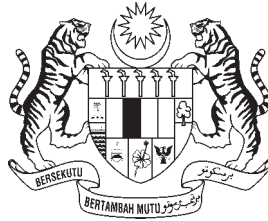




Annual Report

2004

Ministry of Health Malaysia



MINISTRY OF HEALTH

ANNUAL REPORT 2004

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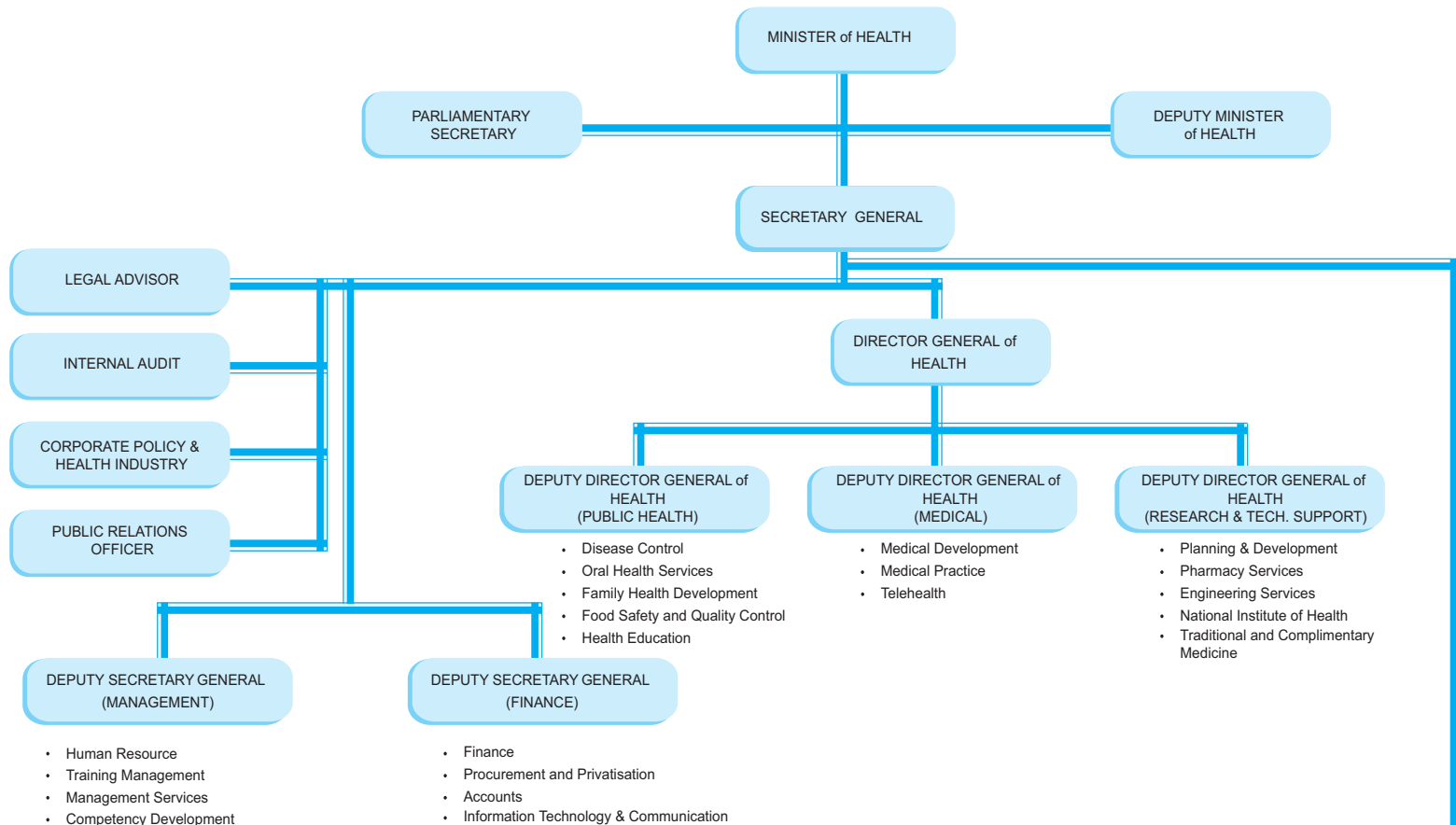
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ORGANISATION CHART

OF THE MINISTRY OF HEALTH, MALAYSIA



* Latest MOH Organisation Chart

13 STATE HEALTH DEPARTMENTS, 2 FEDERAL HEALTH DEPARTMENTS, 4 INSTITUTIONS

VISION FOR HEALTH

Malaysia is to be a nation of healthy individuals , families and communities, through a health system that is equitable, affordable, efficient, technologically appropriate, environmentally adaptable and consumer-friendly, with emphasis on quality, innovation, health promotion and respect for human dignity and which promotes individual responsibility and community participation towards an enhanced quality of life

MISSION OF THE MINISTRY OF HEALTH

**The mission of the Ministry of Health is to
build partnerships for health to facilitate and
support the people to :**

- ✕ Attain fully their potential in health**
- ✕ Motivate them to appreciate health as
valuable asset.**
- ✕ Take positive action to improve further
and sustain their health status to
enjoy a better quality of life.**

HEALTH STATUS

1

Health Status

HEALTH STATUS



Generally, Malaysians continue to enjoy good health throughout the year 2004. The government continues to take the lead in physically providing health services of a reliable standard to each and everyone and lends support to all other healthcare providers in its effort to ensure that the Malaysian community gets the best affordable care.

POPULATION STRUCTURE

In 2004, Malaysia had a population of 25,581,000 people with a population growth rate of 2.1 per annum. The geographical distribution of the 2004 population by states and their respective densities remained largely unchanged from the pattern in 2003. The state of Selangor still has the highest resident population of 4.61 million and the Federal Territory of Kuala Lumpur and Penang are still the most densely populated with 6,292 and 1,401 persons occupying approximately 243 squares kilometers and 1,030 squares kilometers of land respectively. The situation in 2004 is shown in Table 1.

Analysis of the age structure of the population showed that the distribution pattern in 2004 remained much the same as the previous year. Population of young people below 20 years old is 42.7% while the proportion of old people 60 years and over still forms about 6% of the population. Productivity-wise, the economically-productive continue to be around 63% while the economically-dependent forms the reminder 47%.

Comparing the population by gender, males continue to outnumber females by a ratio of 50.9%, an insignificant difference though. About 63% of the population live in the urban

areas and 37% in rural areas. The urban population is up marginally by 2.4% while the rural population dropped by 1.6%. Table 2 shows some of the basic demographics features of the Malaysian population in 2004.

TABLE 1
Population Density by State, Malaysia 2004

State	Population ('000)	Area (Sq.km)	Density (per Sq. Km)
Perlis	221.2	795	278
Kedah	1,813.1	9,425	192
Pulau Pinang	1,442.8	1,030	1,401
Perak	2,225.0	21,005	106
Selangor*	4,614.0	7,979	578
W.P.Kuala Lumpur	1,529.0	243	6,292
Negeri Sembilan	929.6	6,657	140
Malacca	700.1	1,652	424
Johore	3,029.3	18,987	160
Pahang	1,399.5	35,965	39
Terengganu	990.6	12,955	76
Kelantan	1,479.8	15,020	99
Sabah	2,862.3	73,997	39
W.P.Labuan	82.0	92	891
Sarawak	2,262.7	124,450	18
Malaysia	25,581.0	330,252	77

Source: Department of Statistics, Malaysia

* Includes Wilayah Persekutuan Putra Jaya

TABLE 2
Demographic Indicators, Malaysia 2003 - 2004

Indicator	2003		2004	
	Number (Thousands)	% of Total Population	Number (Thousands)	% of Total Population
Population of Males	12,751.9	50.9	13,023.3	50.9
Population of Females	12,296.4	49.1	12,557.7	49.1
Population of Youths (Below 20 years old)	10,784.1	43.1	10,916.5	42.7
Population of Elderly (Above 60 years old)	1,599.7	6.4	1,661.7	6.5
Economically-Productive Population (Aged 15-64 years)	15,702.3	62.7	16,090.9	62.9
Economically-Dependent Population (Aged below 15 years & above 64 years)	9,346.0	37.3	11,990.8	46.9
Urban Population	15,687.0	62.6	16,071.1	62.8
Rural Population	9,361.3	37.4	9,509.9	37.2

Source: Department of Statistics, Malaysia

NATALITY, MORTALITY AND NATURAL INCREASE

In 2004, 543,000 live birth were recorded. The crude birth rate was 21.3 per 1,000 population. With the crude death rate at 4.6 per 1,000, the rate of natural replacement was 16.7 per 1,000 population.

VITAL STATISTICS

Generally, the universal classification of age-specific mortality into perinatal, neonatal, infant, toddler and maternal deaths are internationally accepted indicators for assessing a nation's health status. Mortality rates of the infants, toddlers and pregnant mothers singly continues to manifest itself favourably in the year 2004. Table 3 shows these mortality rates for 2004.

TABLE 3
Vital Rates, Malaysia 2003 - 2004

Indicator	2003	2004
Crudes Birth Rate per 1,000 population	21.9	21.3
Crudes Death Rate per 1,000 population	4.7	4.6
Perinatal Mortality Rate per 1,000 total Birth*	5.6	5.1
Neonatal Mortality Rate per 1,000 Live Birth*	3.2	2.4
Infant Mortality Rate per 1,000 Live Birth	6.3	5.9
Toddler Mortality Rate per 1,000 Population aged 1-4 years	0.5	0.5
Maternal Mortality Rate per 1,000 Live Birth	0.3	0.3
Expectation of Life at Birth (Age in years):		
Male	70.3	70.4
Female	75.9	76.2

Source: Department of Statistics, Malaysia

* Estimate Figure

LIVE EXPECTANCY

Generally, people are becoming more and more conscientious about their personal health and growing economic affluence has indirectly contributed to the longer life expectancy of Malaysians, is 70.4 years for males and 76.2 years for females.

MORBIDITY AND MORTALITY BY CAUSE

Morbidity and mortality statistics are routinely collected by the health system to provide concrete measures of the general level of health of the population at large. Mortality statistics collected by the National Registration Department are computer- processed by the Department of Statistics based on death certificate to produce a list of medically certified and inspected deaths and a list of uncertified death for the entire population.

Based on Ministry of Health statistics, the main cause of hospitalization in MOH hospital in Malaysia for the year 2004 is normal deliveries, followed by complication of pregnancy childbirth and the puerperium and also accident. However, the major cause of deaths is due to Septicaemia followed by Heart Disease and Diseases of Pulmonary Circulation. A more detailed report on government hospital morbidity and mortality statistics is given in the chapter on Medical Care Services.

Table 4 and 5 gives the ten principle causes of hospitalization and deaths in MOH Hospitals in 2004 respectively.

TABLE 4
Ten Principal Causes of Hospitalization in Ministry of Health Hospital in 2004

Principal Causes of Hospitalization	Percentage
Normal Delivery	15.65%
Complication of Pregnancy, Childbirth and the Puerperium	11.75%
Accident	8.74%
Diseases of The Circulatory System	7.11%
Diseases of The Respiratory System	6.83%
Certain conditions originating in the perinatal period	5.99%
Diseases of the Digestive System	4.87%
Diseases of the Urinary System	3.58%
Ill-defined conditions	3.39%
Malignant Neoplasms	2.90%
Total Discharge (1,804,697)	100%

TABLE 5
Ten Principal Causes of Death in Ministry of Health Hospital in 2004

Principal Causes of Death	Percentage
Septicaemia	15.10%
Heart Diseases and Diseases of Pulmonary Circulation	14.52%
Malignant Neoplasms	9.54%
Cerebrovascular Diseases	8.40%
Accident	6.07%
Pneumonia	5.58%
Certain conditions originating in the perinatal period	4.59%
Diseases of the Digestive System	4.39%
Nephritis, Nephrotic Syndrome and Nephrosis	3.77%
Chronic Lower Respiratory Disease	2.68%
Total Number of Death (38,181)	100%

MANAGEMENT AND FINANCE PROGRAMME

2

Health Manpower

OBJECTIVE

The objective of the Human Resource Division (HRD) is to ensure that the Ministry of Health (MOH) has a well-organized structure with optimum number of productive and quality personnel who will be able to assist the organization in implementing its activities efficiently and effectively.

PROFILE

The HRD consists of 2 sections namely the Organizational Development Section and the Human Resource Management Section, and both sections are divided into 11 units as follows:

- A. Organizational Development Section
 - i. Scheme and Allowance Unit
 - ii. Establishment Unit (1)
 - iii. Establishment Unit (2)
 - iv. Human Resource Management Information System (HRMIS) Unit
 - v. Counseling Unit
- B. Human Resource Management Section
 - i. Management and Professional Unit
 - ii. Paramedic and Auxiliary Unit
 - iii. Common User and Support Unit
 - iv. Promotion Unit (Management and Professional)
 - v. Promotion Unit (Support)
 - vi. Disciplinary Unit

The HRD is lead by an Under Secretary with the assistance of 2 Deputy Under Secretaries and 175 officers and staff. This division is responsible for activities related to organizational development such as reviews of services, schemes and allowances including other personnel management matters such as filling of posts, recruitment of support staff under the delegation of power by the Public Service Commission (PSC), promotions and disciplinary actions.

ACHIEVEMENTS

In the year 2004, the HRD has accomplished the following:

i) **Scheme And Allowance Review**

The Scheme and Allowance Unit is responsible in exploring possibilities of improving and enhancing the terms of service in MOH. Throughout 2004, the Unit has carried out reviews and implementation of 13 schemes of services which include the improvement of the Nursing Trainer Scheme, the Nursing Scheme, Medical Therapist Scheme, Assistant of the Environmental Health Officer Scheme and Public Health Assistant Scheme. The Unit has done 11 reviews on increasing and introducing allowances which include Public Health Allowances, Mortuary Allowances, Incentive allowances to Counsellor, Physiotherapist and Occupational Therapist who work in the psychiatry wards and Incentive allowances to Pharmacist who are involve in the enforcement task.

ii) **Reinforcement Of Structural Organization**

The Establishment Unit has carried out 24 reviews in which 13 reviews has been implemented while the remainder are still under review and consideration of the Central Agencies. The reviews that has been done includes the reinforcement of the Administrative Unit at District Health Centre, reinforcement of the Dental Health Division, reinforcement of the Communication and Information Technology Division, establishment of the Framework For Controlling Tobacco Centre, establishment of the Globalisation Unit, reinforcement of the Management Unit at State Health Departments, reinforcement of the Management Service Division, the reinforcement of the Medical Division, re-grading of posts under '*Sistem Saraan Malaysia*' (SSM) 2004 and creation of posts under the '*Anggaran Belanja Mengurus (ABM) 2005*'.

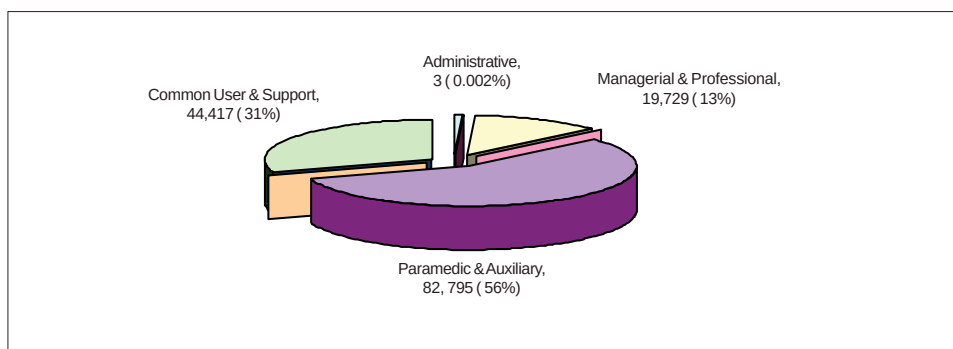
iii) **Establishment**

As of 31 December 2004, there are a total of 146,944 posts in the MOH. These posts are grouped into 4 categories; i.e. Administrative (3), Managerial and Professional (19,729), Paramedic and Auxiliary (82,795) and Common User and Support (44,417). These figures represent an increase of 6,592 posts (4.49%) as compared to 2003. Distribution according to category of post is shown as in Figure 1.

iv) **Post Filled**

As of 31 December 2004, a total of 127,894 (88.1%) posts have been filled. The overall figure is shown as in Table 1 whereas details according to groups are shown in Table 2, 3 and 4.

FIGURE 1
Distribution of Post by Category, 2004



Source : Human Resource Division, MOH

TABLE 1
Posts Filled According to Groups, 2004

Groups	Number of post	Filled	% Filled
Administrative	3	3	100.00
Managerial and Professional	19,729	14,531	73.7
Paramedic and Auxiliary	82,795	73,125	88.3
Common User and Support	44,417	40,235	90.6
Total	146,944	127,894	88.1

Source : Human Resource Division, MOH

TABLE 2
Managerial and Professional Posts Filled, 2004

Post / Grade	Number of post	Filled	% Filled
Medical Administrative Officer	732	606	82.79
Medical Specialist	2,386	1,346	56.41
Medical Officer	10,361	7,410	71.52
Dental Administrative Officer	177	132	74.58
Dental Specialist	106	73	68.87
Dental Officer	1,263	685	54.24
Pharmacist	1,258	713	56.68
Others	3,107	2,511	80.82
Total	19,390	13,476	69.49%

Source : Human Resource Division, MOH

TABLE 3
Paramedic and Auxiliary Posts Filled, 2004

Post/Grade	Number of post	Filled	% Filled
Nurse	32,016	30,922	96.6
Physiotherapist	567	375	66.1
Occupational Therapist	347	249	71.8
Radiographer (Diagnostic)	1,111	897	80.7
Medical Assistant	7,077	6,292	88.9
Assistant Environmental Health Officer	2,256	1,984	87.9
Medical Laboratory Technologist	3,453	3,112	90.1
Pharmaceutical Assistant	2,804	2,377	84.8
Dental Nurse	2,275	1,985	87.3
Dental Technologist	770	608	79.0
Rural Nurse	12,679	12,039	95.0
Assistant Nurse	7,195	4,239	58.9
Others	10,245	8,046	78.5
Total	82,795	73,125	88.3%

Source : Human Resource Division, MOH

TABLE 4
Common User and Support Posts Filled, 2004

Post/Grade	Number of post	Filled	% Filled
Assistant Administrative Officer	352	322	91.5
Assistant Administrative Officer (Medical Record)	249	223	89.6
Administrative Assistant (Clerical/Operational)	5,601	5,391	96.3
Telephone Operator	834	815	97.7
Typist	842	564	67.0
Driver	5,272	5,183	98.3
Health Attendant	21,072	18,854	89.5
General Worker	4059	3657	90.1
Cook	1,573	1,461	92.9
Junior General Assistant	829	771	93.0
Others	3,734	2,994	80.2
Total	44,417	40,235	90.6

Source : Human Resource Division, MOH

Efforts and measures have been taken by MOH to reduce the shortage of Medical Officer as well as Specialist and Dental Officer by active hiring contract officers from foreign countries mainly India, Myanmar, Pakistan, Indonesia, Bangladesh, Sri Lanka and Egypt. As of 31 December 2004, a total of 850 contract Medical Officers, Specialists and Dental Officers have been hired.

Efforts have also been made to overcome the shortage of Paramedics by hiring 345 paramedics who have reached their mandatory retirement age on contractual basis.

v) **Recruitment**

Human Resource Division is also responsible in the recruitment of support staff group under the delegation of power by PSC. The number of staff recruited in 2004 is shown in Table 5.

TABLE 5
Number Of Support Staff Recruited, 2004

Post/Grade	Total
Health Attendant, Grade U3	942
Administrative Assistant, Grade N17	647
Driver, Grade R3	562
General Worker, Grade R1	211
Telephone Operator, Grade N11	103
Cook, Grade N1	89
Junior General Assistant, Grade N1	54
Hostel Steward, Grade N17	26
Assistant Public Health, Grade U11	586
Autoclave Operator, Grade R3	11
Total	3,231

Source : Human Resource Division, MOH

vi) **Service**

In 2004, 9,214 confirmation of date of appointment, 7,658 confirmation of appointment, 3,215 emplacements in pensionable scheme and 4,324 for other services related matters have been approved.

In addition, a total of 73 officers in various post and grade from the Management and Professional group and 1,154 staff of the Support Group have been promoted. Apart from that, 734 application of acting from the Management and Professional group and 2,688 from the Support Group have been approved.

vii) **Disciplinary Action**

In 2004, the Disciplinary Board has taken disciplinary action to 79 staff, 2 from the Management and Professional Group and 77 from the Support Group.

Training Management

INTRODUCTION

The Training Management Division (TMD) provides management services in human resource development to the Ministry of Health Malaysia (MOH), which includes the management of the training of Allied Health Science Personnel (AHSP) in its training colleges.

In the year 2004, as in the previous years, the thrust of the TMD in the management of human resource development in MOH was to provide the support needed towards achieving MOH's vision of Malaysia to be a nation of healthy individuals, families and communities through a health system that is equitable, affordable and efficient. The broad agenda of the TMD for the overall management of training and human resource development in MOH was also to provide and ensure that its human resources are competent, disciplined, highly skilled and imbued with strong ethics, work values and commitment to excellence.

The strategies of the TMD in training and human resource development had also taken into consideration their capacity to provide services in response to the dynamic changes in health needs and demands. The TMD had taken cognisance of the importance of training and human resource development to be planned in an optimal manner, as it would help in dealing with the issues of shortages and maldistribution of health manpower and also to the improvement of the overall health system management. In this aspect, the focus of the TMD is to increase opportunity for quality training and education to strengthen the human resource base.

In the year 2004, the TMD had implemented various training activities, reviewed certain training policies and also had developed or restructured and evaluated the curriculum and the management of examination of some of the Basic and Post Basic training programmes. These initiatives were taken to ensure that the training provided could meet the demands from new health care services and facilities that have developed rapidly and extensively over the years. The training colleges of MOH had been consolidated in line with efforts to ensure that their education and training functions were carried out effectively to produce quality AHSP to meet the critical manpower needs in the health care sector.

The number of MOH's training colleges in 2004 was 37, reduced from 43 in 2003, as seven of the training colleges were moved and incorporated into the College of Allied Health Sciences, Sg. Buloh. This college was a project under the Eighth Malaysia Plan and started operation in May 2004. It provides training in six (6) disciplines of Allied Health Sciences (AHS) and is the first training college completed to implement the concept of integrated training. In 2004, the capacities of several other training colleges were also expanded to cater for increased intakes of AHS trainees. Table 1 showed the number of colleges according to the disciplines.

OBJECTIVE

The strategies of the TMD were guided by its objective to provide training management services professionally, competently and effectively in developing and enhancing the professionalism of the health human resources. The TMD needs to ensure that the training conducted meet the standards and criteria of qualification and credentialing. Its emphasis is on the continuous improvement in all its activities to meet the needs of stakeholders and towards achieving the mission and vision of MOH.

MANPOWER

In the year 2004, the TMD had 1,241 posts approved under the training management program, of which 115 posts were in the TMD and 1,126 posts of tutors in the training colleges. From the total posts that were filled, 82 (71%) were for the various posts in the TMD, whilst 682 (60.5%) were for the posts of tutors in the training colleges. There was an increase in the number of posts in the TMD but the posts of tutors in the training colleges was the same in the year 2004 over the year 2003 respectively.

FINANCIAL RESOURCES

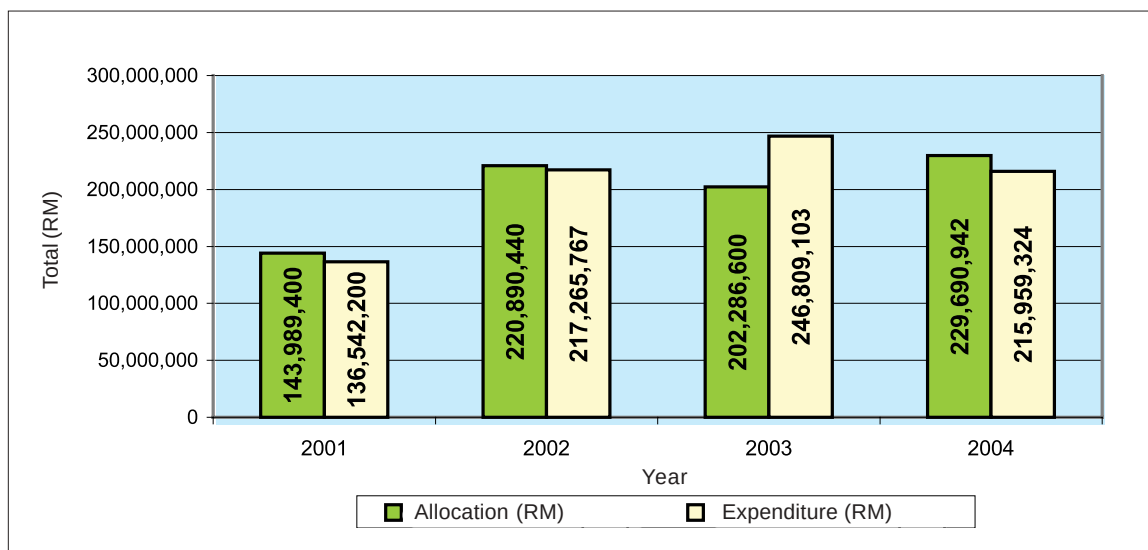
The approved financial allocation for the year 2004 under the Operating Budget amounted to a total sum of RM229,690,942 and RM215,959,324 was spent. In comparison to the year 2003, the approved financial allocation under the Operating Budget was RM 202,286,600 and RM 246,809,103 was spent. The excess expenditure over the allocated budget in 2003 had been authorized by the Treasury. Figure 1 showed the allocation and expenditure of the TMD from 2001 to 2004.

TABLE 1
Number of Training Colleges by the Disciplines of AHSP

No.	Disciplines of AHSP	No. of Colleges
1.	Assistant Environmental Health Officer	1
2.	Radiographer (Radiography or Radiotherapy)	1
3.	Nurse	16
4.	Community Nurse	10
5.	Dental Nurse	1
6.	Dental Technologist	
7.	Dental Surgical Assistant	
8.	Medical Laboratory Technologist	2
9.	Medical Assistant	4
10.	Public Health Assistant	1
11.	<u>College of Allied Health Sciences, Sg. Buloh</u> Nurse (<i>two colleges</i>) Assistant Environmental Health Officer Physiotherapist Radiographer (Radiographer or Radiotherapy) Pharmacy Assistant Occupational Therapist	1
	Total	37

Source : Training Management Division, MOH

FIGURE 1
Operating Budget of the TMD, 2001-2004



* Excess Expenditure was authorized by the Treasury Secretary General

Source : Training Management Division, MOH

ACTIVITIES AND ACHIEVEMENTS

Health Care Sector Manpower Projection

The projection of health human resources supply and requirements for the period of 2004 to 2010 was reviewed by the TMD. In these contexts, the review had focused on the projection of the supply and demand of Medical Officers, Dental Officers, Pharmacists, Medical Specialists, and the AHSP for the period of 2004 to 2010. The projection indicated that the increase in the supply of those categories of health human resources for the next few years to come would still be inadequate to meet the increasing needs of the nation.

Training

In the year 2004, as compared to the year 2003, there was an increase in the intake of trainees for two categories of training, namely, the Basic and the Master/Doctoral courses, while for the other categories there was a decrease as shown in Table 2.

TABLE 2
Intake of Trainees by Types of Training

No.	Types of Training	2003	2004
i.	Basic Training (AHSP)	5,318	5,459
ii.	Post Basic Training	2,473	2,157
iii.	Specialist Training (Medical Officers)	384	371
iv.	Sub-Speciality Training	80	42
v.	Masters / Doctoral courses	20	45
vi.	Short Term In-service courses	237	206
vii.	In-Service Conversion courses	165	102
viii.	Induction courses	10,205	9,526

Basic Training (AHSP)

The intake of trainees for the basic courses in the year 2004 was 5,459.

Post Basic Training

A total of 2,157 AHSP attended Post Basic Training in 26 different disciplines in the training colleges of MOH. From that number, 1,039 attended courses for the January 2004 session and 1,118 for the July 2004 session.

Specialist and Sub-speciality Training

A total of 371 Medical officers had enrolled for the Master in Medicine programme in various fields of specialization under the Federal Training Scholarship for the year 2004. For the same year too, 42 Medical Specialists were offered to undergo sub-speciality training.

Masters and Doctoral Courses

A total of 45 officers from various positions in the health were offered the Federal Training Scholarship to undertake Masters (42 officers) and Doctoral courses (3 officers) in different disciplines relating to health in the year 2004.

Short Term In-Service Courses

In the year 2004, a total of 206 personnel of the MOH had attended short-term in-service courses financed from MOH's operating budget or sponsored by other agencies and international bodies or foreign governments.

Conversion Courses (In-Service)

In 2004, for the career advancement of assistant and community nurses, the following were details of the in-service conversion courses conducted: -

TABLE 3
In-Service Conversion Courses

No.	Conversion Course	2003	2004
i.	Assistant Nurses to Nurses (11/2 years)	26	3
ii.	Community Nurses to Nurses (1 year)	139	99
	Total	165	102

MANAGEMENT OF EXAMINATION

In the management of examination for the year 2004, the TMD had strengthened the various aspects in the management of basic and post basic examination of all the diplomas and certificates courses conducted in the training colleges and also the examination of departmental panel subjects. The work processes in the preparation of the composite score of induction courses for all level of staff and the issuance of certificates for the successful completion of courses had been updated and refined.

The TMD had conducted several workshops to review and develop examination questions in the effort to enlarge the pool of questions in the examination questions bank for basic and post basic courses. The TMD had also conducted courses on measurement and evaluation techniques with the cooperation of the Malaysian Examination Council for the tutors to update their knowledge and skill on the management of examination. The TMD plans to conduct such courses every year to further develop the tutors' expertise in the management of examination. The TMD had also strengthened the work processes in the handling of appeal cases on the result of examination and the applications for examination transcripts by students.

DEVELOPMENT OF CURRICULUM

In the management of curriculum for the year 2004, the TMD had made efforts to strengthen the curriculum of the AHSP courses that are still using the conventional system. For the courses that are running using the credit system, improvements were made to ensure that the curriculum meet the needs and requirements of MOH.

The TMD had also restructured the curricula of the basic courses for nurses, community nurses and dental technologists to the credit system. These three curricula will be implemented in the January 2005 intake of AHS trainees. The restructuring of curricula were implemented in line with current development in education and health care needs. Changes were also made to the course for Public Health Assistant (PHA) from an in-service course to a pre-service course. This curriculum will use the credit system and the duration of the course is two (2) years. This curriculum was restructured as an effort to strengthen the PHA training in accordance to the changes of the service scheme of PHA. However its implementation will only be made when the new scheme of the PHA has been approved by the Public Service Department.

The TMD had also reviewed the curricula of several post basic courses in tandem with the concept of specialization and credentialing. The reviewed post basic curricula were as follows: -

- ◆ Intensive Care
- ◆ Ophthalmic Nursing
- ◆ Perioperative Care
- ◆ Emergency

In line with the development in the medical field, the new curriculum of post basic courses developed to meet the emerging needs and requirements were:-

- ◆ Otorhinolaryngology Post Basic
- ◆ Oral Surgery Post Basic

The TMD had also arranged attachment programme for Cambodian tutor nurses under the auspices of Japan International Cooperation Agency (JICA) and the Economic Planning Unit (EPU). The purpose of the programme was to introduce the Cambodian tutor nurses to the nursing training system in Malaysia.

EVALUATION OF PROGRAMMES

Through the year 2004, the TMD continues to strengthen its quality programmes in the implementation of its key activities. This had lead TMD working towards the upgrading of its MS ISO 9002 Version 1994 obtained in 2003 to the MS ISO 9001 Version 2000.

TMD had undertaken two (2) quality assurance programme surveys on the Basic training courses in the training colleges, each for the period of January-June 2004 and July-December 2004 respectively. The surveys had evaluated the level of compliance of the training colleges

to the quality assurance indicators that were set and the findings indicated there had been overall commendable compliance.

The TMD had also sought to upgrade the qualification of the tutors in the training colleges. In this respect, the TMD had evaluated suitable degree programmes offered by public and private institutions of higher learning for the purpose of upgrading the qualifications of the tutors. Several meetings were held to discuss this matter.

The TMD had also continued to monitor the teaching and training activities in the training colleges to ensure that they meet the needs and standards set. The monitoring was carried out randomly from time to time. The TMD had also monitored the outsourced training programmes of Nurses, Pharmacy Assistants and Medical Laboratory Technologists in 13 private training institutions. The findings indicated that overall, the teaching and training activities had met the targets set and could be further improved.

CONCLUSION

The increase in the supply of certain categories of health and medical manpower for the next few years to come as projected is still inadequate to meet the needs of the nation. On the requirements for more medical officers, dental officers and pharmacists, MOH will continue to cooperate and collaborate closely with central agencies, Ministry of Higher Education, institutions of higher learning and other related agencies. The annual enrolment of trainees for the various AHS disciplines in the training colleges of MOH is about 15,500. With the existing facilities, the training colleges of MOH are operating at the level of maximum capacity. The TMD has plans to strengthen its training activities and facilities to enable it to increase the intakes of AHS trainees. The curricula and the management of examination of some of the Basic and Post Basic training programmes will also be enhanced to meet the targets it has set.

In meeting the growing needs for trained personnel consequence to the expansion of health care services and the development in health care technologies, the TMD will continue its effort in developing flexible training action plans that are adaptable to changes.

Financial Allocation & Expenditure



he overall 2004 Federal Budget was RM112.49 Billion whereby RM80.53 Billion was provided for Operating Budget and RM31.96 Billion as Development Budget. Under the 2004 Budget, RM9 Billion or 8.00% was allocated for Ministry of Health (MOH) as shown in Table 1. This represents a positive growth of 19.07% as compared to the allocation of 2003. Based on the above allocation, MOH was the third largest recipient of the allocation after Ministry of Education and Ministry of Finance.

MOH BUDGET ALLOCATION FOR 2004

To implement all programs and projects under MOH, a total of RM6.4 Billion was allocated as Operating Budget (B42) while RM2.6 Billion was allocated as Development Budget (P42). The Operating Budget was an increase of 10.20% as compared to the 2003 Operating Budget. The Development Budget (P42) also recorded a strong growth of 47.63% from the 2003 budget. From the Operating Budget (B42), RM5.2 Billion was given as Expenditure Target (ET).

Based on the original budget of Operating Allocation, RM2,693,553,150 was allocated for Emolument (Standard Object 10000), RM3,341,577,180 for Supplies and Services (Standard Object 20000), RM117,854,020 for Asset (Standard Object 30000), RM200,756,250 for Fixed Payments and Grants (Standard Object 40000) and RM387,600 for Other Expenditures (Standard Object 50000).

In terms of Operating Expenditure (B42), RM3,263,738,188.58 was spend under SO 10000 to cater for 146,383 posts, increment of RM70 in Incentive Payment for 166 Health Attendants who worked in mortuaries around the country effective from

1st September 2004, and payment for yearly bonus and special performance allowance. RM3,381,940,953.99 under SO 20000 was expended for transport and travelling costs, utilities, medicines, rents and so forth. While RM168,283,212.80 under SO 30000 was spend for procurement of medical and non-medical asset, and RM195,103,760.44 under SO 40000 was spend for scholarship for the nurses and subsidy for funeral expenses. No expenditure was recorded under SO 50000 as the whole amount was moved to other SO.

During the year 2004, the MOH incurred an Operating Expenditure (B42) amounting to RM7,009,006,115.81 i.e. 99.76% of the total allocation. This figure showed a moderate increase of 10.19% as compared to 2003. Table 2 shows the allocation and expenditure of MOH according to Program, while Table 3 shows the operating expenditure performance of MOH from 2001 to 2004.

As for the Development Expenditure (P42), total spending in 2004 was somewhat less than previous years. From a sum of RM2,642,883,000, only RM2,364,437,679 or 89.46% was spent. This was meant for the cost of implementing of 121 new projects such as hospitals, training centres, health clinics, rural clinics and the procurement of equipment. This expenditure pattern of 2004 is less than before. Table 4 shows the performance of Development Budget (P42) for 2004 by project while Table 5 shows the overall performance achieved for Development Budget (P42) from 2001 to 2004.

Besides fulfilling the needs of citizens through Existing Policies and One-off, MOH was also responsible in distributing financial aid to Non-Government Organization (NGO) and National Health Welfare Fund (TKKK). For the year 2004, a fund RM5,559,255.60 was allocated to 36 NGOs. While under the TKKK funds that has been launched in February 2001, RM4,598,659.83 was allocated to 186 patients from various age groups.

CONCLUSION

The increase in the manpower utilisation in health services and the constructions of new health facilities has fulfilled part of the socio-economic needs of the people. In this regard, it has narrowed down the gap between the urban and rural people.

TABLE 1
MOH Annual Allocation 2001-2004

Year	MOH Annual Allocation		National Budget (RM)	National Budget (%)	Gross National Product (GNP) (RM)	GNP (%)	Allocation Per Capital (RM)
	Development (RM)	Operating (RM)					
2001	1,220,146,010	4,545,407,400	91,046,791,410	6.33	210,480,000,000	2.74	240.10
2002	1,415,253,000	4,883,820,770	100,518,506,120	6.27	219,400,000,000	2.87	256.83
2003	1,790,170,000	5,765,836,400	109,801,554,460	6.88	232,477,000,000	3.25	301.64
2004	2,642,883,000	6,354,128,200	112,490,000,000	8.00	248,040,000,000	3.63	351.72

Source : Federal Budget 2001-2004
Economic Report

TABLE 2
The Fraction of Operating Budget Allocation Compared With Expenditure for 2004

Program Code	Program	Allocation (RM)	Expenditure (RM)	Expenditure (%)
010000	Management	845,000,900	719,913,135	85.20%
020000	Public Health	1,559,284,950	1,610,903,655	103.31%
030000	Medical	4,465,346,370	4,540,535,719	101.68%
040000	Technical Support Services	150,295,980	133,030,637	88.51%
050000	One-Off	6,000,000	4,682,970	78.05%
	Total	7,025,928,200	7,009,066,116	99.76%

Note:
Based on actual allocation

TABLE 3
Operating Expenditure Performance 2001-2004

Year	Allocation (RM)	Expenditure (RM)	Expenditure (%)
2001	4,630,842,047	4,671,304,560	100.87%
2002	5,139,265,770	5,151,645,477	100.24%
2003	5,785,836,400	6,294,698,534	108.79%
2004	7,025,928,200	7,009,066,116	99.76%

Note:
Based on actual allocation

TABLE 4
MOH Development Allocation 2004 Per Project Detail

Project Detail	Project	Allocation (RM)	Expenditure (RM)	Expenditure (%)
00100	Training	63,182,000	49,176,260	77.83%
00200	Public Health	318,671,700	246,844,147	77.46%
00300	Health Facilities	580,579,300	471,863,141	81.27%
00400	New Hospital	1,616,450,000	1,549,004,542	95.83%
00500	Feasibility Study and Consultancy Services	10,000,000	5,221,783	52.22%
00600	Renovation, Upgrading and Maintenances	40,000,000	30,032,360	75.08%
00700	Procurement and Land Maintenances	14,000,000	12,295,446	87.82%
	Total	2,642,883,000	2,364,437,679	89.46%

Note:
Based on actual allocation

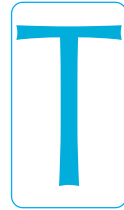
TABLE 5
Development Expenditure Performance 2001-2004

Year	Allocation (RM)	Expenditure (RM)	Expenditure (%)
2001	1,220,146,010	1,569,959,407	128.67%
2002	1,415,253,000	1,513,611,553	106.95%
2003	1,990,170,010	2,691,430,181	135.24%
2004	2,642,883,000	2,364,437,679	89.46%

Note:
Based on actual expenditure

Audit

INTRODUCTION



The Internal Audit Branch (IAB) of Ministry of Health (MOH) was established in 1980 in accordance with Treasury Circular 2 of 1979. The Internal Audit Branch is directly responsible and report to the Secretary General of MOH. Currently, the Branch is being headed by a Grade W54 Auditor and is being assisted by 22 supporting staffs. MOH Internal Auditors must be at the forefront, working very closely with MOH manager at all levels and across MOH in order to establish a sound and workable internal control structure. The first level of internal control structure comprises the respective Responsibility Centers that builds up and establishes the internal control and risk framework within MOH while the second level includes the Secretary General and his top management team who are closely monitoring on the internal control structure and the operating environment. The final and critical level meanwhile encompasses the Internal Auditors who provide independent assurance to MOH. This independent assurance is further reinforce by the External Auditors.

ACHIEVEMENTS

The IAB's achievement as indicated by the number of Responsibility Centres being audited from the year 2000 untill 2004 is shown in Table 1.

Financial Audit

The financial audit includes the review of MOH internal controls and compliance to government rules, regulations and laws. It covers 4 aspect: revenue collection, development and operating expenditures, asset and inventory management and general administration.

TABLE 1
Total Number Of Responsibility Centres Audited

Type of Audit	Period				
	2000	2001	2002	2003	2004
Financial Audit	59	46	58	34	27
Performance Audit	32	28	32	11	29
Investigation Audit	-	8	4	5	13
Total	91	82	94	50	69

Performance Audit

Performance audit is also carried out to ensure that the organisation uses its resources economically, efficiently and effectively. It is also known as a 'value for money' audit. Through performance audit, IAB would be able to identify the weaknesses in management of programmes and activities and proposed steps to overcome the issues and challenges in order to enhance MOH service delivery to the stakeholders.

Investigation Audit

Investigation audit is also being carried out after being mandated by MOH top level management. It could be based on the flying and complaint letters or through risk-based analysis. This type of audit is also known as Forensic Auditing.

MOH Internal Audit Committee

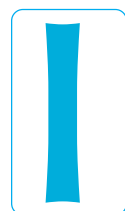
In 2003, under the direction of MOH Secretary General, the IAB established the MOH Internal Audit Committee. The establishment of MOH Internal Audit Committee is really a milestone achievement for MOH being the only Ministry (out of the 27 Ministries in Malaysia). The main objective of this Internal Audit Committee is to assist the IAB to carry out a preliminary evaluation on the status of internal control in financial management in all the MOH Responsibility Centres throughout the country.

The IAB major challenge in the years ahead is to try to convert all the B, C and D grade Responsibility Centres to A grade. With the spirit of "Malaysia Boleh", IAB of MOH also "Boleh". Presently, the Internal Audit Committee have 120 members who are existing MOH officers from grade 27 to 32 and the member are divided into 6 zones. All the 120 member had been trained by IAB officers with basic knowledge and techniques on auditing.

Conclusion

The way forward for IAB is managing change in the government operating mode - manual to ICT. Therefore, pre-auditing is crucial. Getting involve in the System Development Life-cycle, doing performance audit onto the ICT systems and reviewing internal controls framework of the system in MOH is necessary.

Information & Communication Technology



Information & Communication Technology (ICT) Division of Ministry of Health (MOH) is responsible for maintaining and monitoring all application systems in MOH. The systems are classified in accordance with the Ministry's programmes as follows :-

- a) Management
 - *Sistem Jemaah Menteri dan Parlimen (SJMP)*
 - Network for the Ministry of Health
- b) Medical
 - Medical Care Information System (HMIS – SMRP MC ICD10),
 - In-Patient Management System (IPMS)
- c) Health
 - Teleprimary Care (TPC) Application System
 - Food Safety Information System of Malaysia (FoSIM)
 - Communicable Diseases Control Information System (CDCIS)
- d) Research and Technical Support

MANAGEMENT PROGRAMME

Sistem Jemaah Menteri Dan Parlimen (SJMP)

Developed in October 2004 by Aliran Permata Sdn. Bhd., SJMP stores data and records for retrieval and report generation of electronic cabinet minister and parliament records. This will facilitate work process at the Corporate and Management

Division in preparing papers and minutes for cabinet minister meeting and Parliamentary QA sessions. It is capable of monitoring actions by each division in the ministry. SJMP was installed throughout the ministry in every division for system testing and data collection. ICT Division together with Corporate and Management Division is responsible for system monitoring, study of user requirements and providing advisory services. ICT Division is also responsible for the technical evaluation of the system.

Network For The Ministry Of Health (MOH-NET)

MOH network system (MOH-NET – single entry & single exit) was established through Health Management Information System Phase II Project (HMISII) connecting all State Health Offices (JKN), Health District Office (PKD) and hospitals to MOH's Data Center at PERKIM building. The simplified diagram of MOH-NET is shown in Diagram 1.

HMISII also integrated other network systems established in the ministry, such as, the Blood Bank Project in the National Blood Bank and Public Health Laboratory (MKA) in Sungai Buloh (Selangor), Jelapang (Perak) and Tampoi (Johore).

The network unit in Information and Communication Technology Division is responsible in ensuring that the provided facilities in HMISII such as MOH's e-mail, Internet coverage, folder sharing and the use of applications such as CDCIS, SMRP and FoSIM as accessible to the users. As the administrate for MOH network, the unit is also responsible for monitoring the network at all times and troubleshoots all complaints from the users.

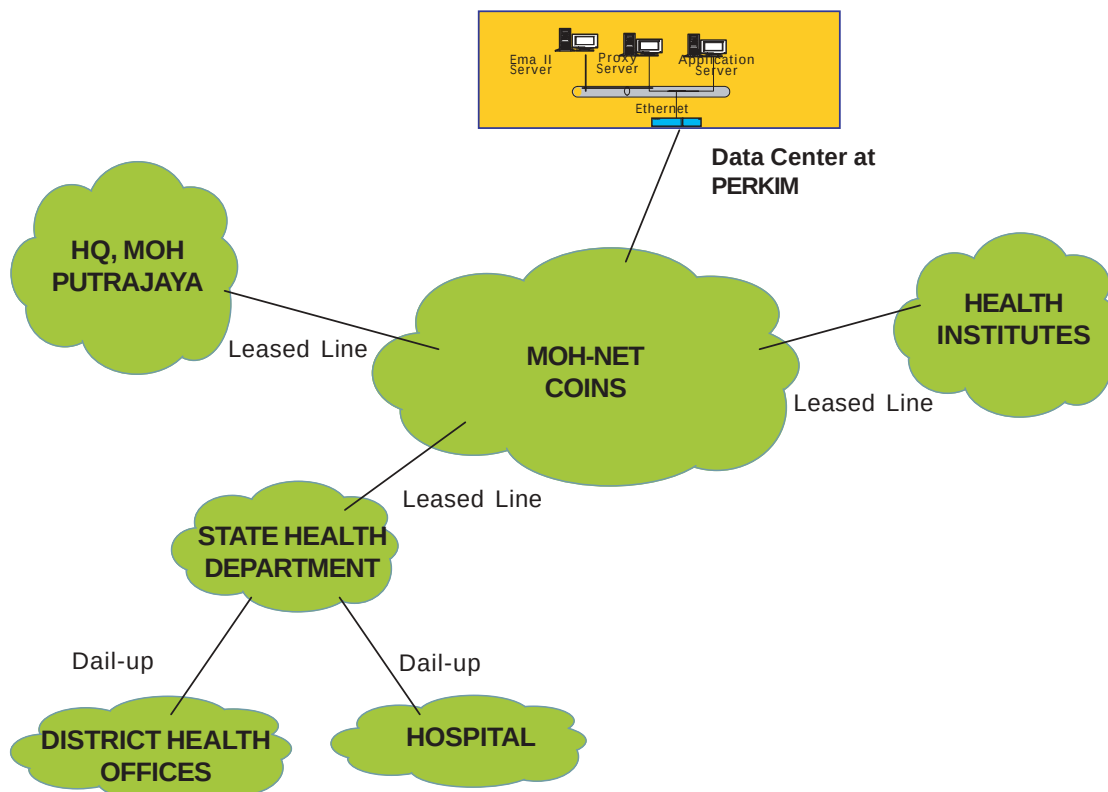


DIAGRAM 1: MOH-NET

MEDICAL PROGRAMME

Medical Care Information System (HMIS – SMRP MC ICD10)

SMRP was developed in-house in 1998 to collect and analyze patient admission information based on the standard code ICD10. The system has been used in all medical record offices in government hospitals since year 2000.

Major activities throughout 2004 are maintenance, monitoring and user support. Enhancement and upgrading of the system was also done and a new version will be released to users upon endorsement by Information and Documentation System Unit (IDS). The ICT Division and Information and Documentation System Unit (IDS) are responsible for the development, enhancement, monitoring, providing advisory services, conducting user training and continuous support and maintenance of the system.

In-patient Management System (IPMS)

Inpatient Management System (IPMS) is an online system designed to facilitate the administrative management of in-patient and the collection of revenues. IPMS, an in-house system developed in 1994, is currently being used by fifteen (15) hospitals throughout Malaysia. ICT Division and *Unit Hasil* is responsible for this system, this includes system monitoring, user training, help-desk, support and advisory services. The future plans of IPMS are as follows : -

- Rewrite IPMS using the latest and appropriate platform
- Reinstallation of IPMS and the integration with LIS at Seremban Hospital.
- Hardware replacement for IPMS, installation of OPMS and the integration of IPMS and OPMs at HKL, Ipoh Hospital, Batu Pahat Hospital and Kajang Hospital.

