop on the Quality Assessment of Active Pharmaceutical Ingredients (API) & Awareness Seminar on Regulatory Control of API	29-30 September 2011 & 1st October 2011	NPCB & Cititel Mid Valley Hotel, Kuala Lumpur	Mdm. Siti Aida Abdullah, Deputy Director of Centre for Product Registration, NPCB
WHO Consultative Meeting on Combating Substandard / Spurious / Falsely-labeled / Falsified / Counterfeit (SSFFC) Medicines and Building Global Capacity for Surveillance and Monitoring of SSFFC	3-5 October 2011	The Royale Chulan Hotel, Kuala Lumpur	Mr. Mohd Hatta Ahmad, Director of Pharmacy Enforcement, Enforcement Division, Pharmaceutical Services Division
Mutual Joint Visit by the Organisation for Economic Cooperation's and Development (OECD) Good Laboratory Practice (GLP) Working Group to National Pharmaceutical Control Bureau	14-19 November 2011	NPCB & Environment Technology and Research Centre (ETRC), SIRIM Berhad, Shah Alam	

Source: Pharmaceutical Services Division, MoH

WAY FORWARD

The Pharmacy Programme is dedicated and committed in its effort to realize its mission of delivering better pharmaceutical care services to the nation. With the increasing number of pharmacists, we are looking forward to have specialization of pharmacists in certain areas of healthcare. Thus, it will increase the impact of our healthcare services towards patient's care.

9 | Food Safety & Quality

INTRODUCTION

With the increasing demand for safe food, be it for local consumption or for export, Ministry of Health (MOH) strengthened the food safety control in Malaysia through the upgrading of Food Safety and Quality Division (FSQD) as a new programme headed by a Senior Director effective 1 July 2010. The FSQD as the Competent Authority for food safety in Malaysia is responsible for ensuring food safety along the food supply chain in order to protect the public against health hazards and fraud in the preparation, sale and use of food through the Food Act 1983 and its regulations as well as the Food Analyst Act 2011.

Under the Food Safety and Quality Programme, two (2) divisions were established, namely the Planning, Policy Development and Standard Codex Division and the Compliance and Industry Development Division. Under these Divisions, there are eight (8) Branches namely Communication and Consumerism, Policy and Research, Standard and Codex, Surveillance and Laboratory, Domestic Industry, Domestic Compliance, Import and Export.

ACTIVITIES AND ACHIEVEMENTS

POLICY AND RESEARCH BRANCH

The Policy and Research Branch is responsible for managing and monitoring activities related to policy, quality and innovation, regulating monitoring projects, human capital development and monitoring the development, maintenance and application of information system. It is also responsible for the maintenance of technical information within the Division's website.

i. Activities carried out under the National Food Safety and Nutrition Council (NFSNC)

The NFSNC is the highest national advisory body that provides advice related to food safety and nutrition in Malaysia. The council is chaired by the Honourable Minister of Health and consists of 48 members including 16 Secretaries-General and 25 Directors-General from various ministries and agencies and non-governmental organizations. NFSNC establishment was approved by the cabinet on 21 March 2001 with the objective to ensure the health of the consumers is assured by strengthening food safety at all levels of the food supply chain in the country and to ensure Malaysians achieve optimum nutrition status.

The 10th NFSNC Meeting was held on 8 December 2011 and chaired by the Honourable Minister of Health. It was attended by the Secretary General of the Ministry / representative, the Director General / representatives of relevant agencies, the Federation of Malaysian Manufacturers (FMM), the Federation of Malaysian Consumer Associations (FOMCA) and professional bodies represented by the presidents / representatives of their associations. A total number of 21 issues, two (2) proposals and seven (7) information papers were presented during the meeting.

ii. Activities involving the Key Result Area (KRA) / Key Performance Indicator (KPI)

Key Results Areas (KRA) achievements which are also the Key Performance Indicators (KPI) of Y.B Deputy Minister of Health for 2011 are illustrated in Table 1.

TABLE 1
KRA ACHIEVEMENT, 2011

Indicator	Target	Actual
Percentage of food poisoning in school	<2.3 %	1.35 %
Percentage of food poisoning in Pusat Latihan Khidmat Negara	<10.0 %	12.35 %
Number of premises for export complying with importing countries' requirements	35	36
Number of hygienic food premises	96 %	97 %
Percentage of compliance to the Food Act 1983 and Food Regulations 1985.	>96 %	97 %

Source: Food Safety and Quality Programme, MoH

The KPI of the Director General (DG) of Health which include two (2) KPIs were monitored throughout 2011 as in Table 2.

TABLE 2
THE ACHIEVEMENT OF KPI OF DG, 2011

Indicator	Target (%)	Actual (%)
Number of companies certified with HACCP involved in food poisoning cases.	< 2.5	0%
Increase in the number of premises for the export of fish and fish product complying with importing countries' requirements	> 50	65

Source: Food Safety and Quality Programme, MoH

iii. Innovation

In 2011, 16 innovation laboratory groups were formed and several innovation projects were proposed to participate in the competition.

Innovation Laboratory Group 1 from FSQD won the Innovation Awards Competition of Ministry of Health Institutions and Training Institute 2011 which was held on 14 July 2011. Its innovation on "Preliminary Audit under Analysis Hazard Certification Scheme and Critical Control Points (HACCP)" took first place under the Management Category, while its innovation on "1Malaysia Food Safety Scheme (SK1M)" was awarded second place under the Technical Category.

iv. Activities involving research and monitoring

Projects carried out are classified into two (2) categories; National Projects which covers the entire country and Specific Projects which focuses on a specific state or issue and involves surveys or analysis being carried out in collaboration between the Division and institutions of higher education. A total of 32 National and Specific Projects have been carried out within 2011. This section is also responsible for monitoring projects such as the Malaysian Total Diet Study (MTDS) and research projects with government agencies such as Nutrition Division, National Institutes of Health in addition to other ad hoc cooperation from time to time.

A Food Safety Conference 2011 was held at the Putrajaya International Convention Centre on 6-8 December 2011 where 20 papers of food safety monitoring and research projects conducted utilising funds under the FSQD Programme were presented. The conference provided an opportunity to present and share research findings, exposure on the latest development in the field of food safety apart from in-depth knowledge gained through the work conducted in monitoring projects as well as participating in development sessions.

v. Activities involving Information and Communications Technology (ICT)

Activities involving development, enhancement, maintenance and acculturation of ICT are conducted in a coordinated manner so as to support the Food Safety and Quality Programme, where two (2) application systems; the Food Safety System for Malaysia (FoSIM) Domestic and the Official Food Control Management System for Export to European Union (FExOC) was fully developed on 18 July 2011 and 13 December 2011 respectively.

vi. Development and maintenance of FSQD website

The official website of the Food Safety and Quality Division (FSQD) which can be accessed at http://fsq.moh.gov.my was launched in July 2011. The improved features of this new website include the display name and banner for FSQD which is more visible at the top of the website, the information displayed by groups such as knowing FSQD, activities and services, media, frequently asked questions, links, guidelines, legal, member directory, contact us, announcements, news of activities, press releases, special display (industry, public and FSQD's staff) and more. FSQD official website was given a 4-star rating during the evaluation of website of Ministry of Health.

Summary

In 2011, the Policy and Research Branch organised the 10th National Food Safety and Nutrition Council, the Food Safety Conference 2011 and the launching of FSQD's official website, conducted 32 research projects, developed two (2) new Information and Communications Technology (ICT) application systems and formed 16 innovation laboratory groups within FSQD.

DOMESTIC INDUSTRY BRANCH

Programs and activities related to food safety assurance, good hygiene practices and conformity assessment were developed, implemented and monitored to further improve food safety in the relevant food sector in order to reduce food contamination and the occurrence of food poisoning in this country.

FOOD SERVICES

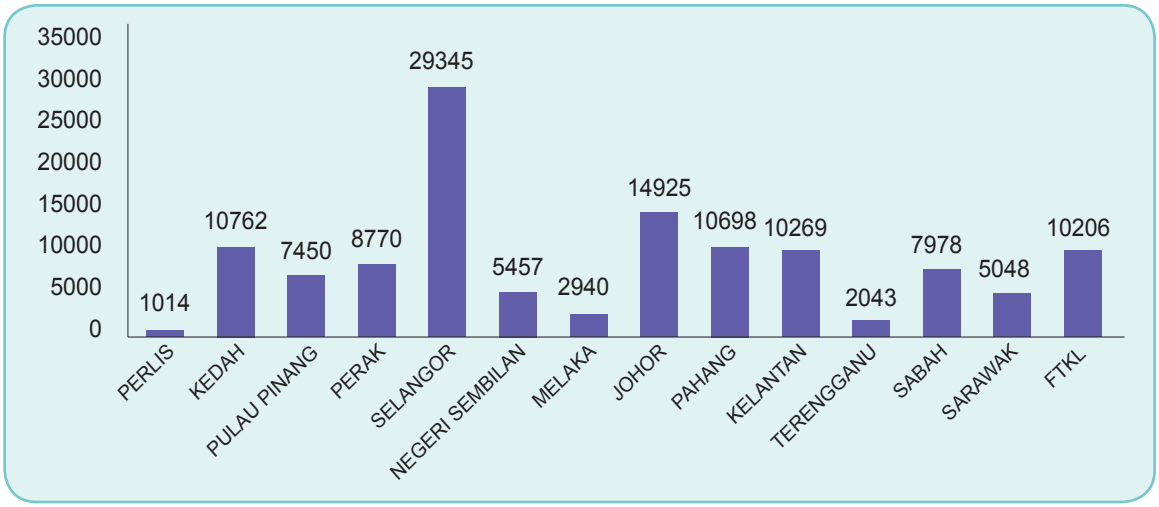
Programmes and activities are carried to enhance the good hygiene practices in the relevant food services sector.

- **Food Handlers Training Programme**

The objective of this programme is to provide knowledge on good hygiene practices in food handling including the hygiene of food premises to all food handlers to ensure the preparation of safe food which would contribute to a reduction in the occurrence of food poisoning in the country.

Figure 1 shows the number of food handlers trained by Food Handlers Training Schools (SLPM) by states for 2011. In 2011, a total of 126,905 food handlers were trained by SLPM that are accredited by the MOH. Since the inception of this programme in 1996, a total of 684.960 food handlers have been trained whereas 163 SLPM with 420 trainers have been accredited by the MOH to conduct of Food Handlers Training Courses.

FIGURE 1
NUMBER OF FOOD HANDLERS TRAINED BY FOOD HANDLERS TRAINING SCHOOLS BY STATE, 2011



Source: Food Safety and Quality Programme, MoH

The Guidelines for the Accreditation Scheme of Food Handlers Training Programme was launched on 15 June 2011 by the Senior Director for Food Safety and Quality. This guideline provides guidance to the SLPM and trainers in conducting Food Handlers Training Course and to MoH's officers in carrying out monitoring and auditing of the SLPM. It also prescribes actions to be taken against SLPM or trainers who violate the conditions of accreditation set by the Ministry.

IMAGE 1
LAUNCHING OF GUIDELINES FOR THE ACCREDITATION SCHEME OF FOOD HANDLERS TRAINING PROGRAMME, 15 JUNE 2011, PUTRAJAYA

Source: Food Safety and Quality Programme, MoH

- **Self Assessment Programme (KENDIRI) in Schools**

The Self Assessment Program (KENDIRI) is based on the concept of shared responsibility amongst the relevant stakeholders to ensure the cleanliness of the related food premises. KENDIRI program has been implemented in schools since 2008 to reduce the occurrence of food poisoning due to food prepared in school canteens and hostels. Through this program, the operators of the school canteens and hostels are empowered to conduct their own assessment on the cleanliness of the premises and the condition is monitored at various levels, that is, directly by the schools, District Education Office (PPD), District Health Office (PKD), State Education Department (JPN), State Health Department (JKN), the Ministry of Education and MoH. With the implementation of KENDIRI program, there has been a 14% decrease in the number of schools with episodes of food poisoning, i.e. from 157 schools in 2010 to 135 schools in 2011.

- **Self Assessment Program (KENDIRI) In National Services (NS) Camp**

The implementation of the KENDIRI program, which was found to be an effective tool in the prevention of food poisoning in schools, was extended to the kitchen of National Service (NS) Training Camp in 2010.

In this respect, the contractors/operators of the kitchen of National Service (NS) Training Camp are empowered to conduct their own assessment on the cleanliness of the kitchen and the dining hall and the condition is monitored at various levels, that is, directly by the Deputy Commandant of Camp Management, the District Health Office (PKD), State Health Department (JKN), National Service Training Department (JLKN) and MoH.

With the implementation of KENDIRI program, there is a 4.4% reduction in the number of NS camp with episodes of food poisoning from 16.7% in 2010 to 12.3% in 2011.

- **1Malaysia Milk Programme (PS1M)**

The 1Malaysia Milk Programme (PS1M) under the Ministry of Education (MOE) was relaunched in September 2010 in line with the aspiration of the Prime Minister to create a healthy generation as well as to develop the local dairy industry through the use of local fresh milk. Thus, it is imperative that food safety is not compromised during implementation of the PS1M programme. The Food Safety and Quality Division plays an important role to ensure that control measures are taken to avoid the risk of food poisoning from the consumption of Ultra High Temperature (UHT) milk supplied under the PS1M programme.

A Food Safety Taskforce for PS1M was established to upgrade the safety of milk in the supply chain for PS1M. The taskforce is led by the Food Safety and Quality Division of the MoH and comprises of representatives from MOE, Veterinary Services Department and the industry. In 2011, the taskforce developed the Food Safety Plan of Action for PS1M, which is a comprehensive long and short term cohesive plan that specifies the role of the various stakeholders in ensuring the safety of local fresh milk. This plan of action has been implemented.

Four (4) suppliers were appointed by MOE to supply UHT milk to various states by zone as shown in Table 3. The UHT milk suppliers were fully responsible to ensure the safety of the UHT milk under PS1M, which is from the processing of the UHT milk to the point when the milk was given to the school children.

TABLE 3
LIST OF MILK SUPPLIERS FOR PS1M BY ZONE AND STATE, 2011

Company	Zone	State
Syarikat Hybrid Allied Sdn. Bhd.	1	Perlis, Kedah dan Perak
Syarikat Dutch Lady Milk Industries Berhad	2	Melaka, Selangor, Pulau Pinang dan Wilayah Persekutuan Kuala Lumpur & Putrajaya
Syarikat Konsuma Sdn. Bhd.	3	Johor dan Pahang
Syarikat Sabah International Dairies Sdn. Bhd.	4	Sabah, Sarawak, Terengganu, Kelantan, Wilayah Persekutuan Labuan dan Negeri Sembilan

Source: Food Safety and Quality Programme, MoH

IMAGE 2
LAUNCHING OF THE 1MALAYSIA MILK PROGRAMME (PS1M)

Source: Food Safety and Quality Programme, MoH

The milk supply chain for PSIM was monitored according to the Procedures for Monitoring the Mechanism for the Control in the Distribution of Milk under PS1M. This monitoring procedure encompasses food safety requirements at UHT milk processing establishments, warehouses and schools. With regards to food processing establishments, MoH approved two (2) processing plants for production of UHT milk for the year 2011 and surveillance audit was carried out twice (2) in that year. Apart form this, 26 warehouses were approved from which 2,770 samples were taken for analysis. For the year 2011, the total number of schools approved for distribution of milk was 7,495 (97.2%) out of the total numbers of schools under Ministry of Health, i.e. 17 schools in the Federal Territory of Labuan, 2,334 schools in Sabah and Sarawak and 5,144 schools in Peninsular Malaysia.