HEALTH PROGRAMME

Teleprimary Care (TPC) Application System

Teleprimary Care (TPC) is a pioneer project implemented in a number of selected districts in Johore and Sarawak. The development of this system started in 2003 by Brilliance Information Sdn. Bhd. The objective is to enhance the capability and proficiency of health clinics, i.e. the primary level, especially in the rural areas, thus reducing the congestion presently a plague at all hospitals.

TPC was in the development stage throughout 2004. The first phase was the study of system requirements, system design and system programming which was done in the beginning of 2004. By mid 2004, focus was given to the next phase, i.e. system testing. Henceforth, all the phases in the development stage were done in parallel and the system is expected to be completed by mid 2005. ICT Division and Family Health Development Division are responsible in analyzing, the study of user requirements, system monitoring and providing advisory services on the technical evaluation.

Food Safety Information System Of Malaysia (FoSIM)

A web-base system, FoSIM is developed to enhance surveillance on information to ensure food sold in Malaysia is safe for consumption. The system is able to process import permit and electronically transfer information to all entry points. FoSIM has an interface with Customs Information System (SMK), which enables importers/agents and officers to manage food importing activities electronically using ICT.

Since August 2003, FoSIM has been used in the Head Quarters of MOH, State Health Department, District Health Department, entry points of Malaysia, food quality control lab, agents, importers and other agencies. Together with Food Safety and Quality Division, Information and Communication Technology Division periodically supervises, monitors and provides advisory services as required.

Communicable Diseases Control Information System (CDCIS)

Communicable Diseases Control Information System (CDCIS) is an online networking application system linking record offices of hospitals and Communicable Disease Control Unit of District Health Offices to the State Health Offices via the ministry's network, HMISII, was developed by ICT Division, MOH.

Throughout 2004, the performance of the application system was monitored by Communicable Disease Control Division and Information and Documentation System Unit and ICT Division and the flaws and enhancements required for the system were identified. As a result, several prototype screens were designed to fulfill additional user requirements. The integration of FOMEMA and VEKPRO was found necessary and was carried out and completed in April 2004. CDCIS was also installed at the Orang Asli Hospital upon the request from JHEOA, Gombak. Future plan for CDCIS is to go online in 2005.

PUBLIC HEALTH PROGRAMME

3



Oral Health

INTRODUCTION

Development of policies on oral health, management of national oral health (dental) services, oral health promotion, and the formulation as well as enforcement of laws and regulations related to dentistry in the country are roles of the Oral Health Division, Ministry of Health. As the 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 oral health status of the nation. The Division is one of five under the Department of Public Health of the Ministry. In addition, the secretariat of the Malaysian Dental Council is located on the same premises and is responsible for matters pertaining to the practice of dentistry in the country.

At the Division level, the formulation of strategies, planning of programmes, and monitoring as well as evaluation of activities are carried out. The implementation of programmes and collection of data is carried out by the state dental services. Through direct linkage with the state dental departments, there is continual feedback and interaction.

ACTIVITIES AND ACHIEVEMENTS

ORAL HEALTH PROMOTION

To increase awareness of oral health, activities are planned both at national as well as state level. The implementation of activities is generally by the state dental services.

Monitoring of Oral Health Promotion Activities

Dental officers and dental nurses conduct oral health promotion activities in the states. These activities focus on the identified target groups and include dental health talks (DHT), toothbrushing drills (TBD), slide/film/puppet shows, exhibitions, campaigns, and talks over radio/TV. A comparison of the activities undertaken from 2002 – 2004 can be seen in Table 1. There was an increase by 21.8% in the total number of oral health promotion activities carried out in 2004 compared to 2003.

TABLE 1
Dental Health Education Activities (2002-2004)

Type Of Activity	2002	%	2003	%	2004	%
TBD	213,464	50.41	201,195	50.1	243,293	49.75
DHT	166,888	39.41	153,218	38.15	188,056	38.45
Slide shows	4,993	1.18	5,609	1.40	7,363	1.51
Puppet shows	1,779	0.42	1,805	0.45	2,236	0.46
Exhibitions/ campaigns	1,434	0.34	1,519	0.38	2,510	0.51
In - service training	322	0.08	392	0.10	609	0.12
TV/ radio	103	0.02	191	0.05	286	0.06
Film shows	48	0.01	48	0.01	42	0.01
Others	34,437	8.13	37,616	9.37	44,654	9.13
Total	423,468	100.00	401,593	100.00	489,049	100.00

Source: Information and Documentation System Unit, MOH

TBDs were still the most commonly performed activity, accounting for close to half of all oral health promotion activities of 2004. This was followed by DHT. The number of participants for TBD and DHT in 2004 is shown in Table 2. It can be seen that there was a drop in total number of participants for TBD while there was an increase for DHT.

TABLE 2
Number Of Participants For TBD and DHT, 2003 - 2004

Target Group	TBD 2003	TBD 2004	DHT 2003	DHT 2004
Pre-schoolchildren	1,093,630	1,113,686	839,430	860,236
Primary Schoolchildren	4,299,633	4,247,568	2,819,728	2,886,949
Secondary Schoolchildren	8,650	12,531	525,733	567,458
Ante-natal mothers	922	137	61,336	61,434
Adults	1,478	1,863	59,941	71,438
Total	5,404,313	5,375,785	4,306,168	4,447,515

Source: Information and Documentation System Unit, MOH

FLUORIDATION OF PUBLIC WATER SUPPLIES

Primary prevention for dental caries is carried out through the water fluoridation programme which has been in place since 1972. The public water supply is fluoridated at an optimum level of 0.5 – 0.7ppm. Close co-operation between public and private agencies, namely

the Oral Health Division, the Engineering Division and the Public Health Department of the Ministry of Health; the Chemistry Department; the Public Works Department; and the public and private water departments, determine the success of this programme. Smooth running of fluoride feeders and the careful dosing of water are required in order for the optimum level of fluoride to be maintained.

Water Treatment Plants with Fluoride Feeders

There has been an increase in the number of water treatment plants with fluoride feeders since initial implementation of water fluoridation in Malaysia. Similarly, an increasing proportion of the population has been receiving fluoridated water. In the past few years, there have been efforts to consolidate plants with small capacities into ones with larger capacities, resulting in a continued increase in the percentage of the population receiving fluoridated water, with no subsequent increase in number of water treatment plants. The number of water treatment plants with fluoride feeders by state can be seen in Table 3. In 2004, about 57% (249) of the total 438 treatment plants had fluoride feeders.

TABLE 3
Number Of Water Treatment Plants With Fluoride Feeders By State 2004

State	No. Of Water Treatment Plants	No. Of Water Treatment Plants With Fluoride Feeders
Perlis	3	2
Kedah	29	20
Penang	12	12
Perak	45	36
Selangor & Federal Territory	33	32
N. Sembilan	25	17
Malacca	6	5
Johore	44	26
Pahang	76	45
Terengganu	13	13
Kelantan	29	0
Pen. Malaysia	315	208
Sabah	33	7
Sarawak	90	34
MALAYSIA	438	249

Source: State Oral Health Departments, MOH

Fluoridation Programme Population Coverage

Annual Population Coverage is calculated based on the estimated mid-year population projection of the Department of Statistics Malaysia. Approximately 90% of the Malaysian population receives piped water supplies. The population benefiting from fluoridated water supplies has been steadily increasing since the programme first began.

Table 4 shows the population receiving fluoridated water in the last three years. The total coverage of population receiving fluoridated water is seen to have increased. The fluoridation programme in Kelantan and Terengganu was discontinued in 1995 and 2000 respectively and has still not been re-instituted. Efforts will continue for the expansion of coverage of the fluoridated water supply, in order to reduce caries and maintain good dentition status of the population.

TABLE 4
Percentage Of The Population Receiving Fluoridated Water Supplies, 2002 - 2004

Year	2002	2003	2004
Total no. of population receiving fluoridated water	14,390,829	15,627,772	16,576,737
Percentage population receiving fluoridated water	59.0	62.4	64.8

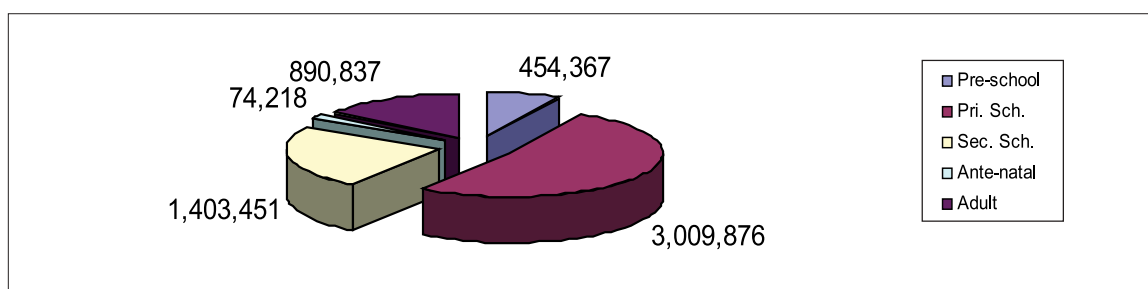
*Source: Oral Health Division, MOH
Information and Documentation System Unit, MOH*

PRIMARY ORAL HEALTH CARE

Various programmes have been designed and implemented to ensure the best possible oral health outcomes for the target groups (pre-school children, primary and secondary school children, ante-natal mothers, the elderly and children with special needs).

In order to make the delivery of primary oral healthcare more effective, several guidelines have been developed. These guidelines will assist the dental profession towards a more standardised protocol. They will also ensure effective implementation of related concepts such as clinical pathways, quality assessment and outcomes analysis. With seamless flow of information between patient and clinician, service delivery will also be strengthened. It is observed that 25.2% of the Malaysian population attended Ministry of Health primary oral healthcare facilities in 2004 (Figure 1). Based on new attendances of the various groups, highest was by primary school children while the lowest was by the ante-natal group.

FIGURE 1
New Attendances For Primary Oral Health Care By Category Of Patient, 2004



Source : Information and Documentation System Unit, MOH

Pre-school Children

The pre-school programme is essentially preventive in nature. Realising the need to improve the oral health status of this group of children, the following strategies have been laid out :

- a) The pre-school dental mobile team was established to expand coverage for oral health promotion activities
- b) Simple non-invasive, non-threatening procedures such as ART (Atraumatic Restorative Treatment) technique was introduced, as and when appropriate
- c) A proper referral system was established to ensure pre-schoolers attend dental clinics for further management
- d) Involvement of pre-school teachers as role models and using the pedagogical approach for an effective preventive programme.

The proportion for new attendances of pre-school children has shown a gradual increase from 23.01 % in 1996 to 44.2 % in 2004 (Table 5). In the last year, the increase was by 2.2%.

TABLE 5
Pre-school Children Receiving Primary Oral Health Care, 1996 – 2004

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004
Pre- school Children (%)	23.01	26.8	29.6	32.8	36.5	37.8	39.3	41.96	44.2

Source : Information and Documentation System Unit, MOH

Primary and Secondary School Children / School Dental Service

Oral health care to primary and secondary school children is delivered through the School Dental Service (SDS) which utilizes the Incremental Dental Care approach, a systematic and comprehensive approach for delivery of care with the final objective that the children achieve an orally-fit status. Care is delivered mainly at school dental clinics, dental clinics, mobile dental clinics or by mobile dental teams. The SDS has been successful at reducing the caries experience of school children. The DMFT status of the 12-year-old can be said to be comparable to that of developed countries. Extensive coverage of school children has been possible using the outreach mode. The mobile dental team comprises an effective mix of personnel consisting of dental officers, dental nurses, dental surgery assistants and health attendants.

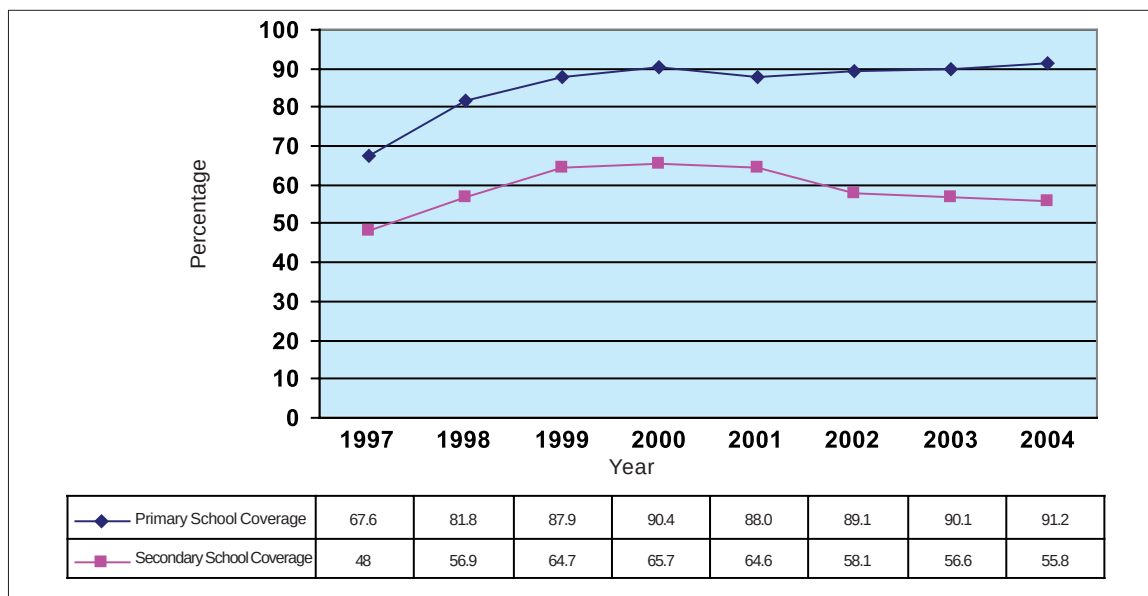
Primary school coverage increased to 91.2 % in 2004 (Figure 2). There were 6,914 primary schools visited out of the 7,578 schools. However only 1,177 (55.8%) secondary schools were visited out of the 2,111 schools in that year. For all primary schools visited, 99.5 % of the school children were examined. It is noted that out of the primary school children examined, about 61.8 % did not require any dental treatment. Primary school children coverage was 94.2% whereas, for secondary school children, it was 57.5%. It is observed that all states achieved more than 95 % coverage of primary school children except for Terengganu (94.4 %) and Sarawak (89.6 %). On the other hand, only six states achieved

more than 95 % coverage for secondary school children. The states were Perlis, Federal Territory Kuala Lumpur, Federal Territory Labuan, Malacca, Johore and Pahang.

Impact indicators are used to monitor the oral health status of 6-, 12- and 16-year-old school children. The proportion of 6-year-olds with caries-free mouths increased to 27.6% in 2004 (Figure 3). Likewise, the proportion of caries-free 12-year-olds and 16-year-olds have shown a gradual increase, with more than half the population of 12-year-olds being caries-free. The proportion of caries-free 6-year-olds at 27.6 % is still quite low. It is hoped now that a more structured pre-school programme is implemented, further improvements to the oral health status of the child about to enter primary school will occur.

The proportion of 12-year-olds with the caries index of less or equal to 3 ($DMFX \leq 3$) has increased slightly from 81.6% in 1996 to 86.3 % in 2004. Caries experience in more than 3 teeth is thus seen in approximately 14 % of 12-year-olds, which indicates extra attention has to be focused on this group.

FIGURE 2
School Coverage In Malaysia, 1997 – 2004

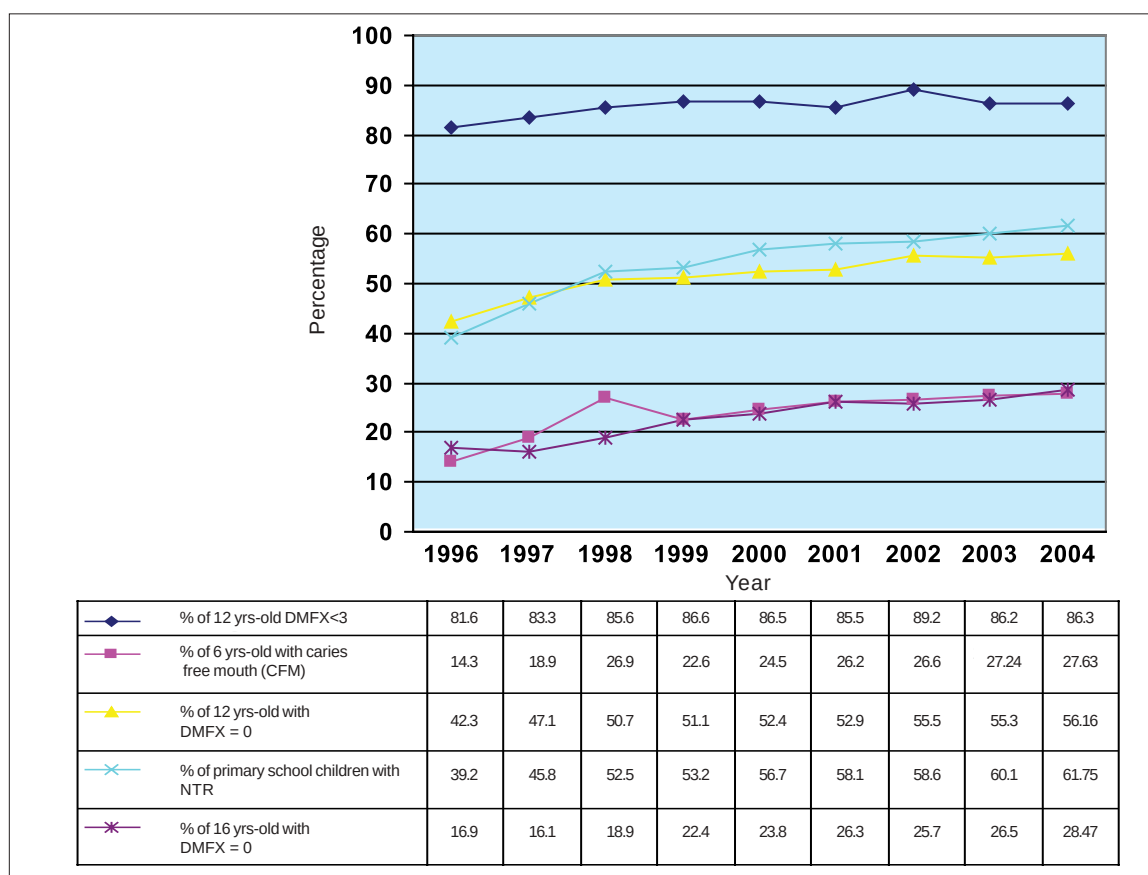


Source : Information and Documentation System Unit, MOH

Ante-natal Mothers

Based on the premise that mothers can be agents-of-change for oral health in the home environment by stimulating behavioral change amongst family members, the main agenda of the ante-natal programme is to impart oral health knowledge to these mothers. The ante-natal mothers are also given free oral health treatment. By arrangement, the ante-natal mothers who frequent the Maternal and Child Health Clinics, are referred for oral health promotion sessions and routine examinations to the nearest government dental clinic. Further appointments are scheduled, if necessary.

FIGURE 3
Impact Indicators For School Dental Service, 1996 – 2004



Source : Information and Documentation System Unit, MOH

Despite the privileges offered, the coverage of ante-natal mothers at primary oral health care facilities based on the percentage of new attendances remains very poor and has been showing a decreasing trend. In 2004, out of a total 592,092 ante-natal mothers attending government clinics, only 74,218 (12.5 %) utilized the primary oral health care facilities.

Adults

Apart from providing outpatient oral health care, there is no structured programme dedicated for adults. Oral health care for adults is provided on a demand basis and the more complex cases are referred to dental specialists for further management. In 2004, the estimated adult Malaysian population was 16,377,582 and only 890,837 (5.4 %) of adults sought primary oral health care at the Ministry of Health dental clinics. A higher percentage of new attendances of adults is seen in the states of Perlis (11.6 %), Negeri Sembilan (9.95 %) and Terengganu (9.35 %).

Out of a total of 813,405 adult patients seen by dental officers, the breakdown according to ethnic groups was highest for Malay i.e. 616,479 (75.8 %), followed by Chinese at 126,171 (15.5 %), Indians at 66,570 (8.2 %) and the remaining are in the “Others” category. The majority either came for extraction, scaling or for fabrication of prosthesis.

The Elderly

The aim of the programme for this group is awareness of oral health for the elderly and their carers, development of appropriate self-care practices and provision of care to the elderly at various identified locations, for improved oral health and quality of life. While care at dental clinics and outreach services to institutions, community or day-care centers are quite established, in some states more than others, the provision of domiciliary care to residential homes is a long term plan which has not materialised yet. However, towards this end, the states of Pahang and Pulau Pinang have utilised money under New Policy/ One-off to design and customize vans to be used as dental clinics for provision of domiciliary oral health care to this group.

THE SCHOOL-BASED FISSURE SEALANT PROGRAMME

In the National Oral Health Survey of School Children 1997 (NOHSS '97) it was found that the majority of caries seen were on the occlusal surfaces of teeth. There were approximately 44% and 39% of carious occlusal surfaces in the 12- and 16-year-olds respectively. The teeth most commonly affected by dental caries were seen to be the first and second molars, with the first permanent molars being twice more affected than the second permanent molars. These facts serve to emphasize the need for fissure sealants as a clinical preventive measure to overcome the main types of dental caries now observed in Malaysia.

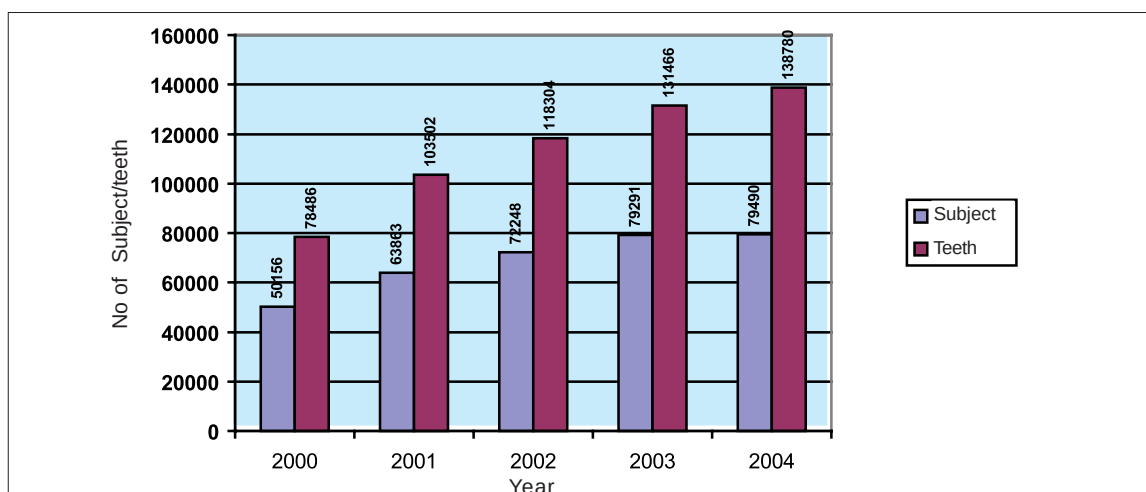
For this purpose, the national guidelines on the conduct of a school-based fissure sealant programme were formulated in 1999 and the protocol was revised in 2002. This program focuses on Year I and Year II school children, as well as high-risk individuals. This program has been expanded in order that more school children have fissure sealed teeth, as shown by the increasing trend of fissure sealants rendered both by subject and teeth amongst primary school children as in Figure 4.

As the provision of fissure sealants is an integral part of incremental oral health care for primary school children, within available resources, the continuous emphasis on year I and II school children will be maintained to enable good oral health and quality of life for future generations.

PRIMARY PREVENTION AND EARLY DETECTION OF ORAL PRE-CANCER AND CANCER PROGRAMME

Although prevalence of oral cancer is low in Malaysia at 0.04%, certain unique characteristics are associated with oral pre-cancer and cancer in the country. It can be seen that oral lesions are found to be predominant among some identified communities. While the Indian ethnic group comprises about 8% of the population, 60% of oral lesions are found amongst them. There is also a higher prevalence of associated “pre-cursor” lesions amongst Indians and the indigenous groups. Apart from ethnic origin as a factor, these communities also practice risk habits found to be associated with oral lesions: namely quid chewing, tobacco use and alcohol consumption.

FIGURE 4
Number Of Subjects/Teeth Rendered Fissure Sealant 2000 - 2004



Source : State Oral Health Departments, MOH

The 'Primary Prevention and Early Detection of Oral Pre-cancer and Cancer Programme' was launched on the basis that early intervention through raising awareness of such lesions together with efforts towards modifying, reducing, or stopping risk habits, would also lead to a reduction of the more invasive forms of the disease. In year 2002 the first protocol (1996) was reviewed and the second phase of the nationwide oral cancer screening programme was implemented. Standardisation of 14 oral surgeons was conducted to cover the 14 Malaysian states, for further echo-training of Dental Officers to a reasonably consistent common standard using training packages which were also developed.

The preliminary results (Table 6) of the second phase of the screening programme, at the end of 2004, reported that 5,044 subjects were screened (13.6% of the target groups). Of that, 215 (4.5%) individuals with lesions were identified and 112 were referred to Oral Surgeons for management. Compliance rate for referrals was 40.2% (45 cases).

Among those referred, it was found that seven cases (15.5%) were pre-malignant cases and two cases (4.4%) were malignant. Three cases were found at TMN Stage 3, while one case was at TMN Stage 1 and 4 cases at TMN Stage 2.

Further management of all referred patients will be done at hospitals. Through a government-funded research project, these patients are being followed-up and details of diagnostic findings and management strategies are stored in a central database and monitored. Similarly, the targeted high-risk population will go through a process of re-screening at specified intervals under the national screening programme to ensure follow-through of cases with high-risk habits. There has been an increase in number of health promotion and dental health talks given (Table 7). More than 90% of the total number of cases screened received dental health talks.

TABLE 6
Number and Percentage of Population Screened and Referred
For Oral Pre-cancer/Cancer Programme, 2003 and 2004

Year	Total Population > 20 yrs	No. Examined		Total attendances	% Examined	No. with lesions		No. referred	No. seen by Oral Surgeons	
		New	Repeat			n	%		n	%
2003	26,908	3,409	219	3,628	13.5	135	3.96	77	26	33.8
2004	10,084	1,413	3	1,416	14.0	80	5.66	35	19	54.3
Total	36,992	4,822	222	5,044	13.6	215	4.46	112	45	40.2

Source: Oral Health Division, MOH

TABLE 7
Oral Health Promotion Activities And Dental Health Education Talks
For Oral Pre-cancer/Cancer Programme 2003-2004

Year	No. of high risk estate/ kampung	No. of estate/ kampung visited		No. of patients screened	No. of Health Promotion activities heald	Dental Health Talks	
		New	Repeat			No. of talks given	No. of participants
2003	355	114	21	3,628	91	54	2,088
2004	217	43	2	1,416	70	279	2,459
Total	572	157	23	5,044	161	333	4,547

Source: Oral Health Division, MOH

SPECIALIST ORAL HEALTH CARE

Year 2004 saw the number of dental specialists in the Ministry of Health increase to 219 from a total of 201 in year 2003. (Table 8). Amongst the clinical specialists, the number of oral surgeons (34) and the number of orthodontists (31) are singularly more than double the number of paediatric dentists (13) and the number of periodontists (10). The total number of Oral Medicine/Oral Pathologists is still small (5). New dental specialty fields for the Ministry of Health have also been identified. These are the fields of restorative dentistry and forensic dentistry. The first restorative specialist reported for duty in 2004.

Recognition of post-graduate degrees in dentistry allows for better choices and opportunities for the dental professional in the Ministry of Health. In April 2004, the post-graduate qualification Master of Dental Surgery in Forensic Odontology from the University of Adelaide was granted recognition.

Further to that, in June 2004, the following post-graduate dental qualifications were similarly granted recognition :

- Membership of the Faculties of Dental Surgery of the Royal Colleges of Surgeons of England (MFDSRCS(England))

- Membership of the Faculties of Dental Surgery of the Royal Colleges of Surgeons of Edinburgh (MFDSRCS(Edinburgh))
- Membership of the Faculties of Dental Surgery of the Royal Colleges of Physicians and Surgeons of Glasgow (MFDSRCPS(Glasgow))
- Master in Clinical Dentistry in Periodontology, Prosthodontics, Restorative Dentistry and Pediatric Dentistry from Universities in the United Kingdom and Ireland.

By obtaining recognition, the holders of these qualifications are entitled to be called specialists in the Ministry of Health Malaysia. The degree of Master in Orthodontics from the University Malaya was also recognised at the same time.

Clinical Practice Guidelines are developed for identified conditions, where concerns of variation in practice management indicate a need for preparation of a set of evidence-based guidelines. The Clinical Practice Guidelines (CPG) on the “Management of Anterior Crossbite”, completed in 2003, was distributed in 2004. The CPGs on “Management of Periodontal Abscess” and “Management of the Palatally Ectopic Maxillary Canine” were completed, printed and also distributed in 2004. Other topics which are in the final stages of development are as seen in Table 9.

Core Competencies and Referral Guidelines for the various specialist disciplines are also being developed.

A Clinical Senior Dental Officers Conference was held in Sabah in June, 2004. The clinical senior dental officer attends to complex cases referred to them before further referring the patients to the specialists for management, if necessary. The conference was held to update the knowledge and skills of these officers for management of the referred complex cases. Several specialists were involved in delivering presentations pertaining to the various disciplines.

TABLE 8
Dental Specialists By Discipline Ministry Of Health Malaysia, 1999 – 2004

Discipline	Number of Specialists					
	1999	2000	2001	2002	2003	2004
Oral Surgery	28	32	30	31	34	34
Orthodontics	28	28	26	27	28	31
Paediatric Dentist	6	8	10	10	10	13
Periodontist	7	8	7	7	8	10
OM/OP	1	2	3	3	4	5
Restorative Specialist	0	0	0	0	0	2
Total Clinical Specialists	70	78	76	78	84	95
Public Health	96	102	103	110	117	124
Grand Total	166	180	179	188	201	219

Source : Oral Health Division, MOH

TABLE 9
Dental Clinical Practice Guidelines At Final Stages Of Development

No.	CPG Topic	Discipline
1.	Management of Unerupted and Impacted Lower Third Molar Teeth	Oral Surgery
2.	Management of Unilateral Condylar Fracture of the Mandible	Oral Surgery
3.	Management of the Unerupted Maxillary Central Incisor	Orthodontics
4.	Management of Early Childhood Caries	Paediatric Dentistry
5.	Management of Chronic Inflammatory Periodontal Disease	Periodontology

Source : Oral Health Division, MOH

Monitoring of Specialist Oral Health Care Programme

a. Oral Surgery

The oral surgery clinics recorded an increase in the number of patients (new attendances) in 2004 (Table 10). Utilisers of oral surgery specialist care are mainly adults, followed by secondary school children, primary school children, pre-schoolers and ante-natal mothers.

TABLE 10
Oral Surgery Specialist Care 2002 – 2004

Category of Patients	No. of Patients			Total Attendance		
	2002	2003	2004	2002	2003	2004
Pre-school	1,247	1,254	1,414	2,598	2,847	3,320
Primary School	1,197	1,158	1,443	3,072	3,124	3,465
Secondary School	2,102	2,229	2,318	6,314	7,228	7,052
Ante-natal	185	213	233	288	395	318
Adult	25,829	28,598	32,623	72,422	80,655	93,603
Total	30,560	33,452	38,031	84,694	94,249	107,758

Source: Information and Documentation System Unit, MOH

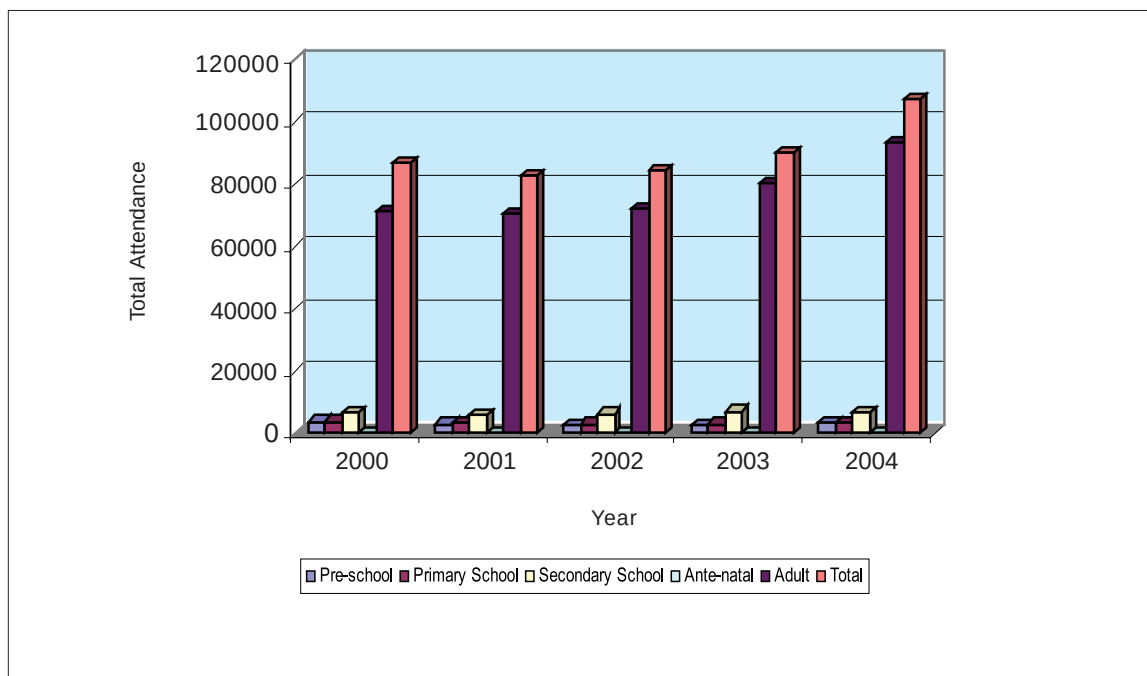
While there was, in general, a slight dip in utilisation (total attendances) for 2001 and 2002, there appears to be a trend of increase after that (Figure 5). Care provided by the oral surgeons ranges from extractions, surgery, biopsies, fracture management, restorative care, prosthetics, to management of the temporo-mandibular joint. Patients are seen as in-patients and out-patients, and referrals are from dental clinics or medical clinics, both from the public and private sectors. In 2004, there were on average, 2.8 visits made per patient.

b. Orthodontics

The number of orthodontic patients (new attendances) recorded was more than the previous year (Table 11). Total attendances have also increased. Each patient made, an average of 3.9 visits in the year.

The main utilisers for orthodontic care are secondary school children and adults (Figure 6).

FIGURE 5
Total Attendances At Oral Surgery Clinics 2000 – 2004



Source: Information and Documentation System Unit, MOH

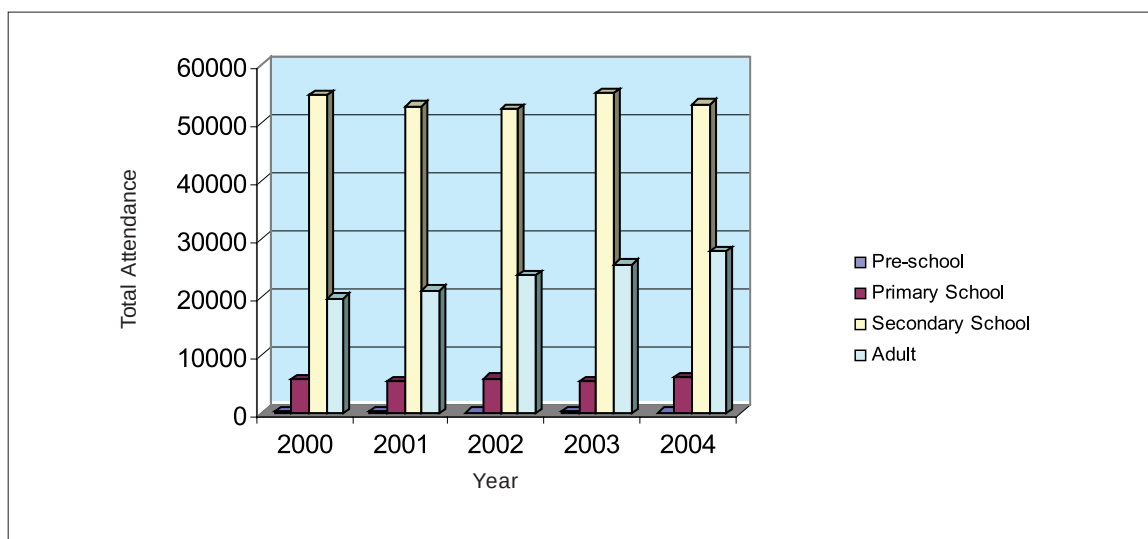
TABLE 11
Orthodontic Specialist Care 2002 – 2004

Category of Patients	No. of Patients			Total Attendance		
	2002	2003	2004	2002	2003	2004
Pre-school	142	160	118	262	311	225
Primary School	2,603	2,156	2,536	6,097	5,672	6,193
Secondary School	13,287	13,607	13,852	52,460	55,058	53,230
Adult	5,467	5,596	6,008	23,693	25,733	27,833
Total	21,499	21,519	22,514	82,512	86,774	87,481

Source: Information and Documentation System Unit, MOH

The care provided by orthodontists fall into the following categories : consultation (I and II), X-rays taken, impressions taken, types of treatment given (sub-categorised as removable and fixed appliances), active treatment completed and review/retention cases. Breakdown of some items of care can be seen in Table 12. National data indicates that active treatment completed and review/retention cases recorded was lower than in the previous year.

FIGURE 6
Total Attendances At Orthodontic Clinics 2000 – 2004



Source: Information and Documentation System Unit, MOH

TABLE 12
Types Of Orthodontic Care Provided 2003 -2004

Item of Care		2003	2004
*Consultation	I	7,665	7,912
	II	4,011	4,293
Removable Appliances	New	6,981	7,064
	No. of Patients	4,778	4,792
	Adjustment	11,777	12,625
Fixed Appliances	New	5,433	5,356
	No. of Patients	3,654	3,265
	Adjustment	52,596	52,677
	Change of archwire	19,332	20,353
Active Treatment Completed		2,844	2,711
Review/ Retention Cases		8,675	8,023

Source : Information and Documentation System Unit, MOH

*Consultation I = First time Orthodontist examines patient following referral

Consultation II = Orthodontic Treatment begins

c. Paediatric Dentistry

In 2004, the number of patients and the total attendances at paediatric dental specialist clinics has increased (Table 13).

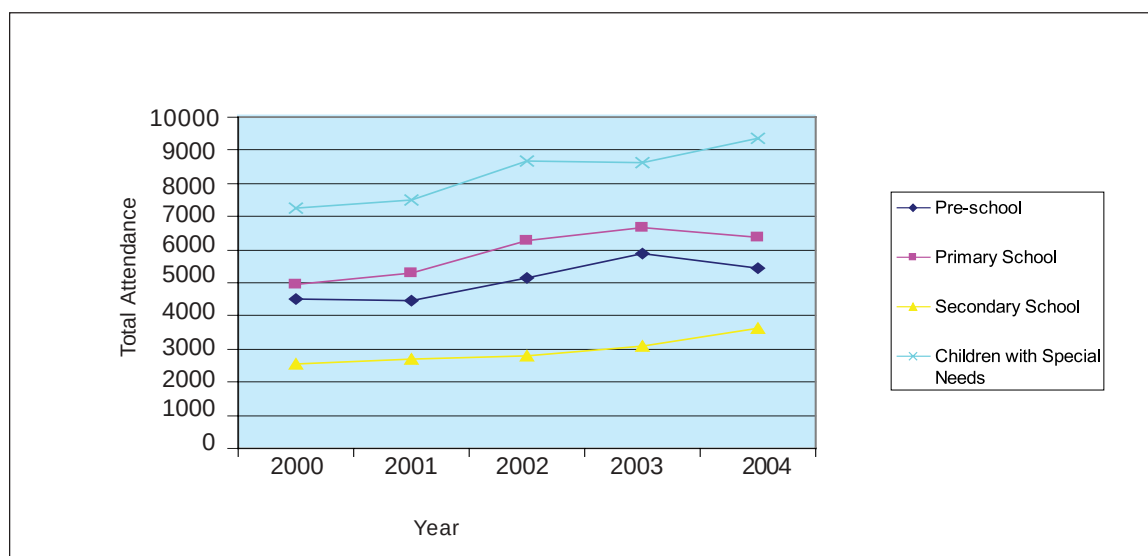
TABLE 13
Paediatric Dental Specialist Care 2002 – 2004

Category of Patients	No. of Patients			Total Attendance		
	2002	2003	2004	2002	2003	2004
Pre-school	1,588	1,901	2,091	5,140	5,872	5,423
Primary School	1,661	1,976	2,043	6,278	6,643	6,353
Secondary School	776	859	1,138	2,775	3,080	3,643
Children with Special Needs	2,057	2,133	2,809	8,656	8,638	9,371
Total	6,082	6,869	8,081	22,849	24,233	24,790

Source: Information and Documentation System Unit, MOH

It is observed that there has been an increase in new patients for Paediatric Dental Specialist services in all four categories over the last three years. Total utilisation (total attendances) has increased slightly in 2004 after a drop in the previous year, with each patient averaging 3.1 visits for the year. The increase was due to the increase in total attendances by children with special needs and secondary school children (Figure 7). About 38% of paediatric dental care utilisation was by children with special needs.

FIGURE 7
Total Attendances At Paediatric Dental Specialist Clinics, 2000 – 2004



Source: Information and Documentation System Unit, MOH

Children below the age of 16 years are referred to paediatric dental specialists because they are difficult to manage or require complex oral health care. The referrals are from medical units, paediatric surgical units, wards, accident and emergency departments and out-patient departments in hospitals, as well as private and public medical and dental clinics.

These children may have dental problems, may be medically-compromised, or may have special needs. They can present with traumatic injuries (soft tissue injuries or dento-alveolar complex injuries), fractures of the basal bones, oral medicine and oral pathology problems, or early childhood caries. The care given is categorised as : prevention, restoration, pulpal therapy, trauma, interceptive orthodontics, provision of prosthesis, extraction, oral surgery, oral medicine/pathology, general anaesthesia, sedation, and others.

Preventive care is sub-categorised into oral hygiene instruction and prophylaxis, diet counselling, topical fluoride therapy and fissure sealant application. Meanwhile, the sub-categories for restorative care are amalgam restorations, tooth-coloured (composite/glass ionomer cement) restorations, and inlays, crowns/veneers. Pulpal therapy includes deciduous pulpotomy and apexification, while trauma includes soft tissue treatment, traumatised teeth restoration, dental alveolus treatment, bone treatment and splinting. For interceptive orthodontics, appliances or space maintainers are issued while for prostheses provided, they are either dentures, obturators or others. Oral surgical treatment is provided for management of abscesses, soft tissue lesions, and hard tissue lesions. Dento-alveolar surgery is for removal of supernumeraries, exposure of unerupted teeth, taking of biopsies, and apicectomies.

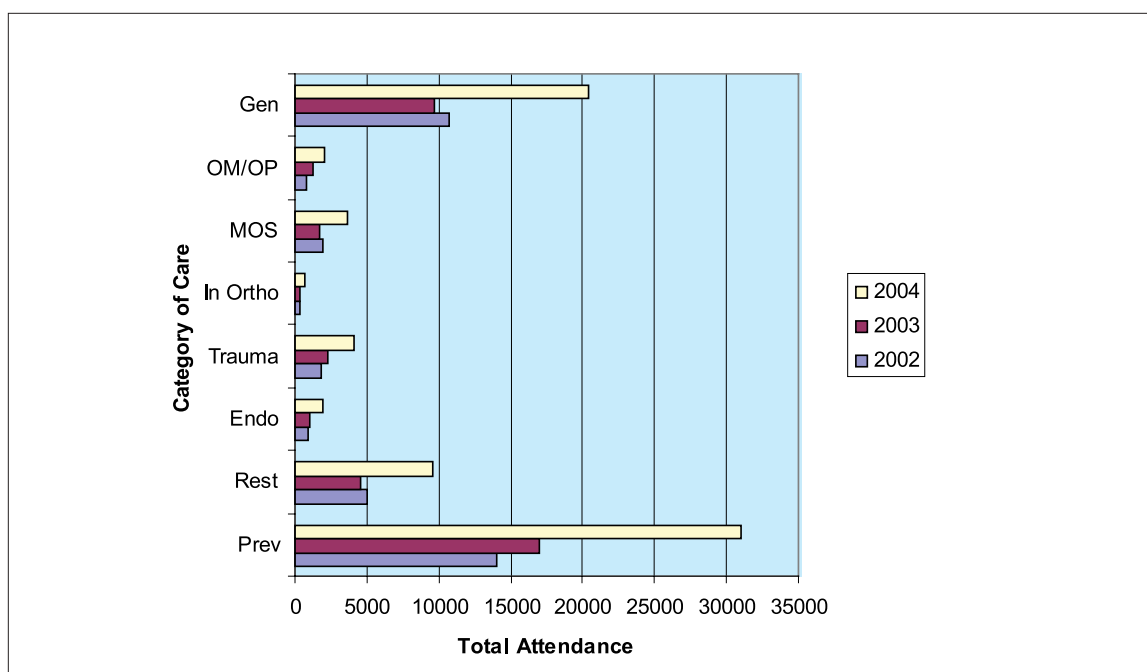
As in the previous year, total attendance by category of care shows that the highest was for preventive care while the lowest was for interceptive orthodontics (Figure 9). For the year 2004, there were 2,371 completed cases and 1,518 orally-fit cases during re-examination.

d. Periodontology

There was an overall decrease in the number of patients for all categories from the previous year, but this is still higher than in 2002 (Table 14). The main utilisers for periodontic care are the adults, making up 93.6% of the total attendances for year 2004 (Figure 9). This is consistent with the fact that periodontal problems are mainly experienced by the older age groups. There were 3.1 visits per patient in 2004.

Care provided by periodontists can be classified into the following categories : restorations (inlay/crown/bridge, endodontics); extractions (normal, surgical); surgical procedures (flap surgery, gingivectomy, graft placement, frenectomy, root amputation, guided tissue regeneration, crown lengthening and surgery for implant placement); provision of prostheses (full dentures, partial dentures, implants, others); occlusal adjustments; splinting of teeth; laser treatment and taking of study models.

FIGURE 8
Care Provided by Paediatric Dental Specialists 2002-2004



Source: Information and Documentation System Unit, MOH

TABLE 14
Periodontic Specialist Care, 2002 – 2004

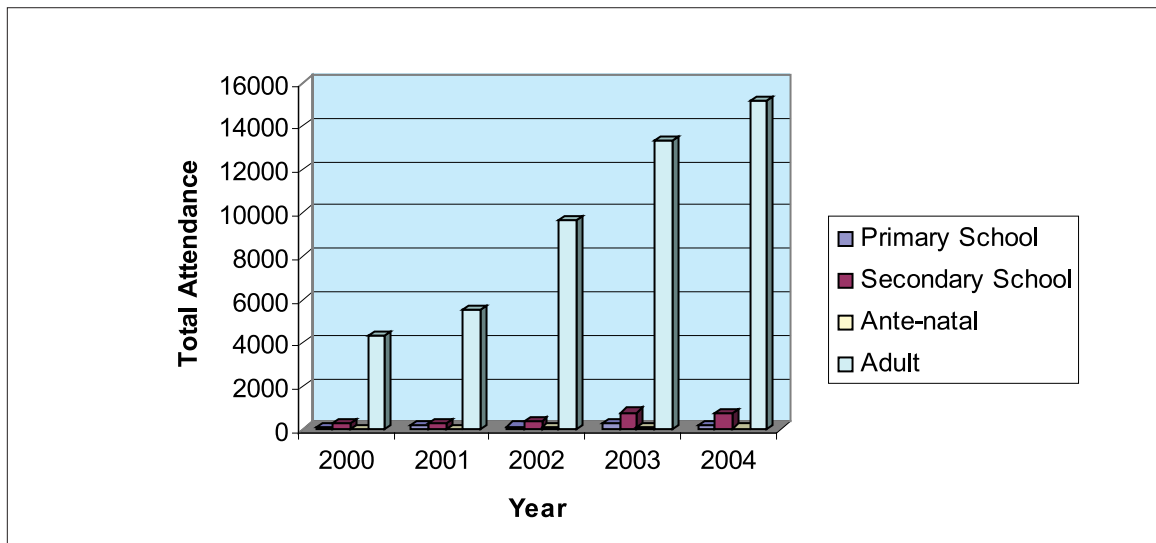
Category of Patients	No. of Patients			Total Attendance		
	2002	2003	2004	2002	2003	2004
Primary School	82	99	91	145	271	215
Secondary School	180	351	288	381	795	752
Ante-natal	60	38	26	92	82	72
Adult	4,510	4,855	4,775	9,620	13,313	15,140
Total	4,832	5,343	5,180	10,238	14,461	16,179

Source: Information and Documentation System Unit, MOH

There were 12,928 patients examined in 2004 as compared to the 11,621 patients in the previous year, while 10,267 were cases for consultation/counselling as opposed to 9,164 cases in year 2003.