AUDIT AND CERTIFICATION

There are three (3) types of certification schemes related to food safety assurance under MoH, namely:

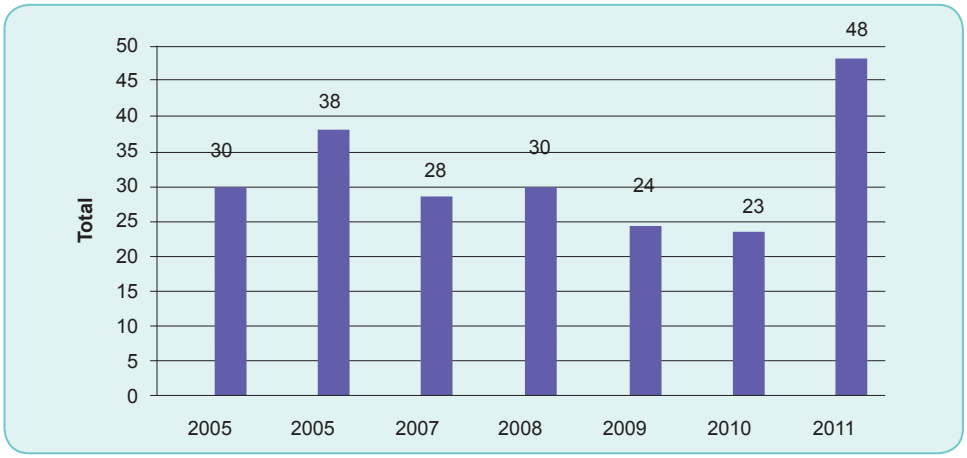
a. Hazard Analysis and Critical Control Point (HACCP) Certification Scheme
b. Good Manufacturing Practice (GMP) Certification Scheme
c. 1 Malaysia Food Safety Scheme [Skim Keselamatan Makanan 1Malaysia (SK1M)] Certification Scheme

- **HACCP Certification Scheme**

The HACCP Certification Scheme was introduced at the end of 1997 and was launched in 2001. The initial intention for the development of this scheme was to facilitate the food industries in complying with the HACCP requirements of the importing countries.

Over the period of 2005-2011, a total of 221 HACCP certificates had been issued under this scheme. There was a significant increase in the total number of HACCP certificates issued in 2011 which totalled up to 48 HACCP certificates (Figure 2).

FIGURE 2
NUMBER OF HACCP CERTIFICATES ISSUED, 2005-2011

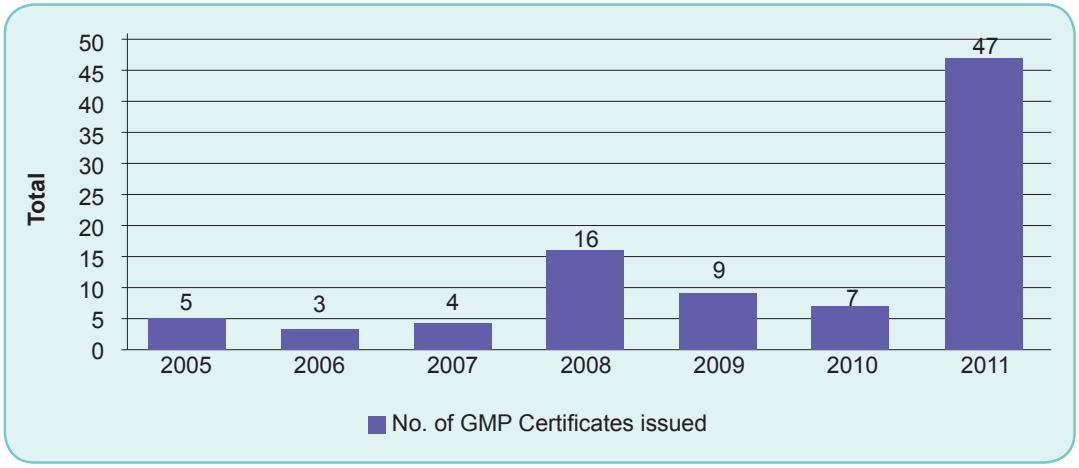


Source: Food Safety and Quality Programme, MoH

- **Good Manufacturing Practices (GMP) Certification Scheme**

The GMP Certification Scheme was launched by the Honourable Minister of Health on 19 December 2006. Over the period of 2005-2011, a total of 91 food processing establishments have been certified under the GMP Certification Scheme as shown in Figure 3.

FIGURE 3
NUMBER OF GMP CERTIFICATES ISSUED, 2005-2011



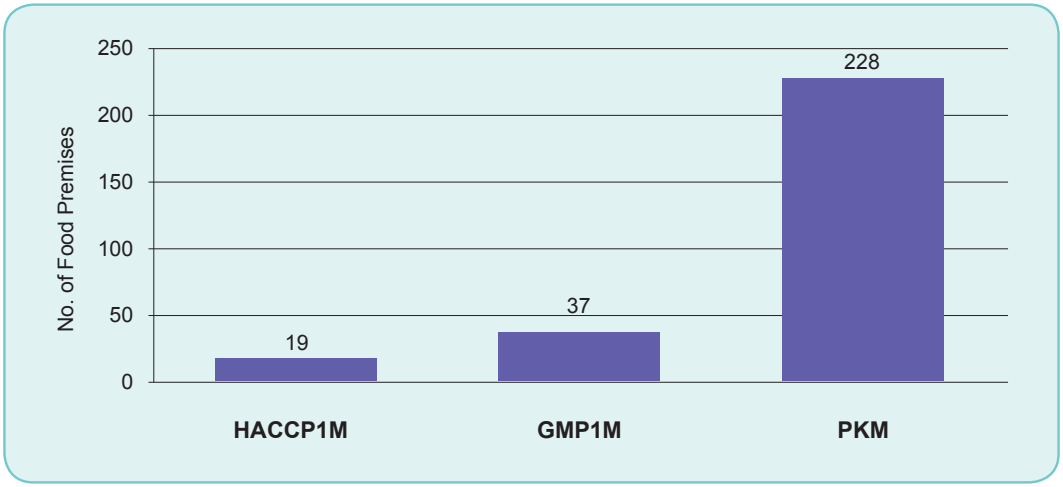
Source: Food Safety and Quality Programme, MoH

- **1 Malaysia Food Safety Scheme [Skim Keselamatan Makanan 1Malaysia (SK1M)]**

Skim Jaminan Keselamatan Makanan 1Malaysia (SK1M) was officially launched by the Honourable Minister of Health on 8 November 2010. It was part of the transformation programme for the food industry, specifically for the small and medium enterprises (SMEs), to upgrade and strengthen their food safety assurance system as well as to increase their compliance to the Food Hygiene Regulations 2009, in stages based on the capability of the food industry. SK1M consisted of three (3) levels of certification based on the basic requirement of food safety assurance and hygiene aspects, namely Skim Pemeriksaan Keselamatan Makanan (Food Safety Inspection Scheme) (PKM), GMP 1Malaysia and HACCP 1Malaysia. Certificates are granted to the food industry that had fully complied with the food safety requirements and had implemented the food safety assurance programme.

Up to 2011, a total of 284 food processing establishments throughout Malaysia were certified, of which 228 food processing establishments were for PKM; 37 food processing establishments for GMP1M and 19 food processing establishments for HACCP1M. In 2011, the number of certifications for PKM was significantly higher than those for GMP1M and HACCP1M. This was because more of the food processing establishments could comply with the elements for PKM certification which focused on compliance from aspects of hygienic practices and hygiene condition of the food processing establishments to food safety requirements without the need for documentation such as procedures and records on hygienic practices.

FIGURE 4
NUMBER OF SK1M RECOGNITION, 2011



Source: Food Safety and Quality Programme, MoH

SK1M certification scheme was implemented by MOH in the Rural Transformation Centre (RTC) Perak under the National Blue Ocean Strategy 4 (NBOS) to assist and guide small and medium entrepreneurs (SMEs) comply with food safety requirements to produce safe food products. This will increase consumers' confidence in the food products as well as increase marketability which will contribute to the improvement in the quality and standard of living of the rural population. In 2011, 37.3% out of the total of 284 food processing establishments certified under SK1M were SMEs from RTC Perak.

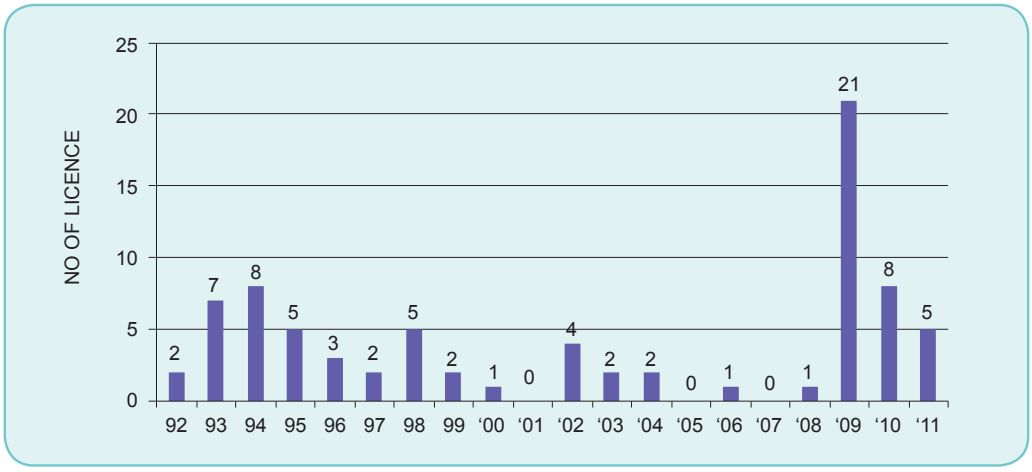
LICENSING

The water source used for the manufacture of natural mineral water (AMS), packaged drinking water (AMB) and ice for the purpose of trade or business must be licensed as provided for in Regulation 360A, 361 and 394A of the Food Regulations 1985 respectively.

- **Natural Mineral Water**

Since the enforcement of this requirement in 1992 until 2011 (Figure 5), a total of 79 sources of natural mineral water have been licensed. However only 58 licensees are still active, out of which 27 licenses are for local natural mineral water sources while the rest are for foreign sources. In 2011, a total of five (5) new licenses were issued and one (1) license was revoked as the licensee has ceased production.

FIGURE 5
ISSUANCE OF NATURAL MINERAL WATER LICENSES, 1992-2011



Source: Food Safety and Quality Programme, MoH

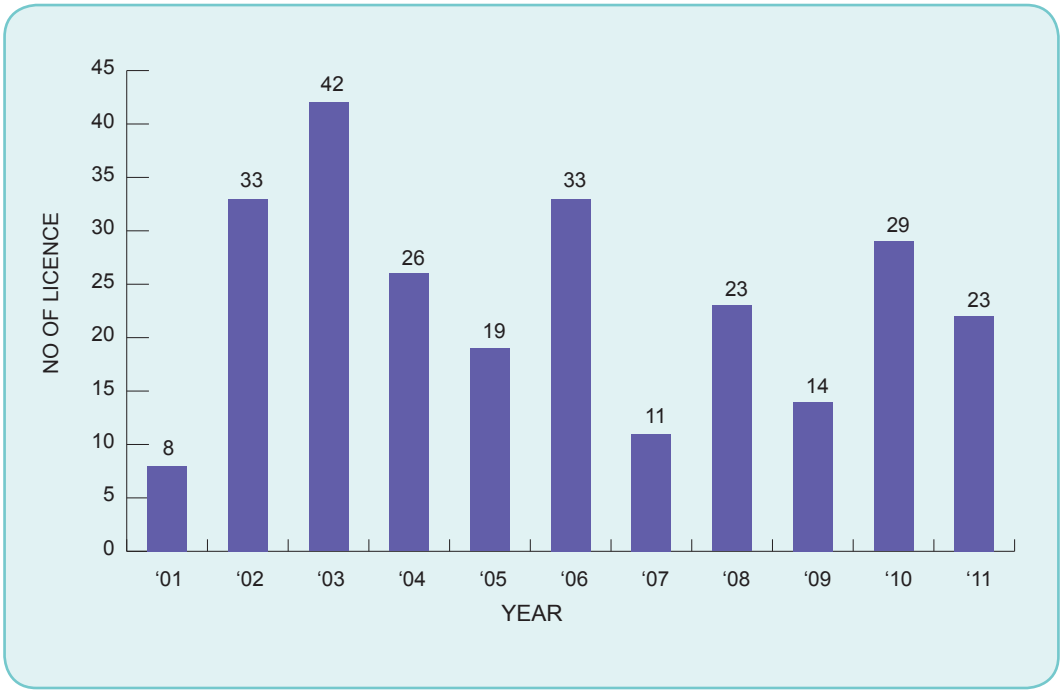
- **Packaged Drinking Water**

A total of 260 packaged drinking water licenses were approved in 2001-2011 (Figure 6), out of which only 205 licenses are still active. In 2011, a total of 23 new licenses were issued whilst four (4) licenses were revoked.

- **Ice**

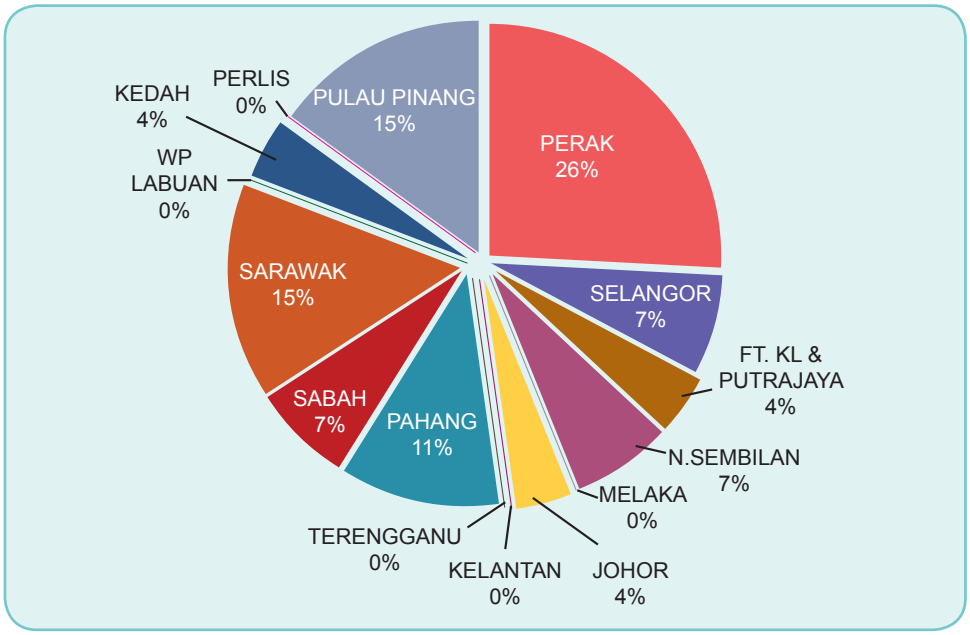
In 2011, 70.8% (17) out of a total of 24 applications for licenses received were approved. Poor infrastructure of the ice factories is one of the major factors that led to the failure of the applicants to obtain licenses. Until 2011, there are 27 active licensees, with Perak having the highest number of licensed ice factories (26%) in Malaysia. The distribution of ice licensee by state is shown in Figure 7.

FIGURE 6
ISSUANCE OF PACKAGE DRINKING WATER LICENSES, 2001-2011



Source: Food Safety and Quality Programme, MoH

FIGURE 7
PERCENTAGE OF ICE LICENSEES BY STATE, 2011



Source: Food Safety and Quality Programme, MoH

Summary
The delivery of information, education and advice to stakeholders across the farm-to-table continuum is an integral part of food safety. Promotions of good hygienic practices through the Food Handlers Training Program and Self Assessment Program (KENDIRI) at schools and National Service Camps have been successful in reducing the incidence of food poisoning at these premises. With regards to the implementation of food safety assurance programme by the food industries, there is a significant increase in the number of certificates issued under the MOH GMP and HACCP Certification Schemes in 2011. This reflects the commitment of the food industries in producing safe and quality products to be in compliance with the Food Act 1983 and its regulations for food for local consumption and/or meeting the requirements of the importing country for food exports. Initiatives have also been taken to promote food safety amongst small and medium enterprises and increase their compliance to the Food Hygiene Regulations 2009 in stages based on the capability of the food industry through the SK1M programme.

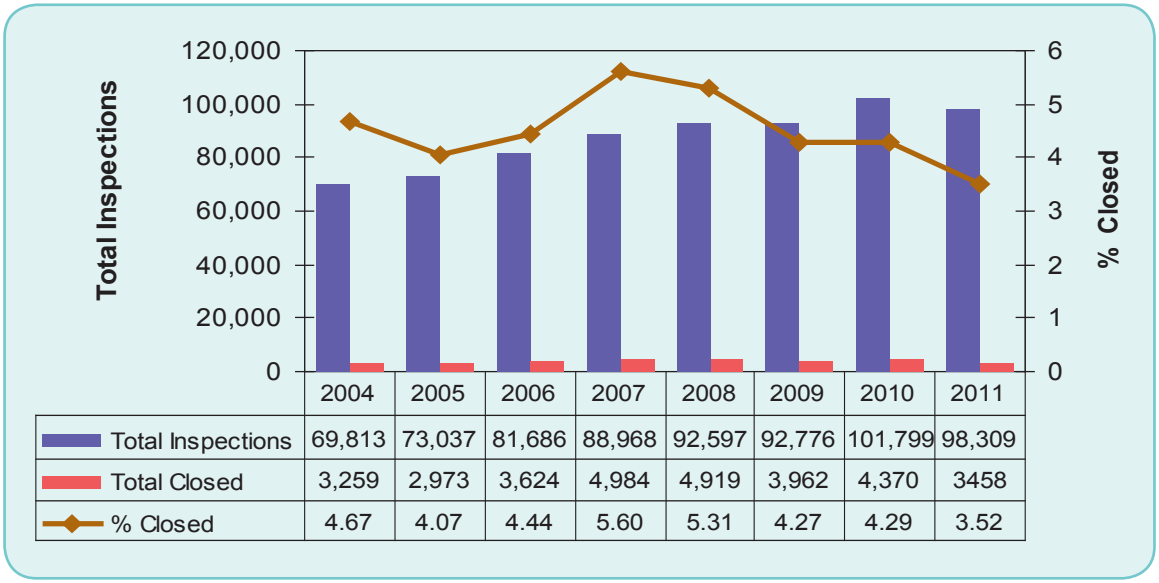
DOMESTIC COMPLIANCE BRANCH

Various activities are carried out to ensure that the preparation and sale of food in the local market is safe and comply with the Food Act 1983 and its regulations. Such activities include food sampling; inspection of food premises; enforcement activities such as closure of unhygienic food premises and seizure of non-complying food; investigation of complaints and management of food safety issues.

- **Inspection and Closure of Food Premises**

Inspection of food premises is one of the routine activities carried out to ensure that all food premises are clean and hygienic. In 2011, a total of 98,309 food premises were inspected and 3.52% (3458) of the total were found to be unhygienic and were closed under Section 11, Food Act 1983 (Figure 8).

FIGURE 8
INSPECTION AND CLOSURE OF FOOD PREMISES, 2004-2011



	2004	2005	2006	2007	2008	2009	2010	2011
Total Inspections	69,813	73,037	81,686	88,968	92,597	92,776	101,799	98,309
Total Closed	3,259	2,973	3,624	4,984	4,919	3,962	4,370	3458
% Closed	4.67	4.07	4.44	5.60	5.31	4.27	4.29	3.52

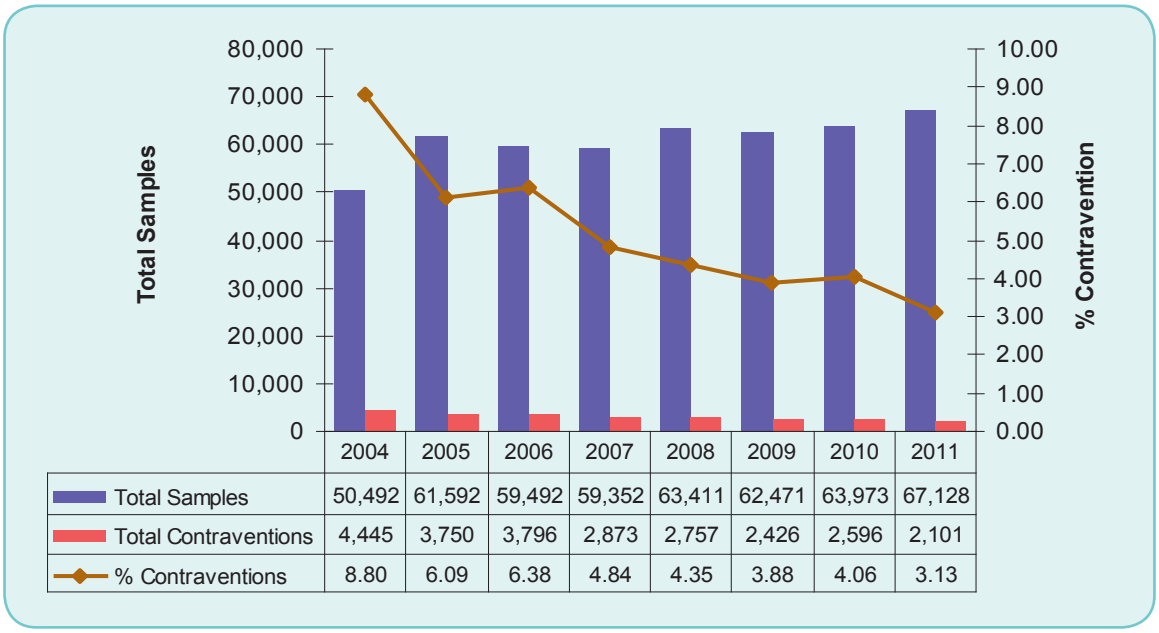
Source: Food Safety and Quality Programme, MoH

- **Food Sampling**

The purpose of food sampling is to ensure that food prepared and/or sold in Malaysia comply with the requirements of the Food Act 1983 and the Food Regulations 1985. Based on the norm under the National Work Plan i.e. 2 samples/1,000 population, the food sampling target for 2011 is 54,000 samples. Food sampling was carried out based on the parameters of analysis, that is, microbiology (40%), chemical (55%) and physical (5%).

In 2011, a total of 67,128 food samples were taken for analysis and 3.13% (2,101) of the samples taken contravened the Food Act 1983 and Food Regulations 1985 (Figure 9). However, there was a decrease in the contravention rate over the years 2004 - 2011 from 8.80% in 2004 to 3.13% in 2011. A total of 1,169 offenders were prosecuted and fines amounting to RM712,872.00 were collected.

FIGURE 9
FOOD SAMPLING, 2004-2011



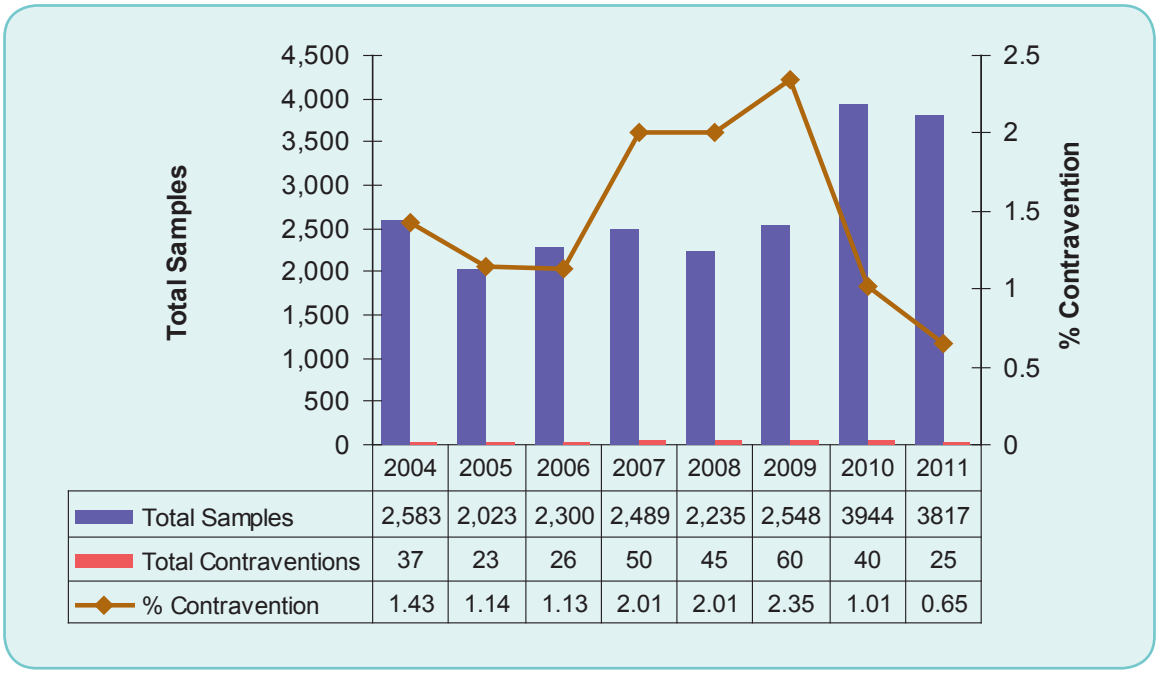
	2004	2005	2006	2007	2008	2009	2010	2011
Total Samples	50,492	61,592	59,492	59,352	63,411	62,471	63,973	67,128
Total Contraventions	4,445	3,750	3,796	2,873	2,757	2,426	2,596	2,101
% Contraventions	8.80	6.09	6.38	4.84	4.35	3.88	4.06	3.13

Source: Food Safety and Quality Programme, MoH

- **Monitoring of Pesticide Residues**

In 2011, a total of 3,817 food samples consisting of 2,663 samples of vegetables and 1154 samples of fruits (Figure 10) were taken for pesticide residue analysis. Based on the laboratory results, 0.56% (15) and 0.87% (10) of the total number of vegetable and fruit samples taken were respectively found to contain pesticide residues above the Maximum Residual Limit (MRL) as in the Food Regulations1985.

FIGURE 10
MONITORING OF PESTICIDE RESIDUES IN VEGETABLES AND FRUITS, 2004-2011



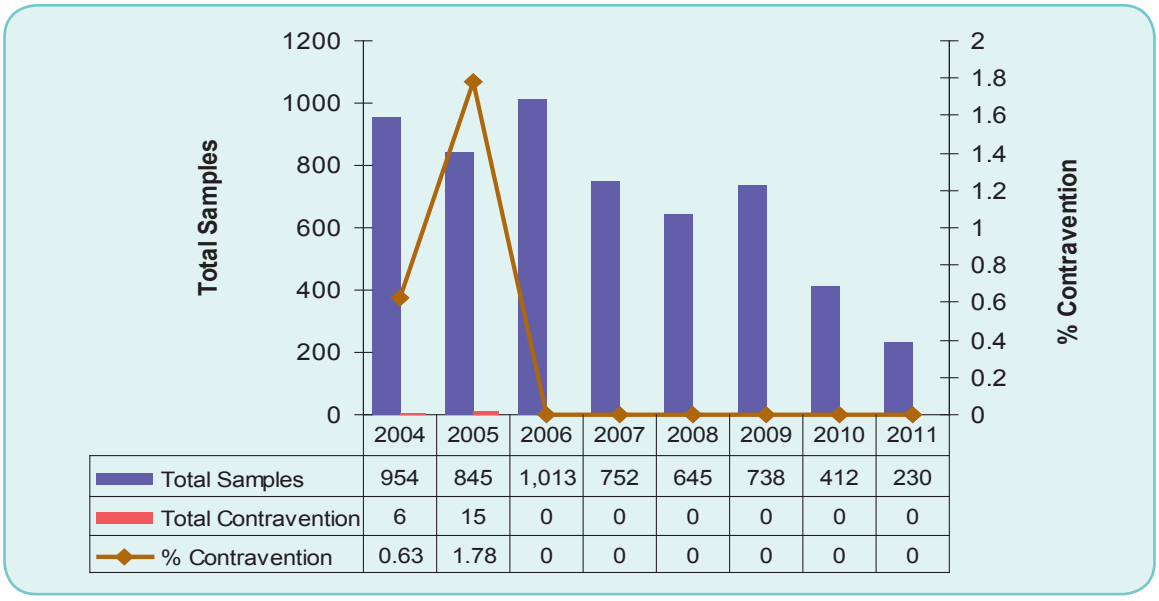
	2004	2005	2006	2007	2008	2009	2010	2011
Total Samples	2,583	2,023	2,300	2,489	2,235	2,548	3944	3817
Total Contraventions	37	23	26	50	45	60	40	25
% Contravention	1.43	1.14	1.13	2.01	2.01	2.35	1.01	0.65

Source: Food Safety and Quality Programme, MoH

- **Monitoring of Drug Residues**

There is a reduction in the misuse of veterinary drugs such as nitrofuran, chloramphenicol and beta agonist in animal husbandry as shown in the monitoring results in the years 2004-2006. Nitrofuran was not detected in all the food (chicken meat and egg) samples taken over the years 2006-2011(Figure 11). As for chloramphenicol, the veterinary drug residue was not detected in all the food (chicken meat and fish) samples taken in the two (2) year period of 2010 and 2011(Figure 12). Besides, since 2009 to 2011, none of the food (pork, beef, lamb and duck) samples taken was positive for beta-agonist (Figure 13). This may be due to the regular monitoring carried out over the years and the enforcement actions taken on contravening samples.