In 2004, completed periodontal cases numbered 552 while under maintenance care there were 832 cases. In contrast to 2003, the completed cases then was more (654 cases) while maintenance cases was less (531).

FIGURE 9
Total Attendances At Periodontic Clinics 2000 - 2004



Source: Information and Documentation System Unit, MOH

RESEARCH

NOHSA 2000

A decision was made to combine the NOHSA 2000 report, which was intended as a two-volume report with the first volume on ‘Oral Health Status’ and the second on ‘Oral Health Perception and Impacts of Oral Health’, into one. Editing for the book was completed by November 2004, and printing will be carried out in 2005.

Identifying Risk Factors for Fluorosis among 16-Year-Olds

Data on the 1999 study ‘Fluoride Enamel Opacities among 16-year-olds’ was further analysed using logistic regression to identify the possible risk factors for fluorosis. This was conducted by personnel from the Oral Health Division with two Master in Public Health (Oral Health) students from Universiti Sains Malaysia. The report was ready in December 2003 and application to publish the article in an international journal was made in 2004.

Cross-Cultural Adaptation and Validation of the English Version Geriatric Oral Health Assessment Index (GOHAI) for use in Malaysia

Several activities were held in relation to the above project, a collaboration between three agencies – the Oral Health Division, MOH; Clinical Research Centre, MOH and the Dental Faculty, University of Malaya (UM) :

- Training of Dental Nurses as supervisors for GOHAI self-administered questionnaire survey

- Standardisation and Calibration of Examiners for Oral Lesions
- Standardisation and Calibration of Examiners for GOHAI project.

Field data collection was done from 1 April – 31 May 2004 followed by data entry from July – August 2004. Data analysis began in the month of September and report writing was carried out November, 2004. The following reports were produced :

- Report on Phase 1 - Formulation of a cross-culturally validated Malay version GOHAI
- Phase 2 - Cross cultural adaptation and validation of the Geriatric Oral Health Assessment Index (GOHAI) for Use in Malaysia

Clinical Pathways in Oral Healthcare

The study on 'clinical pathways' initiated by the Oral Health Division in collaboration with the UM Community Dentistry Department of University Malaya began in 2003. The pathways of care were formulated for the following procedures and pre-tested in the following states in that year :

- scaling and prophylaxis (Pahang),
- restorations (Selangor),
- extractions (Sarawak),
- fissure sealants (Johor),
- full and partial acrylic dentures (Perak and Federal Territory Kuala Lumpur respectively)
- laboratory procedures pertaining to full and partial acrylic dentures (dental technologist group members from various states).

In 2004, state co-ordinators built data files for entry and a research clerk undertook the data management. Further refining of the clinical pathway forms was done following feedback received from the pre-tests. Follow-through of the project for cost-estimations was planned for 2004 but this has been postponed to 2005 in lieu of other research commitments.

Oral Health Knowledge, Attitudes, Perception and Behaviour of Young Adults

This survey is a collaboration between the Oral Health Division with the HSR Division, MOH with the objective of eliciting data on sources of, or barriers to, oral healthcare among young adults aged 18 to 29.

Nine dental public health officers from Federal Territory Kuala Lumpur undertook administration of a questionnaire on 494 young adults from five public workplaces, four private workplaces, seven public and five private training/educational institutions. Data management and entry was undertaken by a research assistant in 2004. The project has similarly been put on hold until 2005 due to other research commitments.

Assessment of Blood and Urine Mercury Levels in Dental Personnel.

This collaborative project with the Environmental Health Research Centre (EHRC) of the Institute for Medical Research and the Occupational Health Unit of the Department of Public Health, is headed by an EHRC officer. The ultimate objective is a plan for periodic continued surveillance on dental mercury hygiene practice among dental personnel of the MOH in line with the 'Code of Practice for Dental Mercury Hygiene' contained in the 'Position Statement on Use of Dental Amalgam in Malaysia'. The project successfully secured an MOH Research Grant of RM 192,000.

Following a Technical Meeting held in August 2004 for state co-ordinators, a self-administered questionnaire was distributed and collection of urine samples was carried out in 7 states on 640 respondents (473 dental and 167 health). Data collection will continue into 2005.

Other Research Projects

The following project was identified at the Oral Health Division with arrangements for the Institute for Health Systems Research to train dental officers:

- **Current Practice In Assessing Orthodontic Referrals Among Government Dental Officers In Malaysia**

This is a national project concerning government dental officers' current practices in assessing cases for orthodontic referrals. The ultimate aim of the project is to identify a referral protocol that allows for prioritization of orthodontic cases. It is hoped that the referral protocol will address some of the issues pertaining to the long orthodontic waiting lists within the MOH. The project is undertaken by a team of five dental public health officers, and headed by an officer at the Division, with technical assistance from the Institute for Health Systems Research.

Other projects were identified at the Division but assigned to states to undertake :

- **A Multicentered Study on Current Practices of Disinfection of Dental Suction Systems (DSS) and the Resulting Outcomes**

This is a health outcomes research project undertaken by a team of four dental officers. The aim is to assess the impacts of health interventions on practices and outcomes. A team of four dental public health officers undertakes this project, also with technical assistance from the Institute for Health Systems Research.

- **A Study on Comparing Patients' Satisfaction on Use of Acrylic Partial And Chrome-Cobalt Partial Dentures Issued at Government Dental Clinics**

A team of five dental officers from Negeri Sembilan is conducting the same module for health outcomes research. This project has applied for an MOH Grant for 2005.

- **Handling of Dental Mercury by Dental Personnel / Compliance to Code of Dental Mercury Hygiene Practice (Malacca)**
- **Fluoride Levels in Mineral / Bottled Water (Sabah)**
- **Fluoride Levels in Toothpaste (Sarawak).**

Monitoring of State Health Systems Research (HSR) Projects

Monitoring of state research projects is continuous. Thirty five (35) projects were identified for the year 2004, thirteen more than in the previous year. Due to constraints in terms of expertise, time and personnel to undertake these projects, there is a lag time between the initiation and completion of research projects with the majority of projects taking up to two years until the final report is produced.

Oral Health Conference 2004

The above conference was held from 20-21 May 2004 and was attended by representatives from the Dental Faculties of University Malaya, University Sains Malaysia and University Kebangsaan Malaysia, as well as representatives from the National Institutes of Health, MOH.

CHALLENGES AND FUTURE DIRECTIONS

The importance of oral health has to be communicated to the Malaysian population. While the Oral Health Division and state dental services continue to propagate this fact, intra- and inter-agency efforts between public and private sectors is deemed necessary in order that the population becomes fully aware that oral health is an integral part of general health, and subsequently heightened the quality of life. Having thus acquired this knowledge, it is hoped individuals, their families and the community will take the necessary steps to improve oral hygiene skills and seek curative oral health care, and ultimately, preventive care. Seeking and maintaining wellness needs to be imbued as the ultimate objective of the individual in terms of health.

The lack of human resource has been an on-going challenge to the Oral Health Division and the state dental services. The compulsory service of three years, new dental faculties, and the hiring of contract dental officers has helped in easing the shortage. Efforts to improve promotion prospects for Ministry of Health dental officers will continue in order that serving in the public service is considered attractive and fulfilling.

Setting up the National Oral Health Centre and other centres of excellence for oral health will depend on resources, namely monetary. The Oral Health Division is committed towards this to ensure that the nation will benefit in having oral health expertise and state-of-the-art care available within the country.



Family Health Development

INTRODUCTION

Family Health Development Division (FHDD) is one of the divisions under Public Health Department, Ministry of Health Malaysia, which responsible to ensure quality services to community from womb to tomb.

This Division is headed by a Director and assisted by three Deputy Directors from each section. There are three sections in this Division, which are:

Family Health Section

Planning, coordinating and monitoring activities related to maternal and perinatal health, child health, school health, adolescent health, women's health, health services for the elderly, mental health and rehabilitation.

Primary Healthcare Section

Planning, coordinating and monitoring operational policy, infrastructure, health technology and human resource development at primary healthcare level.

Nutrition Section

Planning, managing, coordinating and implementing the nutrition programme development, nutrition promotion and rehabilitation programme.

FAMILY HEALTH

MATERNAL AND PERINATAL HEALTH CARE SERVICES

Most of the states had implemented the revised colour coding system. Case illustrations on maternal deaths and the CEMD newsletter were distributed to all the health facilities to update the health care providers on the latest developments of the maternal mortality audit.

Activities and Achievements

i. Antenatal Care

The national coverage for antenatal, the average antenatal visits to public health facilities and the national coverage for tetanus toxoid immunisation for pregnant mothers (completed dose) were shown in Table 1.

ii. Deliveries and Postnatal Care

In Peninsular Malaysia, the percentage of institutional deliveries increased from 75.6% in 1990 to 96.6% in 2004. Institutional deliveries also increased in Sabah and Sarawak during the same period. Postnatal attendances at all health facilities increased from 64.9% in 1990 to 87.3% in 2004.

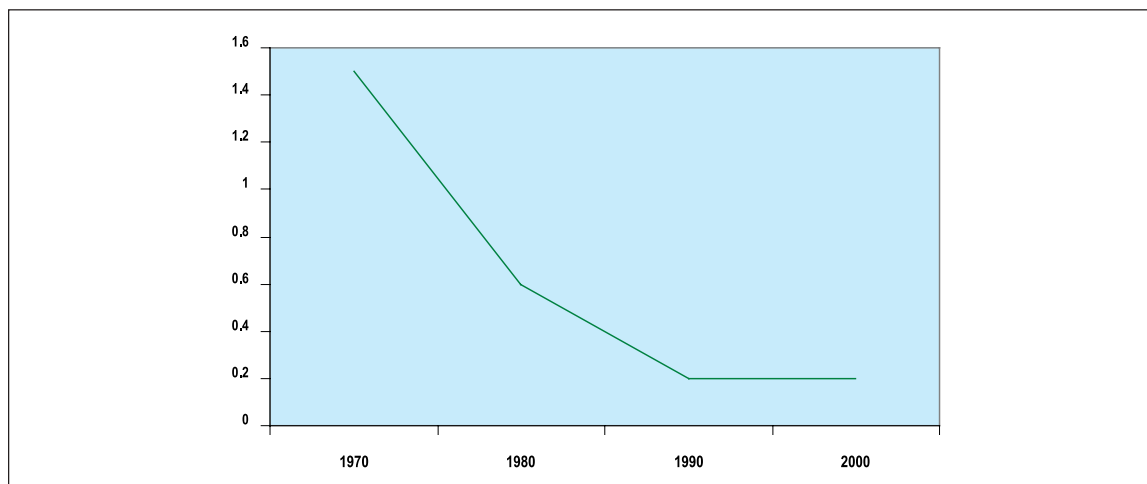
iii. Maternal & Perinatal Mortality

Maternal and Perinatal Mortality rate were shown in Figure 1 and Figure 2.

iv. Neonatal Jaundice and G6PD Deficiency

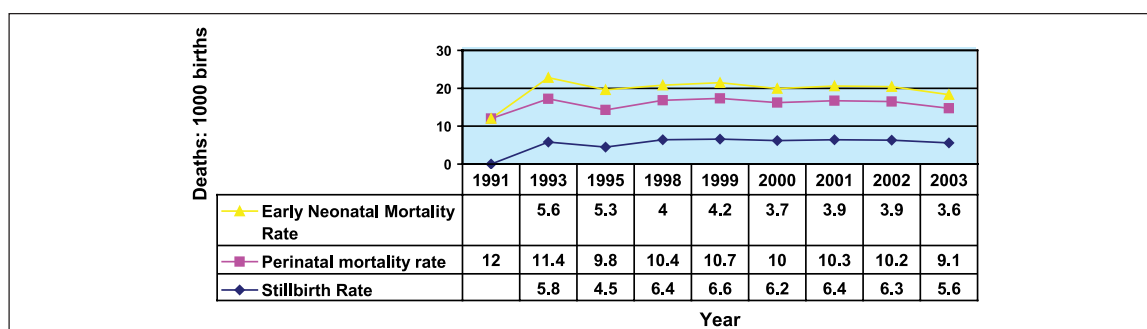
In 2004, 2.4% of newborns were found to have G6PD deficiency as compared to 2.1% in 2003. In 2004, the states with high G6PD deficiency were Kelantan (6.5%) and Pahang (3.7%) whereas in 2003 Perlis was the highest with 3.6%. In 2004, 39.1% of the babies had neonatal jaundice as compared to 36.6% in 2003. This increase was due to better detection of neonatal jaundice by the health care providers. Sabah (57.95) had the highest number of neonatal jaundice followed by Sarawak (50.8%) and Peninsular Malaysia (35.1%). There were five deaths from kernicterus in 2004 as compared to only one death in 2003.

FIGURE 1
Maternal Mortality Rate, Peninsular Malaysia 1970-2000



Source: Department of Statistics, Malaysia

FIGURE 2
Component of the Perinatal Deaths Rates 1991-2003 Based on HMIS & PNM



Source: Information and Documentation System Unit, MOH

TABLE 1
Antenatal Service Coverage, Average Antenatal Visits per Mother And Tetanus Toxoid Immunisation Coverage by Public Health Facilities, Malaysia, 1990, 2000 – 2004

Region	Estimated No. of Pregnant Mothers					Antenatal Coverage				
	1990	2000	2002	2003	2004	1990	2000	2002	2003	2004
Pen. Malaysia	527,095	543,199	511,367	546,519	469,906	412,363 78.2%	398,773 73.4%	346,794 67.8%	290,864 53.2%	333,255 70.9%
Sabah	81,571	86,333	75,854	69,414	64,130	69,291 84.9%	64,073 74.2%	54,223 71.5%	48,531 69.9%	51,489 80.3%
Sarawak	67,716	62,132	57,127	58,039	53,416	46,375 68.5%	54,292 87.4%	44,266 77.5%	42,950 74.0%	43,460 81.4%
Malaysia	676,382	691,664	644,348	673,972	587,452	528,029 78.1%	517,138 74.8%	445,283 69.1%	382,345 56.7%	428,204 72.9%
Region	Average Antenatal Visits per Mother					Tetanus Toxoid Immunisation Coverage				
						Completed Immunisation (2 nd & Booster Dose)				
	1990	2000	2002	2003	2004	1990	2000	2002	2003	2004
P. Malaysia	6.7	8.7	9.1	9.1	8.1	316,375 80.0%	337,043 82.9%	317,731 82.9%	311,870 82.7%	278,050 75.3%
Sabah	5.2	7.3	7.7	7.7	7.7	54,205 88.6%	59,887 97.5%	52,515 92.3%	48,328 92.5%	47,257 92.1%
Sarawak	7.3	8.3	8.4	8.4	8.3	43,865 86.4%	52,678 13.0%	40,007 93.4%	38,988 89.6%	39,250 91.8%
Malaysia	6.6	8.5	8.8	8.8	9.0	414,445 81.7%	449,608 86.8%	410,253 84.9%	399,186 84.4%	364,557 78.7%

Source: - Information and Documentation System Unit, Ministry of Health Malaysia.

- Division of Family Health Development, Ministry of Health Malaysia.

CHILD HEALTH SERVICES

Child health services started in 1950s as one of the maternal and child health programme. Among the activities available are routine visits and examination for children, assessment of child growth and development, assessment of nutritional status, which includes measurement of weight and height and health education.

Activities and Achievements

i. Attendances of Infant, Toddlers and Pre-School Children in Health Facilities

Coverage of attendance to the health clinic is shown in Table 2.

ii. Infant and Toddler Mortality

Infant mortality rate in 2004 was 6.41 per 1000 live birth whereas toddler mortality rate was 0.3 per 1000 live birth. (Figure 3).

iii. Immunisation

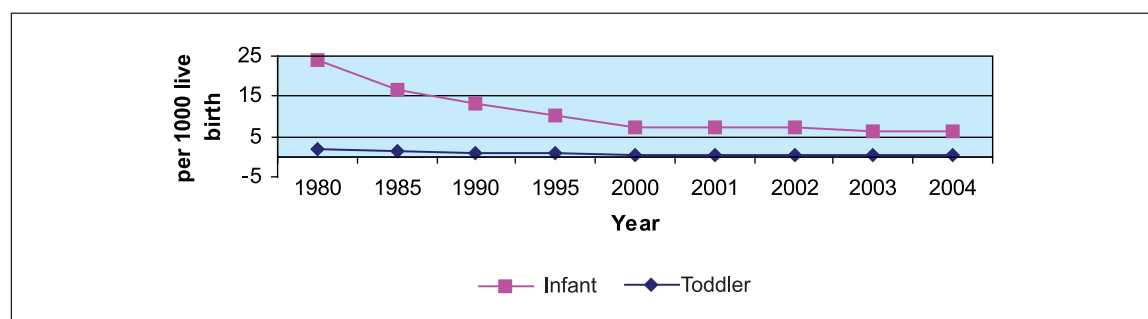
The immunisation coverage for BCG was 100.0%, Hepatitis B 3rd dose was 93.8%, 94.2% for DPT 3rd dose, 95.2% for Oral Polio 3rd dose and 80.0% for MMR.

TABLE 2
Coverage of New/First Clinic Attendance's of Children and
Average Visits to Government Health Facilities per Children 2000-2004

Year	Coverage of Children (%)			Average Visit per Children		
	Infant	Toddler	Pre-school	Infant	Toddler	Pre-school
2000	109.5	43.1	17.0	4.0	3.0	1.9
2001	107.5	43.7	30.7	4.0	3.0	1.9
2002	97.4	41.1	31.4	4.0	3.1	1.9
2003	93.3	40.8	13.9	4.0	3.0	2.0
2004	95.8	53.4	22.9	4.2	2.5	1.2

Source: Information and Documentation System Unit, MOH

FIGURE 3
Infant and Toddler Mortality Rate Malaysia, 1980- 2004



Source: Information and Documentation System Unit, MOH

iv. National Congenital Hypothyroidism Screening

About 50 hospitals were involved and 48.3% of the total births had been screened. Since the screening started, 75 babies were detected as having Congenital hypothyroidism and on regular treatment and follow up.

v. Early Child Development and Stimulation.

This programme had been implemented at certain chosen clinics due to logistic problems, inadequate budget and shortage of manpower. Review of the checklist shows that further refinement is needed to make it more user friendly to both parents and health care providers. Meanwhile the checklist for 1 to 5 years is being prepared.

vi. Integrated Management of Childhood Illness (IMCI)

Specific WHO modules for IMCI was reviewed and has been implemented in five health clinics in Ranau District and one health clinic in Penampang, Sabah. More training sessions will be carried out and the implementation will then be extended to all clinics in Sabah.

vii. Mass Measles Immunisation Campaign

Mass measles immunization campaign was implemented successfully in 2004. This campaign is part of the activity for the Plan of Action for the Global Measles Control, which has been recommended by World Health Organisation. The main objective of this campaign is to reach previously unvaccinated children and offered second dose to children who received single dose. The overall coverage for this campaign was 93.21%.

SCHOOL HEALTH SERVICES

School Health Services was established in 1967 as a joint programme between Ministry of Health and Ministry of Education. In 1997, "*Programme Bersepadu Sekolah Sihat*" (PBSS) had officially launched "to create healthy school citizen within a safe, healthy and a quality environment towards achieving Vision 2020".

Activities and Achievements

i. School Health Coverage by the Nurses and Doctors

The coverage by the nurses was more than 95% as compared to coverage by doctors. The difference is mainly due to shortage of doctors in School Health Team.

ii. Immunisation among school children

Immunisation for primary and secondary school children include Double Antigen Booster, Oral Polio and Rubella immunisation for female students. In 2004, Immunisation coverage in Malaysia as a whole has been maintained above 90%.

iii. Quality Assurance of School Health Programme

Detection rate for visual defect was taken as a proxy indicator for Quality Assurance Programme for School Health Programme. In general, the detection rate was good which were more than 2% (standard).

ADOLESCENT HEALTH PROGRAMME

Adolescent Health Program was established in 1996, as part of the expended scope program. The program was aims in developing and strengthening health services for adolescent population in line with the National Adolescent Health Policy.

Activities and Achievements

i. Training of Health Providers

In 2004, a national training on “Adolescent Health Care and Counseling” was jointly conducted by the Public Health Institute and Family Health Development Division. A total of 45 health care providers comprising of Medical Assistants and Public Health Nurses had attended the training which focused on important issues related to adolescent health and counseling.

ii. Adolescents Health Services

In 2004, 362 (42%) health clinics that carried out health services for adolescents had shown an increase in the number of attendances among adolescents (711,082 in 2004). A total of 11,887 adolescent were given counseling and 2,102 were referred to hospitals or other agencies for further management.

iii. Health Promotion

A few IEC materials were developed, printed and distributed, for example: *Rahsia Remaja*, *Manisnya Menjadi Gadis*, *Cabaran Menjadi Teruna* and *Mencari Cinta*.

WOMEN'S HEALTH SERVICES

The scope of activities under women's health are family planning services, screening of female reproductive cancer such as pap smear and breast self examination; gender sensitization, violence against women and menopause. Two main activities in this unit are Pap Smear Screening Program and Family Planning Services.

Activities and Achievements

i. Pap Smear Screening Program

Pap smear screening program was introduced in Malaysia since 1960's and had been extended to all family planning acceptors in 1981. Presently, it was made available to all female aged between 20 and 65 years.

Table 3 shows number of Pap smear taken by agencies for 2003 and 2004.

All states, except Perlis, had achieved more than 40% coverage. In 2004, the highest percentage (46 per cent) of age group who came for Pap smear was among 20 to 49 years. In term of quality, the overall percentage of unsatisfactory slides reported has dropped to 4.43%. There are five states with percentage of more than 5% namely, Selangor, Pahang, Terengganu, Sabah and Sarawak.

ii. Family Planning Program

The number of acceptors has increased from 75,471 in 2003 to 82,964 in 2004. The number of new and active user in MOH facilities are shown in Figure 4 and 5.

HEALTH CARE SERVICE FOR THE ELDERLY

The health care service for the elderly was introduced by Ministry of Health Malaysia as one of the strategies under the Seventh Malaysian Plan.

i. Health Care Services

Until December 2004, 570 (66.0%) health clinics have implemented health care service for the elderly (Figure 6). The services given include health promotion and education, health screening and assessment, medical examination and treatment, counseling, exercise for the elderly and recreational, social and welfare activities. Other services like rehabilitation, occupational therapy, home visit and home care nursing, were available at certain health clinics.

ii. Training

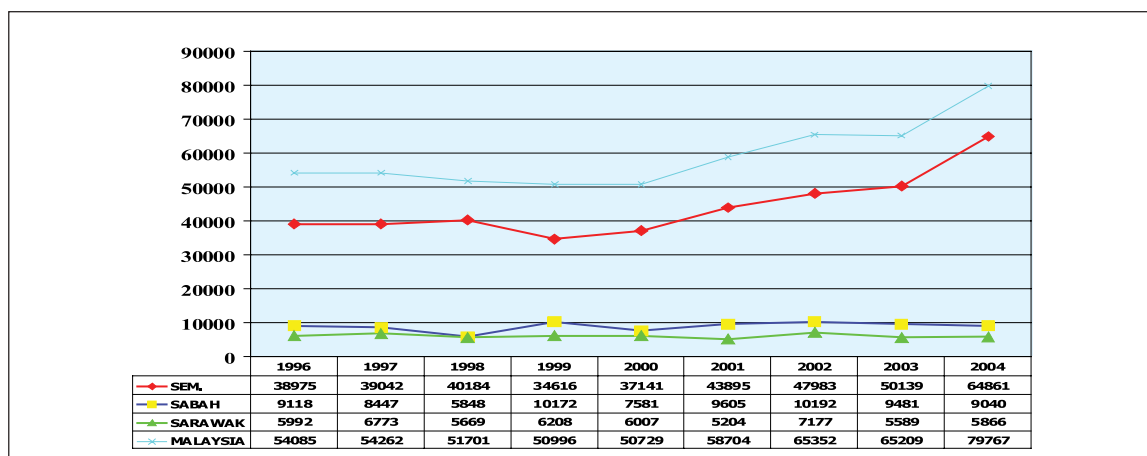
Until December 2004, 15,607 of health staffs (Medical and Health Officers, Dental Officers, Nurses, Physiotherapists, Occupational Therapists and Medical Assistants) have undergone training for health care of the elderly with 14,100 personnel have been trained as 'care givers'. These included health personnel, elderly caregivers, non-governmental organizations, voluntary bodies and other agencies. There were 227 *Kelab Warga Tua* had been formed all over the country. In the same year, sixteen (16) health education materials had been produced and distributed all over the country. Presently, this Division together with Public Health Institute, is in the process of producing video tape, compact disc and booklet *Mengangkat dan Mengalih Warga Tua*.

TABLE 3
Pap Smear Taken by Agencies 2003 - 2004

States	Public Health Clinic		Public Hospitals		NPFDB		FFPAM		Other Government agencies		Private Hospital/ Clinic		Others	
	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004
Perlis	3,619	3,469	481	524	526	653	350	259	0	0	402	350	0	0
Kedah	19,629	22,811	2,905	1,698	1,589	1,582	2,421	1,146	0	0	3,129	7,520	0	0
Penang	11,756	12,604	2,458	2,844	408	175	3,956	2,511	663	0	19,743	14,504	0	0
Perak	27,036	24,412	5,520	1,982	2,282	1,111	167	206	223	182	5,385	2,957	511	2,250
Selangor	20,415	18,483	2,273	1,084	1,023	1,400	0	0	44	20	23,000	33,009	14	4,722
F.Territory	2,458	1,435	359	398	0	0	0	0	0	0	0	0	0	0
N.Sembilan	9,977	9,626	2,499	2,197	2,217	1,747	580	676	0	0	515	408	0	0
Malacca	9,986	10,083	0	0	160	458	2,359	1,954	53	31	0	3	0	0
Johore	25,884	27,501	3,407	4,031	2,158	2,332	303	308	34	66	22,007	27,558	0	0
Pahang	20,783	18,673	1,316	768	2,385	1,091	1,030	1,660	0	0	1,286	684	0	0
Terengganu	16,472	15,078	351	329	266	637	627	54	0	36	325	490	0	0
Kelantan	19,688	16,134	1,446	2,425	817	1,134	2,271	342	590	38	305	18,098	0	0
Sabah	22,325	23,923	1,125	1,476	0	0	0	0	0	0	835	1,546	10,260	8,126
Sarawak	37,693	36,173	0	0	330	1,857	7,916	7,494	0	0	409	932	0	0
Malaysia	247,721	240,405	241,401	19,756	14,161	14,177	21,980	16,610	1,607	373	77,341	108,059	10,785	15,098
%	62.3	58.0	6.1	4.77	3.5	3.42	5.5	4.01	0.4	0.09	19.4	26.07	2.7	3.64

Source: Information and Documentation System Unit, MOH

FIGURE 4
Number Of New Acceptors In MOH Facilities : 1996-2004



Source : Information and Documentation System Unit, MOH

FIGURE 5
Number Of Active Users In MOH Facilities: 1996 – 2004

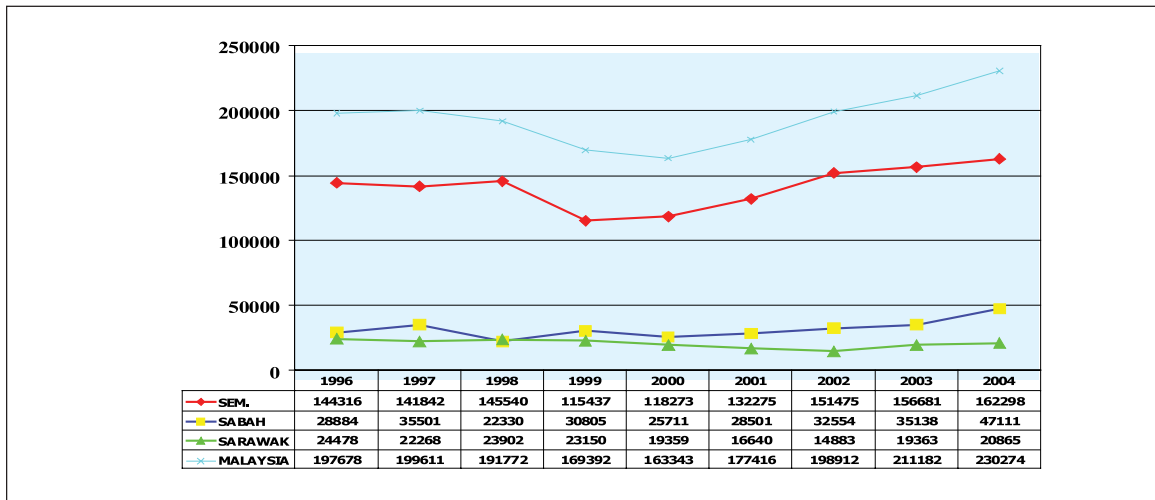
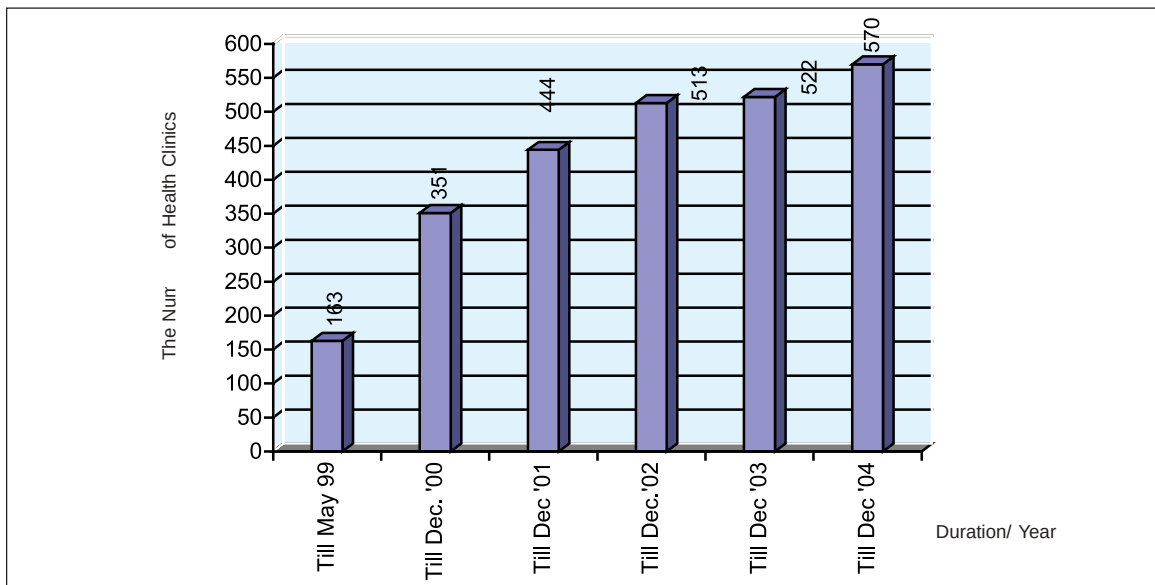


FIGURE 6
The Number of Health Clinics with Healthcare Program for the Elderly.



COMMUNITY MENTAL HEALTH PROGRAMME

The Community Mental Health Programme has four basic components which are mental health promotion, screening and early detection of mental illness, treatment of the mentally ill and psychosocial rehabilitation (PSR).

i. Promotion of Mental Health

In 2004, the Community Mental Health Unit through a Technical Committee planned

the formation of Healthy Mind Programme, which focuses on handling stress through screening for risk factors and levels of stress, depression and anxiety as well as interventions such as relaxation techniques and music therapy.

ii. Healthy Life Style Campaign

In year 2004, the Healthy Lifestyle Campaign still focuses on handling stress among children aged 10 -12 years.

iii. World Mental Health Day Campaign 2004

The theme of the World Mental Health Day 2004 was “The Relationship between Physical and Mental Health: Co-occurring Disorders”. The celebration of World Mental Health Day 2004, which took place in conjunction with “Karnival Sure Sihat” in Mahkota Parade, Malacca on 27th November 2004 was launched by Y.B. Dato’ Dr. Abdul Latif Ahmad, Deputy Minister of Health, Malaysia. Community Mental Health unit in collaboration with Health Education Division, Ministry of Health had produced IEC materials, which include: 14 Exhibit Posters, Pamphlets on The Relationship of Mental Health and Physical Health and Post Card: YOUR MIND YOUR HEALTH

iv. Promotion of Suicide Prevention

World Suicide Prevention Day in Malaysia was celebrated for the first time on 13th October 2004 and was launched by the Parliamentary Secretary, Ministry of Health, Mr. Lee Kah Choon. To increase the awareness of Suicide Prevention Day, Community Mental Health Unit, Family Health Development Division in collaboration with the Health Education Division of Ministry of Health, IASP and The Befrienders organized a seminar on Suicide Prevention for the Media. This seminar which was held in Institute of Health Management, Bangsar, was attended by various representatives from electronic and printed media. Following this, Guidelines on Media Reporting of Suicide was developed and this guideline will be launched in 2005.

v. Care for Mentally Ill in the Community

In year 2004, early detection and treatment services for the care for mentally ill in the health clinic was strengthened through training of family medicine specialists. Up till 2004, Community Mental Health Services were provided by 763 (88.9%) health clinics.

Early Detection and Treatment for Mentally Ill at Primary Care Clinic

The total number patients detected and treated for mental health problems at the health clinics was 76,606, where 6,444 (8.41%) treated by the Family Medicine Specialist, 31,522 (41.14%) by Medical Officer of Health and 38,640 (50.45%) by Medical Assistant. The Diagnostic and Management Guidelines for Mental Health Disorder has been formed to facilitate the implementation of this program.

Follow-up Treatment for Stable Mental Patients

In year 2004, the new referral cases had increased to 4,162. The number of mentally ill patients who received follow-up treatment in health clinics also had increased with a total case of 76,606 in the year 2004. In the year 2004, cases of mentally ill treated by primary healthcare staff showed that 31,522 cases had been seen by Medical Officers, 39,640 cases by Medical Assistants and 6,444 cases by Family Medicine Specialists. In the year 2004, the total number of defaulter cases was 4,938 with 3,066 home visiting done. The number of cases who returned for follow-up was 1,886 with 368 cases had been readmitted to the ward. Two documents were developed namely: Guideline Follow-Up Treatment of the Mentally Ill at Health Clinic and Standard Operating Procedure of Follow-Up of the Mentally at Health Clinic. 393 medical staffs including Family Medicine Specialists, Medical Officers, Nurses and other categories were trained on mental health formats.

vi. Psychosocial Rehabilitation (PSR) For Mental Patient In Health Clinics

Psychosocial Rehabilitation (PSR) Programme was started in 1998. A total number of 25 health clinics had implemented the program. The total number of new referral cases was 108. The total attendance in the year 2004 was 7,748. The defaulter cases of more than one month were 134 for the year 2004. To improve the implementation psychosocial rehabilitation services health staffs were given training and undergone attachment with the psychiatric department.

HEALTHCARE FOR PERSONS WITH DISABILITIES

Health care for persons with disabilities include both programmes of care for children with special needs and programmes on the prevention and control of blindness and deafness.

Activities

i. Healthcare services for children with special needs

Among the activities in 2004 focused on improving services provided for children with special needs areas follows:

- *Development of Guidelines on Implementing Program of Care of Children with Special Needs*
- *Pilot project: Tool for monitoring developmental progress of children with special needs*
Children with special need on follow up at health centers are assessed and A WHO consultant trained the nurses in July 2004 and the pilot which began in August 2004 will end in July 2005. States involved in the study are Perak, Selangor, Johore, Kelantan and Sarawak.

- *Pilot project: Home-based record for children with special needs in Klang District.*
- *Sexual and Reproductive Health for Children and Adolescent with Disabilities*
A consultant from Sunny Hill Rehabilitation Center for Children, Vancouver, Canada was invited to help conduct a workshop followed by a training session for 30 participants from health, education and social welfare.
- *Manuals on management of children with special needs*
For the year 2004 two national level trainings were carried out i.e. management of children with communication problems (March 2004) and the management of children with personal/social and behaviour problems (December 2004).

ii. Care of Eye and Prevention and Control of Blindness

A flip chart has been developed as a health education tool for nurses at the health clinic.

iii. Prevention and Control Program on Deafness

Manual on the Care of Ear and Hearing is currently being developed. The manual will be pilot tested in Kedah and Pahang in the year 2005. A population based study on the prevalence of deafness is currently underway with National Health Institute as the principal investigator.

PRIMARY HEALTHCARE

INFRASTRUCTURE AND TECHNOLOGY

i. Primary Healthcare Infrastructure

By end of 2004, total number of static primary healthcare facilities was 2,876, comprise of 859 health clinics, 93 maternal and child health clinics, 1,924 community clinics and 165 mobile clinics.

ii. Pathology Service

The tests that were done in the pathology lab in health clinics were mainly chemical pathology and clinical hematology (Figure 7). Pathology service in health clinics had introduced two quality assurance indicators. They are total turn-around-time for full blood count test (automation and manual) and total turn-around-time for urine test (full and microscopic examination). Summary of the achievement report for the first year (2004) is presented in Table 4. Focus for the next year will be to upgrade the pathology labs in term of equipment and safety, to provide better opportunities for training and career development and improvement of service through regular monitoring of quality assurance programme.

FIGURE 7
Types Of Lab Tests Done In The Pathology Labs Of Health Clinics
In Selected States, Malaysia, 2004.

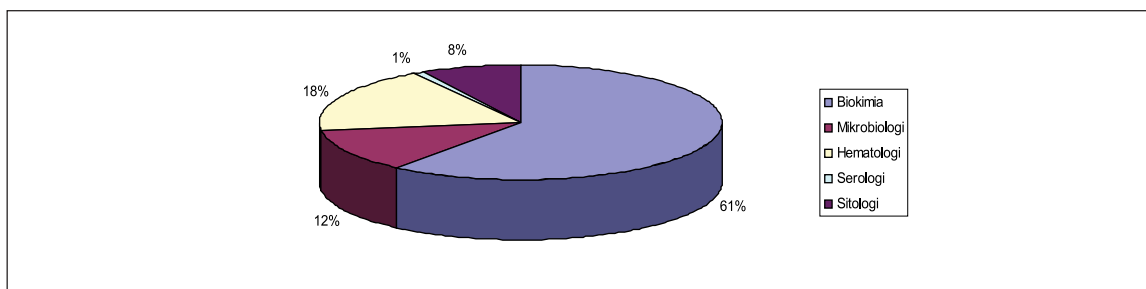


TABLE 4
Achievement Of The Quality Assurance Programme Indicators
For Pathology Service In Primary Healthcare, Malaysia, 2004.

<i>Item</i>	<i>Achievement in 2004</i>
Number of health clinics submitted the report (%)	165 (19.21)
Number (%) of health clinics (KK) monitored the indicators:	
a) Full blood count (FBC) (automated)	86 (52.12)
b) Full blood count (FBC) (manual)	29 (17.58)
c) Urine examination (Urine FEME)	75 (45.45)
Number (%) of KK achieved at least 90% TTAT within targeted time frame:	
a) FBC (automated) < 60 minutes	69 (80.2)
b) FBC (manual) < 60 minutes	16 (55.1)
c) Urine FEME < 40 minutes	63 (84.0)
% KK with TAT more than targeted time frame:	
a) Pre-analytical phase	25.6
b) Analytical phase	30.7
c) Post-analytical phase	51.2

TTAT = Total turn-around-time; TAT = Turn-around-time

iii. Pharmacy Service

In 2004, *Clinic Procurement System* (CPS), was implemented successfully in three states (Negeri Sembilan, Selangor and Perak), involving 21 districts and 185 health clinics. During the same period, preparations were done to extend the implementation to Malacca, Johore, Pahang, Penang and Perlis. Two quality assurance indicators were introduced for pharmacy service in health clinics. They are the percentage of prescriptions incorrectly filled and percentage of prescriptions being intervened. Summary of the achievement report for the first year (2004) is shown in Table 5.

iv. Diagnostic Imaging Service

X-Ray: The most common types of examination done was chest x-ray (49.1%), followed by routine medical examination (26.0%) and extremities examinations (21.9%). Year 2004 was the third cycle of the implementation of quality assurance indicators in radiology service in health clinics. The total number of health clinics reported the activity was 78 (54.2 % of total units). All clinics monitor the indicators on percentage of radiograph accepted, unless the machine was broken down. The main reason for shortfall in quality was the equipment factors. **Ultrasonography :** The total number of ultrasound scan unit in health clinic in 2004 was 272 or about 45% of health clinics that have resident doctor. The common examinations done were obstetric examination (87.14%), gynecology (7.97%) and abdomen (4.83%).

v. Teleprimarycare Project

The development of Teleprimarycare (TPC) system which was started in January 2003 achieved encouraging development in 2004. During the period, the dedicated communication network and hardware were installed, tested and commissioned and started to be used by the facilities. In 2004, the project core team and working groups had organised 36 workshops on data dictionary development and prototype testing. A series of field training were also conducted. By end of the year 2004, the teleprimarycare software prototype were installed in two facilities (health clinic and hospital) in Johor for field testing.

TABLE 5
Achievement Of The Quality Assurance Programme Indicators
For Pharmacy Service In Primary Healthcare, Malaysia, 2004.

<i>Indicators</i>	<i>Achievements in 2004</i>
Number (%) of health clinics monitored the indicators:	
a) Prescriptions that wrongly filled	189 (22.00)
b) Prescriptions being intervened	163 (18.98)
Number (%) of health clinics achieved the standard level:	
a) Prescriptions that wrongly filled	166 (87.83)
b) Prescriptions being intervened	145 (88.96)

Source: Pharmacy Service Division, MOH.

TABLE 6
Achievement of the Quality Assurance Programme Indicators
For Radiology In Primary Healthcare, Malaysia, 2003-2004.

<i>Indicators</i>	<i>Achievement in 2003</i>	<i>Achievement in 2004</i>
Percentage of radiograph accepted:		
a) Number of reports received	17	72
b) Median (range)	97.6 (52.6 – 92.8)	97.9 (72.0 – 100)
c) Number (%) of health clinics had shortfall in quality	3 (17.65)	8 (11.11)
Percentage of appropriate x-ray examination request		
a) Number of report received	2	8
b) Median (range)	(73.3 – 96.0)	70.0 (40.0 – 100)
Percentage of correct x-ray reports		
a) Number of report received	2	8
b) Median (range)	(46.7 – 96.6)	80.0 (40.0 – 97.0)

Source: Pharmacy Service Division, MOH.

HUMAN RESOURCE DEVELOPMENT

i. Public Health Nursing

Public Health Nursing is the backbone of the Primary Healthcare services in this country since before independence. Beside the main function in maternal and child health activities, the nursing personnel involved in other activities, such as disease control and health promotion. Table 7 shows the status of posts for the public health nursing personnel in the year of 2004. Vacancy rate of Nurse was 6.1% and 8.0% for the Community Nurse.

In the year 2004, this unit has focused on strengthening the Public Health Nursing practices, involving both Nurses and Community Nurses. The Plan of Action of Public Health Nursing in the Department of Public Health for 2005 and the Public Health Nursing Guidelines were prepared in 2004. The Public Health Nursing Guidelines that were produced include: Log Book activities for newly qualified nurses, Nursing Checklist for Family Health Development activities, Training Manual for newly appointed public health nursing personnel, Guidelines on charts and graphs to monitor activities and achievements, List of records and returns, and Guidelines on the usage of health facilities for the training of nurses. This unit also involved in the preparation of the draft for Practice Standard and guidelines for credentialing and privileging of public health nurses.

ii. Medical Assistants

The number of posts and personnel by end of December 2004 is shown in the Table 8. In 2004, attention was given in strengthening the competency of Medical Assistants through various training such as in emergency and trauma care. This unit also involved in the preparation of the draft for Practice Standard and guidelines for credentialing and privileging of Medical Assistants.

iii. Family Medicine Specialist (FMS) Service

As of December 2004, 122 FMS were posted to the health clinics. Table 9 shows the distribution at various states.

FMS Survey

Research team for this survey comprised of 20 members from Family Health Development Division, Health System Research Institute and the universities (UM, UKM, USM and UPM). The main objective of the study was to evaluate the FMS services and the specific objectives were:

- to compare scope of services in clinic with FMS and without FMS
- to determine activities carried by FMS
- to assess quality of care by FMS
- to assess the role as gatekeeper
- to identify problem(s) faced by FMS in carrying out their duties and make recommendations

The data analysis is being carried out and expected to complete by June 2005.

iv. Collaboration with Public/Private Institute of Higher Learning

Until December 2004, 17 universities/colleges are involved in the training of the medical undergraduates and 25 colleges are involved in the training of the allied health groups. In order to facilitate the process, a Memorandum of Understanding (MoU) will be signed by both Ministry of Health and universities/colleges before they are allowed to utilize the hospital and health clinics for their practical training.

v. Credentialing / Privileging

A guideline on Credentialing and Privileging for Family Medicine Specialist, Medical Officer, Medical Assistant and Nurses were developed. Each of the categories has identified several critical procedures that need to be credentialed / privileged.

vii. Practice Standard

A draft of Practice Standard for four categories : Family Medicine Specialist, Medical Officer, Medical Assistant and Nurses were developed. Each document explained

about the profession, qualification and Code of Conduct. This document will be refined further before use.

TABLE 7
Number Of Posts for Public Health Nursing Personnel In Malaysia, 2004.

Category	Gred	No of post	No of post filled	No of Vaccancy (%)
Nurse	U40	1	1	0 (0)
	U38	7	5	2 (28.6)
	U36	82	64	18 (22.0)
	U32	361	289	92 (25.5)
	U29	3,852	3,700	152 (3.9)
Community Nurse	U24	1,343	1,014	329 (24.5)
	U19	5,525	5,306	219 (4.0)
Assistant Nurse	U14	172	156	17 (9.9)
	U11	1,506	926	580 (38.5)
Midwife	U14	128	110	18 (14.1)
	U11	451	338	113 (25.1)

TABLE 8
Number of Posts for Medical Assistants in Public Health in Malaysia, 2004

Category	Gred	No of Post	No of Post Filled	No of Vaccancy (%)
Medical Assistants	U40	1	0	1 (100)
	U38	1	0	1 (100)
	U36	23	19	4 (17.4)
	U32	221	202	19 (8.6)
	U29	1,899	1,710	189 (10.0)

TABLE 9
Distribution of Family Medicine Specialist in Malaysia

No	State	No of FMS
1.	Perlis	2
2.	Kedah	10
3.	P Pinang	7
4.	Perak	9
5.	Selangor	17
6.	WPKLumpur	7
7.	N Sembilan	10
8.	Melaka	6

No	State	No of FMS
9.	Johor	12
10.	Pahang	11
11.	Kelantan	10
12.	Terengganu	11
13.	Sarawak	5
14.	Sabah	5
15.	WPLabuan	0

PRIMARY CARE SERVICE DELIVERY

i. Quality Assurance Programme

The implementation of four indicators in Primary Healthcare, which were: Appropriate Management of Asthma, Appropriate Management of Diabetes, Appropriate Admission to Medical Ward and Client Friendly Clinic, were monitored using the existing software, and by manual. States were also advised to ensure that their clinics implement at least two indicators, which are soft skill and hard skill indicators. All states that have implement the QAP indicators had noted that majority (53.3 %) have implemented three indicators and 40.0 % of them have successfully done four indicators. The achievements are as below:

· Appropriate Management of Asthma	-	11.0
· Appropriate Management of Diabetes	-	7.2
· Appropriate Admission to Medical Ward	-	97.3
· Client Friendly Clinic	-	68.0

ii. Routine Medical Examination for Civil Servant Aged 40 & Above

Table 10 below showed the progress and cases detected for significant medical problems.

iii. National Service Program

For the first time, Malaysia has embarked on a National Service Program for youths 17 years old & above and the first group which involved 85,000 trainee were commenced in February 2004. Ministry of Health's role were as follows:

- Medical Examination before entering the program using Self Declaration Form (screening the candidates)
- Environmental Sanitation – sites, food and water
- Community Services in hospital/community clinic
- Health Promotion and education

A total of 41 camps and universities were selected as sites for training, and several health clinics were involved for the community service. The first group which consisted of 85, 000 trainees were given Self Health Declaration Form and only those who admitted ever had or has medical illnesses were referred for further health examination.

iv. Health Advisory Panel

All states have implemented this programme including the two federal territories of Kuala Lumpur and Labuan. There were a total of 659 out of 856 (77%) health clinics with Health Advisory Panel. Table 11 showed number of clinics with Advisory Panel.