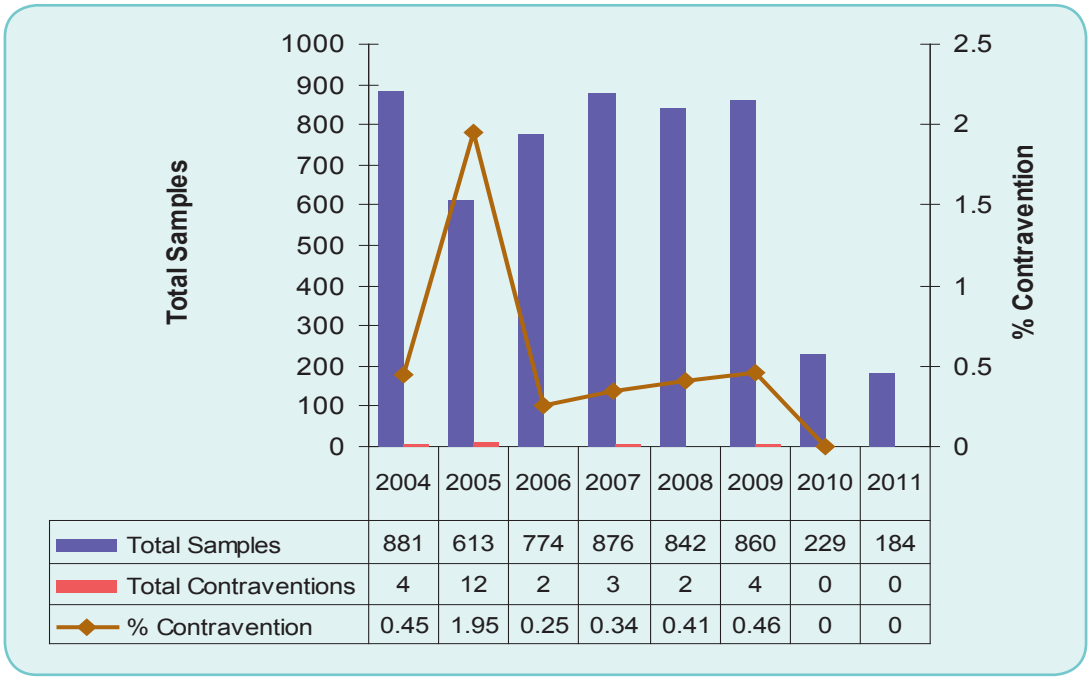
FIGURE 11
MONITORING OF NITROFURAN IN CHICKEN MEAT AND EGGS, 2004-2011



	2004	2005	2006	2007	2008	2009	2010	2011
Total Samples	954	845	1,013	752	645	738	412	230
Total Contravention	6	15	0	0	0	0	0	0
% Contravention	0.63	1.78	0	0	0	0	0	0

Source: Food Safety and Quality Programme, MoH

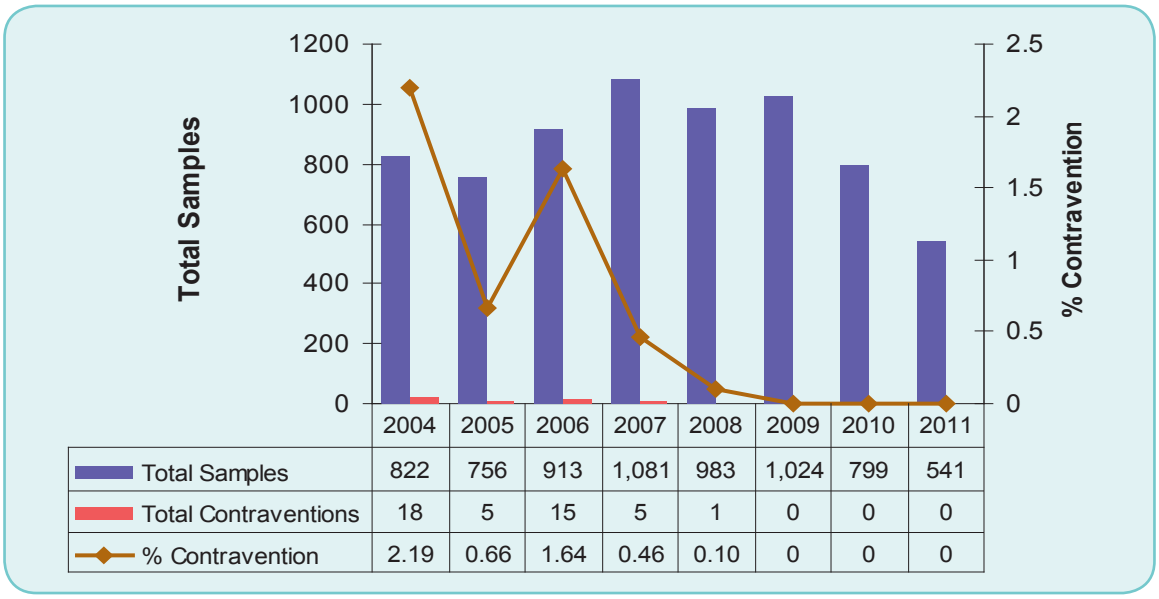
FIGURE 12
MONITORING OF CHLORAMPHENICOL IN CHICKEN MEAT & FISH, 2004-2011



	2004	2005	2006	2007	2008	2009	2010	2011
Total Samples	881	613	774	876	842	860	229	184
Total Contraventions	4	12	2	3	2	4	0	0
% Contravention	0.45	1.95	0.25	0.34	0.41	0.46	0	0

Source: Food Safety and Quality Programme, MoH

FIGURE 13
MONITORING OF BETA AGONIST IN MEAT, 2004-2011



	2004	2005	2006	2007	2008	2009	2010	2011
Total Samples	822	756	913	1,081	983	1,024	799	541
Total Contraventions	18	5	15	5	1	0	0	0
% Contravention	2.19	0.66	1.64	0.46	0.10	0	0	0

Source: Food Safety and Quality Programme, MoH

Summary
Based on the inspection findings, on an average, more than 95.5% of the food premises inspected in 2004-2011 were found to be of satisfactory hygienic condition. This was partly due to the positive outcome of the inspection of food premises on a routine basis and the enforcement actions taken such as closure of unhygienic food premises. Besides, the compliance of food sampled within the same period, with the Food Act 1983 and Food Regulations 1985 had steadily increased from 91.2% compliance in 2004 to 96.9% compliance in 2011. The findings could have been due to the reduction in the misuse of veterinary drugs such as nitrofuran, chloramphenicol and beta agonist in animal husbandry and abuse of pesticides in vegetable and fruit farming resulting from the regular monitoring carried out over the years and the enforcement actions taken on contravening samples.

IMPORT BRANCH

The objective of food import control is to ensure that food imported into this country comply with the Food Act 1983 and the Food Regulations 1985. The food import control activities carried out at entry points include inspection and sampling of food consignments as well as enforcement activities such as detention, rejection, prosecution and destruction of consignments that contravene the food legislations.

i. Food Import Control System

MoH manages food import control through the use of a web based application system i.e. FoSIM (Food Safety Information System of Malaysia) which uses a risk-based approach in determining food safety hazard of imported food. The risk attributed to the food is determined by six levels of examination, that is:

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. Monitoring of food imports at each entry point

The monitoring of imported foods at the entry points is based on the following targets:

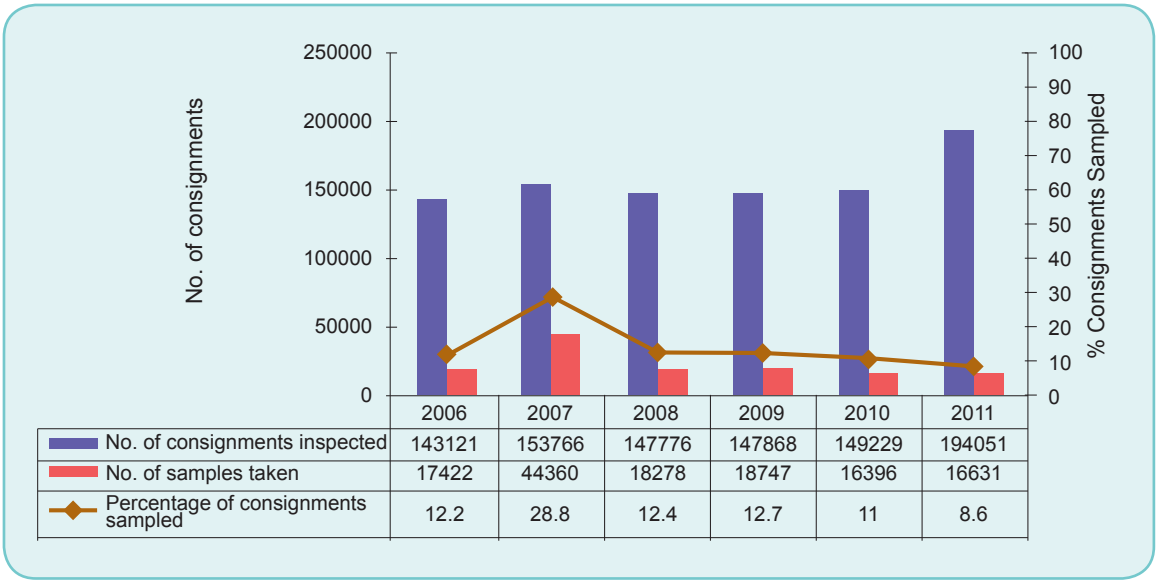
a. 100% document inspection – Entry points shall inspect 100% of all declaration documents (K1) for imported food consignments either manually or electronically.
b. 70% food consignment inspection at land entry points
c. 40% food consignment inspection at seaports
d. 35% food consignment inspection at airports
e. 10% of the food consignments inspected to be sampled for analysis

iii. Activities and achievement

In 2011, 194,051 consignments were inspected and 8.6% of the consignments inspected were sampled (Figure 14). 1.1% (184 samples) out of a total of 16,631 samples taken for analysis were found to contravene the Food Act 1983 and the Food Regulations 1985 (Figure 15). In addition, there were 166 food alerts on contravening food consignments imported from 19 countries in the year 2011. The food alerts were then notified to all states and entry points for further action. Amongst the main contraventions detected in food imports for the year 2011 were heavy metals and veterinary drug residues in fish and fishery products; preservatives in fruits; aflatoxins in groundnuts; and pesticides in fruits and vegetables.

Based on the requirement of the Food Regulations 1985, all flavouring substances imported into Malaysia for use in food shall obtain approval from the Director prior to importation. In 2011, there was a 22.2% increase in the number of approvals granted for the importation of flavouring substances from 333 approvals in 2010 to 407 approvals in 2011 as in Table 4.

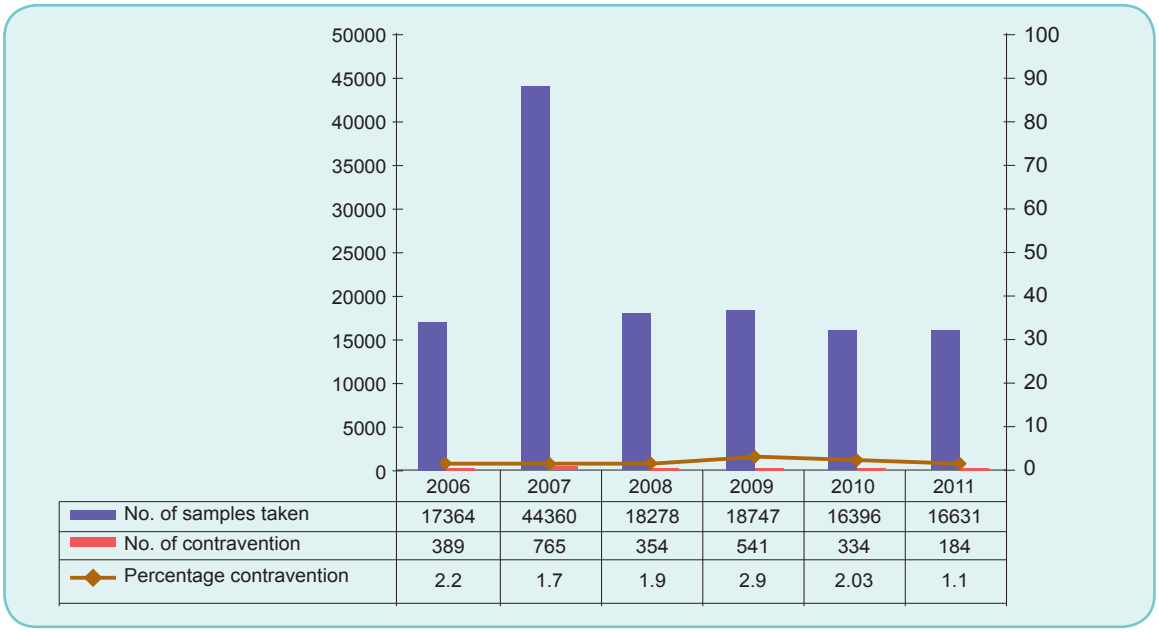
FIGURE 14
INSPECTION AND SAMPLING OF IMPORTED FOODS, 2006-2011



	2006	2007	2008	2009	2010	2011
No. of consignments inspected	143121	153766	147776	147868	149229	194051
No. of samples taken	17422	44360	18278	18747	16396	16631
Percentage of consignments sampled	12.2	28.8	12.4	12.7	11	8.6

Source: Food Safety and Quality Programme, MoH

FIGURE 15
CONTRAVENTION OF IMPORTED FOOD, 2006-2011



	2006	2007	2008	2009	2010	2011
No. of samples taken	17364	44360	18278	18747	16396	16631
No. of contravention	389	765	354	541	334	184
Percentage contravention	2.2	1.7	1.9	2.9	2.03	1.1

Source: Food Safety and Quality Programme, MoH

TABLE 4
APPROVAL FOR IMPORT OF FLAVOURING SUBSTANCES, 2007-2011

YEAR	NO. OF APPROVALS
2007	10
2008	236
2009	161
2010	333
2011	407

Source: Food Safety and Quality Programme, MoH

iv Management of Major Food Safety Issues

In 2011, FSQD was faced with the challenge in monitoring the importation of foods implicated in two (2) major food safety issues. Following the nuclear reactor explosion in Fukushima due to the earthquake and tsunami on 11 March 2011, FSQD had been closely monitoring food products imported from Japan for radioactive materials. Food that originated from the affected prefectures were subjected to Level 5 Examination (Hold, Test and Release) where the food consignments were sampled at the entry points to be tested for radioactive materials and were released if the samples comply with the Codex Standard for radioactive materials in food. The lists of affected prefectures were reviewed from time to time based on local monitoring data as well as those of Japan. Based on the local monitoring data, all the 234 samples of food products tested for radioactive materials were found to comply with the standard.

In addition, the FSQD had also taken control measures to ensure the safety of food imported from Taiwan following contamination of certain categories of food products with di(2-ethylhexyl) phthalate (DEHP). Effective 1 July 2011, the FSQD enforced the requirement for Health

Certificates and Certificates of Analysis (DEHP) for importation of 13 categories of food products from Taiwan. If such requirement was not complied with, the affected food consignments were subjected to Level 5 Examination (Hold, Test and Release) where the food consignments were sampled at the entry points to be tested for DEHP and released if the level of DEHP detected was less than the action level of 1.5 mg/kg. Besides, the safety of the implicated food products was monitored and based on the monitoring data, 1.7% out of a total of 358 samples taken for DEHP analysis was found to contravene the action level. Enforcement actions such as recall and destruction of the contravening food products which were already in the local market were taken.

SUMMARY

The food import control system put in place at the entry points is effective in ensuring that food imports are safe and comply with the Food Act 1983 and its regulations. This is evidenced by the lowest contravention rate of 1.1% of imported food consignments in 2011 over the years 2006-2011.

EXPORT BRANCH

FSQD is responsible to ensure that food exports comply with the requirements of the importing countries. FSQD as the Competent Authority (CA) appointed by the European Union (EU) has to provide the guarantees that the fish and fishery products for export to the EU comply with the EU import requirements for fish and fishery products.

- **Export Control of Fish and Fishery Products to the European Union (EU)**
  FSQD conducts official controls in line with the Standard Operating Procedures and Protocols for export of fish and fishery products as follows:

  a. **Approval of export establishments, transport vehicles, sources of ice, independent refrigerated stores and sources of semi-processed fishery products.**
  In 2011, 22 export establishments, 52 transport vehicles, 4 sources of ice and 1 cold store were approved. Surveillance audits had been carried out to verify the maintenance on their compliance with the EU requirements.

  b. **Implementation of Monitoring Programmes**
  In 2011, 877 samples for fishery end products, 191 samples for capture fishery products and 190 samples for water and ice were taken for monitoring purposes. Corrective actions were taken for the contraventions detected.

  c. **Issuance of Health Certificates for Export of Fish and Fishery Products to the EU**
  In 2011, a total of 367 Health Certificates were issued for export of fish and fishery products to the EU. The total export of these fish and fishery products amounted to 2,312.6 metric tonnes worth RM 51 million.

  A new system named 'The EU Management System for Official Control of Food Export of Fish and Fishery Products to EU (FExOC)' was developed by FSQD to strengthen the official controls implemented by FSQD and will be implemented in 2012. The information related to the surveillance and monitoring programmes of all approved fish facilities including rapid alert system and issuance of health certificates for the purpose of exports of fish and fishery products to the EU were integrated into FExOC.

- **Export Control of Fish and Fishery Products to the United States of America (USA)**

  a. The United States Food and Drug FDA Assessment Mission

  The United States Food and Drug Administration (USFDA) had conducted an assessment mission in Malaysia from 28 March to 8 April 2011 to understand and evaluate antibiotics and chemicals application regulatory system in aquaculture production in Malaysia. A total of nine (9) aquaculture farms, two (2) middlemen, one (1) feed store, one (1) feed miller, three (3) veterinary sales outlets, seven (7) establishments and three (3) official laboratories were inspected. Overall, the outcome of the USFDA assessment mission is positive. However, there were recommendations to further improve the compliance of fish facilities along the export supply chain with the US requirements.

  b. Listing of Complying Processing for Export of Fish and Fishery Products to United States of America (US)

  i) Listing of Complying Processing Establishments

  In 2011, 32 complying processing establishments had been listed for export of fish and fishery products to the US. Surveillance audits had been carried out on these processing establishments to verify the maintenance on their compliance with the US requirements.

  ii) Implementation of Monitoring Programmes

  In 2011, 625 samples were taken based on the Fishery Products Monitoring Programmes and corrective actions were taken for the contraventions detected.

- **Export Control of Fish and Fishery Products to The Russian Federation**

  In pursuance to the meeting between Food Safety and Quality Division (FSQD), Ministry of Health Malaysia and the Federal Service of Veterinary and Phytosanitary Surveillance (Rosselkhoznadzor) on 18 May 2010, FSQD had prepared the draft Memorandum of Understanding between Government of Malaysia and Government of Russian Federation on Exportation and Safety of Fish and Seafood Products for Human Consumption from Malaysia to Russian Federation and the draft was at the final stage.

  Besides, monitoring programmes had been implemented for the processing establishments that had intention to export fish and fishery products to Russia. In this regard, 683 samples under Fishery End Products Monitoring Programme and 130 samples under Capture Fishery Monitoring Programme were taken in 2011. Corrective actions were taken for the contraventions detected.

- **Export Control of Food Products of Animal Origin to Vietnam**

  Effective from September 1, 2010, all processing establishments intended to export food products of animal origin shall be registered with National Agro-Forestry-Fisheries Quality Assurance Department (NAFIQAD), Vietnam before the exportation of such food products. Seven (7) processing establishments were approved and listed by NAFIQAD for export of fish and fishery products to Vietnam.

- **Export of Edible Bird's Nest to China**

  The issue of Malaysian edible bird's nest exported to China not meeting the requirement of zero tolerance for nitrite in edible bird's nest as set by China had greatly affected the Malaysian edible bird's nest industry. This requirement cannot be met by most of the Malaysian exporters because of the inevitable presence of nitrite in edible bird's nest. The Honourable Minister of Health Malaysia led a Malaysian Delegation to a working visit to China on 5-8 November 2011 to discuss on the issue of exports of edible bird's nest to China with the Minister of Health China. It

was agreed that a comprehensive study be conducted to obtain scientific data on the inevitable presence of nitrite in edible bird's nest and to establish the Malaysia-China Expert Group for the development of mutually agreed standard for nitrite in edible bird's nest.

FSQD had subsequently conducted a comprehensive study from October to December 2011 to obtain scientific data on the presence of nitrite in edible bird's nest. The study was conducted on raw clean and raw unclean edible bird's nest, guano, saliva as well as the environmental factors.

The Joint Malaysia-China Expert Group Meeting on Edible Bird's Nest was held in Kuala Lumpur from 28 to 30 December 2011 to discuss on the mutually agreed standard for nitrite in edible bird's nest based on the outcome of the comprehensive study. It was attended by nine (9) experts from China and eleven (11) experts from Malaysia. The meeting had mutually agreed on the nitrite level of 30 ppm in raw clean edible bird's nest and China had yet to formalize the nitrite level with all relevant stakeholders in China.

- **Export Control of Food Products to Singapore**

  i) Fourteen (14) processing establishments had been registered and certified by FSQD for the export of minimally processed sugarcane (7 processing establishments) and ready-to-eat / minimally processed fruits and vegetables (7 processing establishments) to Singapore.

  ii) The proposed Guidelines for Minimally Processed Coconut which had been finalized would be endorsed for implementation in the next Malaysia – Singapore Bilateral Meeting in 2012.

- **Export Control of Frozen Durian to China**
  The General Administration of Quality Supervision Inspection and Quarantine (AQSIQ) of China had audited six (6) frozen durian processing establishments on 12 – 17 December 2011 to assess the compliance of the establishments with Good Manufacturing Practices (GMP) and the import requirements for frozen durian of China. Based on the audit findings, one (1) establishment was approved for export of frozen durian to China.

- **Issuance of Export Certificates**
  Based on the requirements of the importing countries, in 2011, a total of 32,915 Health Certificates and 3,958 Free Sales Certificates were issued by the District Health Offices and State Health Departments for the export of food products other than fish and fishery products to the EU. In addition, 28 Non Genetically Modified Food (Non-GMF) Certificates were also issued by FSQD in 2011.

Summary

There is a need for food exports to comply with the requirements of the importing countries in order to penetrate new markets or maintain market access. In this regard, as the Competent Authority for food safety, FSQD institutes official controls in the food export supply chain to ensure food exports are safe and comply with the food safety requirements of the importing countries. For export of fish and fishery products, such controls include the approval of fish facilities such as 22 processing establishments, 52 transport vehicles, 4 sources of ice and 1 cold store in 2011 for export to the EU; listing of 32 complying processing establishments for export to the US; conduct of surveillance audits to verify the maintenance on the facilities' compliance with the importing country requirements; implementation of Programmes for monitoring of fish and fishery products, water and ice; and issuance of Health Certificates. For export of minimally processed sugarcane as well as ready-to-eat / minimally processed fruits and vegetables to Singapore, 14 processing establishments were registered and certified by FQSD. In addition, Free Sales Certificates and Non Genetically Modified Food (Non-GMF) Certificates were also issued for certain food products based on the requirements of the importing country.

Malaysia had successfully hosted the Joint Malaysia-China Expert Group Meeting on Edible Bird's Nest on 28-30 December 2011 and the meeting had mutually agreed on the nitrite level of 30 ppm in raw clean edible bird's nest. However, China had yet to formalize the nitrite level with all relevant stakeholders in China.

SURVEILLANCE AND LABORATORY BRANCH

The Surveillance and Laboratory Branch had conducted various activities in the year 2011 in ensuring food safety and quality. These include 20 surveillance activities which consist of 19 ad hoc surveillance and one (1) planned surveillance; a comprehensive study of edible bird's nest for purposes of formulation of standards under the Food Regulations 1985; and 24 specific activities related to risk assessment. A total of 104,952 samples are analysed where 49,992 (47%) are for microbiological analysis and 54,960 samples (53%) for chemical analysis. All food laboratories (totalling 10 Food Safety and Quality Laboratories and five (5) Public Health Laboratories) have participated in Proficiency Testing (PT) organized by various agencies to monitor the reliability of the test results and the competency of laboratory and analyst. Besides that, the Food Analyst Bill was gazetted as the Food Analyst Act 2011 (Act 727) on 2 June 2011. The development of the Food Analysts Registration System (FARIS) was initiated in August 2011 to facilitate the systematic registration of food analysts and is expected to be completed in the middle of 2012.

The Surveillance Newsletter, introduced in 2011 as one of the information dissemination channels for issues on food safety, provided technical inputs as a guide and reference for FSQD staff. The following were issued in 2011 in collaboration with the Risk Assessment Section:

a) Radioactivity in Food: Iodine-131 and Cesium-137
b) Eschericia coli O111
c) Phthalates

Summary

A total of 24 specific activities related to risk assessment were carried out in 2011. Various presentations at the national and international level have also been conducted in the effort to promote risk assessment activities in Malaysia. Additionally, FSQD have produced two (2) risk assessment articles to be published in the Director General of Health Technical Report entitled Acrylamide in Malaysian Foods and Polycyclic Aromatic Hydrocarbon (PAH) in Ready to Eat Food.

STANDARD AND CODEX BRANCH

In 2011, the Codex & International and Standards Development Section was renamed the Standard and Codex Branch. This Branch performs activities such as reviewing and updating of the Food Regulations 1985 as well as formulation of new legislations in line with the development of Codex standards and those of other countries.

i. Gazettement of food legislations under the Food Act 1983

In 2011, a total of four (4) gazettements were issued which comprises one (1) approved laboratory order, one (1) appointment of analyst, one (1) new regulation and one (1) new act. The gazettements are as follows (Table 5):

TABLE 5
GAZETTEMENT OF FOOD LEGISLATIONS, 2011

No.	Gazettement	Date of Gazettement	Date of Enforcement
1.	Approved Laboratory Order 2011 (P.U.(A) 102/2011)	31 March 2011	1 April 2011
2.	Appointment of Analyst (No. 8251/2011)	4 April 2011	5 April 2011
3.	Food Irradiation Regulations 2011 (P.U. (A) 143/2011)	21 April 2011	The date of enforcement of the Food Irradiation Regulations 2011 will come into operation on such date as the Minister of Health may appoint by notification in the Gazette.
4.	Food Analysts Act 2011 (Act 727)	2 June 2011	The date of enforcement of the Food Analysts Act 2011 will come into operation on such date as the Minister of Health may appoint by notification in the Gazette.

Source: Food Safety and Quality Programme, MoH

ii. 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 is currently available. In 2011, a total of 2,582 applications for classification of products were received, 584 labels were screened and 37 labels were reviewed where RM1,000.00 per label was charged.

iii. Codex Activities at the National Level

FSQD which acts as the Malaysian Codex Contact Point (CCP) and the Secretariat to the National Codex Committee (NCC) continues to play a 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. In 2011, Malaysia participated in 10 Codex meetings at the international level which involved 25 delegates. The Malaysian Delegation consisting of representatives from the Ministry of Health and various other agencies were selected based on expertise in relevant disciplines so as to ensure Malaysia's position on issues of interest is safeguarded. At the national level, one (1) NCC meeting and 40 NCSC meetings were held in preparation for and as follow-up to international Codex meetings.

iv. Malaysia as Host Government for the Codex Committee on Fats and Oils

As the host government of the Codex Committee on Fats and Oils (CCFO), Malaysia successfully hosted the 22nd Session of the CCFO from 21 to 25 February 2011 in Penang. The Session was attended by 100 participants from 31 member states, one (1) member organisation (European Community) and nine (9) international organisations. The session was chaired by Ms. Noraini Dato' Mohd. Othman, Senior Director for Food Safety and Quality, Ministry of Health Malaysia.

During this session, several issues of interest to Malaysia, i.e. "Draft Amendment to the Standard for Named Vegetable Oils: Palm Kernel Olein and Palm Kernel Stearin", "Draft Criteria to Assess the Acceptability of Substances for Inclusion in a List of Acceptable Previous Cargoes" and "Draft and Proposed Draft List of Acceptable Previous Cargoes in the Code of Practice for the Storage and Transport of Edible Fats and Oils in Bulk" which have been discussed in several sessions of CCFO was forwarded for adoption by the Codex Alimentarius Commission. The importance

of CCFO in developing standards for fats and oils is evident in that seven (7) proposed new standards will be considered at its 23rd Session in 2013.

As host government, Chair and Secretariat for the CCFO, Malaysia is able to directly contribute to the Codex system, as well as enhance the country's image and credibility in becoming a role model in Codex activities at the international level, particularly on issues of interest to developing countries. This involvement will also inculcate awareness amongst our local food industries on the importance of food safety and quality as an international requirement in expanding the market for fats and oils.

v. Food Safety Activities at ASEAN Level

a. Malaysia as the Overall Coordinator of the ASEAN Expert Group on Food Safety (AEGFS)

Malaysia plays an active role in AEGFS as the Overall Coordinator since 2001. Malaysia is also the Coordinator for the Programme on Inspection and Certification and Programme on Monitoring and Surveillance under the ASEAN Food Safety Improvement Plan (AFSIP). As the overall coordinator, Malaysia plays the lead role in formulating the agenda and discussion papers for AEGFS meetings as well as developing and monitoring the AFSIP.

Malaysia participated at the 8th Meeting of the AEGFS in Bangkok, Thailand from 16 to 18 March 2011. During the meeting, Malaysia presented the draft AFSIP II (2010-2015) which is an extension of the AFSIP plan (2004-2009) and developed in accordance with the ASEAN Socio-Cultural Community (ASCC) Blueprint. As coordinator for the Programmes on Inspection and Certification and Monitoring and Surveillance, Malaysia presented the current status of capacity building activities carried out under both programmes, especially on activities led by Malaysia such as the project on "Enhancing Food Safety by Strengthening Food Inspection Systems in ASEAN Countries" funded by Food and Agriculture Organisation (FAO) and "Development of Curriculum Model for Regional Harmonisation of Food Inspection and Certification for Export" funded by Australia.

Malaysia organized a workshop on "ASEAN Workshop on Food Consumption Data and Exposure Assessment for the Project on Strengthening ASEAN Risk Assessment Capacities: Food Consumption Data" in collaboration with the International Life Sciences Institute Southeast Asia Region (ILSI SEAR) and the FAO from 10 to 13 October 2011 in Kuala Lumpur. This workshop is a project under the Programme on Monitoring and Surveillance. It was attended by 39 participants from Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Philippines, Singapore, Thailand and Vietnam, a consultant from the World Health Organisation (WHO), FAO and ILSI SEAR. The workshop proposed several initiatives and mechanisms for compilation of food consumption data such as establishing a task force or an electronic working group and to update existing food consumption data in the format according to the ASEAN food classification.

b. Malaysia as the National Focal Point of the ASEAN Task Force on Codex (ATFC)

Malaysia plays an active role in ATFC as the Focal Point for the Codex Committee on General Principles (CCGP) and the Codex Committee on Fats and Oils (CCFO) where Malaysia reported the current status of issues discussed in these meetings at the 11th ATFC. In addition, Malaysia also proposed a total of eight (8) new issues to be discussed for joint ASEAN position.

c. Malaysia as the National Focal Point for the ASEAN Consultative Committee on Standards and Quality Prepared Foodstuff Product Working Group (ACCSQ PF-PWG)

Malaysia participated at the 13th Meeting of the ACCSQ PFPWG and its related meetings which were held in Siem Reap, Cambodia from 12 to 15 July 2011. Malaysia as the lead country for the ASEAN Common Principles and Requirements for the Labelling of Pre-Packaged Food (ACPRLPF), presented the status of implementation of the ACPRLPF, the outcome of the survey on priority elements for labelling and the proposal for amendment to the ACPRLPF regarding net weight and drained weight. As the ASEAN Food Reference Laboratory on Genetically Modified Organisms (AFRL GMO), Malaysia updated the meeting on the latest programmes conducted both nationally and regionally.

Summary

In the year under review, four (4) gazettements of food legislations under the Food Act 1983 were issued, 2582 applications for classification of products were received and processed, 584 labels were screened and 37 labels were reviewed. Malaysia participated in 10 Codex meetings at the international and several food safety activities at the regional level. As host government of the Codex Committee on Fats and Oils (CCFO), Malaysia successfully hosted the 22nd Session of the CCFO in 2011.