TABLE 10
Report on Medical Examination Among Civil Servants Year 2003-2004

State	No. of Department involved		No. of staff examined		No. of staff with medical problem(s)	
	2003 (Jun- Dec)	2004	2003 (Jun- Dec)	2004	2003 (Jun- Dec)	2004 %
Perlis	-	14	-	458	-	189 (41.3)
Kedah	29	22	1,823	1,627	463	401 (24.7)
Pulau Pinang	27	18	2,562	2,526	433	552 (21.9)
Perak	28	24	1,360	2,066	559	924 (44.7)
Selangor	32	26	1,746	3,192	154	757 (23.7)
WPKL & Putrajaya	48	115	801	4,149	454	2,058 (49.6)
Negeri Sembilan	23	31	1,697	783	473	146 (18.7)
Johor	16	57	960	3,276	100	1,142 (34.9)
Melaka	20	15	757	635	321	144 (22.7)
Pahang	24	23	1,699	953	360	345 (36.2)
Terengganu	8	7	708	1,479	153	355 (24.0)
Kelantan	41	15	547	926	88	268 (28.9)
Sabah	10	26	252	856	70	105 (12.3)
Sarawak	20	23	366	838	209	203 (24.2)
WP Labuan	-	1	-	15	-	0 (0)
Total	326	417	15,278	23,779	3,837 (25.1)	7,589 (31.9)

Source: PHC 2003 and PHC 2004. (Please take note that for 2003, data collected was only for 2nd Half –yearly)

TABLE 11
Number of Health Clinics with Health Advisory Panel by States, 2004

No	State	No. of Health Clinics	No. of Clinics with Health Advisory Panel
1.	Perlis	9	9
2.	Kedah	63	56
3.	Pulau Pinang	30	21
4.	Perak	78	68
5.	Selangor	59	56
6.	Negeri Sembilan	38	27
7.	Melaka	28	28
8.	Johor	92	73
9.	Pahang	65	56
10.	Terengganu	43	41
11.	Kelantan	59	56
12.	Sabah	90	90
13.	Sarawak	186	76
14.	WP Kuala Lumpur	15	2
15.	WP Labuan	1	0
	Total	856	659

v. Emergency Medical Services at Health Clinics

A workshop was held from 1 – 3 September 2004 to plan strategies to strengthen emergency medical services at Health Clinics and to plan for provision of 'pre-hospital care' at primary health care level. The workshop was attended by health staff from health clinics and hospital.

vi. Private Doctor Service in Health Clinics

Private Doctor Service in health clinics was started on 13th July 2002 as part of the initiatives by the Ministry Health to overcome the shortage of medical professionals in the health clinics and to promote active participation by the private sector in providing health care to the community especially in the rural areas. In the early stage of the implementation, the rate was offered at RM 25 per hour but it was increased to RM 40 per hour in July 2004. Two thousand five hundreds printed Guidelines for Private Doctor Service were circulated to every state in August 2004.

As for the year 2004 (Table 12), only 4 private doctors had worked in our health clinics. The overall performance was not very good and the private doctors involvement in this project was still insignificant. This project has been extended to the year 2005.

TABLE 12
Name of the State, Clinics and No. of Private Doctor involved in Private Doctor

State	Clinic	No. of Doctor
Kelantan	KK Beris Kubor Besar,	1
Melaka	Poliklinik Komuniti Peringggit	1
Kedah	KK Pokok Sena	1
Sarawak	KK Jalan Masjid	1
	Total	4

NUTRITION

NUTRITION PLANNING & DEVELOPMENT

This unit is responsible for the future direction in the development and management of nutrition services as well as in the development of the National Nutrition Policy. Other responsibilities of the section include planning and career development for Nutrition Officers and training in nutrition.

i. The National Plan of Action for Nutrition Malaysia (NPANM)

The National Coordinating Committee for Food and Nutrition (NCCFN) continued to coordinate and monitor the implementation of the National Plan of Action for Nutrition with Nutrition Section, Family Health Development Division of the Ministry

of Health as the secretariat. Among activities done by the Technical Working Groups (TWG) under NPANM were:

- ***TWG (Training)***

The TWG received RM25,000 allocation from the MOH in 2004 and was used to update and reprint two of the existing Nutrition Modules. They were modules on “*Diet Seimbang*” and “*Gaya Hidup Sihat*”. Drafts of two new modules titled “*Pemakanan Bayi*” and “*Pemakanan Kanak-Kanak Sekolah*” were ready.

- ***TWG (Research)***

The committee had agreed to revive the report on “KAP Study on Healthy Lifestyle” which was conducted in 1997. The report will be ready before end of 2005.

- ***TWG (Dietary Guidelines)***

Members of this TWG come from several agencies including the local universities and NGOs. The TWG is in the process of developing the Malaysian Recommended Nutrient Intake (RNI).

- ***TWG (Policy)***

The TWG (Policy) was formed in March 1999 with main function to prepare a draft of the National Nutrition Policy. The committee held several group discussions to make amendments and improvement and it was finalised and sent for printing at the end of 2004. A workshop was conducted in April 2004 to develop a new National Plan of Action for Nutrition Malaysia (2006-2015) based on the National Nutrition Policy and the first National Plan of Action for Nutrition Malaysia (1996-2005).

ii. Nutrition Surveillance

The Ministry of Health monitors the nutritional status of children through the Nutrition Surveillance System (NSS). The system uses weight attainment for age as an indicator of nutritional status of children aged less than five years who attended the government health clinics. The nutritional status for children were classified into four categories by achievement of their weight-for-age, as shown below: -

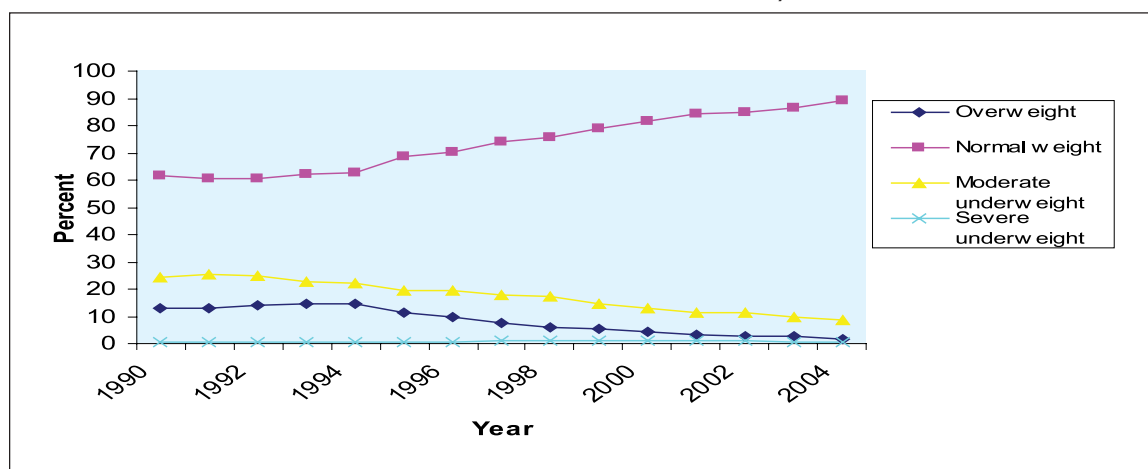
Status	Weight-for-age achievement
a) Over weight	- Weight at or more than +2SD
b) Normal weight	- Weight at or more than -2SD and less than +2SD
c) Moderate underweight	- Weight at or more than -3SD and less than -2SD
d) Severe underweight	- Weight less than -3SD

Percentage of children with moderate and severe underweight were high among children of age group between one to four years which were 1.0% and 10.8% respectively compared to children below one year (0.4%, 5.1%). Percentage of children with severe underweight in 2004 had not change compared to the previous year (2003).

Figure 8 shows the trend in nutritional status of the children which indicates an improvement over the year. There seem to be no change in the rate of severe underweight from 1990 until 2004. Percent of who are overweight for their age increased since 1991 to 1994, but then decline from 1995. Percent with moderately underweight had decreased gradually while percent of normal body weight had increased.

Table13 showed the nutritional status of children based on age groups namely; below one year and between one to four years in Malaysia.

FIGURE 8
Nutrition Status of Children Under 5 Years, 1990-2004



Source: Information and Documentation System Unit, MOH

TABLE 13
Nutritional Status of Children below Five Years, based on Age-groups,
Malaysia (2003-2004)

Year	Age group	Clinic Attendances (no.)	Over Weight (%)	Normal Weight (%)	Moderate Under Weight (%)	Severe Underweight (%)
2003	Below 1 year	126,878	2.7	90.5	6.4	0.4
	1 to 4 years	191,642	2.6	84.1	12.3	1.0
2004	Below One Year	160,393	1.7	92.7	5.1	0.4
	1 to 4 Years	227,657	1.9	86.3	10.8	1.0

Source: Information and Documentation System Unit, MOH

NUTRITION PROMOTION

The Nutrition Promotion Section is responsible for planning, developing and monitoring nutrition promotion activities based on the concept “Healthy Eating”. It also focuses on breastfeeding promotion and implementation of the “Baby Friendly Hospital Initiative”.

i. Breastfeeding Promotion

World Breastfeeding Week (1 – 7 August 2004)

The World Breastfeeding Week 2004 themed “Exclusive Breastfeeding: the Gold Standard – Safe, Sound, Sustainable” was successfully launched by the Deputy Minister of Health Malaysia at the Islamic Arts Museum Malaysia, Kuala Lumpur on 30th July 2004.

ii. Baby-Friendly Hospital Initiative (BFHI)

In 2004, three new hospitals gained the status of Baby-Friendly Hospital, one government hospital (Putrajaya Hospital) and two private hospitals (Ipoh Specialist Hospital and Selangor Medical Centre). Table 14 shows the distribution of the Baby-Friendly Hospitals in Malaysia.

iii. Code of Ethics for Infant Formula Products

The overall aim of the Code is to uphold the supremacy of breastfeeding and to assist in the provision of safe and adequate nutrition for infants through the protection, promotion and support of breastfeeding and to ensure proper use of infant formula products when required.

Vetting of informational and educational materials related to Infant Formula Products.

Between January and December 2004, 114 informational and educational materials related to infant formulas were vetted. Of these, 78 materials consisting of product labels, brochures for Health Professionals, brochures for product distributors, can inserts and can stickers were approved by the Vetting Committee.

TABLE 14
Distribution of the Baby-Friendly Hospitals in Malaysia, December 2004.

Item	No. of Hospital
Ministry of Health	
Government hospitals in the Ministry of Health	116
Government hospitals, in the Ministry of Health, as baby-friendly hospitals	115
Ministry of Defence	
Government hospitals in the Ministry of Defence	3
Government hospitals, in the Ministry of Defence, as baby-friendly hospitals	2
Ministry of Education	
Government hospitals in the Ministry of Education	3
Government hospital, in the Ministry of Education, as baby-friendly hospital	1
Private Hospital	
Private hospital as baby-friendly hospital	3

Source: Family Health Development Division, MOH

Coordination of complaints related to violation against the Code of Ethics For Infant Formula Products

The Disciplinary Committee received 17 specific complaints on alleged violations of the Code. Of these, 13 were classified as confirmed violations and 11 of the confirmed violations were notified to the World Health Organisation and UNICEF.

iv. Community Healthy Kitchen Project

The main objective is to improve the nutritional status of family members and the community by promoting healthy eating and food safety in an attractive and effective manner. Activities are done in groups and are identified or planned based on the need and request by the target groups. These includes :

- i) *Cooking sessions in groups:* creating new healthy recipes, cooking sessions for family food and chronic patients' meals.
- ii) *Demonstrations:* Healthy recipes cooking demos, food processing demos, how- to-use-cooking-utensils-safely, how-to-prevent-accidents-in-the-kitchen, and demos on the use of iodized salt, red palm oil, soy bean products and etc.
- iii) *Talk:* Talk topics include healthy eating, food safety, and kitchen management.
- iv) *Food preparations:* It focuses for specific groups such as undernourished children, school children, pregnant mothers and the elderly.

- v) *Health check*: It comprises of monitoring of weight and BMI, blood pressure and status of blood glucose, blood cholesterol and triglycerides.

v. School Nutrition Promotion

Activities for school nutrition promotion was implemented with the *Program Bersepadu Sekolah Sihat (PBSS)* which include: *Rancangan Susu Sekolah* and *Rancangan Makanan Tambahan* which were done jointly by the Ministry of Education and Ministry of Health. Other programme include; School Health Quiz and School Canteen Guidelines.

TABLE 15
Distribution of Community Healthy Kitchen Project in Malaysia, August 2004

State	No. of CHKP	Location
Penang	1	Balik Pulau
Malacca	4	Simpang Bekoh Hutan Percha Umbai Bukit Rambai
Johore	8	Sg. Mati, Muar Kg. Maju Jaya, JB Kg. Melayu Raya, Pontian Kg. Gembul, Kota Tinggi Tenglu, Mersing Desa Temu Jodoh, Segamat KKIA Kluang Felda Kahang Timur, Kluang
Negeri Sembilan	1	KK Linggi
Perak	1	Chenderiang
Kedah	1	KK Sg. Tiang
Pahang	1	Peramu Jaya, Pekan
Terengganu	1	KK Seberang Takir, Kuala Terengganu
Kelantan	2	Pasir Puteh Pulau Chondong
Sarawak	2	Julau Kg. Tian, Sarikei
Sabah	1	Kg Lubok Weston, Beaufort
Federal Territory	1	Institut Kesihatan Umum (IKU)
Total	24	

Source : Performance Report of CHKP 2004

NUTRITION REHABILITATION

The nutrition rehabilitation unit is responsible for developing, planning, coordinating and evaluating intervention programmes to prevent and control malnutrition. Its primary targets are pregnant mothers and children. In 2004, the two main programmes which had been implemented were: the Nutrition Rehabilitation Programme for Undernourished Children, also known as Food Basket Programme and the Prevention and Control of Iodine Deficiency Disorder (IDD).

i. Nutrition Rehabilitation Programme For Malnourished Children

In 2004, 7,071 children from all states in Malaysia, including those in Federal Territory of Kuala Lumpur, were recipients of the Food Basket Programme (Table 16) with 1,926 new recipients. The new recipients of the 2004 Food Basket Programme comprised 977 (50.7%) severely underweight children (weight-for-age more than 3 SD below the median of NCHS), 856 (44.4%) moderately underweight children (weight-for-age between 2SD – 3SD below the median of NCHS), 39 (2.0%) with clinical signs and symptoms of malnutrition and 54 (2.8%) were those chronically-ill (Figure 9).

ii. Prevention and Control of Iodine Deficiency Disorders (IDD)

The intervention activities are as follows:

- *Distribution of iodised salt*

In states with IDD problem, iodised salt were distributed to malnourished children who received food baskets under the Nutrition Rehabilitation Programme for Malnourished Children and pregnant women attending government clinics. In 2004, 228,462.2 kilograms iodised salt had been distributed to 112,222 recipients throughout Malaysia (Table 17).

- *Installation of iodicators*

In 2004, 347 units of new iodicators have been installed in schools, longhouses, community water supplies, villages and health clinics in Sarawak. Since 1999, the total number of iodicators installed throughout Malaysia were 3,836 units (Table 17).

- *Nutrition Education*

Educational materials on the proper use of iodised salt, the use of iodised water, correct ways of preparing foods high in goitrogens had been printed and distributed to the people around the endemic areas.

- *Gazettment*

The whole of Sabah was gazetted as an IDD endemic region on 18 November 1999. In Sarawak, 15 districts and 4 sub-districts were gazetted since 25 August 1990. Through the gazetttment, only iodised salt can be distributed and sold in these areas.

iii. Rehabilitation Programme for Pregnant Women

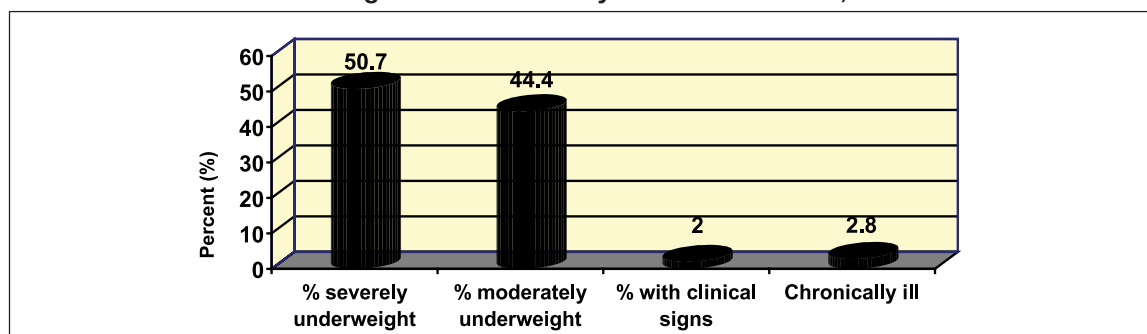
Overall, from the HMIS report 2004, Negeri Sembilan showed the highest percentage of severe anaemia (Hb < 9 gm%) which was 6.5 % followed by the Federal Territory (6.1%), Pahang (5.6%) and Sabah (4.1%). For moderate anaemia (9- <11 gm%), the highest percentage was in Perlis (47.7%), followed by Malacca (46.6%), Negeri Sembilan (44.6%) and Selangor (43.0%).

TABLE 16
Distribution of the Food Basket Program Recipients by States, 2004

States	Number of new recipients (1)	Total numbers of recipients for the year (2)	Number of recipients stopped in 2004 (3)	Number of recipients still receiving food basket in December 2004 (2-3)
Perlis	11	51	16	35
Kedah	52	193	48	145
P.Pinang	15	53	13	40
Perak	232	852	212	640
Selangor	21	116	24	92
W. Persekutuan	2	17	5	12
N.Sembilan	25	86	27	59
Melaka	20	37	9	28
Johor	5	18	4	14
Pahang	137	458	120	338
Terengganu	92	295	93	202
Kelantan	279	1,078	202	876
Sabah	553	1,992	478	1,514
Sarawak	482	1,825	834	991
MALAYSIA	1,926	7,071	2,085	4,986

Source: Information and Documentation System Unit, MOH

FIGURE 9
Percentage of New Cases By Nutritional Status, 2004



Source: Information and Documentation System Unit, MOH

TABLE 17
Achievement in IDD Programme, 2004

States	Iodised Salt		Iodinator		
	Number of recipient	Amount of salt distributed	Number of iodinator installed	Total number of iodinator installed (1999 – Sept. 2004)	Number of Rhodifussed lode replaced
Perlis	2,270	1,525	-	-	-
Kedah	5,995	5,187	-	515	0
Perak	10,390	11,249.5	8	203	51
Pahang	17,509	21,503	61	269	179
Kelantan	36,744	22,048	5	287	49
Terengganu	19,924	30,230	12	696	38
Sabah	19,390	10,143.7	261	455	67
Sarawak	-	126,576	-	1,411	587
Total	112,222	228,462.2	347	3,836	971

Source: Family Health Development Division, MOH

NUTRITION RESOURCE CENTRE

The Nutrition Resource Centre has been established as a reference centre for nutrition information. This centre is also responsible for collecting and distributing materials on nutrition to all staff of the Ministry of Health (HQ), State Health Offices, other health and non – health government agencies, NGOs and Universities.

Activities and Achievements.

The Nutrition Bulletin is an annual publication consisting of interesting articles on Nutrition as well as highlights current nutrition activities and keeps the readers abreast of the latest developments of the Nutrition Officers in the country. The 2003 issue of the Nutrition Bulletin was published and disseminated in early 2004. The 2004 issue of the Nutrition Bulletin was developed in November 2004 and will be published in early 2005.

The journal “Nutrition Reviews” from ILSI was subscribed on-line in the middle of 2004. Besides the Nutrition Officers in the Family Health Development Division (FHDD) of the Ministry of Health, other Nutrition Officers of the State Health Offices were assisted to gain on-line access to the journal. Other than the above journal, six other journals were subscribed namely, the American Journal of Epidemiology, Epidemiologic Reviews, European Journal of Clinical Nutrition, Journal of the American Dietetic Association, Journal of the Nutrition Education and Behavior and the Public Health Nutrition.

Fifty copies of the “Nutrient Composition of Malaysian Foods” (4th Edition) were purchased and distributed to all the Nutrition Officers in the FHDD, Ministry of Health (HQ) and in the State Health Offices. Another book “Present Knowledge in Nutrition” (8th Edition) was also purchased. Besides the above 2 nutrition books, the Centre also bought 3 dictionaries namely, the “Kamus Dwibahasa Oxford Fajar” (3rd Edition), “Kamus Dewan DBP” (3rd Edition) and the “Kamus Dwibahasa DBP” (2nd Edition).

Four CDs entitled “Nutritionist Pro” were bought and distributed to 4 states – Perak, Negeri Sembilan, Sabah and Sarawak.

MS ISO 9001:2000

IMPLEMENTATION OF MS ISO 9001:2000 QUALITY MANAGEMENT SYSTEM

Effort to implement MS ISO 9000 Quality Management System in BPKK started in 1996. However, more intensive effort started in 2000. Four workshops had been conducted in that year to prepare the MS ISO 9000:1994 Quality Management System documents.

As instructed by MAMPU, all the government agencies should change their MS ISO 9000:1994 Quality Management System to 9001:2000 version, this Division had decided that not to proceed with the implementation of MS ISO 9000:1994 Quality Management System, in fact, to change all the available documents to MS ISO 9001:2000 version. In doing so, three staffs had attended Lead Auditor Course ISO 9001:2000 in two different sessions in 2002. Awareness Training and Internal Quality Audit Training for 2000 version also had been conducted in October and November in the same year. There were 28 procedures and 28 work instructions had been documented.

On 8th January 2004, SIRIM QAS International Sdn. Bhd., has awarded ‘Certificate of Quality System Registration’ (Quality Management System MS ISO 9001:2000). The Scopes of Registration were:-

- i. Development of Family Health Program,
- ii. Implementation of Family Health Program,
- iii. Monitoring of Family Health Program, and
- iv. Evaluating of Family Health Program.

The first Internal Quality Audit (IQA) for the year 2004 was conducted on 8 March to 5 April, and the Management Review Meeting (MRM) was on 11 June 2004.



Disease Prevention and Control

INTRODUCTION



The Disease Control Programme in the Ministry of Health began since 1961 through vertical disease control programmes such as the National Tuberculosis Disease Control Programme (1961), the Malaria Eradication Programme (1967) and the National Leprosy Control Programme (1969).

In 1971 an Epidemiology Unit was established under the Health Services Division. The unit focuses on Communicable Disease Control Programmes based on the current epidemiology pattern of communicable disease. Non-communicable diseases programmes and occupational health unit were then established in the same year.

In 1985, the restructuring of the control programmes of malaria and other vector borne diseases led to the programme's name being changed to Vector Borne Disease Control Programme. The national Sexually Transmitted Diseases (S.T.D.) programme was launched in 1985; the Cancer programme and the National Cancer Registry was established in 1987. Other prevention and control programmes like cardio -vascular diseases, diabetes, blindness and eye care, tobacco control, accidents and injury, alcohol and drug abuse and environment health were introduced in stages.

In 1991 the disease control programmes in the Epidemiology Unit were involved in the general restructuring of the Ministry of Health (under SSB), which brought into the existence of Disease Control Programme.

The Disease Control Programme has expanded its programme since then. In 1993, the AIDS/STD Section was formed after the directive from Cabinet as to strengthen the prevention and control of HIV/AIDS in this country. The National Public Health

Laboratory (NPHL) at Sg. Buluh and the Regional Public Health Laboratories (RPHL) in Ipoh and Johor Bahru were established at the end of 1999 to strengthen the laboratory component of disease control activities.

ACTIVITIES AND ACHIEVEMENTS IN 2004

VACCINES PREVENTABLE DISEASES

With the introduction of the various national vaccination programmes a real significant decrease in the incidence of specific vaccine-preventable diseases was observed. Vaccine-preventable diseases includes those grouped under the Expanded Programme on Immunisation (EPI) like diphtheria, pertussis or whooping cough, neonatal tetanus, acute poliomyelitis, measles, hepatitis B and also those non-EPI diseases like adult tetanus, rabies, meningococcal meningitis, influenza, Japanese Encephalitis, Yellow Fever, typhoid and other related diseases.

Currently there are several national childhood vaccination programmes preventing diseases like tuberculosis, diphtheria, pertussis, neonatal tetanus, acute poliomyelitis, measles, haemophilus influenza type b (Hib), mumps, rubella and hepatitis B. The incidence rates of the childhood vaccine preventable diseases except for measles, tuberculosis and hepatitis B have reached a satisfactory level, i.e. below 1 per 100,000 population (Table 1). Nevertheless some of these diseases have recently shown an increasing trend as a result of specific disease re-emergence due to globalization aided mainly by the increasing presence of susceptible population groups like the unvaccinated children of illegal immigrant workers, unprotected mobile groups, etc.

Status Of Individual Diseases

Whooping Cough

Due to improved reporting there has been an increase in the incidence rate of the disease from a low 0.01/100,000 population in 1997 to 0.15/100,000 population in 2004. For the past 6 years (1999-2004) the number of cases reported has remained at more than 15 cases per year. But it had increased more than two-folds in 2000 to 42 cases but declined in the intermediate years but increased to 40 cases in 2004 (Figure 1). No death has been reported. All the cases reported were clinically diagnosed. The re emergence of cases since 1999 and affecting older age groups has been of concern.

Neonatal Tetanus

As in the previous years this disease has remained a very localized problem occurring mainly in Sabah. The decrease in incidence rate has been from 0.13 in 1995 to 0.05 in 2004. There has been a decreasing trend over the years (Figure 1). This low rate of below 0.1/100,000 population has been maintained since 1997. The cases have been mainly occurring among the foreigners who has no access to proper health care facilities due to sociocultural and other reasons. There were no death

TABLE 1
Incidence of The Six Vaccine Preventable Diseases Reported in Malaysia, 1989 – 2004

Year	Diphtheria		Whooping Cough		Neonatal Tetanus		Measles		Polio		Hepatitis B	
	Case	IR	Case	IR	Case	IR	Case	IR	Case	IR	Case	IR
1989	35(6)	0.20	25	0.14	21(4)	0.12	1,027(2)	5.87	0	0.00	938(1)	5.36
1990	9(1)	0.05	24	0.13	11(3)	0.06	563	3.13	0	0.00	942	5.24
1991	12(2)	0.06	20	0.11	13	0.07	275	1.51	0	0.00	724	3.98
1992	4(1)	0.02	21	0.12	28(8)	0.15	363	2.01	3	0.02	723	4.00
1993	4	0.02	18	0.09	20	0.10	517(3)	2.66	0	0.00	576	2.97
1994	0	0.00	12	0.06	9	0.05	346(1)	1.77	0	0.00	335	1.71
1995	1	0.01	8	0.04	27(4)	0.13	654(6)	3.22	0	0.00	551	2.71
1996	0	0.00	7	0.03	23(3)	0.11	460(4)	2.17	0	0.00	627	2.96
1997	2(1)	0.01	3	0.01	15(1)	0.07	565	2.61	0	0.00	307	1.42
1998	5(1)	0.02	6	0.03	13(4)	0.06	483	2.18	0	0.00	5,010(3)	22.59
1999	6(1)	0.03	17	0.07	10(2)	0.04	2,068(10)	11.48	0	0.00	5,295(1)	23.31
2000	1(1)	0.01	42	0.19	20	0.09	6,187(7)	27.87	0	0.00	2,863(2)	12.89
2001	4(4)	0.02	26	0.11	8	0.03	2,207(4)	9.27	0	0.00	2,926(3)	12.30
2002	7	0.03	27	0.11	11	0.04	899	3.67	0	0.00	2,706(1)	11.03
2003	11(1)	0.04	27	0.11	5	0.02	710(1)	2.83	0	0.00	2,767(2)	11.05
2004	3(1)	0.01	40	0.16	14	0.05	5,729	22.39	0	0.00	1,976(2)	7.72

Note: IR - Incidence Rate per 100,000 population
() - death case

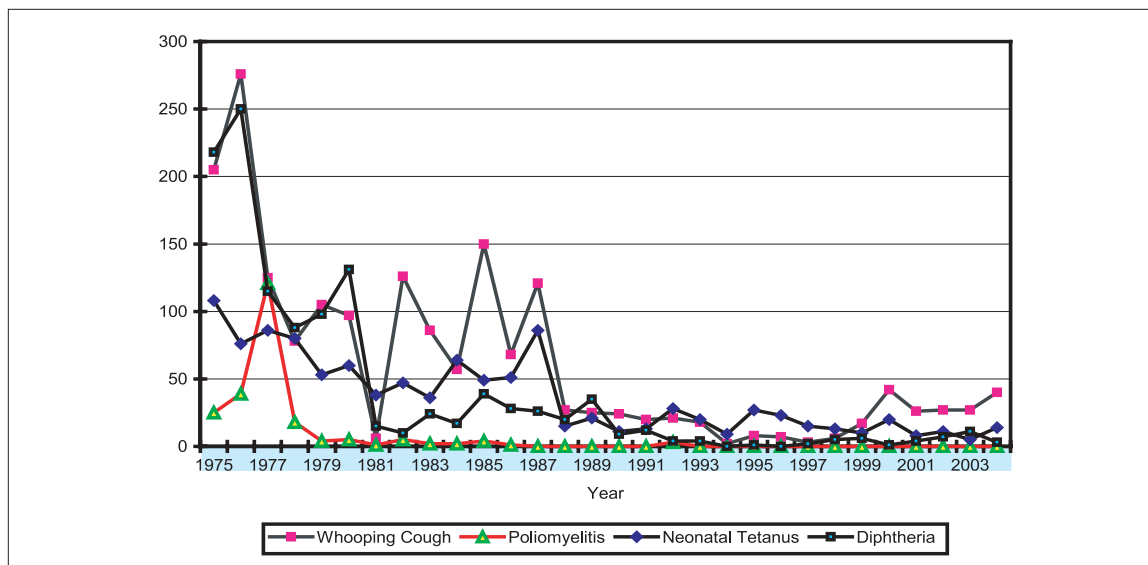
reported in the last 5 years as compared to case fatality rates of 28.5, 55.5, 30.7 recorded in 1992, 1994 and 1998 respectively. There were two reported deaths in 1999. In 2004 a total of 14 cases have been reported which were 7 from Sabah, 5 from Sarawak, 1 each from the Federal Territory of Kuala Lumpur and Perlis.

Measles

There has been a tremendous increase in the reported incidence rate from 2.18/100,000 population in 1998 to 11.48/100,000 in 1999, 27.87/100,000 in 2000, 9.27/100,000 in 2001, 3.67/100,000 in 2002 and finally 22.39/100,000 in 2004. This has been due to outbreaks and improved reporting of the disease in the 1999/2000 period. There has been 7 reported cases of death attributed to measles infection out of a total reported 6,187 cases in 2000. In the middle of the last decade there has been 6 deaths reported in 1995 and 4 deaths in 1996. In 2004, a total of 5,729 cases with 4 fatalities were reported.

The incidence rates for the period 1999-2001 ranged from 9.27 to 27.87/100,000 population. As compared to 1990-1998 period, it has been observed that there has been a increased trend in measles case occurrence during the recent 3 year (1999-2001) period. The 2002-2003 period displayed an endemic level picture with another upsurge of cases in 2004. The national measles vaccination campaign targeting at persons of the 7 to 15 school going age group was conducted successfully last year. This is part of the National Measles Elimination Initiative.

FIGURE 1
Incidence of Selected Childhood Vaccine-Preventable Diseases in Malaysia, 1975-2004.

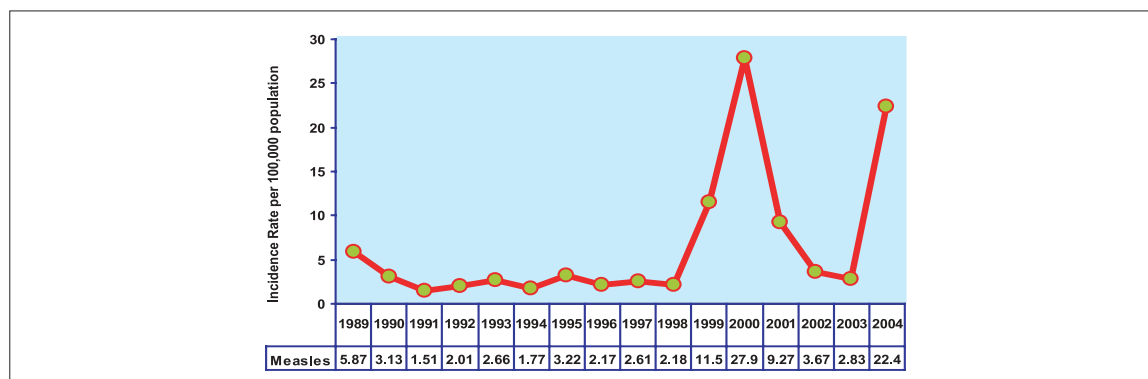


Source: Disease Control Division. MOH

Diphtheria

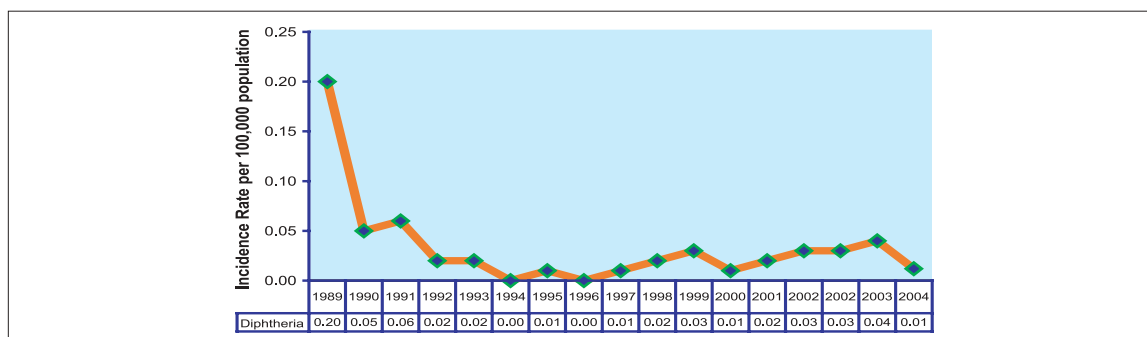
There were 3 cases of confirmed diphtheria reported in 2004. From the investigations conducted, it appears to be well localised and contained. Immediate active measures were taken to detect and manage further symptomatic and asymptomatic cases and improve on the effective vaccination of high risk children in the affected and neighboring localities. No secondary cases were detected. There has been 36 cases with 9 deaths reported in the 1997-2003 period. To counter the re-emergence of this disease, specific surveillance has been strengthened to detect early any cases in the future. Measures are also been taken to improve the vaccination coverage of identified high risk children. The resurgence of this disease since 1997 with increasing fatal cases is of concern and various specific strategies have been implemented to urgently address this issue.

FIGURE 2
The National Incidence of Measles, 1989 – 2004



Source: Disease Control Division, MOH

FIGURE 3
The National Reported Incidence Of Diphtheria For The Period 1989-2004



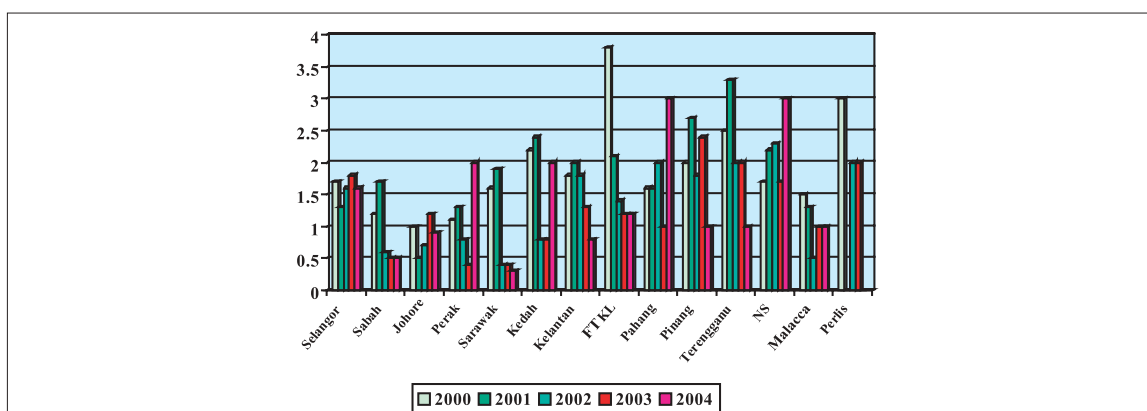
Source: Disease Control Division, MOH

Acute Poliomyelitis

Since the notification of 3 imported polio cases in 1992 there has been no reported cases of the disease due to wild poliovirus infection since then. There is an ongoing acute flaccid paralysis (AFP) surveillance under the National Polio Eradication Programme to detect any case of polio especially those of imported origin. There is a National Plan of Action for management of imported cases of wild poliovirus.

The national target for AFP cases have been achieved in during the 1998-2000 period. Several workshops focused on strengthening AFP surveillance and improving Oral Polio vaccination coverage among high risk population groups have been conducted over the last few years. The national documentation for the certification of the eradication of polio had been prepared and scrutinized by the Regional Eradication Commission from the 3 -4 August 2000 in Manila. The Western Pacific Region was officially declared polio free on 29 October 2000 in an historic meeting in Kyoto, Japan. Nevertheless quality AFP case surveillance will be ongoing until global certification. Post Certification measures includes high quality AFP case surveillance and high vaccination coverage rates and to adhere to WHO's Regional Plan of Action and Strategies for Post Certification of Polio Eradication.

FIGURE 4
The Non-Polio Acute Flaccid Paralysis Case Rate Reported by the States for the Period 2000 till 2004



Source: Disease Control Division, MOH

Vaccination Coverage

Vaccination coverage for children have achieved targets of Universal Child Immunisation (UCI) goals. Reported vaccination coverage for all the vaccine-preventable diseases have sustained reported levels of more than 90%. Coverage for completed primary series for DPT, Oral Polio and Hepatitis B was 93.4%, 94.8% and 93.4% respectively in 2004. Vaccine against measles has improved from a low 81.1% in 1994 to 93.9% in 2003. In 2003, there were changes in immunization schedule with the introduction of Hib (Haemophilus Influenza B) and MMR (Mump, Measles, Rubella) vaccinations which incorporate measles. In 2004, the measles vaccination covered about 64.5% babies (less than one year) and 33.2% children between 1-2 years. More children are due for MMR vaccinations in 2005. In order to further improve vaccination coverage as per requirements adhering to *Quality Assurance Indicators*, coverage of 90% or more has been adopted as the minimum standard in 2000. This is in keeping to recommendations and strategies of EPI, the Mid-Decade Goals for Children and the Millennium Development Goals.

Conclusion and Recommendation

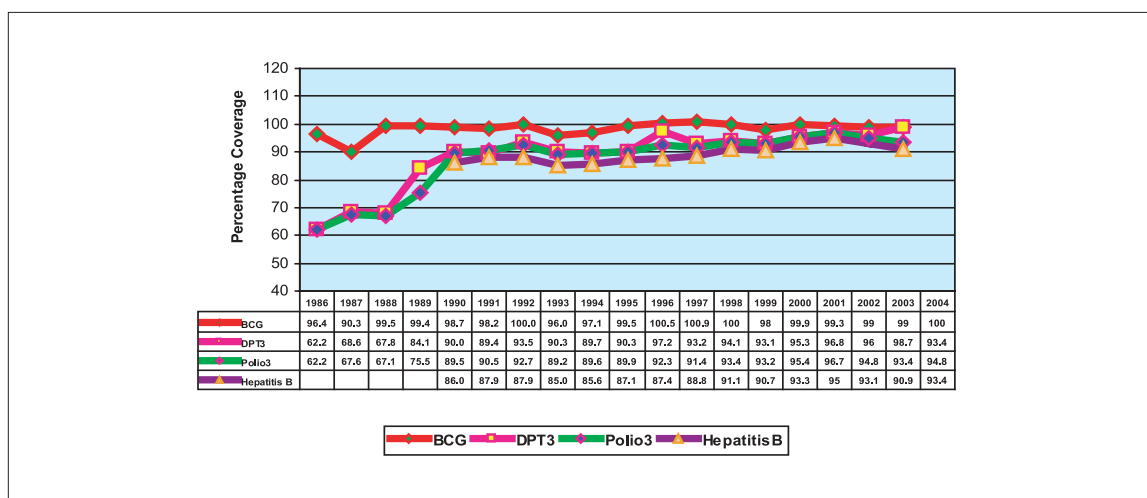
In the area of childhood vaccine-preventable disease control, Malaysia has achieved significant success from the endemic and epidemic situation as recent as in the 70s and the 80s and has reached a current point where we are at the stage of having either eradicated or on the verge of eliminating or having had significantly reduced most of these diseases. This decade has seen dramatic decline in the incidence rates of the major vaccine-preventable diseases. We have to sustain these successes by adopting innovative strategies.

The current real threat of the emergence and re-emergence of new and old infectious diseases including those which are vaccine-preventable has required modification of strategies of diseases control. The current phenomena of globalisation has increased the problem of importation of infectious diseases. Preventive and control measures related to imported infections have constraints of implementation of effective measures and contact follow-up. There is thus a constraint in total disease foci elimination thus causing problems of periodic outbreaks of disease. These are the new challenges which have to be faced in the Region.

In view of the re-emergence of some these vaccine-preventable in countries within the region and in other parts of the world regional collaboration in the following areas is essential:-

- a) surveillance
- b) laboratory capability and resource sharing
- c) outbreak rapid response
- d) research
- e) regular exchange of information
- f) manpower training
- g) vaccine development and collaboration
- h) regional emergency preparedness

FIGURE 5
The National EPI Vaccination Coverage For The Period Of 1986–2004



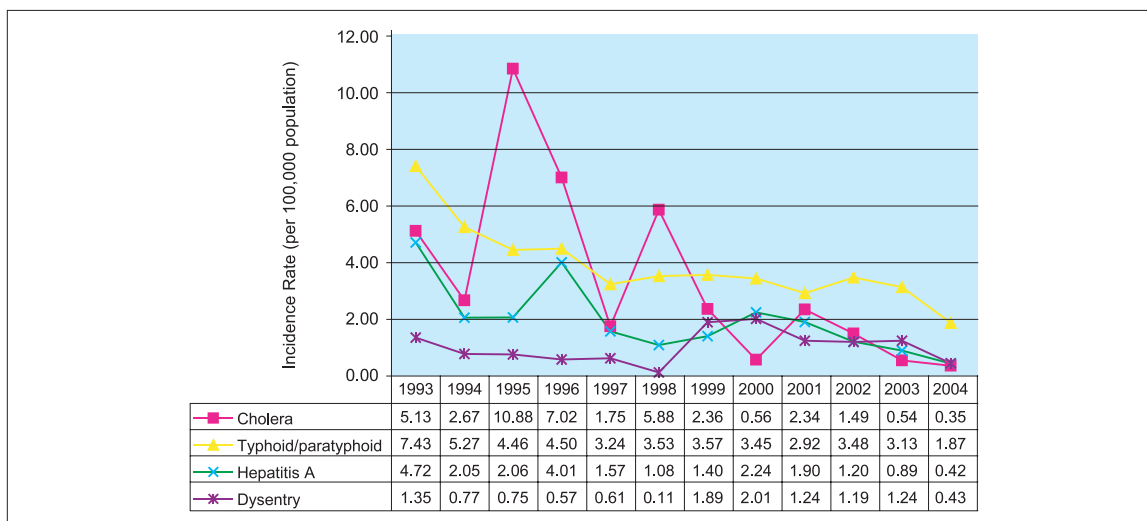
FOOD AND WATER BORNE DISEASES

In Malaysia, food and waterborne diseases were monitored through the notification system under the Prevention and Control of Infectious Diseases Act 1988 (Act 342) include cholera, typhoid, food poisoning, hepatitis A and dysentery. The incidence of these diseases has shown a declining trend. Over the past five years from 2000 to 2004, the average incidence of cholera, typhoid, hepatitis A and dysentery was less than five cases per 100,000 population. The incidence rate of food poisoning in the year 2004 was 23.06 per 100,000 population.

No major outbreaks of food and waterborne diseases were notified in 2004 and overall the incidence was comparably lower than in previous years. Few cholera cases were reported in some areas where the water supply and sanitation, food handling and personal hygiene practices were inadequate. The number of food poisoning episodes in school hostels and canteens where food is mass catered was high. The incidence of typhoid, hepatitis A and dysentery was low with no reported outbreaks. The incidence rate and number of cases of food and waterborne diseases notified is as shown in Figure 6.

Some of the measures taken to strengthen the surveillance, response and control of food and waterborne diseases included intensification of case reporting through the electronic mode of notification (CDCIS system), regular review of guidelines and collaboration and coordination with other related agencies through active participation in discussions and conferences. A plenary paper on “Foodborne Disease Monitoring and Surveillance Systems” was presented during the FAO/WHO Regional Conference on Food Safety for Asia and the Pacific held in Seremban in May 2004 while a conference room document on “Foodborne Disease Surveillance at National Level: Malaysian perspective” was submitted during the Second FAO/WHO Global Forum for Food Safety Regulators held in Bangkok, Thailand in October 2004.

FIGURE 6
Incidence Rate for Cholera, Typhoid/Paratyphoid, Hepatitis A and Dysentery in Malaysia, 1993 – 2004



TUBERCULOSIS

Tuberculosis (TB) cases in Malaysia has shown an increasing trend and has become a reemerging communicable disease of importance (Figure 7). Among the reasons for the rising numbers of TB cases are those associated with HIV infections, the declining awareness of TB threat and migration of foreign workers especially from TB high burden countries.

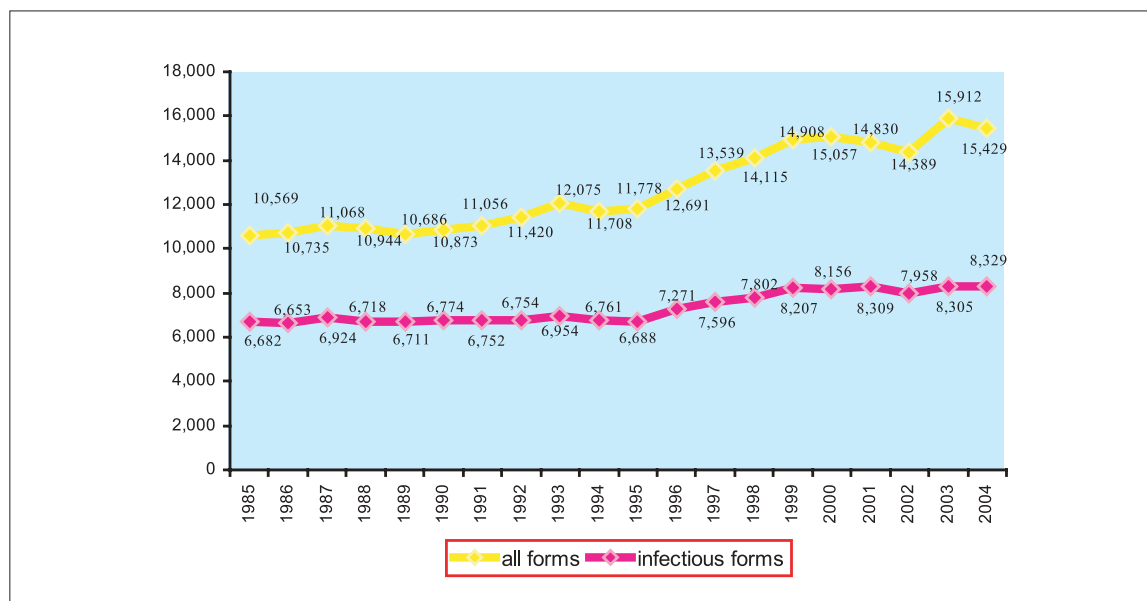
In 2004, a total number of 15,429 TB cases with incidence rate of 60.3 per 100,000 population cases were reported as compared to 15,912 cases with incidence rate of 63.5 per 100,000 populations in 2003. Although the number of cases reported in 2004 were lesser compared to the year before, TB remains as a public alarm. Out of these 15,429 cases reported, 8,329 cases (53.98%) were positive smear TB and 907 cases (5.88%) were recurrent cases.

Majority of TB cases i.e 88.9% (13,715) were local cases while the remaining were foreigners. The number of those TB from among HIV / AIDS patients were 942 cases i.e 6.1%. HIV screening was carried out among TB patients (unknown HIV status) as part of the prevention and control programme. A total number of 280 TB patients (1.93%) were confirmed HIV positive.

Directly Observed Treatment (DOT) is one of DOTS strategies recommended by WHO. As in 2004, the implementation of DOT in Malaysia had reached 93.2% which yet reaching the targeted rate i.e 95%. The sputum conversion rate (SCR) was carried out to detect the rate of positive smear TB patient who converted into negative smear after 2 months of treatment.

As in 2004, the achievement of sputum conversion rate was satisfactory where 88.0% (7,085) positive smear TB patient had converted into negative smear (sputum) after 2 months of treatment. Cohort analyses for 2004 was also been carried out to review the outcome of treatment. Out of 12,735 TB patients (qualified for analyses in 2004), 4,771 (37.46%) were declared as cured while 3,702 (29.07%) completed treatment.