COMMUNICATION AND CONSUMERISM BRANCH

The Communication and Consumerism Branch 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 2011 are as follows:

i. ”Majlis Anugerah Kantin Sekolah Bersih 2010 Peringkat Kebangsaan”

This event was organized in cooperation with the Ministry of Education and officiated by the Honourable Minister of Health on 30 March 2011 at the Putrajaya International Convention Centre. The competition which is a continuity of “Pertandingan Anugerah Kantin Sekolah Bersih 2010 Peringkat Kebangsaan”, was organized to recognize schools that have taken initiatives in maintaining the cleanliness of their canteens and dining halls. About 1,500 people attended the event consisting mostly teachers and students. The jingle “Lihat, Hidu, Rasa” was also launched during this event.

ii. Food Safety Promotion in School Seminar

The Food Safety Promotion in School Seminar was held on 30 March 2011 in conjunction with the “Majlis Anugerah Kantin Sekolah Bersih 2010 Peringkat Kebangsaan”. The topics presented were:

a) Clean Canteen, Safe Food;
b) School Environment Supports Healthy Eating;
c) Parents and Teachers Association Role in Food Safety at School Canteen;
d) Strengthen School Community in Reducing Food Poisoning in School;
e) Encourage Healthy Eating Practice Among School Children; and
f) How To Achieve Ideal Weight.

iii. Promotion of Food Safety in School Exhibition

The Promotion of Food Safety in School Exhibition was held on 30 March 2011 during the ”Majlis Anugerah Kantin Sekolah Bersih 2010 Peringkat Kebangsaan”. Other Divisions from the Ministry of Health such as the Nutrition Division, the Oral Health Division, the Disease Control Division and the Health Education Division participated in the exhibition.

iv. Current Risk Communication of Food Contamination

a. Feeding bottle with Bisphenol A (BPA)

- Media conference by the Honourable Minister of Health was held on 14 March 2011
- BPA hotline was in operation from 9 March 2011 until 29 March 2011. There were 312 calls received from the public and industry.
- Brochures and buntings about BPA in Bahasa Melayu, Bahasa Inggeris, Bahasa Mandarin, Bahasa Tamil were prepared and distributed to other agencies and clinics under the Ministry of Health.

b. Imported food from Japan contaminated with radioactive residues

- Media conference by the Honourable Minister of Health was organized on 14 March 2011.
- Four (4) press statements on food contaminated with radioactive residues from Japan following the nuclear plant explosion due to the earthquake and tsunami on 11 March 2011, was released from 14 March until 13 April 2011.

c. Food contaminated with di-ethylhexyl phthalate DEHP

15 press statements and three (3) reports were released between 31 May 2011 until 8 July 2011.

d. Pork products containing nitrate

Media conference by the Honourable Minister of Health was held on 14 June 2011 in Port Klang, Selangor.

e. Operations room for products from Kedai Rakyat 1Malaysia (KR1M)

Three (3) press statements on issues regarding KR1M were released from 23 November 2011 until 2 December 2011.

Summary

In 2011, FSQD organised the "Majlis Anugerah Kantin Sekolah Bersih 2010 Peringkat Kebangsaan" and in conjunction with this event, it held the Food Safety Promotion in School Seminar and Exhibition. Several risk communication on food contamination issues were released through media conferences, press statements and distribution of brochures.

WAY FORWARD

One of the key characteristics that Malaysia is identified with is food; they have a multitudinuous variety of food selection and Malaysians definitely love their food. The establishment of FSQD as one of the new programmes in MoH is a uge step forward to solidify, and strengthened the food safety control in Malaysia, and thus further encourages the food industry in Malaysia.

10 Policy and International Relations

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 and responsible for promoting the local healthcare industry. This Division is also the designated national focal point for the World Health Organization (WHO).

Activities are carried out by 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 2011, this Division prepared and coordinated 23 Cabinet Notes and 34 Memorandum for tabling at the Cabinet Meeting. The Division also monitored, provided inputs and facilitated the preparation of 59 comments on Memorandum received from other ministries as well as 58 feedbacks to decisions made by the Cabinet throughout 2011.

High Level Meetings within MoH

The Division also serves as the secretariat for 3 high level meetings in the Ministry. In 2011, 35 Post-Cabinet Meetings, 19 Morning Prayers and 2 Secretary-General's Meeting with State Health Directors were held.

Introductory Health Economics Course

This Division organised an Introductory Health Economics course for MoH administrative officers from 11 to 15 July 2011 in Port Dickson, Negeri Sembilan. A total of 26 MoH administrative officers completed the course successfully. The course is 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. In addition, participants also visited Columbia Asia Hospital in Seremban to share information and experience with their counterparts in the private sector.

International Relations

(a) Secretariat for Bilateral Meetings

(i) The 2nd Bilateral Meeting on Health between Malaysia and the Republic of Indonesia

The 2nd Bilateral Meeting on Health between Malaysia and the Republic of Indonesia was held on 24-25 February 2011 in Jakarta, the Republic of Indonesia. The two days meeting consists of the Senior Officials Meeting on the first day and the Ministers of Health Meeting was conducted on the second day. Officials from both countries had deliberated various issues and challenges related to health and medicine.

(ii) Signing of the Memorandum of Understanding (MoU) on Cooperation in Traditional Medicine

Malaysia and the People's Republic of China (PRC) signed a MoU in the field of Traditional Chinese Medicine on 7 November 2011 in Beijing, PRC. This MoU was signed in conjunction with the working visit by Honourable Minister of Health Malaysia to Beijing from 6 - 8 November 2011.

(b) Working Visits

This Division facilitated working visits by Honourable Minister of Health Malaysia to several foreign countries to further enhance bilateral cooperation in health. Among the working visits in the year 2011 were:

(i) Bangladesh and the Republic of India

Honourable Minister of Health Malaysia and delegation visited Dhaka, Bangladesh and New Delhi, India from 2 – 6 March 2011. The purpose of the visit was to officiate the Malaysia Healthcare – Seminar & Exhibition 2011 in Dhaka, Bangladesh and to forge greater cooperation in the areas of pharmaceutical, health tourism, human resources development and traditional medicine between Malaysia and Bangladesh. Honourable Minister of Health also visited New Delhi and paid a courtesy call upon Honourable Minister of Health and Family Welfare of India to discuss ongoing health collaboration between Malaysia and the Republic of India.

(ii) Austria

The Honourable Minister of Health Malaysia and delegation visited Vienna, Austria from 24-26 April 2011. The purpose of the visit was to promote collaboration between the pharmaceutical regulatory authority of Malaysia and Austria. During the visit the issue of market access to the Austrian market for Malaysian generic pharmaceutical companies were discussed.

(iii) United Kingdom, Switzerland and Germany

The Division also coordinated the visit of the Honourable Minister of Health to United Kingdom, Switzerland and Germany from 12 - 24 Mei 2011. The purpose of the visit was to enhance cooperation and trade in pharmaceuticals and medical devices sector. At the same time, this Ministry also promoted health tourism to all three countries.

(c) International Trade and Health

(i) 1st Partnership Cooperation Agreement - PCA between Malaysia and European Union

2nd Partnership Cooperation Agreement - PCA between Malaysia and European Union
The Division represented the Ministry of Health in the first consultation on the Partnership Cooperation Agreement (PCA) held in Kuala Lumpur from 21 – 22 February 2011. The second PCA negotiation was held from 30 June - 1 July 2011 in the Putrajaya International Convention Centre (PICC), Putrajaya. During the negotiation, possible health cooperation that brings mutual benefit for Malaysia and the European Union were identified.

(ii) 9th Malaysia-Australia Trade Negotiating Committee (TNC) Meeting for Expert Group on Services – Malaysia-Australia Free Trade Agreement (MAFTA)
10th Malaysia-Australia Trade Negotiating Committee (TNC) Meeting for Expert Group on Services – Malaysia-Australia Free Trade Agreement (MAFTA)

This Division represented the Ministry of Health in the Expert Group Meeting on Services at the 9th Trade Negotiating Committee (TNC) Meeting on Malaysia-Australia Free Trade Agreement (MAFTA) from 4 – 8 July 2011 in Kuala Lumpur. Areas of negotiations involving this Ministry were:

(a) Movement of Natural Persons;
(b) Market Access; and
(c) Service Chapter Text.

The 10th Trade Negotiating Committee (TNC) Meeting on Malaysia-Australia Free Trade Agreement (MAFTA) was held from 21 – 24 November 2011 in Canberra, Australia. The 10th round marks the final round of negotiation and the MAFTA will be adopted by both Governments in year 2012.

(iii) 2nd Malaysia-European Union Free Trade Agreement (MEUFTA) from 1-4 March 2011
3rd Malaysia-European Union Free Trade Agreement (MEUFTA) from 10-14 May 2011
4th Malaysia-European Union Free Trade Agreement (MEUFTA) from 12 – 15 July 2011
5th Malaysia-European Union Free Trade Agreement (MEUFTA) from 18 – 21 October 2011

In the year 2011, this Division represented the Ministry in the Malaysia-European Union Free Trade Agreement (MEUFTA) in four rounds of trade negotiating committee meeting which were held in Kuala Lumpur and Brussels alternately. This Ministry was involved in areas related to:

(a) Market Access to Goods;
(b) Sanitary and Phytosanitary Measures;
(c) Intellectual Property Rights (IPR); and
(d) Technical Barriers to Trade (TBT).

(iv) The First Malaysia-European Free Trade Association (EFTA) Joint Committee Meeting

This Division had also represented the Ministry in the 1st Malaysia-EFTA Joint Committee Meeting on 28 June 2011 in Kuala Lumpur. Among areas of interest related to this Ministry are co operations in:

(a) Medical Devices; and
(b) Pharmaceuticals.

(d) World Health Organization (WHO)

Throughout 2011, the Division coordinated placements of 21 foreign WHO consultants and 12 WHO fellows in various institutions in Malaysia. In addition, the Division also coordinated and processed applications from 173 participants and 11 short-term advisors and 3 observer comprising Malaysian professionals to attend 141 meetings/ workshops/ study visits overseas under WHO sponsorship.

Promotion and Development of the Healthcare Industry

The Division works closely with other government agencies and the private sector to promote and develop the local healthcare industry. These government agencies includes the Ministry of International Trade and Industry (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.

Besides that, the Division also has close collaboration 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 2011, the Division supported the healthcare industry by organising 2 courses as well as participated in 1 domestic and 2 international events. The Division also engaged healthcare industry stakeholders in various formal and informal dialogues. Data and information related to the healthcare industry were collated and the Division also responded to more than 50 enquiries related to the industry from various stakeholders.

(a) Healthcare Services

(i) APHM International Healthcare Exhibition 2011 on 6-8 July 2011 at Kuala Lumpur Convention Centre

The Honourable Minister of Health Malaysia officiated the Opening of the 19th APHM International Healthcare Conference and Exhibition which was held from 6-8 July 2011. 44 healthcare-related companies participated in the exhibition taking up 106 exhibition booths. The Division coordinated MoH participation in the exhibition, taking up 8 booths with participation from cooperation of the National Pharmaceutical Control Bureau, Medical Device Bureau, Clinical Research Centre, Health Education Division, Malaysia Healthcare Travel Council, Traditional and Complementary Medicine Division, Malaysia Health Promotion Board and Delivery Management Office. The MoH Divisions/ Agencies successfully showcased and disseminated information on their services to the visitors. A total of 2,000 visitors inclusive of 620 Conference delegates visited the 3 day exhibition.

(ii) Organising Incoming Buying Mission in conjunction with APHM International Healthcare Exhibition 2011 on 4-7 July 2011 at Kuala Lumpur Convention Centre

In line with ongoing efforts to promote the healthcare sector, this Division in collaboration with Malaysia External Trade Development Corporation (MATRADE) organised an Incoming Buying Mission (IBM) on 4 to 7 July 2011. 16 participants from Brazil, Canada, India, Philippines, Saudi Arabia, Ukraine, United Kingdom and Vietnam participated in this IBM. A total of 91 business meetings between the 16 buyers and 21 local companies were held on 6 July 2011. Trade deals worth an estimated RM131.5 million for medical disposables, pharmaceuticals, antiseptics and disinfectants were concluded. Meanwhile, ongoing negotiations for potential deals were estimated at RM437.2 million.

(b) Medical Devices

(i) MEDICA 2011, 16-19 November 2011, Dusseldorf, Germany

The Division lead the Ministry's participation in MEDICA 2011 together with MATRADE, MIDA and PEMANDU. MEDICA is the largest medical device trade fair in the world since 1968. In 2011, 4,571 exhibitors from 62 countries participated in MEDICA 2011 where 17 exhibition halls were used. During the 4-day exhibition, 134,500 visitors were recorded with participations from 100 countries.

There were 33 Malaysian companies that participated in this event. 16 of them were rubber glove manufacturers (Top Glove, Adventa Health, Hartalega, Karex Industries, Smart Glove Corporation, Kossan, Latexx Manufacturing & Supermax Glove Manufacturing). Other products on show were catheters, orthopaedic implants, tubing and hospital furniture.

The Malaysian delegation to MEDICA 2011 was headed by the Secretary General of Ministry of Health. The Malaysian Pavilion hosted 11 organisations and 260 enquiries related to product quotation, listing of other local medical device manufacturers, product information and others were recorded

(c) Pharmaceutical

(i) Workshop On Good Regulatory Practice (GRP)

A workshop On Good Regulatory Practice (GRP) was successfully held on 27 July 2011 at Institut KWSP, Kajang Selangor. A total of 32 MOH administrative officers from various divisions participated in this workshop. The program was held in collaboration between the Ministry of Health Malaysia (MOH) and the Department of Standards Malaysia (DSM). The course is aimed to create awareness on the importance of implementing Good Regulatory Practise (GRP), which can help Malaysia to develop technical regulations that are consistent with World Trade Organisation Agreement (WTO) and Technical Barriers to Trade (TBT). This effort has also reflected MOH's commitment towards the healthcare sector in providing high quality health services.

(ii) Cphl Worldwide 2011, Messe Frankfurt, Germany (25-27 October 2011)

Cphl Worldwide is the largest pharmaceutical networking event with participation of 28,500 attendees from 140 countries in Messe Frankfurt, Germany from 24 - 27 October 2011. The event brings together manufacturers and products with potential customers as well as the opportunity to keep abreast of the latest industry developments during the Pre-Show Conference and exhibitor presentations at Speakers Corner. MOH and the National Pharmaceutical Control Bureau took part in this exhibition in collaboration with MIDA and MATRADE. There were also 5 companies from Malaysia that took part in this exhibition individually:

(a) CCM Pharmaceuticals Sdn Bhd;
(b) Hovid Berhad;
(c) Pharmaniaga Marketing Sdn Bhd;
(d) Royce Pharma Manufacturing Sdn Bhd; and
(e) Symbiotica Specialty Ingredients Sdn. Bhd.

Kotra Pharma Sdn Bhd and YSP Southeast Sdn Bhd also attended the event as a delegate. Malaysia's biggest pharmaceutical company Pharmaniaga Berhad signed a Memorandum Of Collaboration (MoC) with Modern Industrial Investment Holding Group Co. Ltd. and E-Healthline for a pharmaceutical joint venture (JV) project in the Middle East during the event. The MoC would see the three parties explore the possibility of creating a JV to design, construct, operate and manage a pharmaceutical complex located in Saudi Arabia. Modern Industrial, a Riyadh-based holding company, is affiliated with Modern Chemicals Company Ltd., which is experienced in the development, financing, construction and operations of various manufacturing facilities in Saudi Arabia. E-Healthline is a US-based company which provides integrated healthcare information management systems. It also provides other healthcare-related information technology solutions, with worldwide operations.

MoH's booth during the event received encouraging support with attendance of more than 300 visitors, 50 enquiries and 10 business meetings held.

Healthcare National Key Economic Areas

The Division continues to work closely with PEMANDU following the establishment of the Delivery Management Office (DMO) for Healthcare NKEA within the Division in September 2010. DMO provided weekly Entry Point Projects (EPP) progress report to PEMANDU with the assistance from respective EPPs owners. This has allowed close tracking of project development including identifying problems at its early stage.

The DMO also facilitates the delivery of the EPPs and Business Opportunities (BO) by providing

necessary assistance to EPP owners, for example providing relevant data as requested by the owners. A Radiology Services Survey in 39 public hospitals was successfully conducted to assist in the implementation of EPP Diagnostic Services Nexus.

(a) Healthcare NKEA Steering Committee Meeting

A total of 10 Healthcare NKEA Steering Committee Meetings were conducted in 2011. In these problem-solving meetings issues and challenges related to the implementation of EPPs were discussed and resolved. 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 meeting include EPPs owners as well as stakeholders from related government agencies and private sector.

(b) Medical Device Lab, July 2011

Medical Device was identified as a Business Opportunity in the Healthcare National Key Economic Areas (NKEA) Lab held in 2010. Recognizing its potential in contributing to Gross National Income (GNI) and job creation, a 4 weeks lab on Medical Device was conducted in July 2011. It was held in Penang and led by the Ministry of Health and facilitated by PEMANDU. There were participation from 60 private and public sector representatives. Officers from this Division were actively involved in this lab.