FIGURE 7
Number Of Tuberculosis Cases Reported in Malaysia, 1985 - 2004



INTERNATIONAL HEALTH / QURANTINE DISEASES

Table 2 showed the achievement of plague and yellow fever activities at the international entry points. For the past 5 years, both international airports and ports were facing with vector breeding problems as there was an increases in number of vectors for yellow fever in 2004. Thus, a vigilant aedes and rodents control should be carried out at all entry points in Malaysia.

Medical examination for foreign workers has been carried out by FOMEMA since 1997 to ensure these workers are fit to work in Malaysia. Foreign workers who are fit will be issued working permit. There was a declining trend of unfit foreign workers in 1998 till 2001. The trend however showed an increasing pattern from 2002 to 2004.

In 2004, a total number of 25, 067 (2.8%) foreign workers were found to be unfit, thus failing them to renew their work permit. Majority of these foreign workers were found positive in their screening test for Hepatitis B (surface antigen), VDRL or shown abnormal chest x-ray for Tuberculosis. (Table 3 and 4).

TABLE 2
Vector Control Activities of International Health at the Entry Points in Malaysia,
2000-2004

No	Type of Activities	Acheivement				
		2000	2001	2002	2003	2004
A. International Ports						
1	Number of ports	10	10	10	15	24
2	Flea Index	0.08	0.53	0.16	0.59	0.49
3	Ovitrap Index (A.Aegypti)	0.4	0.4	0.8	0.1	0.46
4	Number of DC issued	47	5	9	23	NA
5	Number of DEC issued	1,749	2455	2,202	1,783	NA
6	Number of extension of DC issued	0	5	2	0	NA
7	Number of extension of DEC issued	43	45	80	39	NA
B. International Airports						
1	Number of airports	8	8	8	8	10
2	Flea Index	0.01	0.34	0.01	0.1	0.09
3	Ovitrap Index (A.Aegypti)	0.1	0.1	0.1	0.02	0.03
4	Number of passengers quarantined for yellow fever	183	144	301	209	332

Source : International Health Unit, MOH

TABLE 3
Total Number and Percentage of Unfit Foreign Workers
In Sabah and Peninsular Malaysia, 1998 – 2004

Year	Total Examined	Results of Examination		
		Fit	Unfit	% Unfit
1998	565,737	541,322	24,415	4.39
1999	545,222	531,292	13,930	2.55
2000	525,681	515,143	10,538	2.0
2001	500,133	490,869	9,264	1.85
2002	402,831	394,005	8,826	2.2
2003	716,157	697,595	18,562	2.6
2004	909,273	884,204	25,069	2.8

Source: FOMEMA Sdn. Bhd

Disease surveillance among muslims who performed their haj between 1998 to 2004 showed that respiratory tract and lung diseases were the main diseases occurring among them, followed by muscular skeletal diseases, skin diseases and gastrointestinal diseases (Table 5).

TABLE 4
Type of Unfit Diseases During Medical Examination
In Sabah and Peninsular Malaysia, 1998 – 2004

Diseases	Number (Percentage) of Unfit						
	1998	1999	2000	2001	2002	2003	2004
1. Hep. B	16,742 (68.57%)	7,830 (56.21%)	5,476 (51.96%)	4,107 (44.33%)	4,505 (51.04%)	9,686 (52.18%)	12,548 (50.05%)
2. TB	1,909 (7.819%)	1,203 (8.636%)	1,197 (11.36%)	1,460 (15.76%)	1,278 (14.48%)	2,313 (12.46%)	3,079 (12.28%)
3. Syphilis	3,627 (14.86%)	2,462 (17.67%)	1,519 (14.41%)	756 (8.161%)	657 (7.444%)	1,620 (8.728%)	2,110 (8.41%)
4. HIV	178 (0.729%)	80 (0.574%)	98 (0.93%)	91 (0.982%)	122 (1.382%)	286 (1.541%)	337 (1.34%)
5. Malaria	4 (0.016%)	7 (0.016%)	6 (0.057%)	1 (0.011%)	0 (0%)	9 (0.048%)	12 (0.05%)
6. Leprosy	16 (0.066%)	8 (0.057%)	3 (0.028%)	0 (0%)	1 (0.011%)	3 (0.016%)	5 (0.02%)
7. Canser	22 (0.09%)	14 (0.101%)	7 (0.066%)	5 (0.054%)	6 (0.068%)	4 (0.022%)	7 (0.03%)
8. Epilepsy	13 (0.053%)	4 (0.029%)	4 (0.038%)	0 (0%)	1 (0.011%)	7 (0.038%)	2 (0.01%)
9. Psychiatric Illness	19 (0.078%)	9 (0.065%)	6 (0.057%)	4 (0.043%)	19 (0.215%)	30 (0.162%)	16 (0.06%)
10. Pregnancy	1,289 (5.28%)	675 (4.846%)	611 (5.798%)	456 (4.922%)	495 (5.608%)	659 (3.55%)	977 (3.89%)
11. Urine opiates	256 (1.049%)	296 (2.125%)	125 (1.186%)	103 (1.112%)	71 (0.804%)	369 (1.988%)	558 (2.22%)
12. Urine Cannabis	156 (0.639%)	206 (1.479%)	153 (1.452%)	137 (1.479%)	69 (0.782%)	165 (0.889%)	103 (0.41%)
13 Others.	184 (0.754%)	1,136 (8.155%)	1,340 (12.72%)	2,144 (23.14%)	1,602 (18.15%)	3,411 (18.38%)	5,315 (21.20%)
Total	24,415	13,930	10,545	9,264	8,826	18,562	25,069

Source : FOMEMA Sdn. Bhd.

The trend of death among these pilgrims had shown a decreasing pattern (Figure 8). In 2004, 0.12% deaths were reported compared to 0.19% in 2003 and 0.28% in 2002. The main cause of death reported were acute myocardial infarction, followed by bronchopneumonia and others.

All pilgrims were vaccinated with the meningococcal meningitis quadrivalent. The effectiveness of these preventive measures can be observed with no reported cases of meningococcal meningitis infection in 2004.

TABLE 5
Total Number of Pilgrims Attending For Treatment With Disease Classifications,
1998 – 2004

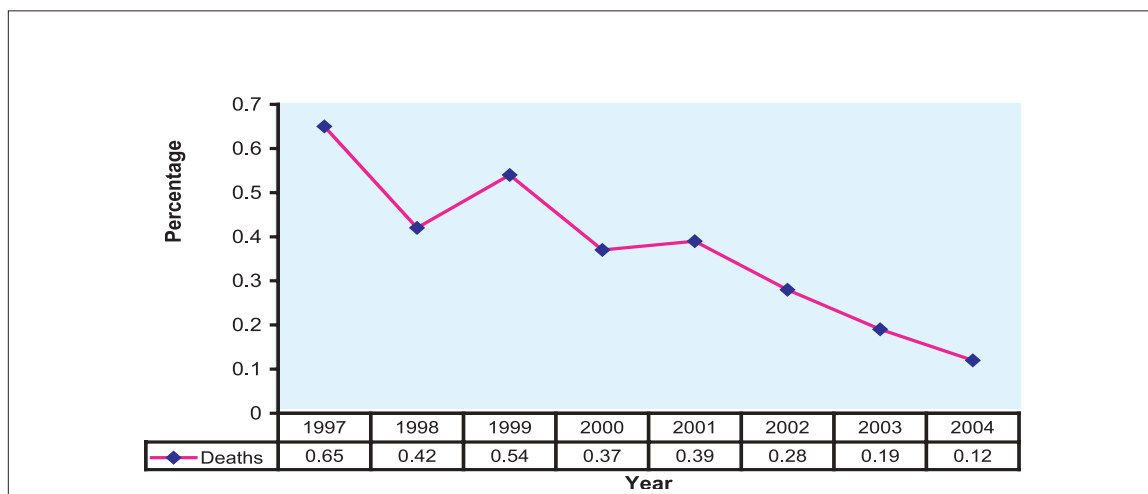
No	Cases Treated	Year						
		1998	1999	2000	2001	2002	2003	2004
1.	Communicable Diseases	0	0	5	7	0	0	0
2.	Cardiovascular Diseases	1,244	3,094	3,846	3,254	3,742	4,552	2,650
3.	Chest Diseases	64,024	63,418	73,349	86,453	85,660 (14,056)*	93,254 (16,106)*	47,164 (3,777)*
4.	Gastrointestinal Diseases	2,337	3,631	4,098	4,690	5,364	5,451	2,273
5.	Genitourinary Diseases	405	828	630	673	840	646	335
6.	Gynaecology and Obstetrics	240	375	405	596	1,161	845	386
7.	Skin Diseases	1,921	3,385	4,664	5,979	5,053	8,107	3,211
8.	Musculoskeletal Diseases	2,460	2,967	4,797	6,117	5,589	8,274	3,704
9.	Mental & Psychiatric Diseases	160	196	128	174	172	262	176
10.	Metabolic Disorder	386	555	0	1,199	1,539	1,606	1,223
11.	Eye Diseases	1,108	1,470	2,849	2,906	2,862	2,602	1,313
12.	ENT Diseases	1,040	2,089	2,209	2,130	5,004	1,754	1,024
13.	Mouth and Dental Disorder	289	860	2,352	1,519	3,311	2,559	2,301
14.	Wound, Fractures and burns	176	239	439	343	1,114	418	321
15.	Minor Surgery	10	6	10	2	36	13	32
16.	Heat Exhaustion	85	172	0	45	42	81	54
17.	Heat Stroke	0	0	0	0	26	0	0
18.	Others	547	1,231	2,587	1,639	2,109	1,141	758
	Total Number Treated	76,432	84,516	102,368	117,726	123,624	131,565	66,925
	Total Number of Pilgrims	29,404	34,920	39,393	44,282	49,864	49,047	24,626

Source : Lembaga Tabung Haji

() * The correct total number of chest diseases.

Before 2002, all upper respiratory tract infection were lump together under chest diseases

FIGURE 8
Percentage of Death Reported Among Pilgrims, Malaysia 1997 – 2004



VECTOR BORNE DISEASE CONTROL PROGRAMME

The programme has been successful in preventing and controlling the importation of plague and yellow fever whilst reducing the incidence of the other more vector borne diseases like malaria, filariasis, scrub typhus and Japanese Encephalitis. Dengue, however still poses as a public health problem by its periodic outbreak peaks in the last two decades in between lull period of lower incidences. In 2004, the incidence rate of Japanese Encephalitis and scrub typhus are 0.11 per 100,000 populations and 0.08 per 100,000 populations.

TABLE 6
Number of Cases of Vector Borne Diseases, 1999 – 2004

Vector Borne Diseases	Number of Cases and Deaths					
	1999	2000	2001	2002	2003	2004
Malaria	11,106 (21)	12,705 (34)	12,780 (46)	11,019 (39)	6,338 (21)	6,154 (35)
Dengue (DF/DHF)	10,146 (37)	7,103 (45)	16,368 (50)	32,767 (99)	31,545 (72)	33,895 (102)
Filariasis	528	505	384	205	290	265
Japanese Encephalitis	142 (38)	69 (9)	49 (1)	37 (2)	47 (1)	30 (4)
Scrub Typhus	68 (0)	38 (0)	86 (0)	17 (0)	3 (0)	22 (0)
Yellow Fever	0	0	0	0	0	0
Plague	0	0	0	0	0	0

Dengue

The incidence of dengue continues to increase. The main reason for the increasing number of cases is public apathy towards the control of the aedes mosquito breeding. In 2004, a total number of 33,895 dengue cases were reported with incidence rate of 132.5 per 100,000 populations. Dengue fever covers about 95.7% (32,422) of cases whereas the remaining was dengue hemorrhagic fever. Out of these 33,895 cases, about 39.4% (13,340 cases) were confirmed dengue.

A total of 102 dengue deaths with fatality rate of 0.3% were reported in 2004. Selangor reported the highest dengue cases and deaths which were 9,189 dengue cases, 2,806 confirmed dengue and 37 deaths. Johore reported 3,056 dengue cases, 1,942 confirmed dengue and 5 deaths; Perak reported 3,108 dengue cases, 1,886 confirmed dengue and 9 deaths whereas Federal Territory Kuala Lumpur reported 6,288 dengue cases, 1,542 confirmed dengue and 21 deaths.

Aedes surveillance activities is been strengthened from time to time. Construction site marked the highest aedes breeding for the past 5 years. In 2004, aedes breeding were found high at construction site (15.4%), unoccupied lands / lots (8.6%), factories (8.5%), schools (3.7%), offices (2.3%) and recreation areas (2.3%).

FIGURE 9
Dengue Incidence and Fatality Rate, Malaysia 1993 – 2004

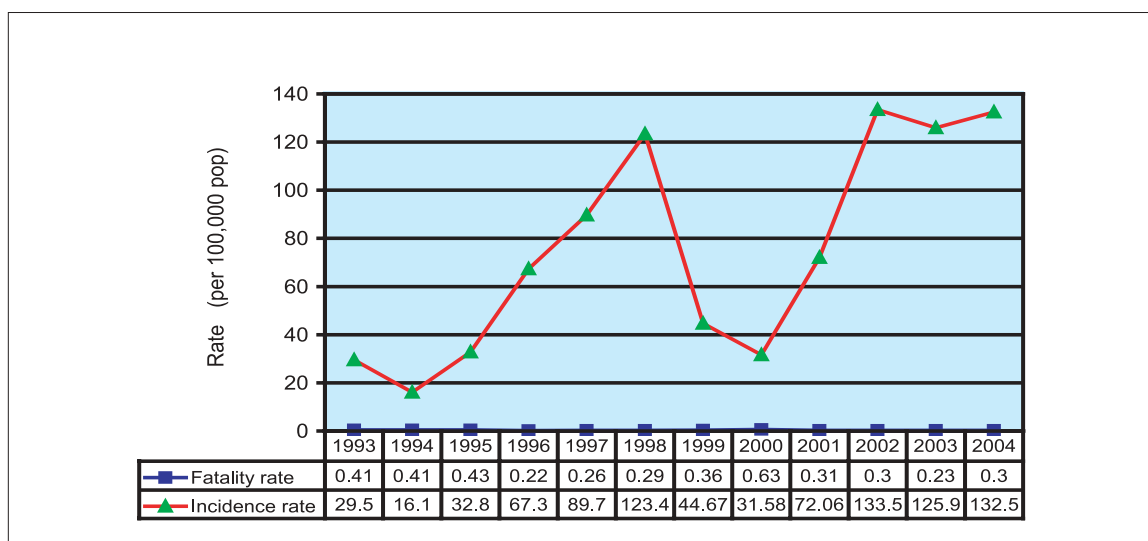


TABLE 7
Aedes Surveillance Activities, Malaysia 2000 - 2004

Premise	Aedes Index (A.I)(%) according to year				
	2000	2001	2002	2003	2004
Construction area	3.7	9.2	11.5	12.2	15.4
No man's land	1.7	2.4	3.8	6.9	8.6
Factory	4.3	4.7	6.7	6.8	8.5
School	2.4	1.8	2.6	2.8	3.7
Government office	2.2	3.6	6.1	2.5	2.3
Recreation area	0.7	1.4	4.4	2.5	2.3
House	2.9	4.7	4.1	2.6	1.8
Cemetery	3.1	8.4	7.4	0.6	1.7
Religious premise	0.7	0.8	1.4	1.7	1.2
Health facilities	0.6	0.5	0.6	1.1	1.2
Shop house	0.5	0.6	0.8	0.6	0.8
Waste Disposal Area	2.6	7.8	0.8	5.7	0.8
Others	0.8	0.4	0.1	1.7	1.2

Community participation pertaining to dengue prevention and control programme are being further improved. Communication for Behavioral Impact (COMBI) was introduced in 2001 with an objective to strengthen community participation in the prevention and control of infectious diseases. It was initially piloted in Johor Bahru, Johore with the cooperation of World Health Organization (WHO) and Ministry of Health. In 2004, the programme has expanded to Negeri Sembilan, Pahang, Selangor, Perak and Kedah which involved 38 localities. This programme has managed to reduce dengue cases. Piloted COMBI programme in 2004 has shown reduction of dengue cases from 1,282 cases to 775 cases at the localities involved.

Community Fogging (COMFOG) is another community participation in the dengue prevention and control programme. COMFOG encourages the involvement of community in fogging activities. In 2004, five localities in Pahang, Selangor and Perak participate in the activities. Collaboration with local authorities has also been strengthened and more vigorous enforcement of Destruction of Disease Bearing Act 1975 (DDBIA) has been promoted with charges being made and summons being served when necessary. A total of 9,375 notices and 14,337 compounds under the DDBIA were issued in 2004. A total of RM 5,255,733 was collected through compounds charges whereas RM 14,400.00 was collected following court charges.

Malaria

The National Malaria eradication programme has succeed in reducing the incidence of malaria. The number of reported cases in Malaysia has declined to 6,154 cases in 2004 with the incidence rate of 2.41 per 10,000 population as compared to 58,958 cases with the incidence rate of 30.2 per 10,000 population ten years before (1994). Most of cases are confined to Sabah and along international border of Sarawak. In 2004, there were 2,741 cases (incidence rate of 9.58 per 10,000 population) reported in Sabah whereas 2,089 cases (incidence rate of 9.19 per 10,000 population) were reported in Sarawak.

Plasmodium vivax was the predominant parasite species with 3,167 cases (51.46%) followed by *Plasmodium falciparum* 2,496 cases (40.56%), *Plasmodium malariae* 329 cases (5.35%) and mixed infection 162 cases (2.63%). Even though there is decreasing trend of malaria cases reported, prevention and control measures are still being carried out which include the active and passive case detection. In 2004, a total number of 4,217 cases (68.54%) were detected through passive case detection while 352 cases (5.17%) were detected through active case detection activities.

Filariasis

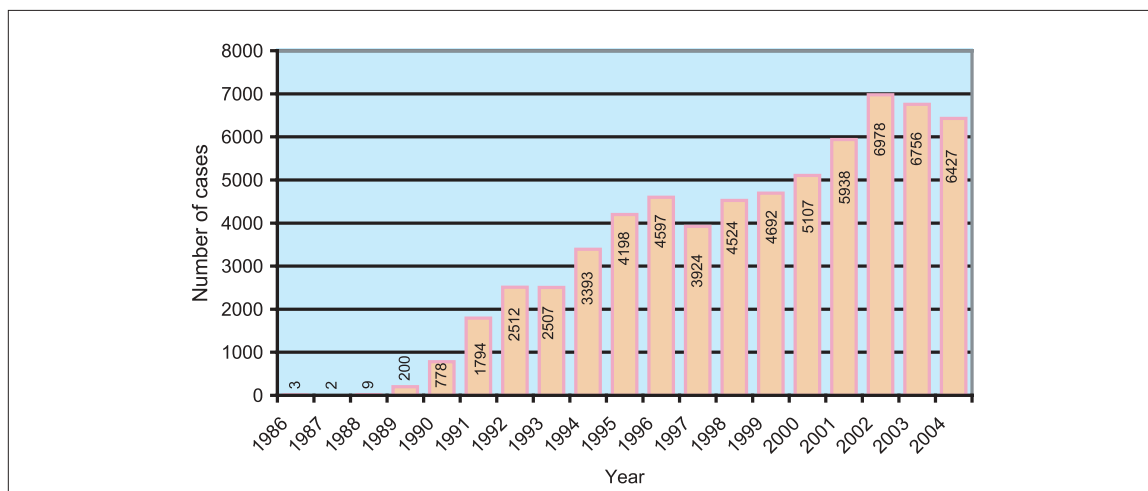
National Programme For Elimination of Lymphatic Filariasis was introduced in 2001 with an aim in eliminating filariasis by the year 2013. The programme is part of the Global Programme for Elimination of Lymphatic Filariasis which aim to eliminate filariasis by the year 2020. For the past ten years, prevalence rate of filariasis in Malaysia has ranged from 0.84 per 100,000 populations to 5.23 per 100,000 populations. In 2004, a total number of 265 cases of filariasis with incidence rate of 1.04 per 100,000 populations were reported. The microfilaria rate for the last 10 years has ranged from 0.93 per 100,000 populations to 5.66 per 100,000 populations. The programme has shown a remarked progress in controlling the disease.

AIDS / STD PREVENTION AND CONTROL PROGRAMME

HIV infections and AIDS have become one of major public health concerns in Malaysia. The first case of HIV infection was detected in the country in 1986. Since then, till the end of December 2004, a total number 64,439 HIV infected individuals and AIDS cases have been reported to the Ministry of Health, of whom 9,442 were notified as AIDS cases and 7,195 have died.

The annual reported cases of HIV/AIDS has reduced to 6,427 cases in 2004. Out of these, 1,148 were AIDS cases in which shown an increase of 6.7% in compared to 1,076 cases in 2003. A total of 1,065 AIDS deaths were reported.

FIGURE 10
Number of Reported HIV Infection (inclusive AIDS), Malaysia 1986 - 2004



HIV transmission in Malaysia continues to be mainly through sharing of needles among drug users (IDUs) (75.1%), followed by heterosexual (13.6%) and homo/bisexual route (1.3%) while 0.7% of the infections are attributed to vertical transmission. Only 25 cases were attributed to blood transfusion. The male gender still represents the majority of the reported HIV infections and AIDS cases, i.e. 93.1% and 91.0% respectively. However the proportion of female being infected have been on the rise, from 1.2% (1990), 3.8% (1995) to 9.0% (2002). Majority of HIV infection were in the age group of 20 to 29 years old (36.2%) and 30 to 39 years old (42.7%).

Prevention of Mother To Child Transmission (PMTCT) Programme

HIV voluntary testing for pregnant mothers was introduced in 1998 as part of the national intervention to reduce HIV transmission from mother-to-child. Besides offering free HIV-testing and counseling services, this programme also provides free antiretroviral drugs to every infected pregnant mother and her baby. The programme is very successful. As of December 2004, a total number of 2,161,748 antenatal mother who attended government clinic (82.3%) were screened. Out of these, 0.035% (757 mothers) being detected positive. A total of 25 (3.88%) delivered babies were HIV positive (Table 8)

HIV / AIDS Prevention and Treatment Activities in Prison and Drug Rehabilitation Centres

HIV screening with pre-and post test counseling are also being carried out among new inmates admitted to the Drug Rehabilitation Centers and prisoners as they are identified as having high risk behaviors. The inmates are mandatory to go for HIV testing given prior to their admission, six months after and prior to release. This programme was initiated by the

Ministry of Health together with our counterparts from the Home Affairs Ministry. In 2004, 19.1% (2,247) inmates at Rehabilitation Centers were detected HIV positive where 18.4% (2,164) were detected on admission, 2.4% (81) six month after admission and 0.1% (2) prior to release. Among the prisoners, 5.4% (2,830) were detected where 5.3% (2,799) were detected on admission, 0.7% (30) six month after admission and 0.03% (1) on prior to release.

In 2004, a pilot project in regard to treating HIV positive drug users in drug rehabilitation centre is being started as agreed by the Technical Committee on HIV / AIDS. The project is being implemented in Serendah Health Clinic with inmates coming from Serendah Drug Rehabilitation Centre and Rehabilitation Centre in Kuala Lumpur (Serendah Project). Currently, 88 HIV positive drug users are on follow-up and 11 already on Highly Active AntiRetroviral Therapy (HAART). The project will later on be expanded to five other clinics in Selangor as well as to other state namely Johore, Malacca and Negeri Sembilan.

TABLE 8
Prevention of Mother-to-Child-Transmission (MCTC) Programme, Malaysia 1998 – 2004

	1998	1999	2000	2001	2002	2003	2004	Total
No.of Attendance of Antenatal Mother	323,902	416,400	347,979	392,139	387,208	374,386	386,037	2,624,023
No. of ANC screened	161,087	276,000	286,390	343,030	359,411	361,152	377,016	2,161,748
Percentage screened	49.7	66.3	82.3	87.5	92.8	96.5	97.6	82.3
No. of ANC Mother detected HIV tve (%)	56 (0.035%)	89 (0.322%)	85 (0.030%)	79 (0.023%)	141 (0.039%)	177 (0.049%)	138 (0.037%)	757 (0.035%)
Babies delivered (by Dec 2003)	56	89	85	79	141	152	-	602
No. of babies HIV tve (percentage)	3 (5.35%)	5 (5.62%)	3 (3.53%)	1 (1.26%)	5 (3.55%)	8 (3.95%)	-	25 (3.88%)

TABLE 9
Number of HIV Cases Detected from Anonymous HIV Screening Programme, 2001-2004

Year	2001*	2002*	2003*	2004
No. of case screened	1,706	1,404	5,234	9,448
No.of cases found reactive(HIV rapid test) (%)	41(2.4%)	70(1.3%)	34(2.4%)	238(2.5%)
No. of HIV Cases confirmed positive (%)	30(1.7%)	23(1.6%)	70(1.3%)	238(2.5%)

* pilot project in Johore

Voluntary Anonymous HIV-Screening Services

To further expand the “Voluntary HIV-Screening Services”, MOH introduced a pilot anonymous HIV-screening service at health clinics in State of Johor in year 2001 which is now implemented nationwide. The service aims to encourage those with risk behavior to come forward for a free and client-friendly anonymous HIV testing. Out of 9,448 voluntaries who undergone the HIV screening test in 2004, 0.81% (77) were detected HIV positive.

Integration Management of HIV at the Health Centres (PPHIV)

In order to decentralise the management of HIV patients, from hospital based setting to Primary Care Level and to promote and upgrade the best care for HIV patients, the Ministry of Health is currently integrating the management of HIV patients in Health Centers since year 2000. This programme is being implemented in stages. Currently more than 200 Health Clinic are offering the services which includes risk assessment, HIV testing, counseling, medical examination, treatment, follow-up, case notification, contact tracing, referral, and home visit by trained clinic personnel . In 2004, there were 770 HIV Positive cases managed at these clinics.

Intergrating the Management of STD in Primary Care through Modified Syndromic Approach of STI Management

In 1996 the management of STI was integrated into the primary care setting. It was in 1999 the Modified Syndromic Approach of STI Management was introduced. The syndromes adopted were Vaginal Discharge Syndrome, Urethral Discharge Syndrome and Genital Ulcer Syndrome. Currently more than 120 Health Clinics are implementing the management of STI (sexually transmitted infections) using this approach. This programme is currently undertaken to encourage the public to seek treatment for STIs at the Primary Health Care Level (Table 10).

TABLE 10
Number of STI Cases Managed at Health Clinics Based on Clinical Syndromes through Modified Syndromic Approach (MSA) programme, 2002 - 2004

	2002	2003	2004
Vaginal Discharge	472	652	835
Urethral Discharge	229	202	256
Genital Ulcers	125	87	44
Aysmptomatic Cases / Others	357	750	1,496
Total	1,183	1,691	2,631

PROSTAR

Youths without AIDS Health Programme (ProSTAR) was introduced in 1996. Using the concept of “Action By Youth, Through Youth, and For Youth”, this programme aims at creating young motivators to plan, organize and carry out motivational and educational activities on matters related to the prevention and control of HIV/AIDS to their peer groups. As of December 2004, a total of 930 PROSTAR Clubs were established (117 districts and 813 schools).

In 2004 “PROSTAR Youth Centre” was established to provide a one-stop centre that can provide services to youth and prevent them from getting involved in social ill activities and encourage them to practice healthy lifestyle. The PROSTAR Youth Centre has been acknowledged by UNICEF. They funded one of the centre in Pendang, Kedah. ASEAN member countries welcome and accept the concept to be adopted by them. Brunei already adopted the PROSTAR programme and Indonesia is in the process of integrating the programme.

NATIONAL PUBLIC HEALTH LABORATORY

National Public Health Laboratory (NPHL) provides laboratory services to support activities in public health programme especially pertaining to the disease prevention and control programmes and food safety.

Disease Section

Virology Laboratory

In 2004, the NPHL is recognized as a national referral laboratory for measles. All measles case will undergo laboratory confirmation at NPHL. This is part of the National Measles Elimination programme to enhance measles surveillance. As of December 2004, a total number of 2,669 IgM assays for measles were carried out. Out of these, 1,120 serums (42.0%) were confirmed positive. Viral isolation for measles were carried out in 393 specimens and out of it, 31 specimens (7.9%) were confirmed D9 genotype positive.

Bacteriology Laboratory

In 2004, NPHL carried out a special project i.e *Legionella pneumophilla* investigations at Ministry of Health buildings and Regent Hotel. A total number of 22 water samples from the air-conditioning terminal at the premises mentioned were analysed. The result of the investigations were as shown in Table 11.

Food Section

The main role of Food Section is to provide analytic analysis on food samples, water, environmental swabs and tobacco products in support to programme activities from Disease Control Division and Food Safety and Quality Divison. Table 12 showed number of samples received for analysis by this section in the year 2004 according to sample categories. In 2004, a total number of 2,186 samples were analyzed as compared to 3,545 samples in 2003.

TABLE 11
Results of *Legionella Pneumophilla* Investigations According to WHO Standard

Location	No growth	≤ 10 CfU/ml	>10-<1000 cfu/ml	≥ 1000 cfu/ml
Public Health Department	1	1	2	0
Kuala Lumpur Hospital	2	0	2	0
National Blood Bank	4	0	0	0
Respiratory Institute, KL	1	0	1	0
Hotel Regent, KL	0	0	2	2

Legionella Count :

- ≤ 10 cfu/ml : Maintenance practices may not be satisfactory.
- >10-<1000 cfu/ml : Potentially hazardous situation
- ≥ 1000 cfu/ml : Serious condition.

TABLE 12
Number of Samples Received for Microbiology, Biotechnology and Chemical Analyses According to Sample Category

Sampel Category	Number of Samples Received						Total Samples	
	Microbiology		Biotechnology		Chemical			
	2003	2004	2003	2004	2003	2004	2003	2004
Survey	519	334	139	83	519	531	1,238	948
Outbreak	593	291	0	0	593	3	593	294
Operation	153	149	0	0	153	0	310	149
Others	122	27	67	33	122	735	1,404	795
Total	1,387	801	206	116	1,387	1,269	3,545	2,186

NONCOMMUNICABLE DISEASE CONTROL PROGRAMMES

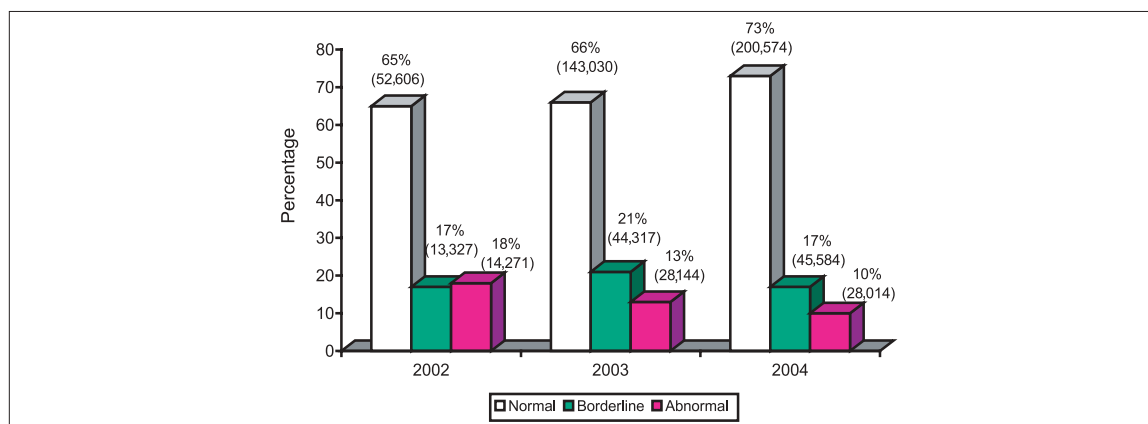
Non communicable and life style diseases have become more predominant disease burdens with the improvement of health status. The Disease Burden Study conducted in the year 2004 (using 2000 data) noted that out of eight leading burden of disease in Malaysia, six top ranking are non communicable diseases namely ischaemic heart diseases followed by mental illness, cerebrovascular disease/stroke, road traffic injuries, cancers, asthma & chronic obstructive pulmonary diseases and diabetes mellitus. Thus activities and programmes are planned and implemented to control the diseases burden.

Diabetes Prevention and Control Programme

Admission of diabetic cases to government hospital showed an increasing trend with 27,179 cases were admitted in 2000, 30,281 cases in 2001, 33,187 cases in 2002 and 35,460 cases in 2003 while 323 death in 2000, 380 death in 2001, 323 death in 2002 and 346 death in 2003. A total of 26,953 new diabetes cases were reported from states in 2004; with 70% (18,838 case) without complication and 30% (8,115 case) with complications such as microalbumin (35%), neuropathy (21%), nephropathy (24%), neuropathy (21%), retinopathy and foot ulcer (10% respectively).

Diabetes screening programme has been established at health clinic as one of the prevention and control activities. As of December 2004, a total of 600 health clinics are implementing the screening activities. Diabetes screening is carried out at hospital and health clinic to detect diabetes early especially among those with high risk such as family history of diabetes, age over 35 years old, obese and those with other diseases such as hypertension and heart condition. Out of 274,172 cases that were screened in 2004, 70% were normal, 17% borderline and 10% abnormal (Figure 11).

FIGURE 11
Diabetes Screening, Malaysia 2002 - 2004



Screening for diabetes complications is also being carried out. Every diabetic patient will undergo the screening for early detection and prevention of complication as it is mandatory in the management of diabetes mellitus. Several tests were done to detect complications which include microalbumin test, monofilament test and fundus camera.

Urine microalbumin is an important test to detect renal involvement at a very early stage. Diabetic patient is screened for urine albumin annually and for those patients with negative for gross proteinuria, urine microalbumin test is carried out. A total of 24,966 microalbumin tests were done in the year 2004 and showed 68% is normal while 32% showed presence of microalbumin. Thus urine microalbumin test is an important test to detect renal involvement.

Fundus camera is used to screen eye complication in diabetic patient. Diabetes retinopathy is the most common eye complication for diabetes patient and is the leading cause of blindness. The screening activities was started in January 2001. As of December 2004, MOH has provided seven fundus cameras at selected health clinic. A total of 10,456 diabetes cases had their eye screened using the cameras at the respective health clinic. Out of these, 8,529 cases or 82% were normal whereas 1,927 cases or 18% had some form of retinopathy.

Monitoring for control of diabetic patients is part of the diabetes prevention and control programme. It is done using HbA1c test which will reflect the patient's diabetes control status for the past three months. In 2004, out of 58,603 tests done, 38,180 (65%) of diabetic patients has HbA1c > 6.5% while 20,423 (35%) has HbA1c < 6.5%. It showed that 65% of patients has poorly controlled diabetes despite of treatment given.

A booklet entitled '7 Principal for Diabetes Control' was produced as guideline for diabetes patient. Clinical Practice Guidelines (CPG) on Diabetes, i.e Practice Guidelines for Type 2 Diabetes was published in 1999 and has being revised and approved by CPH council in 2004.

Cardiovascular Prevention and Control Programme

Health education and builds awareness about cardiovascular diseases and promoting healthy life style in the community through electronic and printed media are part of population strategy. Meanwhile, individual strategy or high risk strategy includes identifying people with high risk of cardiovascular diseases through health screening and gives intervention related to the risks they have. These strategies are complementary and reduction of Cardiovascular diseases are likely to be most successful where both are pursued simultaneously.

Screening programme for Cardiovascular Diseases (CVD) Risk Factors

As of 2004, a total number of 584 health clinics have carried out screening programme for CVD risk factors. Out of 109,354 patients who underwent the screening, 51,057 (46.7%) were found to have risk factors.

TABLE 13
Screening Programme for CVD Risk Factors, 1999-2004

Year	Number of Clinics	Cases	The cases with Risk Factor(%)
1999	57	6,195	1,752 (28.3)
2000	127	22,967	8,648 (37.7)
2001	200	34,033	16,086 (47.3)
2002	405	88,775	32,256 (36.3)
2003	453	102,956	38,304 (37.2)
*2004	584	109,354	51,057 (46.7)

* Excluded Negeri Terengganu, Kedah, Pahang, Federal Territory Kuala Lumpur

Registry HiTrax

HiTrax was developed to collect all hypertension cases data systematically that were needed in order to plan and implement Hypertension Intervention Programmeme all over the country. HiTrax pilot project was being carried out at Kuala Pilah Health Clinic, Negeri Sembilan and will be done through out Negeri Sembilan before expended it to all hospitals, health clinics and MOPD in Malaysia. This system was build using existing format, which were based on Diabetes Card format and CVD Screening. The interface was identical with MyHeSs and Diabetes Registry. All Hypertension Data that will be collected using this system are supposed can give us the exact Hypertension burden scenario in Malaysia.

Development and Verification of Effective Cardiovascular Disease Calculator Designed for Malaysian Population. (CVD Risk Calculator)

This research was performed to create a method to identify individual with high risk for heart attack or stroke that involved USM, UPM, UM, UKM and MOH. Early detection that can be done through this recommended method and followed by prevention can reduced the possibility of heart attack and stroke. The subjects were the residents of Felda Besout 1, Felda Besout 2 , Felda Besout 3, Felda Trolak Utara, Felda Trolak Selatan and Felda Trolak Timur that had participated in PIKAM project in the 7th Malaysian Planning.

Clinical Examinations that includes the measurement of height, weight, waist hip ratio, blood pressure, pulse, glucose and cholesterol level in blood and ECG had been done to the subjects. Besides that, the level of protein, sodium, potassium and creatinine in urine were also been evaluated. Counseling and advised were given at the end of the examination session. All completed forms and questionnaires were submitted to the management centre for data key-in process and were analyzed at USM Medical Science Studies Centre. Training for volunteers were given on the 28th until 29th of December 2004 at Slim River Hospital.

Blindess Prevention and Control Programme

Screening for diabetic retinopathy among diabetic patients has being carried as routine examination to detect eye complications. Currently there are 7 fundus cameras available at selected health clinic to carry out the examination. Screening for refractive error among school children is also being carried out for early detection and treatment.

Violence and Injury Prevention Programme of the Ministry of Health (VIP)

Achievement :

- a. The World Health Day 2004 at national level was launched on the 8th of May 2004. Road Safety was selected by the World Health Organization (WHO) as the issue to be highlighted with the theme of 'Road Safety is no Accident'.
- b. Development of Malaysian Injury Surveillance System which covers both intentional and unintentional injuries. This system will be tested as pilot project in a few states in 2005.
- c. Several trainings on Violence Prevention and Management were conducted at state and national levels.

National Tobacco Control Programme

Framework Convention on Tobacco Control (FCTC)

The WHO Framework Convention on Tobacco Control (FCTC) was unanimously adopted at the 56th World Health Assembly in May 2003. The FCTC is an international legal tool aimed to curb the tobacco menace at the global level. Malaysia became a signatory to the FCTC on 23 September 2003 and is expected to ratify and become a party soon, i.e. before

the November 2005 dateline, in order to qualify and participate at the first meeting of the Conference of Parties (COP). With that Malaysia would join ASEAN countries namely Brunei, Myanmar, Singapore, Thailand and Vietnam who are already parties to the FCTC. The major guiding principle of the FCTC is to protect public health and reduce disease, harm and death from tobacco. It offers an opportunity for most developing countries to address difficult tobacco control issues that has prevented effective national tobacco control policies. It will also provide an excellent mechanism to stop double standards currently being practiced by tobacco trans nationals and enable governments to put in place measures to counter cross border activities such as smuggling of cigarettes.

Legislation

Tobacco control will never be complete without legislation as one of its major components. Legal restrictions imposed upon the tobacco industry as well as members of the public, particularly those who smoke, could create positive environment towards building a smoke-free society.

For now, the Control of Tobacco Products Regulations 2004 (CTPR) is the main tobacco control law in the country. It is made under the Food Act 1983 and was first enacted in 1993. This piece of legislation had since undergone 3 revisions, where the latest amendments are currently contained in the 2004 version. Provisions in CTPR04 reflected the Government's effort towards tightening tobacco control in the land. Amongst the main contents of the CTPR04 are related to total ban on tobacco promotions and expansion of existing 'no-smoking zones'.

- *Promotional ban*
Regulations 4 and 5 prohibit all forms of tobacco product advertisement and sponsorship in exchange for promotion of a tobacco product. This prohibition will include advertisements at points of sale when it comes into force on 24 June 2004. However, exemption is given to Formula 1 Grand Prix and any motor vehicle racing event held at the Sepang International Circuit until January 2006.
- *Packaging and labeling*
Regulations 9 and 16 specify that all cigarettes sold in Malaysia must be in packs of not less than 20 sticks. However, this provision will only be effective in June 2006.
- *Smoke-free areas*
Regulations 11 and 12 designate at least 19 identified locations as smoke-free areas and requirements for appropriate signage to be displayed in these premises.

Following approval of the Cabinet the Ministry of Health has completed its draft of a stand alone Tobacco Control Act. This Act will replace the CTPR and become the prominent comprehensive legislation for tobacco control in Malaysia. This new law will incorporate all relevant provisions and country obligations stated in the Framework Convention on Tobacco Control (FCTC).

Apart from the CTPR, there are other tobacco control related laws made under the jurisdiction of various other government agencies namely the Royal Malaysian Customs for control on

smuggling using tax stamps and bandrole, the upcoming Clean Indoor Air Quality Regulations by the Department of Occupation Health and Safety, Ministry of Human Resource, as well as local government by-laws and laws for correctional institutions that have restrictions on smoking and supplies of tobacco products.

Smoking Cessation

There are currently about 200 dedicated quit clinics, set within the government health facilities throughout the country. Training of trainers and service providers on up-to-date techniques of smoking cessation was continuously carried out by the State Health Departments.

The quit services are designed for smokers who are motivated and voluntarily attend the Quit Clinics. These facilities initiated since end of 1999, have helped over 3,369 smokers to give up the habit. Overall the Ministry's smoking cessation services had achieved a quit rate of 15.6% from among 8,114 registered clients attending clinics nationwide after being followed up for a period of 6 months. Selected clients were also provided with free nicotine replacement therapy for the first 3 months of the quitting process.

The Ministry has developed a Clinical Practice Guidelines (CPG) on treatment of tobacco dependence. This CPG serve as a handbook for all health care workers (doctors, dentists, pharmacists and medical support staff) to assist smokers quit. In order to benefit the bigger masses, private medical and health care providers are also encouraged to provide brief advice and other forms of tobacco cessation services at all levels. The CPG is scheduled for its second revision this year.

Since 2003, the Ministry of Health worked closely with the Malaysian Pharmaceutical Society, the Clearinghouse for Tobacco Control and Pfizer, in a programme known as the Certified Smoking Cessation Service Provider (CSCSP). This project aimed to get the involvement of health care providers from within NGOs and the private sector to be trained and become competent providers of smoking cessation services. For the past years the project concentrated on training community pharmacists.

Apart from the CSCSP, efforts were also made to try and draw in commitment from the corporate bodies into the Corporate Cessation Programmeme (CCP), where participants are encourage to establish smoke free workplaces within their organizations and to provide support for employees who smoke to quit the habit. Several major private companies have joined and these include Petronas, Maybank, Shell, Intel, Landmarks, Royal Adelphi Hotel, KEU Engineering, Flextronics, Mydin, Sungai Wang Plaza and 3M.

Cancer Prevention And Control Programme

Cancers still contribute to significant morbidity among the population. The National Cancer Registry published in 2004 by the Clinical Research Center, reported that a total of 21,464 cases of cancer were diagnosed in 2003 in Peninsular Malaysia. The crude incidence rates for males were reported to be 97.4 per 100,000 population and 134.3 per 100,000 for females. Breast cancer accounted for 31% of newly cancers detected in females and the case specific incidence rates was 59.7 per 100,000 populations. Cancer cervix accounted

for 12.9% of cancer in women and the case specific rate was 28.8 per 100,000 populations. Lung cancers accounted for 13.8 % of male cancers and 3.8% of female cancers. However there are limitations in these figures as they do not represent the actual situation due to the reporting system which needs further strengthening.

Environmental Health Programme

Environmental Health Impact and Risk Assessment

Environmental Health Impact Assessment (EHIA) is one of important tool in taking care of current and future health of population. In the year 2004, EHU participated in reviewing and providing health inputs of 5 proposed projects which require EIA approval; Detailed Environmental Impact Assessment Study on “The Proposed Coal-fired Independent Power Plant Project” Mukim Jimah, Port Dickson; Environmental Impact Assessment Report for Proposed Development of Polyaluminium Chloride (PAC) Recovery Facility, Senawang Industrial Estate, Senawang; Bukit Tagar Landfill, Sungai Tinggi, Hulu Selangor; Detailed Environment Impact Assessment of Megasteel & Amsteel Plant; Detailed Environmental Impact Assessment for Proposed Sheduled waste Incinerator at Proton Plant, Tanjung Malim Perak

Development of Guideline and Health Advisory

In addition to the Haze Guideline, the following guidelines were produced in 2004; Healthy Cities Guideline; Healthy Community: Step by Step Guideline; Healthy Marketplaces Guideline. EHU also had produced and distributed the Health Fact in form of posters and pamphlets about haze related illnesses.

Surveillance of Air pollution related diseases

On the average, the overall air quality in Malaysia was good throughout the year and moderate at a few monitoring centers. To strengthen the disease surveillance, EHU had convened a meeting in February 2004 to re-categorize the 51 sentinel stations into few categories and had embarked on a detailed time-series analysis for one of sentinel health data.

Publication and Report

5 ‘Leading Articles’ and one (1) ‘Special Report’ were submitted and published in NCD Malaysia (The Bulletin of Epidemiology and Public Health on Noncommunicable Diseases in Malaysia).

A total of 10 technical reports were also produced in the year 2004, as follow; 5 Healthy setting evaluation reports 4 Healthy Workplaces Reports and One technical report on “Air Pollution and Respiratory Health; an Epidemiological Surveillance: Sentinel Health Clinic Data Analysis”

Healthy Settings

Healthy settings are physical and social settings, such as schools, workplaces, marketplaces, hospitals, villages and communities, which serve as supportive environments for health protection and health promotion activities. Thus healthy setting approach focuses on the “setting” or place where people are at the work or play.

Healthy setting in Malaysia was started in 1994 when Healthy Cities Programme was introduced. The programme is established to provide focus on the urban environmental problems in Malaysia. It was piloted in Kuching and Johor Bahru. As of December 2004, 25 major towns have implemented the healthy cities concepts.

Tremendous progresses have been achieved since then when more settings and areas participate in the programme. As of December 2004, 180 healthy settings have been established in Malaysia. Malaysia also has successful managed international conferences on Healthy Cities, i.e on ASEAN Healthy City Conference, Strategic Alliance on Healthy City, INTAN courses on Healthy environment with JICA and several WHO workshops organized in Malaysia.

The Healthy settings initiatives are a cooperative approach to improving environments for health, by encouraging greater community involvement and greater cooperation between sectors of community, industry and government. As certain responsibilities rest with the Federal Government, some with the State Government and Local Authorities, but the responsibilities can only be effectively exercised with the active assistance of the community.

OCCUPATIONAL HEALTH

Following the gazettment of Occupational Safety and Health Act in 1994, occupational health in Malaysia has evolved in many aspect. Many regulations and code of practice have been established. In the year 2004, a new regulation called Occupational Safety and Health (Notification of Accident, Dangerous Occurrence, Poisoning and Diseases) 2004 was introduced. It is aim to emphasize and increase the notification of accident, dangerous occurrence, occupational poisoning and diseases by employers and medical practitioners. As the major health care provider in this country, Ministry of Health aware that occupational health services need to be expanded to the workers in general and shall not confine to health care workers only. Therefore, Occupational Health Unit has planned various strategies based on the Three Level of Prevention In Public health to provide a comprehensive occupational health services for the nation.

Health Promotion and Education Regarding Occupational Health

Occupational Health Unit at the head quarter, states and districts have conducted various activities to promote and educate workers regarding occupational health.

- a. Regional Training Course on Prevention of Accidental Exposure In Radiotherapy.
- b. Needle Stick Injury Prevention Campaigns at national and state level

- c. Workshop to formulate Guideline of Accident Prevention at Workplace (In collaboration with DOSH, SOCSO, NIOSH, academic institutions, PDRM, BOMBA, Malaysian Employers Federation, Society of Occupational-Environmental Medicine-MMA, Malaysian Association of Safety & Health Officer)
- d. Workshop for training of trainers (Kedah State) – Pesticide Poisoning Prevention Among Farmers
- e. Various occupational health promotion and education activities among health care workers and industrial workers at various states and districts
- f. Production of multimedia CD regarding – Prevention of pesticides poisoning among farmers, health effects of pesticides poisoning (In collaboration with National Poison Centre), first aid management of pesticides poisoning.
- g. Production of posters – Safe practice of pesticides handling, health effect of pesticides, accident prevention at workplace, commuting accident prevention.
- h. Collaborate with Universiti Malaya and Universiti Kebangsaan Malaysia in the Post Graduate Training In Public Health (Occupational Health).
- i. Collaborate with Society of Occupational and Environmental Medicine- Malaysian Medical Association in conducting Continuous Medical Education in Occupational Medicine.

Surveillance of Occupational Diseases, Poisoning And Injuries

Surveillance system was first established for pesticide and chemical poisoning in 1989. This was followed by surveillance for occupational lung disease, skin disease and injuries in 1997. Occupational noise induced hearing loss was established only in the year 2002. Generally cases of occupational diseases being notified are still low compared to other countries. Most likely due to under reporting of cases and difficulties to diagnose occupational diseases.

a) *Chemical poisoning*

Chemical poisoning is still a serious problem in Malaysia. In the year 2004, total of 878 cases were notified. Based on the data between 1998 and 2004, majority of the poisoning involved pesticide followed by gases, industrial chemicals, agrochemicals and organic solvent. Paraquat, organophosphate, glyphosate, carbamate and organochlorine were the main pesticide involved in poisoning. Most chemical poisoning were accidental. However parasuicide was the second main cause of poisoning, followed by occupational related poisoning. Main route of exposure for poisoning was inhalation, followed by oral and dermal.

b) *Occupational injuries among Ministry of Health staffs*

The total number of cases reported in the year 2004 was 728, which was lower than the previous year. Majority of injuries happened in Hospital (590 cases) followed by Health (52 cases) and Dental (25 cases). Fifty eight cases of injuries happened in other places. Data were insufficient for 3 of the reported cases. Needle stick injuries remain as the most commonest type of injuries among the health care workers followed by motor vehicle accident and injuries while handling/lifting. In

Hospital, ward showed the highest incidence of needle stick injuries, followed by operating theatre and emergency department. In Health, most of the accidents happened in Health Clinics.

c) Occupational lung diseases

They were only 36 cases being notified in the year 2004. Infectious disease, asthma and pneumoconiosis were the three most common type of occupational lung diseases being notified. Despite being diagnosed as having occupational lung disease, most of the workers were still continue performing the same work.

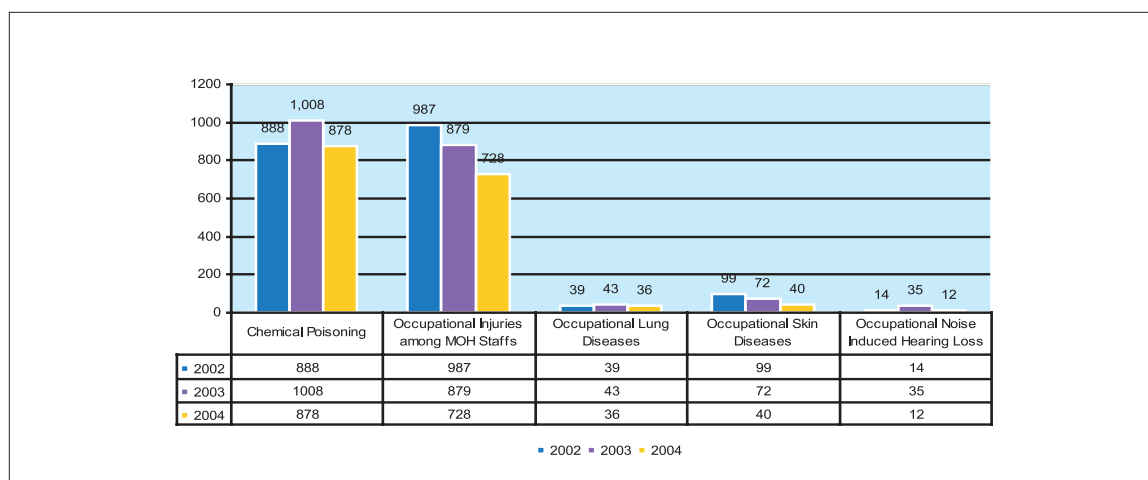
d) Occupational skin diseases

In the year 2004, only 40 cases of occupational skin diseases being notified compared to 72 in the previous year. Occupational dermatitis remain as the main type of occupational skin disease being notified.

e) Occupational noise induced hearing loss

The notification of occupational noise induced hearing loss is still low with only 12 cases being notified in the year 2004. In majority of the cases, personal hearing protection devices were not provided by the employers.

FIGURE 12
Sorveillance of Occupational Diseases, Poisoning and Injuries, Malaysia 2002-2004



Consultancy and Advisory Services

Ministry of Health also works together with other government and non-government agencies in giving consultancy, advisory services and technical assistance pertaining to occupational health.

- a) Establishment of new policy and action plan:
- Produce 5 year action plan for the prevention of needle stick injuries among health care workers.
 - Committee member in the drafting of Code of Practice on Prevention/Eradication of Drug/Alcohol & Substance Problem In Workplace
- b) Provide technical assistance regarding occupational health:
- Committee member in the formulation of Occupational Safety and Health Management System Standard organized by SIRIM
 - Involved in research called 'Mercury Exposure Among Dental Health Personnel', conducted by Institute of Medical Research & Oral Health Division, Ministry of Health
 - Part of Technical Working Group on The Development on National Environmental Health Indicator (Occupational Safety & Health)
 - Committee member in the Prevention of Illegal Pesticide Smuggling chaired by the Agricultural Department

Future Plan

In future, Occupational Health Unit plan to review and strengthen the current notification and surveillance system of occupational diseases, injuries and poisonings; improve the Occupational Health Clinics; develop more guidelines related to occupational health and increase the promotional activities of occupational health to special target group. Collaboration with stakeholders and other agencies such as the Department of Occupational Safety and Health (DOSH), National Institute of Occupational Safety and Health (NIOSH), SOCSO, Agriculture Department and academic institutions will be continued in order to provide a comprehensive occupational health programme for the country.



Food Safety And Quality

INTRODUCTION



Implementation and enforcement of the provisions as provided for in the Food Act 1983 and Food Regulations 1985 is under the purview of the Food Safety and Quality Division (FSQD), Ministry of Health (MOH). The FSQD in MOH, as the agency given the mandate to ensure a safe food supply for whole country, carries out a series of activities through the Food Safety and Quality Programme. The scope of activities initially encompassed only mandatory food inspection, sampling, analysis and enforcement on food only. After the name of the division was changed from Food Quality Control Division to Food Safety and Quality Division, these activities have been expanded to cover wider aspects of food safety and quality including promoting food safety assurance system, provision of advice to food industry, consumer education and the protection of the national economic interest in the highly competitive world food market. The Food Safety and Quality Unit established at the districts and entry points as well as Food Safety and Quality Laboratories established at the state level implement the policies formulated at the FSQD.

ACTIVITIES AND ACHIEVEMENT

ENFORCEMENT SECTION

Activities

i. Food Sampling

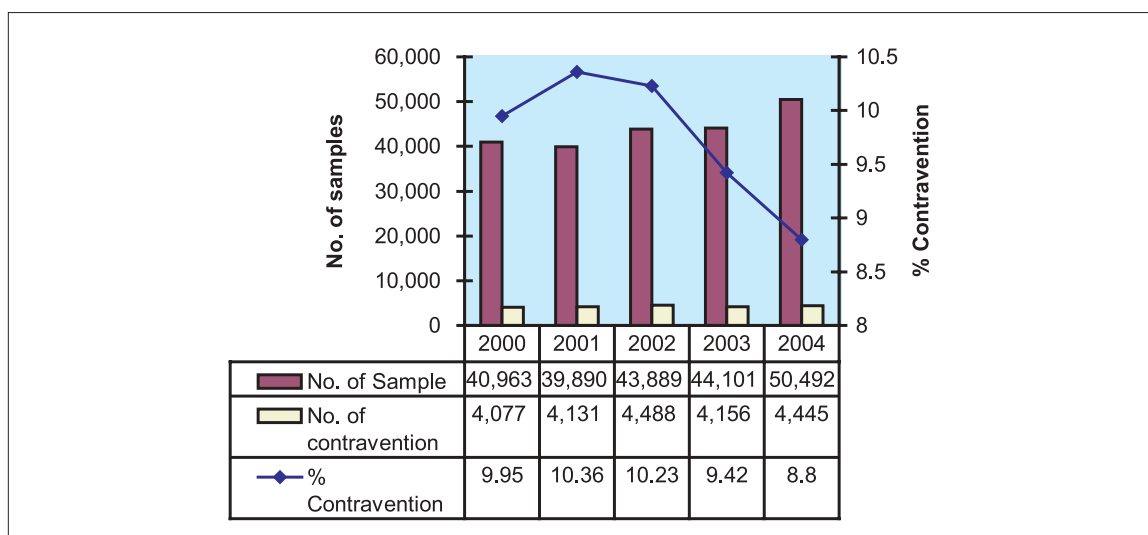
Sampling was carried out to ensure the food prepared and sold in Malaysia are safe and comply with the provisions of the Food Act 1983 and Food Regulations 1985.

The sampling target for the year 2004

was 41,000 based on the norm in the National Work Plan (NWP) of 2 samples/ 1,000 population/year established by the Food Safety and Quality Division. Parameters of analysis on these samples were divided into Microbiological (40%), Chemical (55%), Physical (5%).

In the year 2004, a total of 50,492 samples were analysed out of which 4,445 (8.8%) contravened the Food Act 1983 and the Food Regulations 1985 (Figure 1). Fines amounting to RM 929,070.00 were collected from 624 cases and 17 cases were penalised by imprisonment.

FIGURE 1
Food Sampling 2000 – 2004



ii. Inspection and Closure of Food Premises

Inspection of food premises is a routine activity to ensure the sanitation and hygiene of premises is satisfactory and to ensure food safety. In 2004, a total of 69,813 premises were inspected whereby 3,259 premises unsanitary food premises were closed under Section 11, Food Act 1983 (Figure 2)

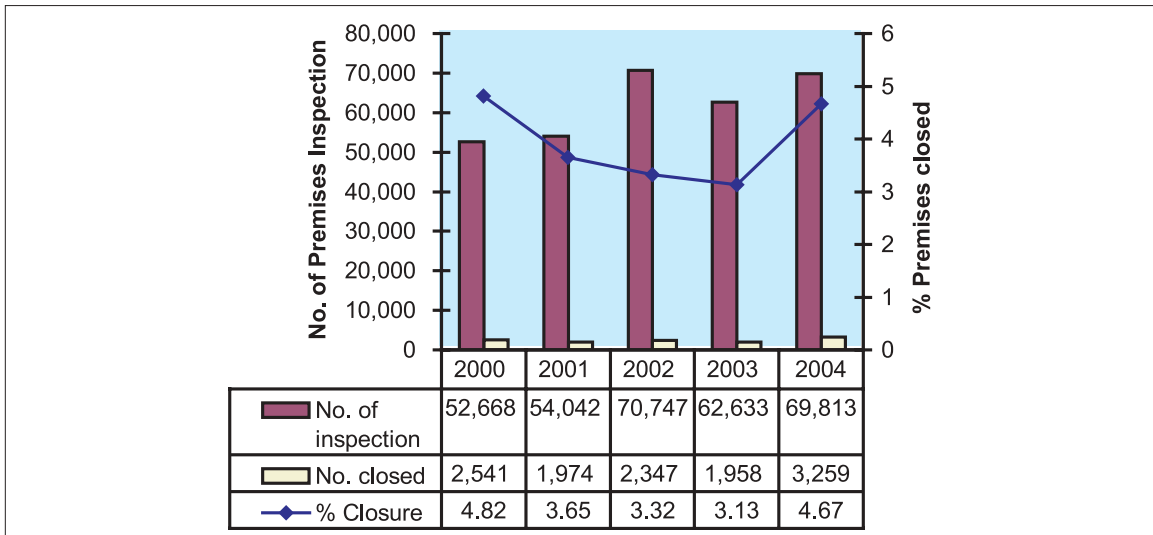
iii. Pesticide Residue Control

In the year 2004, a total of 2,583 samples of a wide variety of vegetables and fruits were taken for analysis of pesticide residue. Results of analysis indicated 37 samples (1.4%) of vegetables and fruits exceeded the Maximum Residue Limits (MRL) specified in Schedule 16, Regulation 41, Food Regulations 1985 (Figure 3).

iv. Veterinary Drug Residue Control

The abuse of veterinary drugs by farmers persist despite the prohibition on the use of Beta-agonist, Nitrofurans and Chloramphenicol in food under the Food Regulations 1985.

FIGURE 2
Inspection and Closure of Premises 2000 – 2004



Nitrofurantoin

The Ministry of Health monitors the abuse of nitrofurantoin. A total of 982 of chicken and egg samples had been taken for analysis and 6 samples (0.61 %) violated the law (Figure 4).

Chloramphenicol

Sample were taken to trace the abuse of Chloramphenicol in chicken and fish. A total of 881 samples of chicken were analysed and 4 samples (0.45%) contravened the law (Figure 5).

Beta-Agonist

In 2004, a total of 822 samples had been taken for analysis of beta-agonist. This consisted of pork (393 samples), beef (355 samples), mutton (67 samples) and duck meat (7 samples). The issue of beta-agonist abuse which started in 1996 continues despite the enforcement action taken by the Ministry of Health through routine inspection and operation. However, the contravention from the abuse of beta-agonist has reduced. There was only 18 (2.19%) cases of contravention which consisted of pork samples (Figure 6).

FIGURE 3
Sampling of Vegetables and Fruits 2000 – 2004

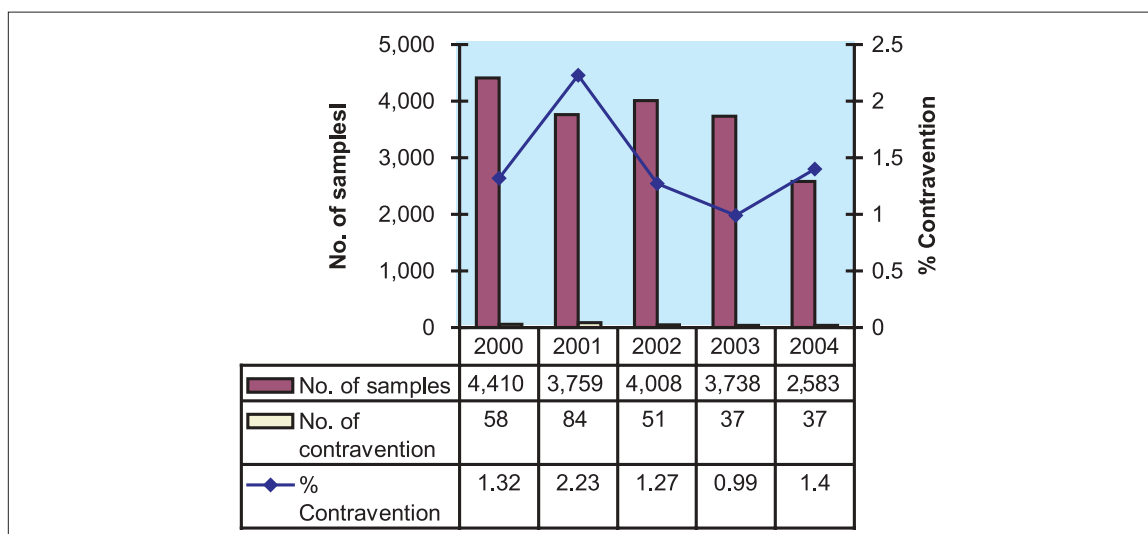
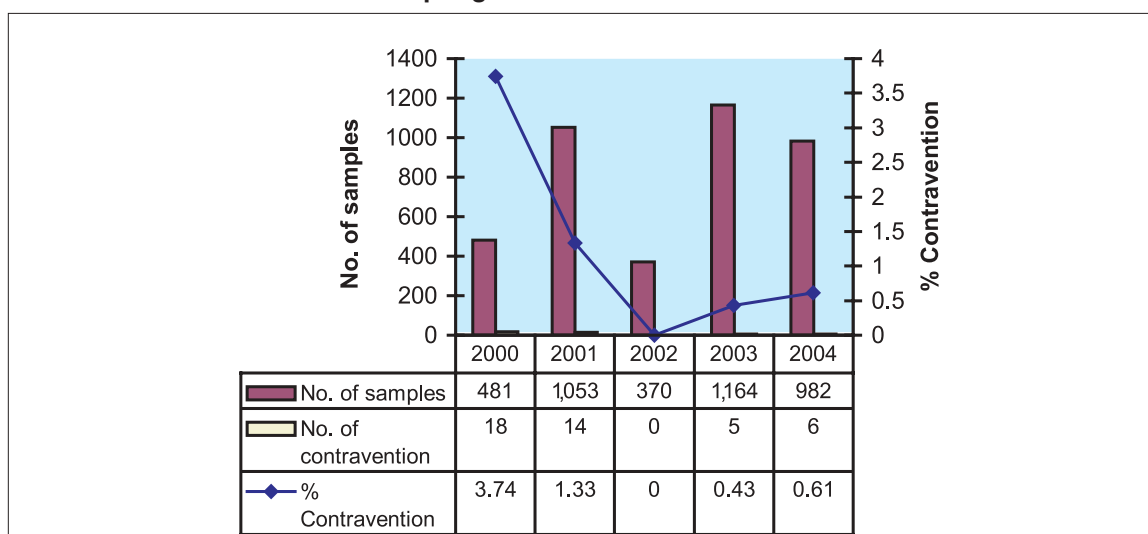


FIGURE 4
Sampling for Nitrofurans 2000 -2004



v. Licensing

Source of Natural Mineral Water

The production and importation of natural mineral water in the country requires a licence as provided in Regulation 360A, Food Regulations 1985. Since the implementation of this regulation until the end of December 2004, 43 licences for the source of natural mineral water were issued with a total fee amounting to RM285,000 (Figure 7). Out of the 43 sources of natural mineral water, 13 sources are outside the country while 30 sources are in the country. Table 1 shows the total number of licences for the sources of imported natural mineral water.

FIGURE 5
Sampling for Chloramphenicol 2001 -2004

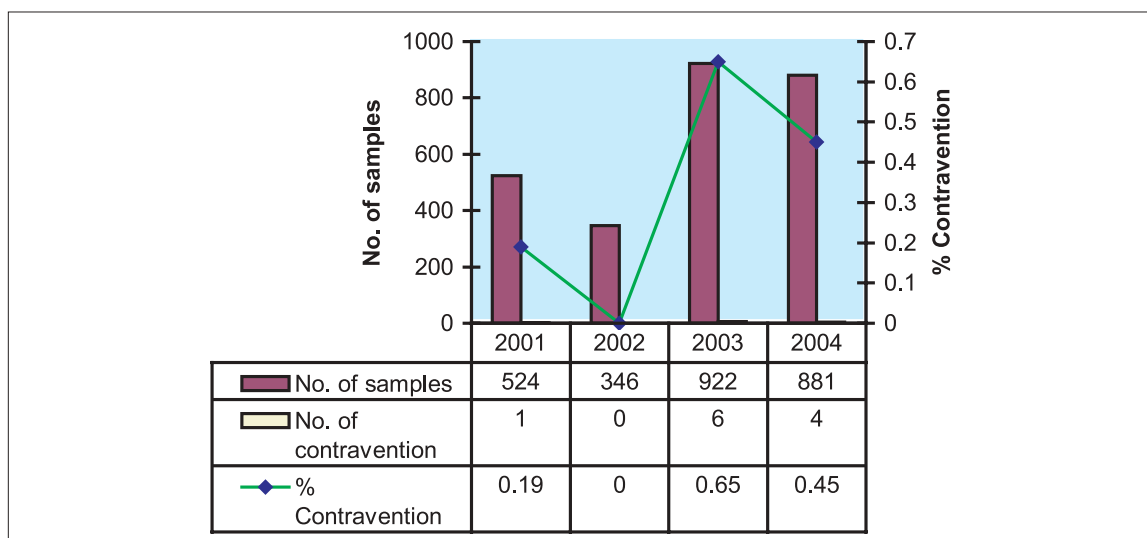
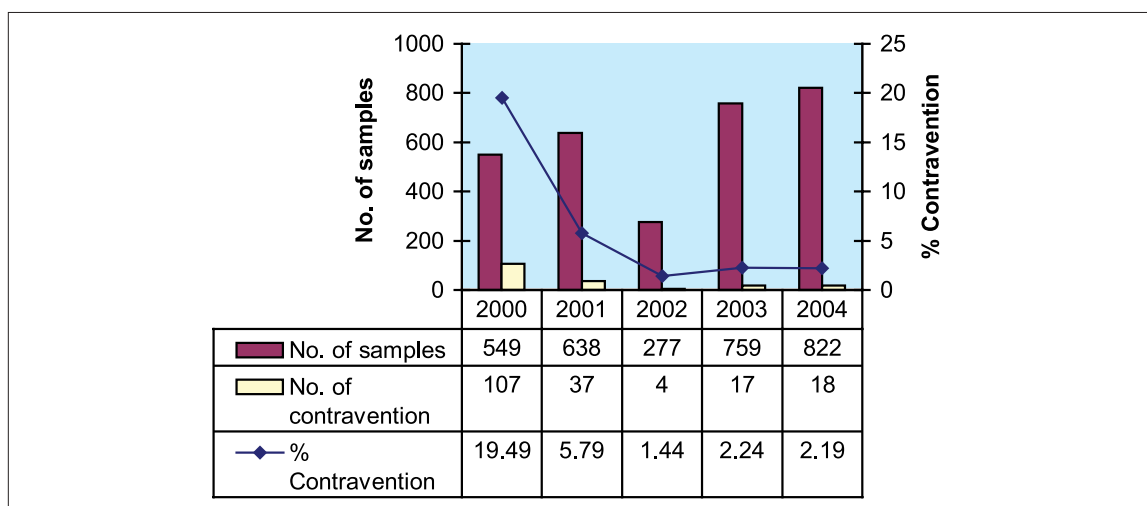


FIGURE 6
Monitoring of Beta-Agonist 2000 – 2004



Packaged Drinking Water

Regulation 360B which was gazetted in 2000 requires the source of packaged drinking water to be licensed. Until the year 2004, 105 sources for packaged drinking water were approved. The fee collected through licensing was RM630,000.00 .

vi. Import control

The control of food safety in imported food is an important activity of the Food Safety And Quality Division of the Ministry of Health. Since the implementation of FoSIM (Food Safety Information System) in August 2003, the control of imported

FIGURE 7
Issuance of Licence for Source of Natural Mineral Water 1992-2004

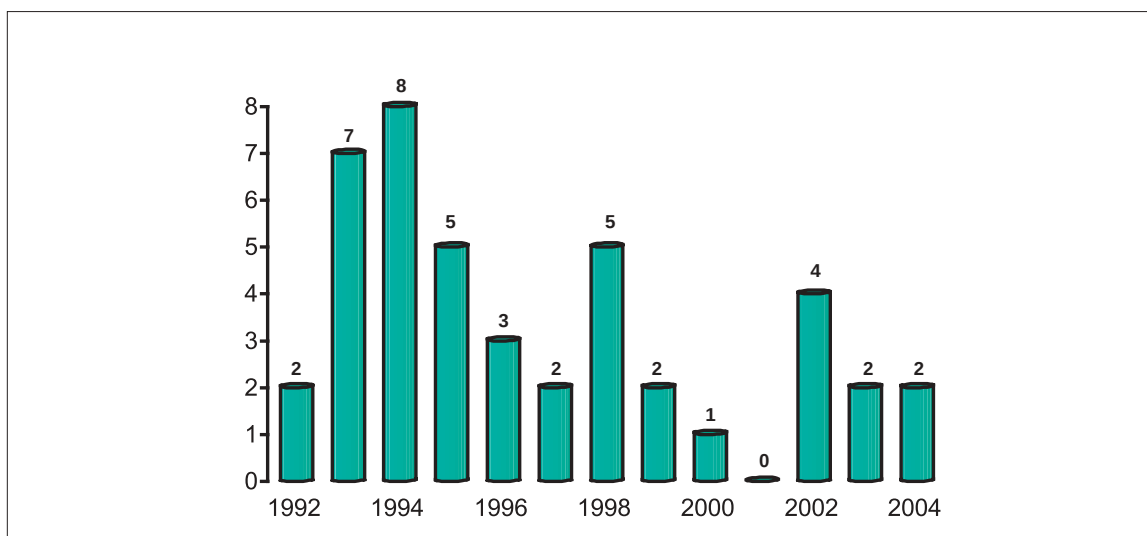


TABLE 1
List of Countries for Source of Imported Natural Mineral Water

Country	Total
Indonesia	2
Nepal	1
Australia	1
France	4
Italy	3
United Kingdom	1
Canada	1

food has been facilitated through a uniform and consistent approach to ensure the safety and quality of imported food at the entry points. The system is currently implemented at all entry points where the Customs Information System is in place. The system ensures food related crisis such as Avian Flu and BSE are managed appropriately. The food safety control activities at the entry points are based on the following:

- Physical inspection:
 - ↳ Land route: 70% of imported food.
 - ↳ Sea route: 40% of imported food.
 - ↳ Air route: 35% of imported food
- Food sampling : 10% of the food inspected physically
- “Hold, test and release” of black listed food

In the year 2004, a total of 201,968 food consignments were inspected and 10,162 samples were taken for analysis. Out of those samples, 679 samples were found to be positive.

LEGISLATION (STANDARD DEVELOPMENT) SECTION

Activities

i. Amendments to the Food Regulations 1985

In 2004, amendment to the Food Regulations 1985 was made through the gazette P.U. (A) 159 dated 20 May 2004. In the gazette, the main amendment is related to the maximum residue limits (MRL) for pesticide residue under regulation 41. Before the amendment, the MRLs were based on the MRL in the Codex Alimentarius including MRLs for the pesticides which were not registered by the Pesticide Board under the Pesticide Act 1974. The act is enforced by the Ministry of Agriculture and Agro-based Industry. Those MRLs were misleading the farmers where the pesticide not registered in the country were also provided for in the Food Regulations 1985. To avoid confusion to all parties, the regulations namely the Sixteenth Schedule was amended to permit only the pesticides registered under the Pesticide Act 1974 for use by farmers in the country. Local farmers who contravene the regulations may also be penalised under the Pesticide Act 1974 for using pesticides which are not permitted. For imported foods, the Codex MRLs are referred and adopted to facilitate trade. This amendment is also in line with the harmonization of MRLs for pesticide residue within the ASEAN region. For pesticides for which no MRLs are provided in the Food Regulations 1985 or Codex Alimentarius, the MRL of 0.01 mg/kg is applied.

Differences between the new regulations and the former regulation

- Before the amendment, MRLs were provided for 212 pesticides
- With the amendment, MRLs are provided for only 181 pesticides registered in the country
- For imported foods, Codex MRLs are applicable
- Number of new pesticides(not provided in the former regulation) is 59

Besides those amendments, the following amendments were also made in the gazette

- New regulation 118A Stevia extract which is a new standard for a sweetening substance stevia which is obtained by extraction from the leaves of *Stevia rebaudiana*
- New regulation 118B Enzymatically modified stevia which is a new standard for a sweetening substance stevia which is obtained by using enzymatic process on stevia extract
- Amendment on regulation 136 Sugar confection to allow carnauba wax not exceeding 1,200mg/g as a glazing agent and beta-cyclodextrin not exceeding 20,000mg/kg as a food conditioner in chewing gum and bubble gum
- Amendment of regulation 354 Flavoured drink is to allow ester gum not exceeding 150 mg/l and beta-cyclodextrin not exceeding 500mg/kg as food conditioners in chewing gum and bubble gum
- Amendment of the Eleventh Schedule to allow the use of carnauba wax as a

glazing agent and beta-cyclodextrin as food conditioners in chewing gum and bubble gum

- Amendment of the Sixteenth Schedule to provide for Maximum Residue Limits (MRLs) for 59 new pesticides and in line with the list of pesticides registered under the Pesticides Act 1974
- Deletion of Sixteenth A Schedule as it is no longer applicable and replaced with a new schedule which will be enforced administratively.

ii. Draft Gazette on the Amendment to the Food Regulations 1985

A draft gazette on the amendment to the Food Regulations 1985 was prepared and submitted to the Legal Advisor for vetting. The draft includes editorial corrections to the amendment of the Sixteenth Schedule which was gazetted on 20 May 2004 and the amendment to the Sixteenth A Schedule to allow the use of ractopamine, a drug in the beta-agonist group which is prohibited for use in animals. Ractopamine is used to produce lean meat especially pork.

iii. Promulgation of other legislation

The following legislation were prepared and submitted to the Legal Advisor, Ministry of Health for vetting :

- Food Analyst Bill
- Draft Food Hygiene Regulations
- Draft Food Import Regulations
- Draft Food Irradiation Regulations
- Draft Food Analyst Regulations

Seminar and Workshops

In 2004, this section has presented 12 papers related to the Food Regulations 1985 at seminars and workshops locally as well as internationally.

LEGISLATION (LABEL) SECTION

Activities

i. Labelling and Labelling Advisory Services

From 15 June 2002, the Food Safety and Quality Division had imposed charges of RM1,000.00 on the industries or importers which seek its advisory services on labelling. The service is provided on a voluntary basis for industries which need the service. Food label should be amended based on the comments given to ensure it complies with the Food Act 1983 and Food Regulations 1985. Since its inception, 707 labels had been assessed by the Labelling Working Committee.

ii. Nutrition Labelling and Claims Regulations

This new regulation was gazetted on 31 March 2003 and was supposed to be enforced from 1 September 2003. However, enforcement was postponed to 30 June 2005 to provide the industry with sufficient time to make the necessary changes on their nutrition labels to comply with the new regulations. 22 applications from the industries to amend the regulations on nutrition labelling especially related to nutrient content claims and nutrient function claims have been discussed. 9 provisions have been drafted for amendments.

A series of briefings and road shows were also conducted targeted to the enforcement officers and the food industries. A total of 12 briefings were conducted throughout the year. A guideline "Guide to Nutrition Labelling and Claims" has been published to explain in detail and gives guide to the new regulations.

iii. Food Drug Interface Products Classification

In view of the various ambiguous products in the market which could be under the jurisdiction of either the Food Safety and Quality Division or the National Pharmaceutical Control Division, the Food Drug Interface Products Classification Committee which comprises of members of both divisions decided to use a system based on the decision tree to classify the products. A total of 121 applications for products classification have been received, where 25 of it have been discussed in the Food Drug Interface Products Classification Committee meetings.

LABORATORY SERVICES

Activities

In 2004, the following activities were carried out:

i. Planning and Management for Food Laboratories

- Identify 2006/2007 new policies to enhance and strengthen food analytical services under Ministry of Health.
- Prepare Action Plan 2005 for food laboratories under Ministry of Health.
- Manage, allocate and monitor budget allocation of RM635,000 under OA30000 and RM400,000 under OA20000 for all food laboratories.
- Identify and coordinate local training and internationally training.
- Coordinate the development and implementation of the laboratory module in the Food Safety Information Systems of Malaysia (FoSIM) including training, trial run and reviewing analysis code.

- Coordinate all activities under JICA project to enhance the capabilities of laboratory services, particularly in the areas of pesticide residue, pathogen detection , food packages and Good Laboratory Practices (GLP).
- Enhance laboratory quality systems through the implementation of ISO/IEC 17025. Five laboratories were accredited by the Department of Standards, Malaysia. Other food laboratories in Laka Temin, Pulau Pinang, Terengganu, Kelantan, Kota Kinabalu, Pahang, Ipoh and Sandakan are pending accreditation.
- Coordinate and monitor the cooperation with the Doping Control Centre, USM and the development of the Committee on Food Analysis which is chaired by the Department of Chemistry, Malaysia to optimise analytical services.

ii. MKMM Supervision

a. Audit

To ensure smooth implementation of quality systems, audits were conducted at MKMM Selangor, MKMM Miri, MKMM Kuching, MKA Ipoh and MKA Johor Bahru. Two qualified auditors, one from BKKM and the other from one identified food laboratory were involved in the audit.

b. Proficiency Testing

A series of Proficiency testing at the international and national levels were conducted to assess the competency of technical staff of food laboratories conducting analysis. Participation in proficiency test at the national level is as shown in Table 2.

While participation in proficiency testing at the international level was:

- NATA/AQIS Pathogens In Food (Round II) Proficiency Testing Program administrated by the National Association of Testing Authorities (NATA) Australia for the presence of *salmonella* and *listeria* in flavoured pudding mix.

c. Laboratory Reports/ Output

Monthly reports submitted by the laboratories were examined to assess the achievement and performance of laboratory services. In 2004, the laboratories analyzed 35,845 food samples as compared to 33,983 samples in 2003. Out of 35,845 samples analyzed, 16,901 samples for microbiological analysis (47%), 18,656 samples for chemical analysis (52%) and 288 samples for physical analysis (1%) (Figure 8).

TABLE 2
Proficiency Test at the National Level

Types of Test	Proficiency Testing (National Level)
Benzoic and Sorbic Acid	JKM Proficiency Testing Programme Year 2004 - FODAS 1 (Round 1 &2)
Heavy Metal (Lead & Cadmium)	JKM Proficiency Testing Programme Year 2004 - FODAS 9 (Trace Metals in food)
Caffeine	JKM Proficiency Testing Programme Year 2004 – FODAS 8 (% Caffeine in Coffee)
Pesticide Residue	Cross check Pesticide Residue

d. Meetings/Workshops/Visits

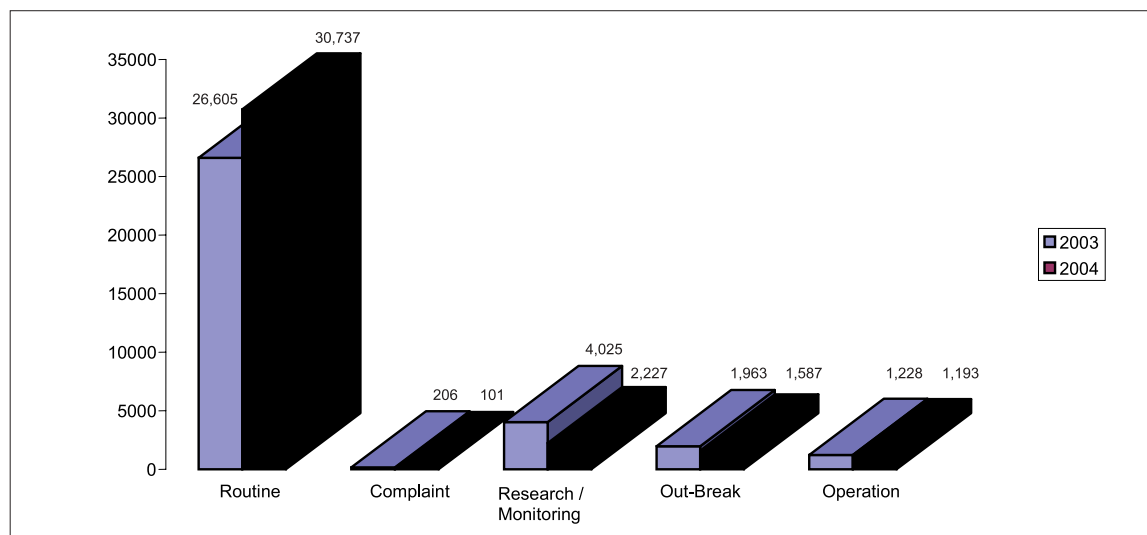
Two Heads of laboratory meetings were held on 10 to 13 May and 1 to 3 December as a forum to plan and discuss problems and issues related to laboratories.

iii. Technical Support

a. Training

To enhance the competencies of the analysts in Food Laboratories Section, training at national and international level in the various areas were conducted.

FIGURE 8
Samples Analysed in 2003 and 2004



b. Reference Books

To enable laboratories to have access to the latest information, the following reference materials were distributed for the laboratory use:

- EC Directives Concerning Performance of Analytical Methods and the Interpretation of results.
- EURACHEM/CITAC Guide quantifying Uncertainty in Analytical Measurement (downloaded from <http://www.eurachem.ul.pt/>)
- Updated version of the 1983 Food Act 1983 and 1985 Food Regulations.
- Codex Guidelines On Pesticides Residue In Food - Method of Analysis & Sampling.

c. JICA Project

To strengthen the food quality control programme in the country, a joint technical cooperation programme between Japanese International Cooperation Agency (JICA) and MOH entitled “Strengthening of Food Safety Programme in Malaysia” was established for a period of 3 years (June 2001 to May 2004). One of the major activities under this project is the strengthening of food analysis capability. Throughout this project period: -

- 14 short term experts were dispatched to Malaysia to transfer analytical skills in the areas of pesticide residues, veterinary drug residue, microbiology, mycotoxin, nutrients, food packages and genetically modified foods (GMF). In addition, 13 analysts were sent to Japan for training in these various areas of food analysis.
- As a result of collaborative efforts, the scope of analysis has been expanded and strengthened as shown in Table 3.

TABLE 3
Expansion of Scope of Analysis

Scope Analysis	Before JICA Project	After JICA Project	Standard Operating Procedure (SOP)
Pesticide	17 parameters	56 parameters	12
Drug Veterinary	3 parameters	18 parameters	9
Genetically Modified Foods	Not available	Available	5
Microbiology	Not available	Available	8
Mycotoxin	1	3 parameters	7
Nutrients	Not Available	6 parameters	13
Food Packages	Not Available	10 parameters	13

In early 2004, a final evaluation on the achievement of the project carried out by the Japanese International Cooperation Agency's (JICA) concluded that the project's purpose has been achieved. However, the quality assurance programme in food analysis and total dietary intake study of contaminants has yet to be completed. Based on the request from the Ministry of Health Malaysia and the outcome from JICA's final evaluation, the project was extended for one year (June 2004 to May 2005). Activities during this extension period are focused on improvement of quality assurance programme in food analysis to ensure reliability and integrity of analysis results.

During the extension period in 2004, one short term expert in laboratory quality assurance was attached at National Public Health Laboratory from 14 September until 9 November to assist in the development of a comprehensive quality assurance programme.

d. Information Management

Master List of Laboratories Capability

A master list of laboratories capability was established, updated and distributed to all State Health Offices to facilitate optimised utilization of laboratories facilities in Malaysia.

Information Technology

Labinfo stand alone software was used by all food laboratories to manage data on domestic food samples. FoSIM, which contains a laboratory module, is currently being updated for use in imported food samples.

RESEARCH AND MONITORING SECTION

Activities

i. Monitoring and Research Projects

15 food monitoring projects were planned at the beginning of 2004. Two (2) meetings on Total Dietary Intake of Food Contaminant (TDI) were held to implement the TDI (heavy metal) pilot project which would be conducted in 2005. The draft TDI protocol was completed. This project will begin after the results of the Malaysian Dietary Survey being analysed by the Family Health Development is obtained.

The Workshop on Risk Management (Risk Profile) for Chemical and Microbiological Contaminant was held on 9 to 11 September 2004 in Concorde Inn KLIA. The output of the workshop had completed the risk profile for microbiological and chemical hazard beside providing knowledge to the participants.

The project *Microbiological Risk Assessment of Vibrio parahaemolyticus in Tiger Prawn* was continued in 2004. In view of problem in the taking of samples due to

a disease, the period for the study was extended again and is expected to be completed in early 2005.

ii. Management of Committee Meetings

This section is also the secretariat and responsible for the coordination and management of the following technical committees:

- National Risk Analysis Committee
- MS ISO 9002 Certification Committee
- National Food Safety and Nutrition Council (NFSNC) Meeting

CODEX AND INTERNATIONAL AFFAIRS SECTION

Activities

i. International

The FSQD had successfully organized the FAO/WHO Regional Conference on Food Safety for Asia and the Pacific in Seremban from 24-27 May 2004. The Conference was Chaired by Dato' Dr. Shafie Ooyub, The Deputy Director-General of Health (Public Health) and was attended policy officers and technical experts from 36 Asia and the Pacific member countries and territories of FAO and WHO. It was also attended by 10 international organizations as observers. The Conference witnessed the launching of the International Portal on Food Safety, Animal and Plant Health established by FAO and partner agencies.

The FSQD is the Focal Point for WTO/SPS related to food safety. In 2004 the Division notified WTO/SPS Member Countries that import carcass, meat and edible offal of cattle, pigs, sheep, goat, poultry and their products and fish and fishery products intended for human consumption must be accompanied by a Health Certificate from the competent authority stating the absence of the prohibited drugs and drug residues as follows:

- (a) Beta-agonists in the carcass, meat and edible offal of cattle, pigs, sheep, goat and their products
- (b) Nitrofurans in the carcass, meat and edible offal of poultry and their products, and fish and fishery products
- (c) Chloramphenicol in the carcass, meat and edible offal of poultry and their products, and fish and fishery products.

The proposed entry into force was extended to 1 January 2005 to facilitate compliance by member countries.

The FSQD was also actively involved in the EC-ASEAN Economic Cooperation Programme on Standards, Quality and Conformity Assessment

ii. ASEAN

Officers from the FSQD had attended the 3rd Meeting of the ASEAN Expert Group on Food Safety (AEGFS) held in Jakarta, Indonesia from 24 to 26 February 2004. The meeting was attended by delegations from Brunei Darussalam, Indonesia, Lao PDR, Malaysia and Thailand. Malaysia chaired a working group assigned to review and revise the policy paper and propose regional activities for the ASEAN Food Safety Improvement Plan (AFSIP). The Meeting agreed that Malaysia be the coordinator for priority area food inspection and certification. The Meeting also agreed that Malaysia be the overall coordinator of the AFSIP. The ASEAN Food Safety Improvement Plan (AFSIP) was endorsed by the 7th ASEAN Health Ministers Meeting held in Penang.

Officers from the FSQD had attended the 4th Meeting of the ASEAN Task Force on Codex (ATFC) held in Cebu City, Philippines from 13-16 April 2004. The ATFC is a forum for ASEAN to discuss Codex issues related to trade in commodities and agriculture and agree on a consensus. The Meeting was attended by delegations from Brunei Darussalam, Cambodia, Indonesia, Malaysia, Philippines, Singapore, Thailand and Viet Nam. Malaysian position was presented and discussed on The Guidelines for Cooperation with International Intergovernmental Organization FAO/WHO Project and Trust Fund for Enhanced Participation In Codex, FAO/WHO Expert Consultation on Functional Foods, Criteria for Setting Priorities for Scientific Advice, Draft Standard for Apples and Harmonization of Codex Standards in ASEAN. The Meeting agreed that Malaysia would initiate work on the harmonization of the Codex Standards. In this regard, Malaysia would develop a framework to take into account the harmonization of national food legislations of Member Countries with Codex for purposes of information sharing.

iii. Codex

Malaysia continued to play an active role in international Codex meetings. In 2004, 18 international Codex meetings were held where 23 delegates from various departments represented Malaysia as delegates at 15 of these meetings. A total of 66 Codex meetings at the national level were held as preparatory and follow-up to the international Codex meetings. The 27th Session of the Codex Alimentarius Commission (CAC) held in Geneva, Switzerland from 28 June – 2 July 2004 was attended by officials from the Ministry of Health.

INDUSTRY SECTION

Activities

i. Exportation

a. EU Registration Number

Since 1996, the European Union had appointed Malaysia as a competent authority in food safety through HACCP certification in order to obtain registration approval

such as European Union (EU) Registration Number for the purpose of export of fish and fish based products to the EU. To date, there are 80 companies registered with the EU through FSQDF Annual reports on the monitoring programme for drug residues in fish and fish-based products were prepared to comply with the states of competent authority as required by the EU.

b. Export Control

Due to the expand on exportation of food product in Malaysia, export control is one of the main activities under this department. We provide a guidance and advices on safety, hygienic and exportation aspect in food industry with cooperation by state health officers and other agencies. Beside that, managing a visit from others food safety agency is also under our activities such as a visit from an European Anti-Fraud Office (OLAF) in 2004.

We are also co-operate with other agencies in premise inspection which is for certification and auditing purposes such as HACCP auditing in exporter's abattoir in India with JAKIM and Department of Veterinary. The auditing is to ensure the safety and compliance on halal requirement of the import meat from India.

c. Export Certificate

Corresponding with the rapid expansion of the food industries in Malaysia, there is a tremendous increase in the food export activities in order to fulfill the varied requirements of the importing countries. To fulfill these requirements, this section issues various certificates for export purposes namely Health Certificates, Free Sales Certificates, Non Genetically Modified Food (Non Starlink Corn only) in relation to food safety and also other certificates as and when required by importing countries. The increase in the number of certificates issued as shown in Table 4 shows the rapid expansion of the export trade.

d. HACCP Certification Scheme

The HACCP Certification Scheme was introduced by the Division at the end of 1997 in view of the mandatory HACCP certification required from companies exporting fish and fish-based products to the European Union and United States of America. The scheme was launched in 2001 by Health Minister and its website had been developed on 2003. Until December 2004, a total of 157 applications were received, 91 were HACCP certified and others at the different stages for certification. Table 5 shows the total number of HACCP certified companies by year. A total of RM 140, 590.00 is been collected through HACCP Certification Scheme where RM 111,140.00 is from new application, RM 5,500.00 from renewal and another RM5,500.00 from additional audit day.

TABLE 4
Number of Certificates Issued From 2001 to 2004

Type of Certificate	2001	2002	2003	2004
Health Certificate	6,950	7,525	12,255	11,264*
Free Sale Certificate	42	252	481	1,326
Non-Genetically Modified Certificate (Non-Starlink Corn)	20	21	33	142

*Figure up to September 2004

TABLE 5
Number of HACCP Certified Companies by Year

Status	1997	1998	1999	2000	2001	2002	2003	2004	Total
Application	9	24	19	11	14	27	22	31	157
Certified company	1	2	12	18	12	13	13	20	91 (18 withdrawn)

ii. HACCP Courses in 2004

Various HACCP courses were conducted in 2004.

iii. Food Handlers Training and Food Handlers Training Institutes (ILPM)

Until November 2004, a total of 181,386 food handlers were trained by 60 accredited food handlers training institutes which is still active out of 118 institutes. To qualify as a trainer trained by KKM, they had to sit for a Screening Examination and attend the Trainers Compulsory Course. In 2004, 45 candidates had successfully passed the exam and attending the Trainers Compulsory Course which was held twice a year (6-8 April 2004 and 11-13 October 2004). Until the year of 2004, 356 trainers have been certified as qualified trainers.

iv. Involvement in Developing Policy and Guidelines for School Canteen

Each year, this section is involved in developing a framework of joint venture activities between Ministry of Health and Ministry of Education under the programme of *Bersepadu Sekolah Sihat* (PBSS), participate in developing any school canteen guidelines and questionnaire for School Health Quiz at national level.

iv. Guidelines

Guidelines are published for the food industries' reference in increasing and enhancing the knowledge in hygienic practices and food safety. The guidelines are as below.

- Malaysian Certification Scheme For Hazard Analysis and Critical Control Point (MCS1, MCS2, MCS3, MCS4 – English and Bahasa Malaysia version)
- Guide to Management of School Canteens
- Guidelines Cook Chill Catering

- Guidelines Mass Catering
- Guidelines Hospital Catering
- Good Hygiene Practices for Small and Medium Scale Industries (English and Bahasa Malaysia version)
- Code of Practice for Cooked and Peeled Prawns
- Guideline for Hygiene of Eating Shops and Restaurants.
- Code of Practice for the Processing and Refining of Palm Olein and Palm Stearin

vi. Involvement of Officers from the Section in Special Committees

Department of Standard Malaysia

- The Working Group on General Requirement for Bodies Operating Assessment and Certification of HACCP
- Inspection Body

Ministry of Agriculture

- National Aquaculture Committee
- Inter Agency Steering Committee on Food Production Farming Sub-Sector
- Trilateral Meeting Indonesia, Netherlands and Malaysia
- Bilateral China-Malaysia Meeting

Ministry of International Trade and Industry

- Committee On Developing Malaysia As A Regional Hub For Halal Products
- National Cabinet Committee on Competitiveness (CNCC) Related to Agriculture Processing Industry

JAKIM

- Halal Certification Advisory Committee
- Committee on the Development of MS 1500:2004 (Halal Food – Production Preparation and Storage - General Guideline)

Malaysian Industrial Development Authority (MIDA)

- Sub-Committee on Food Industry (Industrial Master Plan 2 (IMP 2)



Health Education & Promotion

INTRODUCTION



Health Education Division is one of the divisions under Department of Public Health, Ministry of Health. Established in 1968, it first started operating as Health Education Unit at the headquarters of the Ministry of Health Malaysia. Initially, its role was centered to training, printing of printed media on health and organise health education activities with the community which focuses on communicable disease prevention and personal hygiene.

Presently the Health Education Division's main function has expanded from producing to managing health education and promotion programmes including training, research and ICT. New programmes outside the traditional scope was started in line with current health needs which focuses on health promotion.

These health promotion programmes follows the constantly changing trends from prevention of communicable diseases to prevention of health problems related to healthy lifestyle and non-communicable diseases. Among the programmes are Healthy Lifestyle Campaign, Organ Donation Awareness Promotion Campaign, Health Camps, "Doktor Muda" Programme, PROSTAR Programme, Commemorations of Health Days and Patient Education Resource Centre.