At the conclusion of the lab, 7 EPPs were identified adding to the existing 6 EPPs. The new EPPs are:

(i) **EPP7:** Tap into the fast-growing In-Vitro Diagnostics (IVD) market through academic-industry partnerships;
(ii) **EPP 8:** Create next generation of single-use devices (SUD);
(iii) **EPP 9:** Build hub for high-value medical device contract manufacturing;
(iv) **EPP 10:** Create Malaysian clinical devices champions;
(v) **EPP 11:** Orchestrate contract manufacturing supply chain;
(vi) **EPP 12:** Medical equipment refurbishment hub; and
(vii) **EPP 13:** Build medical hardware and furniture cluster.

A Medical Device EPP Sign Offs ceremony was held on 29th September 2011 where Minister of Health announced the above projects.

(c) Disseminating Information on Healthcare National Key Economic Area

The DMO conducted Healthcare NKEA Briefing Sessions in Selangor, Pulau Pinang, Kelantan, Terengganu, Johor and Perak. The objective of the briefing session was to provide information and explanation on Healthcare NKEA to the State Health Departments Senior Officials and Hospital Directors.

(d) Achievements for 2011 (Table 1)

TABLE 1
POLICY AND INTERNATIONAL RELATIONS DIVISION ACHIEVEMENTS, 2011

KPI	Target 2011	Actual Achievement
NKEA : Overall		
1. GNI (USD mil)	4,734	3,082
2. Jobs created	26,686	18,059
3. Private Investment (USD mil)	990	1,025
NKEA : EPP		
1. Mandating private insurance for foreign workers (Healthcare EPP#1)		
1.1 Percentage of foreign workers with health indurance.	80% (1.205 mil)	117% (1.408)
2. Creating a supportive ecosystem to grow clinical research (Healthcare Epp#2)		
2.1 Number of research conducted.	260	321
3. Pursuing generivs export oppurtunities (Healthcare EPP#3)		
3.1 Export growth of pharmaceutical product.	15% (RM610mil)	12% (RM594 mil)
4. Reinvigorating health travel through better customer experience, proactive alliances and niche marketing (Healtcare EPP#4).		
4.1 Revenue generated from healthcare travel (RM mil).	431	511
5. Creating diagnostic services in MoH hospitals.		
5.1 Survey on radiology services in MoH hospitals.	All MoH hospitals with radiologists	39 hospitals
5.2 Pilot project on Diagnostic Services Nexus (DSN)	By 31 July 2011	95%
6. Developing a Health metropolis (Healthcare EPP#6)		
6.1 Construction of the Health Metroolis to begin in Q$4 2011	Q4 2011	95%

Source: Policy and International Relations Division, MoH

CONCLUSION

Throughout the year of 2011, 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.

11 | Health Legislation

INTRODUCTION

The responsibilities of the Legal Advisor's Office (this Office) include:

(a) to provide legal advice to all divisions, departments and agencies under the Ministry;
(b) to formulates and revise existing laws, regulations, proceeding and other legal documents involving the Ministry;
(c) to formulates and revises agreements and contracts and participates in negotiations on behalf of the Ministry; and
(d) to prosecute criminal offences under the Ministry.

ACTIVITIES AND ACHIEVEMENT

The volume and scope of legal work this Office manages is largely dependent on the demands of the Ministry. In this regard, this Office has played a significant role in the successful implementation of diverse new policies into law. Among this Office's achievement for the year 2011 would include the gazettement of Food Analysts Act 2011 [Act 727], an Act to provide for the establishment of the Malaysian Food Analysts Council. Additionally, the Act also provides for the registration of persons practising as food analysts and to regulate the practice of food analysts and for matters connected therewith. This Act gazetted on 2 Jun 2011 is however yet to be enforced.

In addition, there are also bills already passed by Parliament in the year 2011 but yet to be gazzetted, namely Medical Devices Bill and Medical Devices Authority Bill. Various amendments and gazettements were also made on subsidiary legislations related to health such as, Private Healthcare Facilities and Services (Compoundable Offences) Regulations 2011, Prevention and Control of Infectious Disease (Notice Form) (Amendment) Regulations 2011, Optical (Amendment of Second Schedule) Order 2011, Registration of Pharmacist (Amendment of First Schedule) Order 2011 and other notifications.

WAY FORWARD

This Office has faced and overcome various challenges in the discharge of its functions and responsibilities towards providing assistance to the Ministry. However, this Office remains committed in providing sound legal service while maintaining the Ministry's interest as its primary aim.

12 Internal Audit

INTRODUCTION

The Internal Audit Division (IAD) of Ministry of Health (MoH) was established in May 1980, in accordance with Treasury Circular 2 of 1979 and the subsequent Treasury Circular 9 of 2004. IAD reports directly to the MoH's Secretary General. The main function of the IAD is to assist MoH in achieving its objectives through systematic and continuous evaluation; to ensure effectiveness of internal control processes and good governance in accordance with government rules and regulations.

ACHIEVEMENTS

In 2011, IAD carried out four types of audits that are financial auditing, performance auditing, follow-up auditing and special auditing. Audit Planning Memorandum was approved by MoH's Secretary General in January 2011. IAD successfully carried out 186 audits as shown in Table 1.

TABLE 1
IAD ACHIEVEMENTS IN 2011

Programs/Activities	Achievements
Financial Auditing	142 RC
Performance Auditing	7 Topics
Special Auditing	27 Cases
Follow-up Auditing	10 RC

Note: RC – Responsibility Centre
Source: Internal Audit Division, MoH

Financial Auditing

Financial auditing emphasizes compliance with existing regulations and procedures which covers activities from management control to budget control, receipt control as well as management of assets and store. By performing financial auditing, it assists the leader of departments to achieve desired improvements on a wider scale.

In 2011, IAD had conducted 142 financial audits at various Responsibility Centres at the headquarters and state levels. The most common issues of the financial audit are:-

- Improper delegation of power
- Absence of surprise checks
- Poor receipts control
- Rental/lease of Ministry's properties are not satisfactorily managed
- Unsatisfactory budget control such as expenditure exceeds allocation and expenditure without allocation
- Delay in paying suppliers due to improper or lack of supporting documents
- Improper procurement and evaluation of tenders, quotations or direct awards
- Incomplete registry of assets and inventories
- Assets procured not used optimally
- Assets not tagged/labeled as Government's property
- Poor control over usage of Government's vehicles

Performance Auditing

Performance auditing evaluates operating performance of MoH's activities/programs from the aspect of economy, efficiency and effectiveness of the Ministry's expenditures or spending plans. Performance auditing involves planning, implementation and monitoring as well as assessing the impact that may provide useful feedback and corrective mechanism.

In 2011, IAD has conducted 7 performance audit which covered topics such as:-

- Auditing on Blood Bank Information System
- Auditing on the management of Clinical Waste in Hospital
- Auditing on the services of Flying Doctors in Sabah
- Auditing the management on payment of scholarship to the Anggota Sains Kesihatan Bersekutu trainees
- Auditing on the management of Medical Store in MoH Hospital
- Auditing on the payment of Facility Engineering Maintenance Services (FEMS) to concession company
- Auditing on the payment of Bio-Medicals Engineering Maintenance Services (BEMS) to concession company

Special /Investigation Auditing

Special/investigations auditing are conducted in respond to the concerns of the Minister, Secretary Generals and the Directors Generals, SPRM and Auditor's General reports over the non-compliance and internal controls weaknesses, suspicious circumstances or complaints, serious negligence of duty such as corruption/abuse of power. IAD had conducted 27 of special/investigations audits throughout 2011 in order to ensure accountability and good governance.

Follow-up Auditing

Follow-up auditing had been conducted on 10 Responsibility Centres to ascertain that follow up actions were taken on matters raised in previous audit report. This is to ensure corrective measures had been taken by the department, whereas the existence of an effective internal control mechanism can reduce or prevent such occurrence.

Lectures/Advisory

In order to enhance knowledge and skills among auditees, IAD also assists Responsibility Centres by giving lectures and advice on financial management based on audit findings. A total of 21 lectures were delivered by IAD officers in 2011.

IAD INNOVATION

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 financial management. The financial management performance evaluated for the year 2011 by 491 RC is shown in Table 2.

TABLE 2
RC ACHIEVEMENTS IN 2011

Status	First Half		Second Half	
	No of RC	%	No of RC	%
Excellent (90 – 100%)	388	81.8	380	80.68
Good (70 – 89%)	66	14.0	88	18.68
Satisfactory (50 – 69%)	0	0	1	0.21
Unsatisfactory (0 – 49%)	1	0.2	0	0
Unverified yet	9	1.9	2	0.42
Incomplete	10	2.1	0	0
Total	**474**	**100**	**471***	**100**

*Note: * The difference of number of RC for the first half and second half year are as follows:*
i) The decrease of number of RC
- *Pejabat Kesihatan Pergigian Labuan*
- *Kolej Kejururawatan Ipoh*
- *Kolej Kejururawatan Taiping*
- *Malaysian Healthcare Travel Council*

ii) Increase number of RC
- *Queen Elizabeth II Hospital*

Source: Internal Audit Division, MoH

WAY FORWARD

IAD is committed in helping MoH enhance its service delivery system to its client in an economic and effective manner. Hence, IAD had to carry out proactive risk analysis on the financial management as well as MoH's programs/activities, in line with the aspiration and the needs of the MoH stakeholders.

The way forward for IAD is as follows:
- To conduct financial audit at each RC once in 3 or 4 years time
- To perform ICT audit in order to evaluate the effectiveness of IT controls, user's utilization, system development practices as well as IT implementation practices.
- In addition, IAD intend to verify payment vouchers at Responsibility Centre as a control mechanism to ensure proper payment made for equipment supplied, work done and services rendered in accordance with the original scope as well as ensuring all vouchers are properly supported.

CONCLUSION

IAD 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. MoH should strive to undertake corrective actions to resolve the issues and rectify weaknesses as reported by IAD to avoid future recurrence.

13 Important Events

IMPORTANT EVENTS

11 January 2011
The Control of Fish and Fish Products Export Task Force Meeting No. 1/2011 was officiated by the Honourable Deputy Minister of Health and Deputy Minister of Agriculture and Agro-based Industry in Operations Room, Level 4, Block E7, Parcel E, Putrajaya.

20 January 2011
YAB Datuk Seri Panglima Musa Hj. Aman, Chief Minister of Sabah, officiated the *Opening of Klinik 1 Malaysia Taman Ketiau* at Taman Ketiau, Putatan, Sabah.

23 January 2011
YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia, officiated the launching of *Perkhidmatan Ubat Melalui Pos 1 Malaysia* (UMP1M) in Hospital Putrajaya.

5 February 2011
YB Dato' Seri Abdullah Bin Md Zin, Representative of Besut for the Parliment, officiated the *Majlis Penyampaian Cenderahati Kepada Pesakit Unit Hemodialisis at the Hemodialysis Unit*, Hospital Besut, Terengganu.

12 February 2011
YB Tan Sri Bernard Dompok, Minister in the Prime Minister's Department, officiated the launching of *Klinik Bergerak & Ambulans Klinik Kesihatan Daerah Penampang* at Klinik Kesihatan Penampang, Sabah.

21-25 February 2011
Tan Sri Dato' Seri Hj. Mohd Ismail Merican, the Director General of Health, Malaysia, chaired the 22nd *Session of the Codex Committee on Fats and Oils Meeting* at the Shangri-La Hotel, Pulau Pinang.

10 March 2011
YBrs. Encik Dirih @ Sebastian Anjim, Chairperson for the Board of Visitors officiated the *Kempen Kesedaran Kesihatan* which was co-organised by the Sabah State Health Department, Board of Visitors, and Kuala Penyu District Office at the Kelapa Station, Tanjung Aru Menumbuk, Sabah.

12 March 2011
YB Datuk Edward Yong Oui Fah, Assistant to the Minister of Sabah's Local Government and Housing launched the *Jom Ganyang Aedes* campaign at the Taman Teluk Villa, Sabah.

16 March 2011
YB Dato' Dr. A. Rahman B. Mokhtar, Chairman of the Health of Unity and Consumer Affairs Terengganu State Committee, launched the *World Cancer Day* at the Hall of Marang Education Technology Division, Terengganu.

25 March 2011
YB Dato' Seri Panglima Hj. Lajim Bin Hj. Ukim, Deputy Minister of Sabah's Local Government and Housing, officiated the *Sambutan Maulidul Rasul & Festival Kesenian Islam Peringkat Hospital Kuala Penyu* at the Dewan Sah Bandar Makang, Kuala Penyu, Sabah.

28 March – 8 April
YBhg Puan Noraini bt. Dato' Othman, Senior Director of the Food Safety and Quality Division, represented MoH on an inspection tour to the *United States Food and Drug Administration Country Assessment for Malaysia – Animal Drug Residues in Aquaculture Products.*

30 March 2011
YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia, officiated the *Majlis Anugerah Kantin Sekolah Bersih 2010 Peringkat Kebangsaan* at the Putrajaya International Convention Centre (PICC).

10 April 2011
YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia, officiated the *Sambutan Hari Kesihatan Sedunia Peringkat Kebangsaan* at the Auditorium Kompleks Penyiaran Sultan Haji Ahmad Shah (RTM Pahang), Kuantan, Pahang.

12 April 2011
YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia, officiated the launching ceremony of the *Fourth National Health and Morbidity Survey* (NHMS IV), at the Bayu Beach Resort, Port Dickson.

21 April 2011
YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia, officiated the launching of *Kembara Riang Ria Pemakanan di Sekolah Rendah Peringkat Kebangsaan* at the Kompleks Sekolah Wawasan USJ 15, Subang Jaya, Selangor.

28 April 2011
Datuk Dr. Noor Hisham Abdullah, Deputy Director General of Health (Medical), chaired the forum for *Development of Blueprint for Malaysian National Health Data Warehouse* (MyHDW) at the Vistana Hotel. This event was held in line with the WHO Consultancy period for the Health Data Warehouse Initiative.

3 May 2011
YAB Dato' Seri Hj. Ahmad Bin Said, Chief Minister of Terengganu, officiated the *Hari Kesihatan Sedunia dan Penyakit Kronik (Jantung, Hipertensi Dan Diabetes)* at the Dataran Stesen Bas, Setiu, Terengganu.

9-12 May 2011
YB Datuk Rosnah Rashid Shirlin, Deputy Minister of Health, officiated the inauguration of the *Asia Pacific Malaria Elimination Network Ke-3* (APMEN III) at the Shangri-La Hotel Resort and Spa Tanjung Aru, Kota Kinabalu, Sabah.

18 May 2011
YB Senator Dato' Raja Nong Chik bin Dato' Raja Zainal Abidin, Minister of Federal Territories and Urban Wellbeing, officiated the opening of the *Perasmian Klinik Jom Sihat Sukarelawan Komuniti (NCDP1M)* at the Dataran Blok 5 & 6, Tmn Bukit Angkasa, Kuala Lumpur.

18 May 2011
YBhg Puan Noraini bt. Dato' Othman, Senior Director of the Food Safety and Quality Division, attended the *Letter Of Intent Exchange Ceremony in the Field of Food Safety and Quality between the Government of Malaysia and the University of Maryland, United States of America (USA)*, and witnessed by the Honourable Prime Minister of Menteri Malaysia at New York, USA.

30-31 May 2011
Dr. Tajuddin Akasah, Deputy Director of Pharmacy Regulatory, National Pharmaceutical Control Bureau officiated the *International Conference on Harmonisation-Global Cooperation Group (ICH-GCG) ASEAN Training Workshop for ICH Q5C Guidelines* at the One World Hotel, Petaling Jaya, Selangor.

2 June 2011
YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia officiated the opening ceremony of the *Malaysian Technical Cooperation Programme – Epidemiology Intelligence Management Programme (MTCP-EIMP)* at the Institute for Health Management, Bangsar.

5 June 2011
YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia officiated the opening ceremony of *Hari Tanpa Tembakau Peringkat Kebangsaan* at Persiaran Jalan Kota, Bandar Hilir, Melaka.

15 June 2011
YBhg Puan Noraini bt. Dato' Othman, Senior Director of the Food Safety and Quality Division, officiated the Seminar Skim Akreditasi Program Latihan Pengendali Makanan at the Parcel E Auditorium, Putrajaya

16 June 2011
YAB Tan Sri Dato' Hj. Muhyiddin bin Hj. Mohd. Yassin, the Deputy Prime Minister of Malaysia, officiated the *Majlis Perasmian Sambutan Hari Denggi ASEAN 2011 dan Pelancaran Semula COMBI Peringkat Kebangsaan* at the HGH Convention Centre, SJK (C) Sentul, K.Lumpur.

18 June 2011
YB Tan Sri Datuk Seri Panglima Joseph Pairin Kitingan, Deputy Chief Minister of Sabah, officiated the *Sabah's Periodontium Health dan Water Fluoridation Awareness Campaign* at the Palm Square, Centre Point, Kota Kinabalu, Sabah.

18 June 2011
YB Datuk Tawfiq Dsp Abu Bakar Titingan, Assistant to Sabah's Finance Minister, officiate the *Kembara Riang-Ria Pemakanan Peringkat Negeri Sabah* program at the Sek. Kebangsaan Muhibbah Raya, Tawau, Sabah.

18 June 2011
YB Donald Peter Mojuntin, Assistant to Sabah's Finance Minister, officiated the *Sambutan Hari Ulang Tahun Kelab Warga Emas Klinik Kesihatan Penampang* event at the Klinik Kesihatan Penampang.

20 June 2011
YBhg. Dr. Mohd Yusof Bin Hj. Ibrahim, Sabah's State Health Director, officiated the launching of *Flying Dental Service under the Flying Health Service of Sabah's State Health Department* at the Layang-Layang Aerospace, Kota Kinabalu, Sabah.

21 June 2011
YBhg Datuk Kamarul Zaman Md. Isa, Chief Secretary for the Ministry of Health, officiated the *Majlis Dialog Antara Ketua Setiausaha, Kementerian Kesihatan Malaysia Dengan Persatuan/Kesatuan Sekerja Kementerian* at the Dewan Serbaguna, Aras 8, Kompleks E7, Kementerian Kesihatan Malaysia.

24 June 2011
YB Datuk Rosnah Rashid Shirlin, Deputy Minister of Health, officiated the *Forum Perdana Ehwal Islam (Pendermaan Organ Dan Amalan Cara Hidup Sihat)* at the Parcel E Auditorium, Putrajaya

25 June 2011
YBhg. Dato' Dr. Hasan Abdul Rahman, the Director General of Health, Malaysia, officiated the *Seminar Nusantara* at the Vistana Hotel, Kuala Lumpur.

1 July 2011
YBhg. Dato' Lai Kong Fah, Treasurer of the Advisory Panel for Klinik Kesihatan Pantai, officiated the *Program Kesihatan dan Pemulihan Dalam Komuniti (OKU)* at the Lembah Pantai Health Office, Kuala Lumpur.

1 July 2011
YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia, officiated the *Majlis Anugerah Media 2011* at the Istana Hotel, Kuala Lumpur.

7 July 2011
YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia, officiated the closing ceremony for *Konvensyen Kelab Doktor Muda Peringkat Kebangsaan Kali Ke-4* at the TaHa D'Mutiara, Kompleks Tabung Haji Bayan Lepas, Pulau Pinang.

11-15 July 2011
YBhg Dato' Sri Dr. Hasan Bin Abdul Rahman, the Director General of Health, Malaysia, officiated the opening ceremony of the *Good Governance For Medicines Phase III Regional Meeting* at the Berjaya Times Square Hotel, Kuala Lumpur.

16 July 2011
YAB Dato' Seri Hj. Ahmad Bin Said, Chief Minister of Terengganu, officiated the *ASEAN Dengue Day* at the Civic Hall, Pasir Panjang, Kuala Terengganu, Terengganu.

16 July 2011
YB Datuk Rosnah Rashid Shirlin, Deputy Minister of Health, officiated the *2nd Penampang 10,000 Steps "Walk For Your Health"* at the Penampang Sports Complex, Sabah.

17 July 2011
YBhg. Dato' Dr. Maimunah A. Hamid, Deputy Director General of Health (Research and Technical Support), officiated the *1ST International Conference On Homeopathy 2011* (ICHOM) at the Putra World Trade Centre (PWTC), Kuala Lumpur.

22 July 2011
YBhg. Tuan Haji Othman bin Mustapha, Director General of JAKIM, officiated the *Seminar Pendidikan Fatwa -"Merokok Adalah Haram"* at the Ibnu Sina Auditorium, Masjid Putra, Putrajaya.

25 July 2011
YB Datuk Rosnah Rashid Shirlin, Deputy Minister of Health, officiated the launching of *Minggu Penyusuan Susu Ibu Sedunia Peringkat Kebangsaan 2011* at the Istana Hotel, Kuala Lumpur.

30 July 2011
YB Senator Dato' Raja Nong Chik bin Dato' Raja Zainal Abidin, Minister of Federal Territories and Urban Wellbeing, officiated the *Majlis Penghargaan Kesihatan dan Kecergasan Dalam Komuniti Taman Bukit Angkasa (NCDP1M)* at the Dataran Blok 5 & 6, Tmn Bukit Angkasa, Kuala Lumpur

1 August 2011
YBhg. Dr. Mohd Yusof Bin Hj. Ibrahim, Sabah's State Health Director, officiated the *Perasmian Jalur Gemilang Sempena Hari Kemerdekaan Tahun 2012* ceremony outside the Oral Health Division Hall, Bangunan Persatuan India, Kota Kinabalu, Sabah.

4 August 2011
YBhg. Tan Sri Lee Lam Thye launched the *Sudut Minda Sihat* at the St. Michael Secondary School, Penampang, Sabah.

10 September 2011
YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia, officiated the *Majlis Penganugerahan Sijil HACCP Kepada Syarikat QQ Food Industry* at Kampung Cheras Baru.

23 September 2011
YB Datuk Rosnah Rashid Shirlin, Deputy Minister of Health, officiated the launching ceremony of the *Program Siswa Sihat 1Malaysia Zon Utara* at the Universiti Utara Malaysia (UUM), Sintok, Kedah.

29 September 2011
YBhg Puan Noraini bt. Dato' Othman, Senior Director of the Food Safety and Quality Division, officiated the *Dialog Kementerian Kesihatan Malaysia bersama Industri Sarang Burung Walit Berhubung Isu Pengeksportan Sarang Burung Walit ke China* at the Parcel D Auditorium, Putrajaya.

30 September 2011
YB Datuk Rosnah Rashid Shirlin, Deputy *Minister of Health, officiated the Majlis Konvokesyen Institut Latihan KKM Peringkat Negeri Sabah* at the KDCA Hall, Penampang, Sabah.

3-5 October 2011
En. Mohd Hatta Ahmad, Director for Pharmacy Enforcement, Pharmacy Services Division, officiated the opening ceremony of the *WHO Consultative Meeting on Combating Substandard / Spurious / Faslely-labelled / Falsified / Counterfeit (SSFFC) Medicines and Building Global Capacity for Surveillance and Monitoring of SSFFC* oleh at the Royale Chulan Hotel, Kuala Lumpur.

7 October 2011
En. Osman bin Abdul Aziz, Undersecretary of the Information Management Division, chaired the *Methodology in evaluating Health Information System (based on the Benchmarking Criteria) Forum* which was held during the *ASIA Medical 2011 – Health Information System (HIS) Interoperability Summit,* co-organised by the Health Informatics Centre of MoH and the Malaysia Exhibition Services (MES) at the Putra World Trade Centre (PWTC), Kuala Lumpur.

8 October 2011
YB Datuk Rosnah Rashid Shirlin, Deputy Minister of Health, officiated the launching ceremony for the *Program Siswa Sihat 1Malaysia Zon Tengah* at the National University of Malaysia (UKM), Bangi, Selangor.

8 October 2011
YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia, officiated the launching of the *Promosi Pemakanan Sihat di Pasar Raya* health promotion at the Giant Hypermarket, Section 13, Shah Alam, Selangor.

10-12 October 2011
YBhg. Dato' Dr. Maimunah A. Hamid, Deputy Director General of Health (Research and Technical Support), officiated the *National Oral Health Research Conference 2011* at the Concorde Hotel, Shah Alam, Selangor.

10-13 October 2011
YBhg Puan Noraini bt. Dato' Othman, Senior Director of the Food Safety and Quality Division, officiated the A*SEAN Workshop on Food Consumption Data & Exposure Assessment for the Project on Strengthening ASEAN Risk Assessment Capacities: Food Consumption Data* at the Crowne Plaza Mutiara Hotel, Kuala Lumpur.

16 October 2011
YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia, officiated the *Organ Donation Awareness Week* celebration at the National University of Malaysia (UKM), Bangi, Selangor.

22 October 2011
YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia, officiated the launching of the *Oral Health Clinical Information System (OHCIS)* at the Klinik Kesihatan Maharani, Muar, Johor

22 October 2011
YB Dato' Seri Panglima Hj. Lajim Bin Hj. Ukim, Deputy Minister of Sabah's Local Government and Housing, officiated the *Kuala Penyu Level World Mental Day Celebration* at the Dewan Sah Bandar Makang, Kuala Penyu, Sabah.

22-23 October 2011
YB Datuk Rosnah Rashid Shirlin, Deputy Minister of Health, officiated the *World Oral Health Day 2011-2012* and the launching of National Oral Health Plan 2011-2020 at the Tropicana City Mall.

23 October 2011
YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia, officiated the closing ceremony of the *National COMBI Convention 2011* at the Holiday Villa Hotel, Subang Jaya.

23 October 2011
YB Datuk Rosnah Rashid Shirlin, Deputy Minister of Health, officiated the *Program Bicara Hati Sempena Minggu Kesedaran Pendermaan Organ* at the Institute of Health Management, Kuala Lumpur.

28 October 2011
YB Datuk Rosnah Rashid Shirlin, Deputy Minister of Health, officiated the *Program Cakna Kesihatan Peringkat Negeri Terengganu 2011* at the Kampung Pasir Nering, Kuala Berang, Terengganu.

28 October 2011
YB Datuk Rosnah Rashid Shirlin, Deputy Minister of Health, officiated the launching ceremony for the *Program Siswa Sihat 1Malaysia Zon Timur* at the Universiti Malaysia Terengganu, Terengganu.

30 October – 2 November 2011
YBhg Dato' Sri Dr. Hasan Bin Abdul Rahman, the Director General of Health, Malaysia, officiated the *Innovation and Creativity Convention 2011* at the Avillion Legacy Hotel, Melaka.

31 October – 4 November 2011
YBhg Puan Noraini bt. Dato' Othman, Senior Director of the Food Safety and Quality Division, officiated the *Dioxin/PCBs in Food Analysis Training sponsored by the European Union DG SANCO (EU DG SANCO)* at the Food Safety and Quality Lab, Selangor.

9 November 2011
YBhg Dato' Sri Dr. Hasan Bin Abdul Rahman, the Director General of Health, Malaysia, chaired the first meeting for the newly-formed *National Health Informatics Committee* at the Operations Room, Parcel E, Putrajaya.

10 November 2011
YB Dato' Dr. A. Rahman B. Mokhtar, Chairman of the Terengganu State Health Committee of Unity and Consumer Affairs, officiated the *Program Kesihatan Pergigian Bersama Kanak-Kanak Keperluan Khas Pusat Dalam Komuniti, Peringkat Negeri Terengganu 'Healthy Mouth For All'* at the Dewan Sivik Seberang Takir, Kuala Terengganu, Terengganu.

11-13 November 2011
YBhg. Dr. Mohd Yusof Bin Hj. Ibrahim, Sabah's State Health Director, officiated the *1st Sabah Pharmacy Scientific Conference* at the Grand Borneo Hotel, Kota Kinabalu, Sabah.

12 November 2011
YB Datuk Rosnah Rashid Shirlin, Deputy Minister of Health, officated the launching ceremony for the *Program Siswa Sihat 1Malaysia Zon Sabah* at the Universiti Malaysia Sabah, Sabah.

14-18 November 2011
YBhg Puan Noraini bt. Dato' Othman, Senior Director of the Food Safety and Quality Division, officiated the Heavy Metal in Food Analysis Training sponsored by the *European Union DG-SANCO* (EU DG SANCO) at the Food Safety and Quality Lab, Selangor.

14-18 November 2011
YB. Hj Ahmad Bin Hj. Bujang, Representative of Sindumin for the State Legislative Assembly (ADUN Sindumin), officiated the *Minggu Inovasi & Kreativiti Hospital Sipitang & Majlis Malam Mesra Warga Hospital Sipitang* at the Dewan Masyarakat Daerah Sipitang, Sabah.

15 November 2011
YB Datuk Za'abar Bin Datuk Haji Mohd Adib, Chairman of the Terengganu State Infrastructure Development and Public Utilities, officiated the *Sambutan Hari Kesihatan Pergigian Sedunia Peringkat Negeri Terengganu 'Jom Cakna Mulut'* at the Dungun Municipal Council Hall, Terengganu.

14-17 November 2011
En. Mohd Hatta Ahmad, Director for Pharmacy Enforcement, Pharmacy Services Division, officiated the *National Pharmacy Enforcement Conference 2011* at the Klana Resort Seremban, Negeri Sembilan.

17 November 2011
YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia, officiated the opening ceremony for the *Klinik Kesihatan Putrajaya dan Pusat Komuniti Kesihatan Mental,* Presint 11, Putrajaya.

19-22 November 2011
YBhg Puan Noraini bt. Dato' Othman, Senior Director of the Food Safety and Quality Division, officiated the *Basic Microbiology Risk Assessment In Food Safety* at the FSQD Training Room, Presint 3, Putrajaya.

20 November 2011
YB Datuk Donald Peter Mojuntin, Assistant to Sabah's Finance Minister, officiated the *Sabah State Level for World Heart Day* at the Megalong Mall, Penampang, Sabah.

24 November 2011
YBhg Dato' Sri Dr. Hasan Bin Abdul Rahman, the Director General of Health, Malaysia, officiated the opening ceremony for the *Medical Device International Conference* at the Westin Resort and Spa, Langkawi, Kedah.

25 November 2011
YB Datuk Rosnah Rashid Shirlin, Deputy Minister of Health, officiated the *World Children and IVF Baby Celebration Day* at the PGMC Level 4, Hospital Wanita dan Kanak-Kanak, Likas, Sabah.

29 November 2011
YBhg Datuk Kamarul Zaman Md. Isa, Chief Secretary for the Ministry of Health, officiated the *Seminar Peranan Media Dalam Meningkatkan Taraf Pemakanan Rakyat* at the National Sports Institute, Bukit Jalil, Kuala Lumpur.

6-8 December 2011
YBhg Puan Noraini bt. Dato' Othman, Senior Director of the Food Safety and Quality Division, officiated the *Food Safety Conference 2011* at the Putrajaya International Convention Centre (PICC).

8 December 2011
YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia, officiated the *Majlis Keselamatan Makanan dan Pemakanan Kebangsaan (MKMPK)* Ke-10 meeting at the Dewan Serbaguna, Level 8, Block E7, Parcel E, Putrajaya.

10 December 2011
Datuk Dr. Lokman Hakim b. Sulaiman, Deputy Director General of Health (Public Health), officiated the *World AIDS Day Celebration* at the Yu Yuan Secondary School Hall, Sandakan, Sabah.

16 December 2011
YB Dato' Sri Liow Tiong Lai, Health Minister of Malaysia, officiated the Majlis Dialog Menteri Kesihatan Bersama Industri Makanan at the Operations Room, Parcel E, Putrajaya.