ACTIVITY AND ACHIEVEMENTS

HEALTHY LIFESTYLE CAMPAIGN

From 2003, the Healthy Lifestyle Campaign themed is Be Healthy For Life. Be Healthy For Life resembles the community's role regardless of age and sex to lead a healthy

and well-being life. Four major elements emphasized in the campaign are healthy eating, exercise and physical activities, no smoking and stress management. These four basic healthy lifestyle elements can reduce the risk of multi disease factors.

The campaign focuses on two main components, namely encouraging change in attitude and awareness. Change in attitude focus is on target group and setting (i.e: In 2003, the target group was school children and school setting, 2004 – workers and workplaces). Whereas awareness is achieved through mass media to create a complete healthy lifestyle awareness to the public.

JUMP ROPE AND FITBALLROBIC MALAYSIA 2004 COMPETITION

In line with the Healthy Lifestyle Campaign which emphasised on exercise and physical fitness elements, the competition was jointly organised with the Ministry of Youth and Sports, and the Education Ministry. This competition was held on 12 - 13 July, 2004 at the Putra Stadium Bukit Jalil in Kuala Lumpur. The objective of the competition was to introduce the two sports to the community. Jump rope helps to strengthen the heart muscles and increase stamina. Fitballrobic is based on aerobic exercise using a special ball to support bodyweight and is suitable for youth and seniors, especially women.

As many as 42 teams participated in the national level jump rope competition comprising junior (10 teams), teens (11 teams), youth (13 teams) and senior (8 teams) categories. Fourteen teams from the Ministry of Health took part in the fitballrobic competition. The jump rope and fitballrobic competition were also held at state level.

“DOKTOR MUDA” PROGRAMME

The programme’s concept ‘From Students, For Students, To Students’ is an approach to health promotion held in primary schools to produce physically and mentally healthy children.

Throughout 2004, 8,500 primary schoolchildren from 347 primary schools were involved in the programme. They were 120 in Pahang, 120 in Kelantan, 52 in Terengganu, 3 in Selangor, 22 in Malacca and 30 in Kedah. The programme’s launch at national level was held on 16 August, 2004. In conjunction with the launch, National “Doktor Muda” Programme Convention was held for the first time as an acknowledgement to those involved in the programme. “Doktor Muda” Icon and “Doktor Muda” Programme School Excellence Award were introduced at the event.

The “Doktor Muda” Efficiency Research Programme held in Pahang, Kelantan and Terengganu in 2004, proved that the level of knowledge, attitude and habit towards health is higher among the “Doktor Muda” compared with their peers.

Average score on health knowledge among the “Doktor Muda” in Kelantan, Pahang and Terengganu is higher compared with their peers. “Doktor Muda” also practice better health

compared with their peers. Average score for health among the “Doktor Muda” in Kelantan, Pahang and Terengganu also higher compared with their peers. This programme was well accepted by the “Doktor Muda”, guidance teachers and headmasters. The programme was further strengthened through the publishing of 5,000 “Doktor Muda” Programme modules, 5,000 CD units of “Doktor Muda” programme educational kits as well as production of standard programme CDs for the running of the programme throughout the country.

HEALTH PROMOTION COMMUNITY CENTRE

The Health Promotion Community Centre serves as a foundation to support and strengthen the running of Healthy Lifestyle Campaign. Operations began as pioneer project at the Seberang Jaya Community Health Clinic in Penang in May 2004 which covers four elements of healthy lifestyle mainly healthy eating, exercise and physical fitness, no smoking and healthy mind.

The Health Promotion Community Centre is a health facility that provides comprehensive, intensive and structured health promotion services to facilitate skill building and promote habit change towards healthy lifestyle in the community. It is also hoped that the centre can help towards building a community which practices healthy lifestyle, encourage community involvement in the usage of health services provided and training individuals in the community who can act as health agents who support health promotion efforts.

This centre provides health services and check up which covers Body Mass Index, body fat composition, blood pressure tests, blood glucose level tests, cholesterol level tests, self breast examination and waist hip ratio. Meanwhile, Healthy Lifestyle Package offered are healthy eating, exercise and physical fitness, stop smoking and healthy mind. This package is run through talks, discussions, advice services, individual advice and demonstrations.

According to Seberang Jaya Health Promotion Community Centre activity report, it is learnt that since the centre started its scheduled operations in August 2004 to 31 December, 2004, as many as 208 customers have benefited from the services. Among the customers were referred from the Out-Patient Department and volunteers.

ORGAN DONATION AWARENESS PROMOTION PROGRAMME

The success that can be seen from this programme is the increase of the number of organ donor pledges. Until 31 December, 2004, as many as 84,227 people have pledged as organ donors and which has increased from 72,703 people throughout 2003 and 59,113 pledges in 2002. Among the activities in 2004 was a road show in Malacca and Selangor as well as the printing of educational leaflets.

Meanwhile, the Organ Donation Programme Awareness in Rural Communities Study in Sabak Bernam, Selangor held in 2004 found that most respondents were knowledgeable in the various organs and tissues which can be donated. As much as 77.2% respondents

knew that the kidneys can be donated. This is followed with the liver (76.8%), eyes (71.3%) and heart (63.2%).

HEALTH WITHOUT AIDS FOR TEENS PROGRAMME (PROSTAR)

Throughout 2004 as many as 100 PROSTAR training sessions were held with 4,300 participants, 276 activities of PROSTAR with 26,713 participants and 109 PROSTAR clubs were set up. The effectiveness of the activity is monitored with the AIDSED format every three months and through computerised PROSTAR informations systems (PROSTARNet) that is updated every three weeks. Impact on attitude is accessed through studies every five years.

The PROSTAR “Kembara” Programme was launched by the Prime Minister on 12 September, 2004 at the National Stadium in Bukit Jalil. The objective was one of many efforts to curb teenagers from getting involved in social ills especially HIV/AIDS. The Prime Minister officiated the national level convoy while Menteri Besars led the convoys at State level as proof of their commitment towards eradicating social ills among teenagers.

PATIENT EDUCATION PROGRAMME

The objective of the programme is to increase and maintain the status of patients’ health through effective patient care management. The Patients Education Centre began operations as a one-stop-centre in hospitals in 1985 to support the running of patient education classes. This centre serves to provide health education activities which focuses on patient care and management of patient’s diseases, patient’s family and the community. This centre serves the three patient education protocols – high blood pressure, diabetes and asthma. In 1995, two new protocols were introduced – kidney and heart diseases.

Throughout 2004, as many as 2,517 patient education classes were held which involved 15,156 patients at state and district hospitals with Health Education Officials. 1,041 diabetes education classes with 7,131 patients, 400 asthma education classes with 1,348 patients, 826 hypertension education classes with 4,899 patients and 277 cardiovascular rehabilitation classes with 1,778 patients were held.

TAK NAK MEDIA CAMPAIGN

The TAK NAK Media Campaign was launched by the Prime Minister on 9 February, 2004 at the Putrajaya International Convention Centre. The first year’s campaign in 2004 focused on the introduction and promotion of the brand TAK NAK with the slogan “Every Puff Damages Your Body”.

The campaign’s objective is to encourage smokers to stop smoking and to curb youths from starting the habit. In 2004, the message and the TAK NAK slogan were splashed in printed and electronic medias, at cinemas, billboards and community boards. The media and the frequency of the slogans airing are as follows:-

- Television – 1,018 slots in 23 weeks
- Newspapers – 310 slots in 21 weeks
- Magazines – 68 slots throughout the year
- Radio – 3,650 slots in 14 weeks
- Cinemas – 810 slots in 14 weeks
- Community Boards – 3,300 advertisement boards throughout the year
- Billboards – 150 advertisement boards throughout the year
- School Advertising Panel – 906 advertisement boards throughout the year

The first year of the TAK NAK campaign ended on 24 December, 2004. The TAK NAK Campaign Assessment Study will be run in 2005 to ascertain the campaign's overall effectiveness.

HEALTH CAMPS PROGRAMME

The Health Camp Programme was held to promote awareness among the community of good health management. This is done so that the community can practice healthy lifestyle in their everyday life so they could improve their personal and family health towards building a peaceful community to achieve the vision of health for all.

The implementation of the Health Camp Programme was based on adaptability and ease of resource, and time. Among the activities were health talks, health tests, forums, quizzes, distribution of health education materials, video screenings and exhibitions, activities also include building of healthy living skill such as stress management, stop smoking, healthy eating and right exercise methods.

Throughout 2004, as many as 516 Health Camp Programmes were held throughout Malaysia with as many as 193,065 participants. Kedah recorded the highest activities with 133 camps and 33,250 participants followed by Johor with 96 camps and 22,100 participants and Penang with 83 camps and 56,640 participants.

MASS MEDIA PROGRAMME AND ICT

Every year, this Division cooperates with radio stations, government and private televisions to inform the community through various means such as health trailers, documentaries, radio advertisements, tips, spontaneous announcements through television slides and crawlers, and also interviews. Throughout 2004, as many as 95 media programme slots were aired involving 31 slots for Disease Control Programme, 46 slots for Family Health Development Programmes, 5 slots for Dental Health Programme, 4 slots for Pharmacy Services and 9 slots for other health programmes.

For state level, the media of choice were radio stations. In 2004, as many as 308 radio slots were aired at state level. Pahang scored the highest slots aired at 62 followed by Perlis (56 slots) and Johor (48 slots). Smart partnership which could be seen between the State Broadcast

Department and State Health Department were in the way of providing special scheduled slots set aside for interviews or discussions on health issues.

Meanwhile the Infosihat Division website began in June 2003. Up until now, as many as 910 web pages were developed consisting 1,013 topics covering printed materials (posters, exhibition posters, leaflets, booklets, guidelines and exhibition materials) as well as 193 articles on diseases. This website focuses on the aspects of Healthy Lifestyle Campaign, disease information, healthy lifestyle practices, special projects, commemoration of special health days and health tips. It also highlighted current health issues, circular, reference materials and current news.

COMMEMORATION OF HEALTH DAYS

These special days are celebrated at national and state levels as an effort to promote their objectives and to inform the community of healthy living to achieve a harmonious and peaceful life. These are the special days celebrated at national level:-

- World TB Day 2004 – themed “Every Breath Counts – Stop TB Now” celebrated at the main hall of USM Hospital in Kubang Kerian, Kelantan on 13 May, 2004 which was officiated by the Deputy Health Minister.
- World Health Day 2004 – themed “Road Safety Is No Accident”, was held in Kuala Terengganu on 10 May, 2004 and was officiated by the Prime Minister.
- National No-Tobacco Week 2004 – themed “Tobacco and Poverty, A Vicious Circle”, this day was celebrated at the University Putra Malaysia on 31 May, 2004. Ministry of Health’s parliament secretary was there to officiate.
- World Breastfeeding Week 2004 – themed “Exclusive Breastfeeding : The Gold Standard Safe, Sound, Sustainable” was held at Bangsar Shopping Centre Kuala Lumpur on 7 August, 2004 and officiated by the Deputy Health Minister.
- World Heart Day 2004 – themed “A Heart For Life” was held at Taman Tasik Titiwangsa Kuala Lumpur on 20 September, 2004 and the Deputy Health Minister officiated the event.
- World Mental Health Day 2004, World Diabetes Day 2004 and World AIDS Day 2004 – these three days were held simultaneously and the launch was held at Mahkota Parade, Banda Hilir, Malacca on 27 November, 2004 by the Health Minister. The “Sure Sihat” carnival was held on 27-28 November, 2004 in conjunction with the celebrations. The carnival’s objective was to encourage the community to participate in healthy life style. The theme for World Mental Health Day was “The Relationship Between Physical and Mental Health” while World Diabetes Day carried the theme “Diabetes and Obesity” and World AIDS Day was themed “Women, Girls, HIV and AIDS – Have You Heard Me Today”.

PUBLICATION OF PRINTED MATERIALS ON HEALTH EDUCATION

Throughout 2004 as many as 19 pamphlets, 10 booklets, 5 posters and 4 guidebooks / manuals were produced at national level. Meanwhile, states also produce printed materials based on current needs.

HEALTH EDUCATION BY HEALTH STAFFS

Health Education activities which was organized covers eight main fields on health which are family health, infectious disease control, vector-borne disease control, food quality control, healthy environment, non-infectious disease control, AIDS/STD disease control and substance abuse and health campaigns.

The method and approach towards organizing health education activities were health talks, dialogues, group discussions, individual advice, demonstration, exhibition, video screening, health education activities through radio, Health Education Mobile Unit (UBPK) announcements, public forum and *gotong-royong*.

The target groups receiving health education throughout the country were from health clinic customers and the public. The clinic customers include patients, ante-natal and post-natal mothers, teenagers, adults and parents, the elderly and the underprivileged. Meanwhile the public include students, factory workers, public sector employees, estate or farm residents, the aborigines, teenagers, parents or guardians, the elderly and food handlers.

i. Health Education for Clinic Customers

Throughout 2004, as many as 5.6 million clinic customers were reported to receive health education around the country. It has increased since 2003 from a total of 3.9 million. Based on the amount, as many as 3.7 million (66.1%) clinic customers were educated on family health, 635,820 (11.4%) on non-contagious disease education and 321,691 (5.7%) on vector-borne diseases.

ii. Health Education for the Public

Throughout 2004, as many as 7.2 million people around the country received health education. It has increased from 5.7 million in 2003. Based on the amount, 2.4 million (33.3%) were educated on vector-borne diseases, 1.2 million (16.7%) on family health and 1.1 million (15.3%) on communicable diseases.

iii. Health Education Activities and Methods

Throughout 2004, the family health programme has organised the most health education activities numbering to 2.1 million sessions. This is followed by vector-borne disease control programme (1 million sessions) and communicable disease control programme (432,468 sessions). Individual health advice education method

has the highest total of 3.1 million sessions, followed by small group discussions (369,489 sessions) and health talks (256,496 sessions).

SUMMARY

Throughout 2004, the Health Education Division has organised health promotion programmes which involved the participations of various government agencies, private parties, non-government organisations, local community leaders and individuals.

These programmes also provide a suitable environment which supports the public's involvement and participation to achieve a higher level of health as well as orientate the existing health sources and facilities. This will enable the people to put more effort and increase personal health for the community to achieve a higher level of physical and mental health as well as total harmony. This showed that the Health Education Division has fulfilled the health promotion programme in line with Ottawa Charter's principle.

MEDICAL CARE PROGRAMME

4



Medical Care Services

INTRODUCTION



The Medical Care Service objective is to provide comprehensive, equitable, accessible, effective and client focused service, utilizing appropriate technology to compliment Public Health care system thus enhancing the quality of healthcare of the population. The Medical Program consists of Medical Development Division, Medical Practice Division and Telehealth Division. The achievement of the Sections and Units are elaborated in this Annual Report 2004.

HOSPITALS AND MEDICAL INSTITUTION

There were 125 Ministry of Health hospitals and medical institutions operational in the year 2004, 45 of these hospitals provide specialist services in various disciplines (Table 1).

HOSPITAL MEDICAL CARE

The medical services in hospitals are divided into several components such as:

- Management of medical services
- Medical and specialist services
- Professional development
- Medical resources

MEDICAL SERVICES MANAGEMENT

The management of medical services constitute of two components, hospital management and interagency collaboration.

Hospital Management

Hospital management encompasses management and monitoring hospital facilities, organization and service systems and medical information.

Hospital Facilities

The total number of beds increased from 28,633 beds in 2003 to 28,947 in 2004 for the hospitals and decreased from 5,456 beds in 2003 to 5,448 in 2004 for medical institutions. The average rate of beds occupied had increased from 63.66% in 2003 to 64.90 in 2004. (Table 2).

TABLE 1
MOH Hospitals And Medical Institutions 2004

State	Medical Institution	Hospitals		Total
		Hospitals with specialists	Hospitals without specialists	
Perlis	-	1	-	1
Kedah	-	4	5	9
Penang	-	3	3	6
Perak	1	5	9	15
Selangor	-	4	4	8
Federal Territory	1	2	-	3
FT Labuan	-	1	-	1
Negeri Sembilan	-	2	3	5
Melacca	-	1	1	2
Johore	1	5	5	11
Pahang	-	3	7	10
Terengganu	-	2	4	6
Kelantan	-	2	7	9
Sabah	1	5	12	18
Sarawak	2	5	14	21
Total	6	45	74	125

Source : Information and Documentation System Unit, MOH

TABLE 2
The Year 2004 Reports Of Hospital Inpatient Beds And Occupancy Rate

Location of Hospitals and Institutions	Bed Complement	Bed Occupancy Rate	Total Number of Admission
Peninsular Malaysia	22,858	65.43	1,463,484
Sabah	2,948	58.33	170,471
Sarawak	3,141	52.55	160,739
Total Hospital beds Malaysia	28,947	-	1,794,694
Special Medical Institution	5,448	73.36	10,003
Malaysia (Hospital & Institution)	34,395	64.90	1,804,697

Source : Information and Documentation System Unit, MOH

Organization and Service Systems

MOHs' specialist hospitals networking policy initiative had provided efficient accessibility to specialist care service to the general public. Teaching hospitals participate with public

hospital with such hospital networking policy and evidently it has benefited the public in accessing the specialists care of choice.

Medical Treatment Service

The Malaysian enjoys nominal fee hospital treatment and stay as been stipulated in the Medical Fee Ordinance Act 1982. The poor and government servant benefit such policy however to reduce health cost MOH is embarking toward Health Care Financing to support the public health care industry.

Intersectoral Collaboration and Partnership.

The public are encouraged to participate either in groups or as individuals in the hospital volunteers programme run by the Medical Welfare Unit. Some of the NGOs receive grants from the MOH to carry out activities outside of the hospital for example rehabilitation programme for stroke patients, palliative care for terminal cancers and haemodialysis centers for renal failure patients. Meeting and dialogues are held regularly with other sectors. Outsourcing of medical services from private hospitals will be continued to be adopted through a committee.

Outsourcing of Medical Service

Outsourcing of medical services from the private sector is done by a contractual agreement signed by both parties. Currently outsourcing of services are carried out for selected hospitals. The Ministry of Health contract out the radiotherapy services for Queen Elizabeth Hospital, Malacca Hospital, Seremban Hospital, Sultanah Aminah Johor Baharu Hospital, Tengku Ampuan Rahimah Klang Hospital, Putrajaya Hospital, Kajang Hospital, Penang Hospital and Alor Setar Hospital. Meanwhile the cardiothoracic services are outsourced for Kuala Lumpur General Hospital and Sarawak General Hospital, elsewhere the diagnostic imaging services it was contracted out for Penang Hospital, Seberang Jaya Hospital, Sungai Petani Hospital, Kulim Hospital, Taiping Hospital and Miri Hospital.

Collaboration between MOH & Training Institutions.

Collaboration between The MOH And The Training Institutions involve government (IPTA-*Institut Pengajian Tinggi Awam*) and private (IPTS-*Institut Pengajian Tinggi Swasta*) in medical training since 1993.

In 2004, nine of the Institute of Higher Learning(Public) and six of the Institute of Higher Learning (Private) had been utilizing Government Hospital for graduate and post graduate training. (Table 3).

The Institute of Higher Learning (Public) utilized 49 government hospitals and The institute of Higher Learning(Private) utilized 28 government hospital for training of undergraduate and post graduate. Both Institute of Higher Learning endow with Continuous Professional Development to MOH staff. Henceforth from the beginning of year 2004 the Institute of Higher Learning(Private) will be subjected to a monetary fee.

TABLE 3
Collaboration between MOH and Training Institutions

Government Institute of Higher Learning	Private Institute of Higher Learning
Universiti Malaya	International Medical University
Universiti Kebangsaan Malaysia	Penang Medical College
Universiti Sains Malaysia	Melaka Manipal Medical College
Universiti Malaysia Sarawak	Perak College of Medicine
Universiti Putra Malaysia	Asian institute of Medicine ,Science& Technology(AIMST)
Universiti Islam Antarabangsa	Monash universiti Malaysia-Sunway Campus
Universiti Malaysia Sabah	
Universiti Teknologi Mara	
Kolej Universiti Islam Malaysia	

Community Participation.

The Guidelines for voluntary work was prepared in 1994. The public are encouraged to participate with voluntary work in the hospital. The coordinator of such activity is with the Social Health Worker in the Hospital.

Non Government Organizations.

The Non government organization compliment the MOH effort to provide safe and quality health care by establishing health facilities such as Rehabilitation, Palliative and Haemodialysis Service. In return the NGOs are given grants, in 2004 approximately RM 10,859,255 was given to the NGOS.

MEDICAL & SPECIALIST SERVICES

These constitute ambulatory, medical surgical pediatric, obstetric & gynecology , diagnostic & imaging and support services.

Ambulatory Care Service

The process of updating and upgrading the equipment at the Emergency Departments will be implemented incrementally. The report from the Health Information Data System 2004 statically suggest that 691,347 patients have been warded through the Accident and Emergency Departments which constitute approximately about 38.3 % of the total patients (1,804,697) admitted into the ward. The numbers of patients admitted into the wards by states as depicted by Table 4.

In Semenanjung Malaysia the percentage of patients that is admitted to the ward from the A/E Department is about 23.9 % higher than the patients admitted through the specialist clinics. Currently there are 18 Emergency physicians including 1 attached at Hospital Universiti Kebangsaan Malaysia.

TABLE 4
Hospital Admission from Emergency Department, Specialist Clinics and Others

Location	Emergency Department		Specialist Clinics		Others		Total Admissions
		% Admissions		% Admissions		% Admissions	
Pen. Malaysia	580,175	39.4	224,983	15.3	666,675	45.3	1,471,833
Sabah	49,985	29.1	20,885	12.2	100,639	58.7	171,509
Sarawak	61,187	37.9	14,138	8.8	86,030	53.3	161,355
Total	691,347	38.3	260,006	14.4	853,344	47.3	1,804,697

Sources : Information and Documentation System Unit, MOH

Pre Hospital Care

Lately the MOH has embarked on the Command and Dispatch Ambulance Call Centre and the Squad Motorcycle which will help enhance and improve the ambulance respond time to the site of emergency and to stabilize the patient's vital condition. Hence with the embankments of these two new projects that is the Call Centre and the Squad Motorcycle it will help coordinate and improve the ambulance services to the respond time to an emergency call within the vicinity of operational area.

MEDICAL SERVICE

Medical services are the medical based specialist services available at hospitals and these are General Medicine, Dermatology, Tuberculosis and Respiratory Diseases, Leprosy, Psychiatry, Nephrology, Neurology, Radiotherapy and Oncology and Cardiology.

Medical Specialist Clinics

As a whole, the total number of patients treated at specialist clinics of the various medical disciplines increased by 12.96% in the year 2004 as compared to the year 2003. This constitutes 36.02% of the total specialist clinic attendance for the year 2004. Attendance at the Radiotherapy Oncology, Dermatology, Psychiatric clinics showed an increase of 57.59%, 14.48% and 10.74% respectively. As depicted in Table 5.

Medical Inpatient Services

Table 6 depicts the total number of patients from the various medical disciplines who were treated as inpatients. 26.05 % of the total government hospital admissions were from the medical based specialties. In general, these medical specialist admissions have increased by 4.66 % from 449,263 in the year 2003 to 470,212 in 2004. An increase in inpatients was most pronounced for the disciplines of neurology and cardiology. The bed occupancy rate (BOR) for the various disciplines ranged from 28.81 (dermatology) to 77.98 (neurology).

TABLE 5
Total Number Of Patients Who Received Treatment At The Specialist Clinics In The Year 2003 And 2004 According To Discipline

Discipline	No. of Patients at Specialist Clinics		% +/- difference between 2003/2004
	2003	2004	
General Medicine	673,229	668,988	- 0.63
Dermatology	186,870	213,933	+14.48
Tuberculosis and Respiratory Diseases	210,604	217,450	+ 3.25
Psychiatry	258,295	286,043	+ 10.74
Nephrology	12,368	95,243	+670.08
Neurology	38,455	31,582	-17.87
Radiotherapy/Oncology	26,030	41,020	+57.59
Cardiology	12,889	48,364	+275.23

TABLE 6
Total Admissions And The Bed Occupancy Rate (BOR) For The Various Medical Disciplines For The Year 2003 And 2004

Discipline	Total Admissions		% +/- difference between 2003/2004	Bed Occupancy Rate (BOR)	
	2003	2004		2003	2004
General Medicine	400,690	416,466	3.94	72.16	74.77
Dermatology	765	807	5.49	28.96	28.81
Tuberculosis and Respiratory Diseases	5,336	5,636	5.62	28.71	31.21
Leprosy	96	95	-1.04	85.95	75.70
Psychiatry	21,689	22,821	5.22	77.33	76.68
Nephrology	8,734	9,111	4.32	73.91	70.73
Neurology	818	1,921	134.84	59.85	77.98
Radiotherapy/Oncology	6,936	8,230	18.66	71.77	75.78
Cardiology	4,199	5,125	22.05	68.64	74.53

Pediatric and O & G Services.

The current status of the Obstetrics and Gynecology sub specialties services are summarized as follow;

- Reproductive Medicine.
- Feto Maternal Medicine.
- Gynecology & Uro-Gynecology.

Kuala Lumpur Hospital is the National Centre for Reproductive Medicine and has all the three sub specialties services. The other Reproductive Medicine Centers are Ipoh Hospital, Melaka Hospital, Tuanku Ampuan Afzan Hospital, Likas Hospital and General Hospital Kucing. The Gynecology sub specialties have been established in Alor Setar Hospital and Kota Baru Hospital meanwhile the Uro Gynecology service is been catered by Penang Hospital Such Centers should be consolidated by adequate laboratory support and by an embryologist.

The development and establishment of the Women and Children Hospital in the Klang Valley is designed to cater the needs of the service and research for the next decade. Thus enabling the MOH to benchmark with regional Centers of excellence in Singapore and Bangkok.

Malaysia has successfully reduced its maternal mortality rate from 530 per 100,000 deliveries in 1955 to 30 per 100,000 deliveries in 2003. Table 7 shows an increment of 3.37% of the total in-patient admitted to the Obstetric & Gynecology wards in 2004 as compared to 2003. Johore State has the highest number of in-patients admitted to the Obstetric & Gynecology ward constituting 73,392 in-patients with Bed occupancy rate of 68.22%

TABLE 7
Total Number Of In-patient And Bed Occupancy Rate To The O & G In Malaysia

State	Total in-patients		Bed Occupancy rate	
	2003	2004	2003	2004
Perlis	6,471	6,374	50.01	53.49
Kedah	46,038	46,003	64.55	64.53
Pualau Penang	26,370	27,636	49.53	52.59
Perak	47,495	51,319	43.52	46.46
Selangor	55,828	57,885	66.84	67.16
Federal Territory	33,186	35,822	51.59	57.14
Negri Sembilan	27,163	26,903	54.25	52.86
Melaka	19,950	19,480	78.51	76.32
Johore	70,627	73,392	65.56	68.22
Pahang	35,038	36,036	53.69	51.81
Terengganu	26,228	28,075	63.94	64.63
Kelantan	36,424	36,780	52.78	51.21
Sabah	58,195	61,031	66.61	64.62
Sarawak	56,306	56,943	51.96	49.95
	545,319	563,679	57.23	57.94

Source: Information and Documentation System Unit, MOH

SURGERY

Surgical Specialist Services.

The basic surgical specialties are general surgery, orthopedic, ophthalmology and ENT. The subspecialties under surgery are gastrointestinal, vascular, hepatopancreaticobiliary, breast & endocrine, urology, cardiothoracic, neurosurgery, colorectal, plastic surgery and pediatric surgery. Table 8 shows the number of hospitals which provide the surgical services according to disciplines. For hospital without specialist, the networking of services has been established in order to provide better health care services to those who needed the service. The number of beds for surgical specialties have increased from 7,390 (2003) to 7,556 (2004). The increase in bed is most notable in the orthopedic specialty.

TABLE 8
Total Number of facilities for Surgical Specialties in Government Hospitals 2003-2004

Disciplines	Number Of Specialist Hospitals		Number of beds	
	2003	2004	2003	2004
General Surgery	39	39	3,752	3,761
Orthopedic	25	25	2,302	2,446
Ophthalmology	28	28	584	590
ENT	20	20	278	289
Urology	7	7	168	168
Neurosurgery	5	6	141	141
Cardiothoracic	3	3	30	30
Plastic Surgery	9	9	123	123
Hand and Microsurgery	1	1	12	8
Hepatobiliary	1	1	NA	NA
Total			7,390	7,556

Source: Information and Documentation System Unit, MOH

Surgical Out-patient Services

In Table 9, shows the numbers of patient attending these out-patient surgical clinics. Over all, there has been an increased of 6.5% in the number of patient attending these clinics in 2004 as compared to year 2003. The most number of patient are in the orthopedic clinics with some increase in number of patient in 2004 as compared with year 2003. There was a significant increment of neurosurgery out-patient with the establishment of the Neuro Surgery Service in Queen Elizabeth Hospital

TABLE 9
Surgical Specialist Clinic Services

Discipline	No. of Patient in Out-Patient Surgical Clinic		Mean of Patient in Clinic Daily	
	2003	2004	2003	2004
General Surgery	401,750	438,231	1,533	1,685
Orthopedic	490,830	521,322	1,887	2,005
Ophthalmology	439,909	478,659	1,691	1,840
ENT	222,038	270,744	853	1,041
Urology	125,168	76,771	483	295
Neurosurgery	2,642	17,645	10	67
Cardiothoracic	21,047	13,061	80	50
Plastic Surgery	22,610	24,736	86	95
Hand&Microsurgery	7,104	8,196	27	31
Hepatobiliary	2,051	NA	7	-
Total	1,735,149	1,849,365		

In-Patient Surgical Services

The number of beds in the surgical related disciplines has increased from 7,390 beds in 2003 to 7,556 beds in 2004. The Surgical related disciplines contribute approximately 21.2% of the overall admissions to MOH hospitals. There was a significant increase of the total number of inpatient into the General Surgery, Orthopedic and Ophthalmology. There was an acute shortage neurosurgery and Cardiothoracic discipline.

TABLE 10
In Patient Surgical Services

Specialties	No. Of Beds		No. of In-Patient		Bed Occupation Rate (BOR)	
	2003	2004	2003	2004	2003	2004
General Surgery	3,752	3,761	213,412	226,120	56.94	58.22
Orthopedic	2,302	2,446	93,201	102,855	63.71	62.00
Ophthalmology	584	590	23,905	25,876	46.53	45.66
Otorhinolaryngology	278	289	9,610	11,114	50.40	53.91
Urology	168	168	7,565	8,449	74.37	75.73
Neurosurgery	141	141	5,027	5,014	105.32	102.98
Kardiothorasic	30	30	768	835	91.76	99.15
Plastic Surgery	123	123	2,092	1,893	48.73	44.62
Hand&Mikrosurgery	12	8	272	352	37.79	60.69
Hepatobiliary	NA	NA	NA	NA	NA	NA
Total	7,390	7,556	355,852	382,508		

Anaesthesiology Services

Anaesthesiology services play a very important role in support of surgical services. The anaesthesiology services also include the intensive care services and pain clinic. Currently, number of hospitals providing specialists based anaesthetic service stand at 44 hospitals. In East Malaysia, due to shortage of anaesthetic specialists, 34 district hospitals still depend on medical assistant to provide anaesthetic services.

In year 2004, an incentive allowance for medical assistants giving anaesthetic gases in East Malaysia has been approved in December 2004. The allowance approved are RM 100 per month for medical assistants who have passed *Kursus Pembiusan* and certified by consultant anaesthetist from the Society of Anaesthetist Malaysia.

For intensive care services, in order to lessen the acute problem of shortage of intensive care beds, a pilot project of 'Networking of General ICU in Klang Valley' has been started following circular on this networking which was issued on 24 September 2004.

Another paper presented for anaesthesiology services in 2004 are the starting of anaesthetic clinic in all state hospitals to provide a 'one-stop' centre for patient undergoing surgery. These clinic provides a means for the anaesthetist to assess the patients on an outpatient basis and plan for the anaesthetic management.

Transplant Services

Transplantation services in Malaysia started since the late 60's with cornea transplant as a start. For better coordination of all the transplant services, in 1998, National Transplant Coordination Committee (NTCC) was formed. This committee is chaired by Director General of Health. Under this committee, there are five subcommittees in which the surgical services unit are directly involve as the secretariat. One of the subcommittee is subcommittee on law and ethic, which Unrelated Transplant Approval Committee is formed in 2003. Unrelated Transplant Approval Committee directly deals with request for living unrelated transplantation to be done in Malaysia. The UTAC will be activated by the surgical service unit once there is request for living unrelated transplant. The approval for the unrelated transplant is given by Director General of Health once the committee member of UTAC (comprises of dedicated officer who understand issues in transplantation) are satisfied that the donor is really suitable to donate. The committee members discuss each case base on report by the Donor Advocate, Psychiatrist and Hospital Social Worker (appointed by Ministry of Health) who have done an assessment on the donor. Each UTAC case will be processed within 14 working days by the officer from the surgical service unit. In Table 11, is the numbers of transplantation done in Malaysia for the year 2004. Year 2004 has been a hectic year for transplant services as many issues has to be dealt with especially in relation to UTAC cases.

TABLE 11
Numbers of Transplantation in Malaysia 2004
(obtained from Transplant Resource centre,KLH)

Organ/Tissue	<i>Living Related Transplant (LRT)</i>	<i>Cadaveric Transplant</i>	Total
Organ			
Kidney	25	14	39
Liver	10	4	14
Tissue			
Bone Marrow (Paediatric)	122	-	122
Bone Marrow (Adult)	52	-	52
Bone	40	5	45
Skin	-	7	7
Cornea	-	174	174

DIAGNOSTIC SERVICES

Pathology Services

Pathology service is available in every hospitals in Ministry of Health. It provides diagnostic service (screening and confirmation) for inpatient and outpatient. It is also available in health clinics and special institutions. The tests performed in 2004 under the various sub disciplines are as in Table 12.

In summary for 2004 the work loads or the total tests carried out under the pathology services was 84,741,355. This shows an increase of 11.85 % compared to the year 2003 which was 75,764,983.

Blood Transfusion

Blood Transfusion service is provided in every hospital in Ministry of Health. The National Blood Centre which is situated in Kuala Lumpur, besides providing blood services in Klang Valley it is the referral centre and the National Blood Service Laboratory. The main objective of this service is to ensure the continuous, safe, quality supply of blood and blood products are available to patient who needs it.

TABLE 12
Total Investigation (Laboratory Test)Hospital Pathology Service,
Ministry of Health 2004

Type Of Laboratory Test	Total Laboratory Test
Microbiology	17,437,206
Biochemistry	46,719,873
Haematology	19,111,438
Hystopathology	948,290
Cytology	514,844
Forensik	9,704
Total	84,741,355

Forensic Services

Forensic Medicine Service includes forensic pathology, clinical forensic and medico-legal practice. Forensic service was separated from Pathology Department on April 1st 2002. Administratively this service manages the Management of dead body which include registration, recognition, holding and release of the body to the relatives. Besides that other services are post mortem examination, visit to crime place and forensic clinical investigation such as investigation of the suspect and victim of rape and sodomy. New services that will be carrying out in future are Anthropology Forensic Service and Clinical Forensic. Achievements for 2004 are summarized as in Table 13.

Diagnostic Imaging Service

Basic diagnostic imaging services are provided by 130 hospitals and 82 health clinics in the country which provides primary care services. In bigger hospitals there are more advance radiological services such as CT Scan, MRI and Ultrasound Doppler, Mammography and Interventional radiology. Diagnostic Imaging technology has expanded rapidly in the past three decade. Medical practices have change towards technology dependent. This factors caused increase in total radiological examination performed thus increasing the need more Radiologist and Radiographers. Achievements for the year of 2004 are as in Table 14. Total examinations have increased whereby a general radiography examination still heads the list (nearly 90% from total examination). Four Radiologists were sent to oversea for subspecialty course in Pediatrics Radiology, NeuroRadiology and Interventional Radiology.

TABLE 13
Work Load Of Forensic Services by State

Hospital	Type of Case		Percentage(%)
	Normal Death	Post Mortem	
Alor Setar	1,538	294	19.11
Pulau Pinang	1,961	453	23.10
Ipoh	2,250	505	22.44
Klang	1,480	705	47.63
HKL	3,070	715	23.28
Seremban	1,588	388	24.43
Malacca	1,544	375	24.28
Johore	2,332	513	22.77
Kuantan	1,308	312	23.85
Kuala Terengganu	1,250	262	20.96
Kota Bharu	1,679	181	10.78
Kota Kinabalu	1,293	168	12.99
Kuching	1,020	110	10.78

TABLE 14
Comparison of Work Load For Diagnostic Imaging Services In 2000 until 2004

Type Of Examinations	2000	2001	2002	2003	2004
General Radiography	1,937,568	2,024,929	2,158,694	2,276,705	2,478,354
Special Radiography Examination	31,317	24,145	26,529	35,663	28,586
CT Scan	58,313	65,902	80,243	89,541	101,830
MRI	4,956	6,224	8,690	11,845	16,037
Ultrasound	138,966	140,410	152,400	159,553	203,469
Additional Examination	15,600	17,288	23,837	26,270	28,165
Total	2,188,679	2,278,898	2,450,393	2,599,577	2,856,441
% Increase				6.09	9.88

CT Scan Service

There are 20 Ministry of Health hospitals which provides CT Scan services. Ipoh Hospital have four slice CT Scans, Kuala Lumpur Hospital and Tengku Ampuan Rahimah Klang Hospital have two Slice CT Scan.

TABLE 15
Work Load of CT Scan Service 2003-2004

Imaging Modalities	2003	2004
Generalised Radiography	2,276,705	2,478,354
Specialised Radiography	35,663	28,586
Computrised Tomography (CTScan)	89,541	101,830
MR Imaging (MRI)	11,845	16,037
Ultrasonography	159,553	203,469
Additional Examinaion	26,270	28,165
Total	2,599,577	2,856,441

Procurement procedure for new CT scans was made in 2004 for :

- | | | |
|------------------------|---|---|
| · Single-slice CT Scan | - | Hospital Miri and Hospital Sandakan |
| · 16-slice CT Scan | - | H. Kuala Lumpur and Hospital Pulau Pinang |
| · 64-slice CT Scan | - | Hospital Seberang Jaya |

Magnetic Resonance Imaging (MRI) Service

Ministry of Health is in the process of purchasing the MRI equipment for Seremban Hospital, Melaka Hospital, Kota Bharu Hospital and Queen Elizabeth Hospital Kota Kinabalu. New hospitals such as Sg Buloh Hospital, Serdang Hospital, Ampang Hospital, Alor Star Hospital and Sultan Ismail Hospital Johor Bahru are also equipped with MRI equipment. Efforts are being carried out to procure MRI for Temerloh Hospital, Kuala Terengganu Hospital and Kangar Hospital.

Studies which have been carried out and published in journals:

- Audit of Interventional Neurological Procedures
- *Hospital Kuala Lumpur Journal of Quality Improvement. Vol. 8 No. 1*
- Giant Aneurysm or Pituitary Macro Adenoma : A Diagnostical Misconstrue Case Report.
- *MJM Vol. 59 No 1 March, 2004*
- Giant Serpentine Middle Cerebral Artery Aneurysm
- *MJM Vol.59 No. 3 Aug 2004*

i) Nuclear Medicine.

Nuclear Medicine is another important service in the medical field. The main material used are radioactive material. It is given to the patient according to the type of scan carried out to help in the diagnosis. It is also used in the treatment of patient. It was introduced in Malaysia in 1964 as a unit in the Radiotherapy Department in Hospital Kuala Lumpur. Next this unit was set-up in General Hospital Sarawak, Pulau Pinang Hospital and Sultanah Aminah Hospital Johor Bahru (1997). Achievements in the year 2004 are as in Table 16.

Future planning is PET-CT Service provision and to increase centre which is giving Radioiodine service. New service that introduced in Kuala Lumpur Hospital is Indium Octreotide.

PROFESSIONAL DEVELOPMENT

Gazettement of Clinical Specialists / Medical Officers

Table 17 shows an increasing trend in the number of specialists that have been gazetted. There are a total of 1,042 specialists that have been gazetted from 2001 to 2004.

TABLE 16
Total Scan/ Service Done In 2003 And 2004

Hospital	Total Scan	
	2003	2004
Hospital Kuala Lumpur	3,274	4,365
Hospital Umum Sarawak	149	877
Hospital Pulau Pinang	1,342	1,893
Hospital Sultanah Aminah, Johor Bahru	994	971
Total	5,759	8,106

TABLE 17
Number of Specialists Gazetted By Years

Years	No. of specialists
2001	190
2002	303
2003	262
2004	287
Total	1,042

Table 18 shows the number of specialists gazetted based on disciplines and subspecialties. Maximum number of specialists are seen in discipline like Internal Medicine followed by Surgery and Anaesthesiology.

Credentialing.

Until the end of 2004, the secretariat had received 224 applications from specialists from several state hospitals. From this year onwards, specialists who have been gazetted will automatically be credentialed in their core procedures.

Fellowship Training.

The number of trainees in the Fellowship Training Programmes until December 2004 has increased the years, which are from 85 in 2001 to 232 in 2004. However, Medical based disciplines remain the most popular with majority of trainees in subspecialties like Nephrology, Cardiology and Gastroenterology. There is poor response for subspecialties like Geriatric, Plastic Surgery. A new programme , Advanced Paediatric Fellowship is expected to start its training in June this year.

CME / CPD Activities.

To strengthen the participation in the education and training programme for the respective personnel, allocations have been provided for many courses, seminars, workshops and conferences. Since 2002, the Ministry has acquired a substantial budget of RM 3 million under Dasar Baru for CME/CPD. From 2000 to 2004 the number of participants has increased from 2015 to 3000 to a total of 14,267 in the last 5 years period as shown in Table 19.

TABLE 18
No. Of Specialists Gazetted Based on Disciplines from year 2002-2004

No	Specialty	No. Of Specialist Gazetted		
		2002	2003	2004
1.	Internal Medicine	29	31	43
2.	Cardiology	4	2	5
3.	Gastroenterology	6	3	1
4.	Nephrology	5	1	-
5.	Neurology	5	-	1
6.	Hepatology	-	3	-
7.	Dermatology	3	1	2
8.	Emergency Medicine	-	5	8
9.	Respiratory Medicine	-	1	-
10.	Rheumatology	-	-	1
11.	Rehabilitation Medicine	1	-	2
12.	General Surgery	36	32	32
13.	Cardiothoracic Surgery	-	1	-
14.	Plastic Surgery	1	1	1
15.	Urology	-	1	-
16.	Hand & Micro surgery	-	-	1
17.	Neurosurgery	1	-	4
18.	Orthopaedic	43	20	26
19.	Paediatric	31	24	27
20.	Paediatric Cardiology	-	-	1
21.	Psychiatry	5	8	11
22.	Pathology	12	9	8
23.	Ophthalmology	22	20	18
24.	Anaesthesiology	32	32	32
25.	ENT	10	12	15
26.	O & G	41	40	29
27.	Radiology	14	14	19
28.	Radiotherapy & Oncology	1	-	-
29.	Sports Medicine	-	1	-
	Total	303	262	287

TABLE 19
No. of CME Activities from 2000 to 2004

	Years					Total
	2000	2001	2002	2003	2004	
Total CME activities	49	70	108	92	146	465
No. of participants	2,015	2,470	3,764	3,018	3,000	14,267

Specialists' Requirement.

There has been an increased in the number of specialists from 1,685 in 2003 to 1,944 in 2004, an increase of 15% as compared to the previous year.

Buying of Private Specialist Services.

Shortage of manpower especially specialists to provide quality services has been a critical problem in the Ministry of Health. The problem is more acute in East Malaysia, where the Ministry has to depend on many foreign contract officers to provide healthcare services.

Therefore specialists in the private sector are encouraged to work in the Ministry of Health.

ALLIED HEALTH

Training for Health Attendants in the MOH

The Allied Health Unit has been appointed as the secretariat for the training of health attendants called '*Latihan Peningkatan Atenden Kesihatan*'. These training sessions were divided into 3 levels in which level 1 & 2 were conducted at the state level, and the training sessions in level 3 (for attendants working in operating theatre, physiotherapy unit, CSSU and forensic) were conducted centrally by this unit since the year 2002. Three series of training sessions in level 3 were conducted with a total of 165 trained in the year 2004 (441 and 863 were trained in 2003 and 2002 respectively).

Foreign AHPs Employed by the Private Hospitals/ Institutions

The Ministry of Health acknowledges the shortage of certain categories of allied health professionals in the health services (government or private). It has therefore identified certain categories of foreign allied health professionals that can be employed by the private hospitals/ institutions. A total of 32 applications from foreign allied health professionals (excluding nurses) have been processed in the year 2004.

Proposal Papers in Collaboration with the Human Resource Division MOH

The proposal on upgrading the scheme of service for health attendants and community nurses has been approved by Public Services Department (PSD) with effect from 1st. January 2004.

The proposal on the extension scheme of service from diploma to degree for those who have degree qualification (eg. nurses, physiotherapists, radiographers etc) has been forwarded to the Public Services Department for their attention and due consideration. A series of discussions has been on-going and awaiting approval.

The improvement in the scheme of service for medical assistants, medical laboratory technicians, dental technicians and dental nurses, and whereby the provision to be appointed as a scientific officer under 'special to holder' (*khas untuk penyandang* -KUP) clause has been introduced by the PSD on 31st December 2004 with effect from 1st January 2005.

Engagements of Private Allied Health Professionals on Sessional Basis

The Ministry of Health acknowledges the need of certain categories of allied health professionals to be employed on sessional basis in the MOH hospitals such as clinical psychologists, orthoptists and etc.

Collaboration with the Higher Centers of Learning

The MOH has approved application of higher centers of learning (public and private) for the usage of the MOH hospitals for the training of allied health professions. A total of 14 applications from the private institutions has been received and approved in 2004, and is in the process of signing memorandum of agreement/ understanding.

Credentialing & Privileging

The Medical Development Division, MOH is in the process of developing credentialing mechanism for the allied health professionals working in hospital settings. This will be done in phases, first involving the nurses and medical assistants working in critical care area. The draft paper on credentialing & privileging for the allied health professionals has been finalized and awaiting approval.

In-situ Post-basic Training

A series of workshops and discussions has been on-going with the Training Management Division for the development and the introduction of in-situ post-basic training in identified critical care areas. The draft proposal is ready to be presented for approval and it is expected to be implemented as pilot projects in a few hospitals in early 2005.

Allied Health Professions Bill

The MOH is at the final stages of drafting the 'Allied Health Professions Bill' whereby we are awaiting deliberation with the MOH legal advisor. The objectives for drafting the Bill is to recognize, register, regulate the professional conduct and promote the continuing professional development of members of the allied health professions.

MEDICAL RESOURCES

The Medical Resource Unit is responsible in managing the budget and also to provide technical input for any medical equipment required to be procured.

Medical Budget

In the year 2004, Medical Program was provided a total allocation (ET) of RM 4,465,346,370 an increase of 23.23% when compared to the previous year. This amount was 63.56% of the total amount allocated to the Ministry of Health RM7,025,928,200. About 101.68% was spent in year 2004.

Total of 6 “New Policies” were approved for the year 2004 which involved RM 48.3 million (OA 20000). Asset was allocated under “One-Off” (RM 22 million).

Development Budget

RM 35 million was allocated under “*projek BP 301 (ubahsuai dan naiktaraf hospital)*”. With the cooperation of the Finance Division, Ministry of Health, every effort is made to ensure that any allocation approved abide to the Treasury Regulations.

Medical Equipments

This unit, with the cooperation of other units in the “*Cawangan Perkembangan Perkhidmatan Kepakaran*” will identify medical equipments for government hospitals. This unit is also responsible in preparing specifications for medical equipments to be purchased. For the year 2004, 18 tenders were prepared centrally. The remaining allocation was distributed to the State Health Department which was largely procured through quotation.

- *Purchased during SARS*

Some of the equipments were also tendered at the state level as the amount of equipment was more than RM 200,000 and involved one “*Pusat Tanggung Jawab*”.

Medical Resource Unit coordinates the technical evaluation of consumable items that are supplied by Pharmaniaga Sdn Bhd.

EXTENDED MEDICAL CARE

Rehabilitation.

Rehabilitation Medicine forms a vital part of the total care for patients who have problems of temporary or permanent disability. The ultimate goal of Rehabilitation Medicine is for the patient to achieve freedom from pain, independent living and understanding of how to prevent re-injury.

Rehabilitation Medicine offers the following services:

- Consultation services both clinical and therapeutic
- Physiotherapy
- Occupational therapy
- Orthotic and Prosthetic services

Consultation Services

Cases that are treated at the outpatient clinic are as follows:

- Rehabilitation for amputee
- Rehabilitation for neuromedical and neurosurgical cases

- Rehabilitation for orthotic
- Rehabilitation for spinal cord injury
- Rehabilitation for paediatric
- Driving assessment
- Assessment and wheelchair adjustment / alteration for “special seating”
- Medical check-up
- Counseling for the disable
- Liaison activity (KWSP, SOCSO, Employer, School)

TABLE 20
Numbers Of Patients Seen At Selected Hospitals According To The Type Of Rehabilitation Services, 2004.

HOSPITAL	Numbers of patient	
	Out-patients	In-patients
Hospital Kuala Lumpur		
· General Rehabilitation	1,326	75
· Spinal Rehabilitation	540	
· Neurorehabilitation	24	
· Peadiatric	261	
· Adult (Foot care)	173	
· Adult (Amputee Consultation)	170	
· Driving assessment	112	
Hospital Putrajaya		
· <i>Klinik Rehabilitasi</i>	77	
Hospital Seremban		
· <i>Pemulihan Am</i>	460	36
· <i>Pemulihan spinal</i>	-	-
· <i>Perkhidmatan ortotik / prostetik</i>	86	
<i>Pusat Latihan Perindustrian dan Pemulihan Bangi (PLPP)</i>		
· <i>Rawatan Pemulihan Carakerja</i>	5,661	
· <i>Klinik Pakar</i>	262	
· <i>Rawatan Pemulihan Fisioterapi</i>	4,868	
· Driving Assessment	23	
Total	14,043	111

Source: Rehabilitation Medicine Department, Hospital Putrajaya

Physiotherapy

Physiotherapy is a profession concerned with the assessment, maintenance, and restoration of the physical function and performance of the body. It is a distinct form of care which can be performed both in isolation and in conjunction with other types of medical management. Used in conjunction with certain medical or surgical techniques, physiotherapy can complement these techniques to help provide a speedy and complication-free return to normal activity.

Physiotherapy can be useful in the diagnosis and management of a wide range of injuries, disease processes and other conditions.

Services offered at the physiotherapy department include the following:

- Gymnasium activity for physical rehabilitation
- Electrotherapy
- Heat and cold treatment
- Rehabilitation and training using the supportive equipment

Occupational Therapy.

Occupational therapy is a profession that is concerned with restoring useful physical functionality following disabling accidents and sickness. The goal of occupational therapy is to assist the patient in achieving the maximum level of independent function. Patients include persons suffering from strokes, cerebral palsy, spinal cord injuries, arthritis, head injuries, amputations, burns, hand injuries, people with visual, auditory and speech problems. The primary tool of the occupational therapists is the active involvement of the patient in therapeutic tasks and activities which, while improving function, help the patient learn to apply the newly restored or impaired function in meeting the demands of daily living.

Audiology and Speech therapy

Audiology is the study of hearing disorders through identification and evaluation of hearing loss, and the rehabilitation of those with hearing loss especially that which cannot be improved by medical or surgical means.

Speech Therapy

Speech therapy is the treatment of communication disabilities and swallowing disorders. At present, there are 74 posts for speech therapists nationally, of which only 23 have been filled. Speech therapists are involved in the management of the following conditions:

- Speech Language Disorders (SLD)
- Hearing Impairment (HI)
- Resonance Disorders (R)
- Neurology (N)
- *Voice Disorders*
- Swallowing (SW)
- Motor Speech Disorders (MSD)

MEDICAL CARE QUALITY

PATIENT SAFETY

Patient Safety Council of Malaysia

In 2004, the Technical Advisory Committee met more than 8 times to perform extensive literature review on the patient safety experience in developed countries, studying many documents pertaining to the various strategies and approaches that can be employed to enhance patient safety. A total of 12 strategies to enhance patient safety were agreed to at the National Patient Safety Council meeting on 10 December 2004. These strategies will be further reviewed by a WHO consultant before final endorsement in 2005.

World Patient Safety Alliance – Amsterdam (Oktober 2004)

Two officers from the Section on Quality represented Malaysia at the World Patient Safety Alliance conference in conjunction with the ISQuA Quality Conference in Amsterdam in October 2004 where they made a presentation on patient safety initiatives in Malaysian Government hospitals. Following this, the MOH will give added attention to implementing patient safety initiatives for 2005 and 2006 in the area of nosocomial infection control, an important WHO international agenda for those 2 years.

HOSPITAL INFECTION CONTROL

"Point Prevalence" Study

The "point prevalence" study was conducted in 14 State hospitals and 3 University hospitals since March 2003 during the months of March dan September annually (Table 21). Hospital Universiti did not participate in the first *point prevalence* study.

On the whole, the rate of nosocomial infections has shown a downward trend. The four "point prevalence" studies have shown that "*pneumonia*" and "*surgical site Infection*" constitute the majority of nosocomial infections compared with the situation in Europe where "UTI" predominates. (Table 22).

TABLE 21
Prevalence of Nosocomial Infections 2003 –2004

	March 2003	September 2003	March 2004	September 2004
Nosocomial Infection Rate	7.7%	6.1%	5.43%	5.6%

TABLE 22
Nosocomial Infections Based On “Site Of Infection”
Category : Point Prevalence Study Of 2003-2004

Category of Nosocomial Infection	March 2003	September 2003	March 2004	September 2004
UTI	10.30%	9.40%	10%	9.8%
BSI	13.50%	14.20%	28.5%	17.8%
Pneumonia	24.50%	26.60%	26.7%	24.5%
Clinical sepsis	15.7%	11.80%	14.7%	13%
Surgical site infections	15.70%	11.80%	21.8%	20%
Others	14.10%	16.30%	9%	14.5%

Source, Health Quality Section, Medical Program, 2004

MRSA Surveillance for 2003 - 2004

The results of the MRSA surveillance study in 14 MOH State hospitals and 3 University hospitals for the years 2003-2004 are as depicted in Table 23.

TABLE 23
Incidence Of MRSA In 14 Moh State Hospitals & 3 University Hospitals
For The Years 2003-2004

Name of Hospital	2003	2004
Hospital with MORE than 800 beds		
Alor Setar	0.40%	0.22%
Pulau Pinang	0.48%	0.34%
Ipoh	0.56%	0.32%
Kuala Lumpur	0.60%	0.48%
Tuanku Ampuan Rahimah	0.29%	0.22%
Sultanah Aminah I	0.49%	0.29%
KualaTerengganu	0.13%	0.15%
Kota Baru	0.25%	0.13%
Hospital with LESS than 800 beds		
Kangar	0.20%	0.17%
Seremban	0.35%	0.31%
Melaka	0.25%	0.19%
Tuanku Ampuan Afzan	0.27%	0.22%
Queen Elizabeth	0.32%	0.07%
Umum Sarawak	0.07%	0.21%
University Hospital		
HUKM	0.26%	0.2%
HUSM	0.57%	0.38%
PPUM	0.29%	0.22%

There is a demonstrable decrease in the incidence of MRSA in hospitals with more than 800 beds. The same can be seen for hospitals with less than 800 beds.

ESBL Surveillance for the years 2003 - 2004

TABLE 24
Incidence of ESBL Klebsiella in 14 MOH State Hospitals and
University Hospitals for 2003-2004

Name of Hospital	2003	2004
Hospital with MORE than 800 beds		
Alor Setar	0.14%	0.11%
Pulau Pinang	0.21%	0.15%
Ipoh	0.34%	0.11%
Kuala Lumpur	0.42%	0.27%
Tuanku Ampuan Rahimah	0.04%	0.01%
Sultanah Aminah I	0.49%	0.32%
Kuala Terengganu	-	0.06%
Kota Baru	0.18%	0.14%
Hospital with LESS than 800 beds		
Kangar	-	0.11%
Seremban	0.51%	0.24%
Melaka	0.3%	0.14%
Tuanku Ampuan Afzan	0.14%	0.11%
Queen Elizabeth	0.46%	0.24%
Umum Sarawak	NA	0.21%
University Hospital		
HUKM	0.23%	1.19%
HUSM	-	0.32%
PPUM	0.1%	0.12%

PATIENT / CLIENT COMPLAINTS

The Section on Quality was entrusted with this function since mid- 2002. A study has been conducted to determine the numbers of complaints as well as the classification of these complaints in the mass media.

The report on Patient Complaints for 2003 – 2004 was presented at the Medical Programme Technical Meeting held at the Hyatt Hotel, Johore Bahru on 27th to 29th November 2004.

“PATIENT CENTRED-SERVICES”

The Section on Quality was entrusted with this function since mid- 2002. A study has been conducted to determine the elements of Patient-centred services that is currently being practiced in Malaysian Government hospitals.

A WHO consultant from Australia provided expert advice regarding the concept of Patient-centred services. She also conducted a study of the implementation of services in the MOH. A report had been prepared and presented to the MOH.

“Patient satisfaction surveys” using “modified servqual” collaboration with the Institute for Health Management (IHM)

A total of 4 short courses on “Patient Satisfaction Survey” were held at the “Institut Pengurusan Kesihatan, Jalan Rumah Sakit Bangsar” in March and November 2004 to provide an introduction to the concept of “Patient Centred Services” and “Patient Satisfaction Surveys” as well as to train staff on how to conduct the “Survey” as well as data gathering for the survey, including the analysis of survey data. Seventeen hospitals and 159 health personnel had been trained with patient satisfaction technique.

Training was conducted by members of the research team from the “Institut Pengurusan Kesihatan” (IPK) using the SERVQUAL format. The Service Quality (SERQUAL) format is the standard format being utilized to assess and identify gaps between the expectations and perceptions of health care clients. Preliminary findings that the client satisfaction (measured as the difference between client expectations and perceptions of the services provided) was quite low at only 19% (Toward patients' delight, Institute of Health Management, MoH, 2003, Dr. Roslan Johari, ISBN:983-41152-2-0). Many more MOH staff are expected to be trained in SERQUAL in order to benchmark client satisfaction scores within MOH hospitals.

OCCUPATIONAL SAFETY AND HEALTH

The final draft document for Occupational Safety and Health for hospitals is awaiting endorsement. The Occupational Safety and Health Committee in the Medical Programme has been established to fulfill the requirements of OSHA and MS ISO 9001: 2000

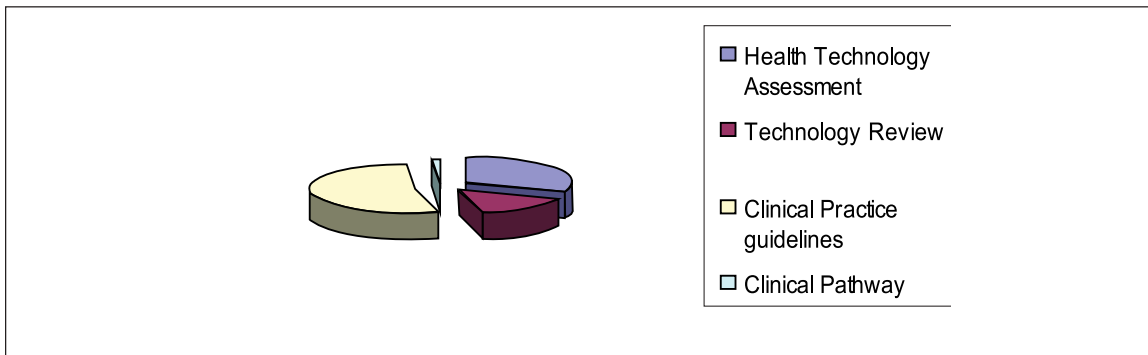
HEALTH TECHNOLOGY ASSESMENT

The six main outputs of the section are Health Technology Assessments, Health Technology Reviews, Clinical Practice Guidelines, Clinical Pathway, trainings and the *Newsletter*.

TABLE 25
Main Output of Activities in Health Technology Assessment Unit for year 2004

Activities	Issues Started (2004)	Previous Year Issues	Completed Assessment	Issues in Progress	Total no of Assessments in 2004
Health Technology Assessment	11	11	7	15	22
Technology Review	11	-	9	2	11
Clinical Practice Guidelines	-	37	10	27	37
Clinical Pathway	1	-	1	-	1
Total	23	48	27	44	71

FIGURE 1
Assessments Analyzed In 2004



Achievements in 2004

Health Technology Assessment Section, Medical Development Division, Ministry of Health Malaysia was designated as World Health Organization (WHO) *Collaborating Centre* for Evidence Based Practice in Health Care, in July 2004 for a period of 4 years.

MEDICAL PRACTICE DIVISION

PRIVATE MEDICAL CONTROL SECTION

Achievements in 2004

The Private Healthcare Facilities and Services Regulations, Pathology Laboratory Bill, Pathology Laboratory Regulations and Mental Health Regulations are with the Legal Advisors/Attorney General Office. Together completed is the 2nd draft of the Pathology Laboratory Guidelines.

A mendment to Medical Act 1971, Allied Health Professional Bill, Cosmetic Bill, Amendment to Medical Assistant (Registration) Act 1977, Optic Act 1991 is at various stages of development within Medical Practice Division.

Projects that will start soon are the Assisted Reproductive Technique Bill, amendments to Nurses Act 1950, Midwives Act 1966, Optic Act 1991 and Human Tissue Act 1974 and finally the Managed Care Organisation Bill.

Malaysia has made improvements in its Schedule of Specific Commitments in the healthcare sector in 2004 under the World Trade Organisation (WTO).

Malaysian Health Care Sector participated in the ASEAN Coordinating Committee on Services Meeting and negotiates on the Mutual Recognition Arrangement on Nursing Services. Malaysia has presented the concept paper on Mutual Recognition Arrangement on Medical Practitioner in the ASEAN Coordinating Committee on Services Meeting held in Bangkok, Thailand in December 2004.

The Malaysia-Japan Economic Partnership Agreement has undergone six rounds of negotiations and is to be concluded by the end of 2005.

Licensing, Monitoring and Regulating Private Hospitals.

Until the end of year 2004, there are 218 private hospitals being licensed under the Ministry of Health with 10,542 numbers of beds. The Private hospitals outnumber the public hospitals but, its number of beds is about 20% of that of a public hospital'. This is due to the fact that a private hospital is define as any premise with more than two inpatients bed and it includes nursing home and maternity home.

Preparation for implementation and enforcement of the private healthcare facilities and services act 1998.

There will be a new act replacing the Private Hospital Act 1971. However the implementation and enforcement of the Act which is Private Healthcare Facilities and Services Act 1998 can only are carried out when the Regulations have been approve by Cabinet .

Meanwhile, preparations of the guidelines and related manuals of work procedures for the implementation of the Act were also carried out. These preparations are found to be essential in strengthening of the involved activities and to ensure that the Division is be ready when the Act is being enforced later.

Managed Care Organization, MCO

In general, the steps taken by the Malaysian Ministry of Health to regulate these organizations include:-

- to produce a guideline for MCOs, their clients and the medical practitioners
- to suggest that a MCO Bill be legislated
- to take part in various forums organized by concerning bodies who are able to assist in raised or current issues

In consistence with the enforcement of the Private Healthcare and Facilities Act, which a provision towards the regulation of MCOs is also incorporated, preparations towards the implementation were carried out and to get ready to be implemented once it is enforced.

Employment of Foreign Specialists in Private Sector

This unit works hand-in-hand with Malaysian Medical Council in the process of foreign specialist employment by the private hospitals.

A guideline for the employment of foreign specialists by private sectors is available and an assessment committee will evaluate the need of such specialists in the private hospital. However, the approval for registration of these foreign specialists lies in the hands of the Malaysian Medical Council who enforces the Medical Act 1971.

In the year 2004, a total of 9 applications were received from Malaysian Medical Council for the above purpose which were checked and assessed.

MEDICAL LEGISLATION SECTION

Clinical Negligence Related Complaints

All complains received will be classified as clinical and non-clinical complaints. Clinical complaints are those with clinical negligence implications. All clinical complaints will be addressed by the medico-legal unit. Non-clinical complaints will be referred to the Quality Unit, Medical Development Division. For 2004 there were 85 complaints related to clinical care. (Table 26)

Board of Inquiries

For all cases that may have legal implications, the Medical Practice Division through the medico-legal unit will direct the Director of Medical and Health Services at the State to establish a board of inquiry to investigate and report the case. The medico-legal unit will attend certain selective cases that require early input and for cases where the plaintiff has already indicated that they are going to sue the government. The Board of Inquiry report will be prepared by the State who will study and give opinions based on the facts of the case. For summon cases where compensation has already been paid, the report will be sent to the Disciplinary Unit, Administrative Division, MOH. The report will also be sent to the Quality Unit for further management such as developing new policies. In 2004 there were 75 board of inquiries held.

Summons

All summons received will be discussed with the Federal Counsel. From discussions held with the health care provider, the Federal Counsels will have to decide whether the case should be defended in court or to go for settlement without admitting liabilities.

There were more summonses per year than the number of cases settled. As such, over the years, the number of cases to be addressed has increased. For 2004 the number of cases addressed was 87 cases.

TABLE 26
Activities of Medico Legal Section

Activities	Total
Active summons	87
Number of Board of Investigation	75
Number of potential medicolegal cases.	85
Number medical report validated	44
Awareness on Medicolegal issue	21

Awareness Lectures

The medico-legal unit also initiates and gives awareness lectures to doctors and paramedics on issues of clinical negligence. Lectures will be given to doctors and paramedics at the National Institute for Judicial and Legal Officers (ILKAP), Hospitals, Seminar/Conferences for Specialists and Paramedics, MPH (UKM) courses and other venues according to requests. For the year 2004, a total of 27 lectures were given.

MALAYSIAN MEDICAL COUNCIL

Registration

The current requirement is four months of posting in each of the three disciplines encompassing either medical or pediatric, surgical or orthopedics and obstetrics & gynecology. Following completion of these three compulsory postings, the medical practitioners are then required to complete their obligatory postings based on a circular issued by the Director General of Health no. 4/2002 dated 23rd July 2002.

There was a marked increase in the number of foreign medical practitioners registering with the Council in 2004 following recruitment from foreign countries to overcome the acute shortage of medical practitioners. They were registered under section 14(3) of the Medical Act 1971. Under the section, they were registered to practice at a place and during a period stipulated by the Honourable Health Minister.

Accreditation & Recognition of Medical Institutions

Ten local training institutions were visited in 2003 and two in 2004 whilst 18 institutions abroad were visited in 2003 and four in 2004. The duration of the visits conducted were commensurate with the purpose of the visit; either accreditation or recognition visit or revisit. In the revisiting exercise, as the emphasis is on the areas of concern only, the time spent is much lesser.

Presently, 344 medical training institutions are recognized and eligible for registration with the Council. The list of recognized institutions is listed under the Second Schedule of the Medical Act 1971. Locally, there are 17 medical schools offering undergraduate medical programs. 11 schools were accredited whilst another six pending.

Four new colleges were given approval by the National Accreditation Board to start their medical undergraduate degree programs in year 2003. They were Alliances College of Medical Sciences, Monash University (Sunway Campus), Universiti Teknologi Mara and Asian Institute of Medicine, Science and Technology. University College Sedaya International and Kolej Universiti Islam Malaysia were also given approval to start their medical undergraduate degree program in 2004.

TABLE 27**The list of Accredited and Approved Local Undergraduate Medical Schools, 2003 and 2004**

Accredited Institutions	Approved Institutions
Universiti Malaya	Universiti Malaysia Sabah (2001)
Universiti Kebangsaan Malaysia	Universiti Teknologi Mara (2003)
Universiti Sains Malaysia	Asian Institute of Medicine, Science & Technology (2003)
Universiti Putra Malaysia	Alliance College of Medical Sciences (2003)
Universiti Malaysia Sarawak	University College Sedaya International (2003)
Universiti Islam Antarabangsa	Monash University Sunway Campus (2004)
International Medical University	Kolej Universiti Islam Malaysia (2004)
Penang Medical College	
Melaka-Manipal Medical College	
Perak Medical College	

Housemanship Training

In year 2003, Hospital Kajang and Hospital Selayang were approved for housemanship training and in 2004, Hospital Seri Manjung, Perak in liaison with Hospital Tentera Lumut, Perak were also approved. Currently, 28 hospitals were approved for the training of 1,259 housemen at any one time.

Discipline and Professional Conduct

With regards to disciplinary matters of its registered practitioners, the Council abides by the Code of Professional Conduct. A total number of 67 and 56 complaints were received in 2003 and 2004 respectively. Neglect or disregard of professional responsibilities is the most common category of complaint received, (Table 28).

TABLE 28
Types of Complaints of Infamous Conduct Received, 2003-2004:

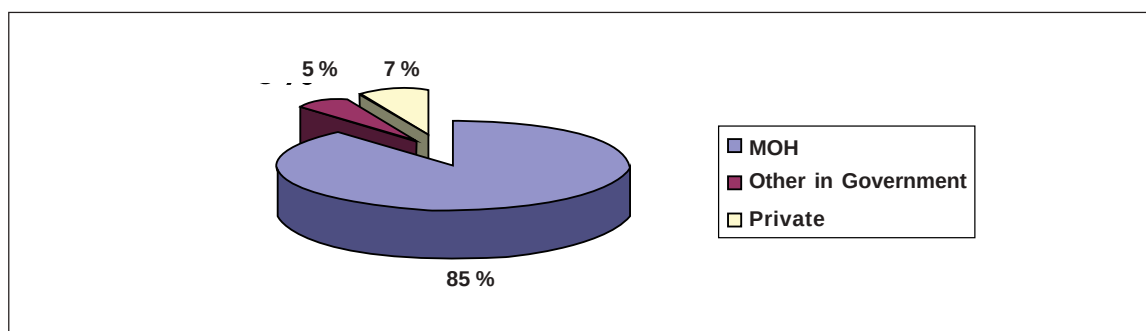
Forms Of Infamous Conduct	Year	
	2003	2004
a. Neglect or disregard of professional responsibilities	38	33
b. Abuse of professional privileges and skills	3	6
c. Conduct derogatory to the reputation of the medical profession	21	12
d. Advertising, canvassing and related professional offences	5	5
Total	67	56

MEDICAL ASSISTANT BOARD

i) Registration of Medical Assistants

Till the 31st December 2004, 6,622 Medical Assistants was registered with the Medical Assistant Board (running registration). Out of 6,622 Medical Assistants registered with the Board, 5,860 (85%) are in The Ministry of Health, 334 (5 %) in other government agencies and 428 (7 %) are in the private sector. Figure 2.

FIGURE 2
Number of Medical Assistant Registered According to Sectors for Year 2004



ii) Current Post of Medical Assistants

Establishment post in Ministry of Health as following the number of post available for all grade are 7,078 , in which filled are 5,860 (82.8%) and 1,218 (17.2%) are still vacant. (Table 29).

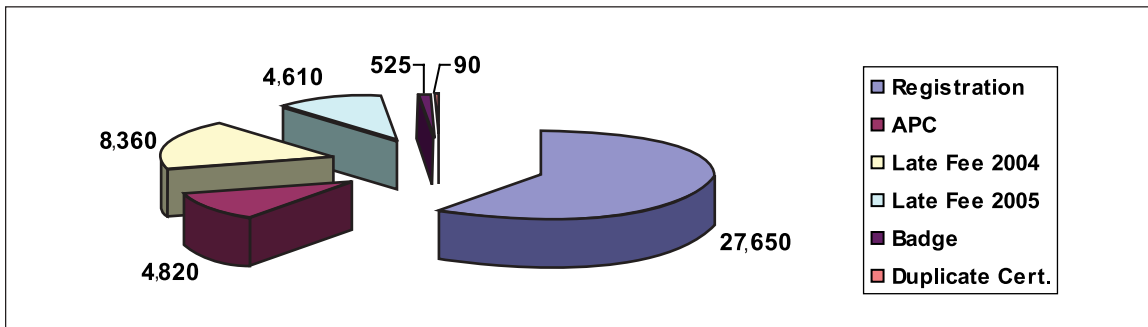
TABLE 29
The Distribution of Medical Assistants for Year 2004

Grade	Total			%
	No.of Post	Post. Fill	No. of Vacancy	Filled
Grade U40	5	3	2	60.00%
Grade U38	13	3	10	23.08%
Grade U36	136	124	12	91.18%
Grade U32	890	791	99	88.88%
Grade U29	6,034	4,939	1,095	81.85%
Grand Total	7,078	5,860	1,218	82.79%

iii) Revenue Collection

In 2004, 5,768 application for year 2005 were received to renew the registration and processed. In 2004, Board collected RM 46,055.00 from various types of fees such as new registration, renewal of certificate of registration, late fee inclusive of badges for Medical Assistants. (Figure 3).

FIGURE 3
Revenue Collection Year 2004



iv) Development of Guidelines/Policies/Act

Standard Operating Procedures

Family Health Development Division, Ministry of Health had implemented the Standard Operating Procedure for medical assistants working in the health clinics. To standardized the work process the Board Secretariat, has taken further action to upgrade standard of care for medical assistant in hospital setting.

In the initial stage four disciplines being selected to be develop as follows;

- i. Emergency Care
- ii. Haemodialysis
- iii. Orthopedic
- iv. Psychiatric

v) Amendments of Medical Assistants (Registration) Act 1977

The Medical Assistants (Registration) Board is in the process of amending the Act. In the 38th Board Meeting an Amendment's Committee was form by the Board to look into the process. The draft was presented to Yg. Bhg Datuk Dr. Abdul Gani bin Hj. Mohammed Din, Deputy Director Of Health (Medical) as the Chairman of Amendments Committee on 5th February 2004 and 1st October 2004. It was then tabled to the Board Meeting on 8th October 2004.

vi) Research Activities

The Medical Assistants Board had decided to conduct a research on "Client satisfaction towards services rendered by Medical Assistants in Emergency Department". Eight Medical Assistants with degree holders had conducted a survey from 1st May 2004 and expected to finish by 31st. May 2005.

NURSING BOARD

Registration

- i. This year 33,096 nurses were registered as compared to 22,023 in 2003 thereby an increase of 11,073 (APC) as against a total of 29,396 registered nurses in MOH and 12,776 in the private sector.
- ii. 543 foreign nurses in the country received their TPC
- iii. 4,501 Assistant Nurses were registered as compared to 3,825 in 2003
- iv. 4,701 Community Nurses were registered in 2004 as compared to 2,723 in 2003
- v. 1,567 nurses requested for retention of names in the registry as compared to 1,004 in 2003. The attrition rate for nurses is 400 in 2004 as compared to 380 in 2003.

Approval of institutions:

NBM has approved 4 degree and 8 diploma programs.

Revenue

Revenue collected from Nursing Board Malaysia and Midwifery Board Malaysia through registration of nurses, retention of names, giving of transcripts, badges, APC, and TPC, examinations, registration of Public Health Nurses and Mental Health Nurses and log book for Assistant Nurses was RM 621,932 as compared to RM 536,554 in 2003. There is an increase of 16%.

MALAYSIAN OPTICAL COUNCIL

The Malaysian Optical Council (MOC) was established thirteen years ago with the purpose of registering opticians and optometrists and to regulate the practice of optometry in this country through the implementation of all provisions under the Optical Act 1991 and Optical Regulations 1994.

By the end of 2004, MOC has registered 508 optometrists and 2,041 opticians to make the total number to 2,549 registered practitioners. (Table 30)

The Malaysian Optical Council has issued 1,977 Annual Practicing Certificates (APC) in 2004 and the number is expected to increase as the numbers of registered practitioners arise.

The Malaysian Optical Council has also issued 497 contact lens permits to eligible registered opticians in prescribing and dispensing contact lenses.

The Malaysian Optical Council is planning to strengthen the Optical Act 1991 to include regulating the optical premises and services in future.

TABLE 30
Annual Practice Certification of Opticians & Optometrist

Opticians		Total
SECTION 18 (1)	363	2,041
SECTION 18 (2)(a)	1,678	
SECTION 18 (2)(b)	-	
Optometrists		Total
SECTION 19 (1)	508	508
SECTION 19 (2)	-	
Grand Total		2,549

TELEHEALTH DIVISION

i) Life Health Record (LHR)

The ultimate aim of LHR is prompt accessibility to timely and appropriate individual health record this enabling the health care provider to make clinical decision based on individual health record.

Achievements:-

LHR Services Development

- Jan - Mac 2004 : LHR Brief of Requirements Version 1.0 completed
- Feb - Aug 2004 Documentation on enterprise wide person management

- Sept 2004 Workshop in Seberang Jaya for consensus building
- Sept 2004 LHR Expert Group established . First meeting was held on 17th September 2004
- Sept 2004 Business function & Work Process Scenario for Antenatal And Newborn Care, Child Health Care and Care of Person With Diabetes Mellitus has been developed.

Health Informatics Standard Development

- **Functional Requirement Brief**
 - Person Management System Documentation Version 1.0 completed
 - Laboratory Information System Documentation Version 1.1 completed
 - Radiology Information System Documentation Version 1.0 completed
 - Pharmacy Information System Documentation Version 1.0 completed
 - Forensic Information System Documentation Version 1.0 completed
 - Blood Transfusion Information System Documentation Version 1.0 completed
 - Oral Health (Dental) Information System Documentation completed
- **Coding Standard**
 - Laboratory Orders (Procedure coded)
 - Imaging Orders (Procedure coded)
 - Medication Orders (All formulary drugs coded)
 - Surgical Orders (Procedures coded for General Surgery/Hepatobiliary/ Vascular/ Obstetrics & Gynaecology)
 - Musculoskeletal Orders (Coding completed)
 - Ophthalmology (Coding completed)
 - Occupational Therapy (Coding completed)
 - Audiology & Speech Therapy Orders (Coding completed)
- **National Health Data Dictionary**
 - Version 1.0 of the document completed

Status as of 2004:-

LHR Services Development

- **Consultancy Services**
Term Of Reference for consultancy has been submitted to MAMPU for approval
- **Pre-implementation Planning**
Draft on LHR system framework model has been prepared. A workshop to finalise the draft is being planned.
- **Research**
Change management/ Business Process Reengineering (BPR) has been started. Mapping of Change Management activities with Gap Analysis completed. Research proposal for identifying intervention strategies based on gap analysis is being planned.

- **Pilot Project site**

Seberang Jaya Tengah & Utara has been identified as the pilot project site and operational policies for Enterprise Wide Person Management has been developed.

Health Informatics Standard Development (Work in progress)

- **Functional Requirement Brief**

- Clinical Information System
- Medical Record Information System
- Operation Theatre Management System
- Patient Billing & Account Receivable
- Catering/ Dietetic Services System

- **Coding Standard**

- Clinical Interventions Orders
- Patient Care Orders–Inpatient
- Patient care Orders–Outpatient
- Patient care Orders-Rehabilitation
- ENT Orders
- Physiotherapy
- Maxillofacial Surgery
- Dermatology
- Nephrology Orders (including haemodialysis)
- Cardiology Orders
- Cardiothoracic Orders
- Neurology Orders
- Neurosurgery Orders
- Urology Orders
- Anaesthetic Orders
- Respiratory Orders

ii) CONTINUING PROFESSIONAL DEVELOPMENT

CPD is a process of lifelong learning for all healthcare personnel (HCP) in MOH, aimed at meeting the needs of patients through best outcome while enabling the healthcare professionals to expand and fulfil their potential. The MOH's vision for CPD is to enable healthcare provider to systematically maintain and enhance their knowledge, skills and competence for effective clinical practice to meet the needs of the population.

Online CPD Services

The online CPD services shall be accessible and available to all HCPs in MOH throughout the country with the following services:-

Phase I

- a) Virtual Library
- b) Online CPD monitoring
- c) Calendar of events

Phase 2

- d) Complement competency assessment – integration with Competency Unit, Human Resource Division.
- e) Modular Distance Learning.

Virtual Library

Allowing access to sources of information located in cyberspace and accessible with the aid of computers via Internet

- Electronic Medical Journal
- CPGs, Clinical protocols, SOPs & Clinical Standards
- Electronic Textbooks,
- Related government and MOH reports
- Linkages to accredited websites

Online CPD Monitoring

Creation of system that assist the healthcare personnel on planning, recording and tracking of CPD activities. It should also facilitate the employer or supervisor to monitor healthcare personnel in MOH.

- Allow end-users to submit self-activity.
- Assist in tracking and planning of credit points of end users.
- Facilitate credit point award by verification from the appropriate CPD officers / professional bodies/ CPD providers.

Calendar of events

- Listing of CPD activities by categories.
- News Bulletin, announcements on current events relating healthcare and MOH events.

Complement competency assessment with integration with Competency Unit, Human Resource Division.

- Integration of credit points for competency assessment (PTK).
- Access to CME activities for competency assessment.
- Reference to career pathways.

Modular distance learning (MDL)

- Topics on health subjects suitable for various categories.
- Interactive sessions.

Status

Telehealth Division has been working closely with the relevant agencies identified for planning and implementation of the above services. For Virtual Library, the Telehealth Division is working with Institute of Medical Research (IMR) Library and for Online CPD services, the CPD Board and Profession Development Branch of Medical Development Division (as the CPD Secretariat). This is to ensure that the business requirement process is

Teleconsultation Services (TC) Way Forward

A paper on Teleconsultation Way Forward submitted under the Telehealth Way Forward memorandum was approved by the Cabinet on 13th October, 2004. TC services planning will be integral to specialty services development. In other words, expansion and provision of TC services will be based on needs in tandem with specialty services development.

Implementation Plan

a. MSC-MOH TC Project

TC services provided under the TC MSC Project will continue with relocation of sites by champions identified. Seven disciplines identified for TC Way Forward include radiology, traumatology & emergency care, neurosurgery, dermatology, cardiology (ECG & ECHO) and orthopaedics. Hand & Microsurgery to be included where feasible.

Communication system will be upgraded to minimum 256 kbps. Digital camera provided will be at least 5 mega pixels. All hospitals will be provided with digitiser. There will be office automation tools like Word, Excel, Spreadsheet or equivalent.

In TC Way Forward, TC services will concentrate on hospitals only. Health centres will be involved in TPC instead. Altogether, there are 38 hospitals involved. Information and Communication Technology Division (ICT) will be responsible for the maintenance and operations of all TC initiatives.

b. Expansion of TC Services By Location

A new generic TC system will be procured to provide TC services in Sabah, Labuan and Sarawak. They will be included as part of Peninsular Malaysia's networking groups to enable referrals of subspecialty cases. The existing MSC-MOH TC system in Sabah will still continue separately together with that of Peninsular Malaysia.

c. Expansion of TC Services By Discipline - Hand and Microsurgery

TC services for Hand & Microsurgery discipline has been identified as one of the service that is much needed as there is only one consultant for the whole of Malaysia. With this service, Ministry of Health will then be able to extend this expertise to the whole country effectively without the need to set up more Hand & Microsurgery Units all over the country.

This TC services will cover Hospital Selayang, Hospital Tengku Ampuan Rahimah (Klang), Hospital Tengku Ampuan Afzan (Kuantan) and Hospital Sultanah Aminah (Johor Bharu).

d. Tele-primary Care (TPC)

TPC will continue as a model. Roll-out of TPC will be based on evaluation conducted after pilot project implementation.

e. TC Services Evaluation

- a. Evaluation of all TC initiatives is to be in line with Key Performance Indicators (KPI) identified to assess benefit realization.
- b. Needs analysis with user involvement to be conducted to determine the priorities for expansion.
- c. Teleconsultation will now be part of specialist service

Issues, discussions and recommendations

Lessons Learnt from TC Project:

- a. High staff turn-over rate may be due to lack of support from the top managerial/ departmental heads who may not see the need for stability of personnel to ensure competency in managing the TC services; Job description for TC Coordinators was not clearly specified/ standardized.
- b. TC facility was not easily accessible to end-users.
- c. Late dissemination of protocols developed by consensus impeded implementation strategies at the local level.
- d. Inadequate contact with Telemedicine Core Team contributed to poor clarity in role and responsibility
- e. Inadequate clinical leadership available to be trained to provide front line motivating role.
- f. Training given by vendor was not effective and does not appear to be useful and majority of users were unable to utilize the system independently.
- g. Inadequate BPR and Change management program.
- h. Loss of knowledge as TC Project concession has already ended more than 1 year ago.
- i. Poor selection of output sites impaired successful implementation.
- j. Equipment provided is inadequate for effective TC activities.
- k. LAN not available for the hub to function effectively. in Sabah will still continue separately together with that of Peninsular Malaysia.

RESEARCH AND TECHNOLOGY SUPPORT PROGRAMME

5

Health Planning & Development

INTRODUCTION

The Planning and Development activity is one of the four activities under the Research and Technical Support Programme. The Planning and Development activity supports the Ministry of Health, as well as the health sector in health planning and development, including the provision of health information. The Planning and Development Division has three core businesses namely:

- i) To formulate, review and evaluate the 5-year health plan for the Ministry of Health.
- ii) To plan, implement, monitor, commissioning and evaluate health facilities for the Ministry of Health.
- iii) To provide timely and accurate health information for the health sector and health related agencies.

OBJECTIVES

The objectives of the Eighth Malaysia Plan (2001-2005) are :

- i) To ensure priority consideration of equity of access to health services in terms of geographical costs, comprehensiveness and continuity of care.
- ii) To ensure attainment of quality care through availability of trained personnel, appropriate technology, optimal resources and acceptable standards of practice. To maintain and improve their health status.
- iii) To strengthened the Primary Health Care approach in delivery of health care through health promotion, prevention, curative and rehabilitative services.

- iv) To provide high quality and comprehensive medical care services, with a continuum of care from acute to rehabilitative, using appropriate technologies to improve health outcomes.
- v) To strengthened inter-agency and intra-agency coordination, cooperation and sharing of resources, including information, etc.

ACTIVITIES AND ACHIEVEMENTS IN 2004

PLAN FORMULATION AND EVALUATION

Evaluation Of The Health Plan (Eighth Malaysia Plan)

The Ministry of Health, through the Planning and Development Activity has successful formulated the health sector plan for the Eighth Malaysia Plan (2001 – 2005) in year 2000. Preparation of the evaluation activities done towards end of 2003 and the Evaluation of Eighth Malaysia Plan (8th MP) was done with work together with WHO Consultant in 2004.

The objectives of evaluation are to evaluate the public health sector system overall performance and evaluate the process of planning which was applied in developing health plan in 8th MP. It had 2 session of consultation. The first session (January 2005) is to identify the type and sets of questioner and distributed out (May 2005) to managers at all level of Ministry of Health. The second session (July 2005) is to analyze the feedback and do a report. Outcomes of evaluation of 8th MP were used as a guide or direction in preparing the health plan of 9th MP.

Preparation Of Health Plan For Ninth Malaysia Plan

The Ministry of Health, through the Planning and Development Activity has started to formulate the health sector plan for the Ninth Malaysia Plan (2006 – 2010) in early year 2004. The active preparation started from August 2004 onwards. Methodology of the planning of 9th MP was identified and implemented.

Every MOH Programme and Activity including the Planning and Development Activity had the opportunity to re-look at their related health issues, achievements and shortfall of policies, strategies and plan of action as well as targets and prepared their respective achievements reports. The Planning and Development activity reports as well as the Research and Technical Support Reports were prepared by the Planning and Development Division. Beside that, Planning and Development Division also preparing the Country of Health Situational Analysis, report achievements of Policy Statements of the Third Outline Perspective Plan (2001 – 2010) and 8th MP. Further actions were carry forward to year 2005.

National Health Policy

The latest version of National Health Policy (NHP) was presented to Minister of Health on 14 April 2004. He advised to add another two policies namely, Mental Health Policy and Men's Health Policy to include in main document of NHP. Towards end of year 2004,

decision done to consolidate the NHP. Draft TOR to consolidate the Draft NHP prepared at the end of year 2004 for further action.

National Health Care Financing Mechanism

Currently, the Ministry of Health Malaysia and the Economic Planning Unit have studied various models of health care financing which could be accepted and implemented in the country. The proposed health care financing mechanism must be superior to the existing system and should result in greater benefit to all stakeholders in health both in the public and the private sectors. This mechanism would target to improve access, equity, quality, efficiency for the public as well as to improve the integration within the healthcare system. It must be in line with the Vision for Health and the National Vision Policy and the Vision 2020.

In 2004, the Ministry of Health (MOH) has continued participating or conducting various forums, seminars, discussions, dialogues and meetings involving both the public and private sectors, to plan for an appropriate, viable and acceptable national health care financing mechanism for the country. These venues were used to disseminate information on the principles of the proposed health care financing mechanism for the country, as part of the awareness and sensitization process, whilst at the same time obtain further input and feedback. To intensify this effort the MOH has published two articles related to the national health care financing mechanism in 2004, which are 'Towards a Universal and Comprehensive Health Care Coverage for Malaysian' in the Malaysian Journal of Public Health Medicine and 'Developing the Malaysian Health System to Meet the Challenges of the Future' in the Medical Journal of Malaysia. The concept and principles of the proposed national health care financing mechanism was presented to top government officers. The proposal was agreed upon in principles. It was also suggested that consultant(s) be appointed to assist in its implementation.

The analysis of the 'case mix study' (funded under the Intensified Research in Priority Areas – IRPA), which was jointly undertaken by the Economic Planning Unit, University Malaya, Universiti Kebangsaan Malaysia, University Science of Malaysia and the Ministry of Health was intensified in 2003 and 2004. The Ministry of Health is now piloting the case mix system in Ipoh, Seremban, Kajang, Kota Bahru, Kuching, Kota Kinabalu and Klang Hospitals following which, there would be further refinement of the project before it is implemented in other MOH hospitals. In 2002, the Hospital Universiti Kebangsaan Malaysia (HUKM) implemented the casemix based on Diagnosis Related Group (DRG), thereby making HUKM the first hospital in Malaysia to implement DRG. The Planning and Development Division is a member of the Casemix Team of HUKM.

The Economic Planning Unit has agreed with the terms of reference for the study commissioned in 2001, to develop the Malaysian National Health Accounts (MNHA). The study is ongoing and the results are expected to be ready in 2005. Upon completion, it is planned that the Malaysian National Health Accounts be institutionalized in the Planning and Development Division of the Ministry of Health. This movement was consented and agreed upon by the EPU and the Technical Committee for MNHA. However, data on health expenditure obtained from the MNHA would have to be coordinated and integrated with data from the Department of Statistics.

The Planning and Development Division is also involved in providing technical input to other MOH Divisions in matters pertaining to the Private Fees Schedule, Managed Care Organization (MCO) and globalization and liberalization of health industries.

HEALTH MANAGEMENT INFORMATION SYSTEM (HMIS)

Health Management Information System is needed to provide data and information to enhance and facilitate evidence- based planning, management and decision making.

The current HMIS reporting system allows for the production of reports as specified by the program heads as collected in a specific formats. It does not capture the whole health sector performance.

Formats for data collection for Medical Care Information System, Family Health Information System and Oral Health Information System were reviewed to fulfill the requirements of data capture for the expanded and upgraded services. Similarly, in conjunction with the National Blood Services Centre and the pathologist from various hospitals, a new reporting format has been developed in 2003 for use in the Blood Transfusion Services for the country. The software application for inpatient and Communicable Disease Control Information System (CDCIS) were updated in 2004

Formats of data collection from private hospitals were also review and discussions with relevant division were made to cater their needs.

Several HMIS reports and annual publications have been produced in 2004 such as:

- MOH Annual Reports - Year 2003
- Indicators for Monitoring and Evaluation for Strategy for Health For All, Year 2002.
- Health Facts, Year 2003
- HMIS report by programmes Year 2003

PROJECT AND EQUIPMENT PLANNING

Development of Health Facilities

In 2004, MOH received RM 2.643 billion under the development budget to implement 276 projects (Table 1,2 and 3). For the past 2 years more than half of the new hospital projects identified to be implemented in the 8th MP have been implemented. In 2004, most of these projects were at the stage of detailed design development ie. room data, ironmongeries, signages, security system etc. which require our active participation. Concurrently, construction activities done on site were monitored to ensure they were carried out in a coordinated manner and meet the required standards and functions. 9 new hospital projects were at the early planning stage where situational analysis were done to identify the detailed project scope. Besides that, 17 hospitals have been successfully completed and handed over to MOH by 2004 (Table 4).

Rural health facility projects (new and upgrading) ie. urban health clinics, rural health clinics, health offices, staff accommodation etc. have been given greater emphasis in the 8th MP where a total of 107 rural and 84 urban health projects were successfully implemented by the year 2004 (Table 5, 6 and 7). As one of the priorities for the 8th MP is training, a total of 25 projects of various types for manpower training have been completed up till 2004 (Table 8)

Equipment Planning

Being the mid year of the 8th MP, 2004 was a very hectic year for the division as all projects that have been identified were being actively implemented. Equipment planning activities were emphasized to ensure equipment and technology supplied to the projects matched the requirement of the hospital through intensive interactive consultation with the end users, implementing agencies, medical planners, medical equipment planners and contractors. Special efforts were also made to ensure equipment supplied met the advancement of medical technology and ICT. With new 'business process reengineering' certain equipment requirements had to be reviewed to address the new requirements without affecting the cash flow requirements and implementation schedule of the project.

Masterplanning and Upgrading of Existing Hospitals

The 9 upgrading projects that were previously financed under Loan ADB 980 MAL are now financed using local funding. The initial allocation approved for implementing the Masterplanning and Upgrading for existing hospitals for the year 2003 amounted to RM20 millions. Additional allocation of RM22 millions was approved and received to supplement the increasing amount of expenditure. A dummy warrant amounting to RM 6 millions was issued late in 2003 following authorization from Federal Treasury to over commit. Approximately RM 45,954,998.14 that is 104.65% of the total initial allocation (excluding the dummy allocation) was successfully spent in the year 2003.

Construction packages undertaken during 2004 include Daycare and Haemodialysis Centre (Hospital Seremban), Labour and Delivery Centre and First Class Ward (Hospital Sultanah Aminah, Johor Bahru), Kitchen Block (Hospital Umum Sarawak), Clinical Services Block and 6 Storey Ward Block (Hospital Kangar), 6 Storey Ward Block (Hospital Taiping) and Pharmacy Block (Hospital Muar).

EXTERNAL LOANS AND FINANCING

Islamic Development Bank Loan No. 0070-MA

Short term financing for equipment amounting to USD 25 m was successfully negotiated and signed on 8 March 1999. It came into effect in April 1999. Major equipment, including MRIs, CT Scans, lithotripters and equipment for the Emergency units are in the process of being bought for existing hospitals around the country. The project is expected to be completed in late 2001, However IDB has agreed to extend the financing period up till 30th June 2004.

Up until the end of 2003, RM 75,044,540.58 confirmed payments has been processed under this financing. The remaining payments that amounting to RM 3,009,239.25 are still awaiting debit advice, while another small amount of 7,250.00 has not yet been processed.

Islamic Development Bank Financing No. 2-MA-0088

An application for a second tranche of financing amounting to USD 28 m was submitted to the Economic Planning Unit for consideration. The agreement pertaining to the application (IDB 2-MA-0088) has been signed on 25 March 2003 and has been declared effective since April 2003. Several projects related to the replacement and upgrading of diagnostic imaging and intensive care equipment have been identified for various hospitals. Site visits to a number of hospitals have been arranged to inspect and ensure the condition of the sites match the suitability of the equipment to be installed. Technical specifications for the aforementioned equipment have been conducted throughout year 2003. In addition, preparation of tender documents had been initiated and a number of tenders are expected to be released early 2004.

TABLE 1
Health Facility Project and Development for 8th MP

Project Detail	Facilities	Number of Projects	Allocation (RM'000)	Percentage Allocation
001	Training	47	336,490	3.54
002	Public Health	1,066	1,445,053	15.21
003	Upgrading of Hospital Facilities	286	2,330,165	24.53
004	Hospitals	37	5,118,292	53.88
005	Consultancy & Feasibility Studies	2	30,000	0.32
006	Upgrading and Maintenance	1	180,000	1.89
007	Procurement and Land Maintenances	4	60,000	0.63
	Total	1,443	9,500,000	100.00

Source : Planning and Development Divison, MOH

TABLE 2
Seventh and Eighth Malaysia Plan Development Expenditure Performance

Year	Allocation (RM)	Expenditure (RM)	Percentage Expenditure
1996	544,644,000	449,979,952	82.62
1997	566,967,300	488,583,929	79.10
1998	730,198,222	716,229,385	97.70
1999	900,000,010	835,426,034	92.80
2000	1,289,858,000	1,271,073,746	98.61
2001	1,220,146,000	1,569,959,407	128.66
2002	1,415,253,000	1,715,253,000	121.19
2003	1,990,170,000	2,691,430,000	135.23
2004	2,642,883,000	2,333,404,054	88.29

Source : Planning and Development Division, MOH

TABLE 3
Allocations and Projects in the Year 2004

Project Detail	Facility	No. of Projects	Initial Allocation (RM'000)	%	Final Allocation (RM'000)	%	Addition (RM'000)(+or-)
001	Training	26	61,182,000	2.31	63,182,000	2.39	2,000,000
002	Public Health	148	366,671,700	13.87	318,671,700	12.06	-48,000,000
003	Hospital Facilities	60	680,579,300	25.75	580,579,300	21.97	-100,000,000
004	Hospital	35	1,476,450,000	55.86	1,616,450,000	61.16	140,000,000
005	Consultancy & Feasibility Study	2	10,000,000	0.38	10,000,000	0.38	0
006	Upgrading & Maintenance	1	40,000,000	1.51	40,000,000	1.51	0
007	Procurement and Land Maintenance	4	8,000,000	0.30	14,000,000	0.53	6,000,000
	Total	276	2,642,883,000	100	2,642,883,000	100	

Source : Planning and Development Division, MOH

TABLE 4
Status of Hospital Project till December 2004

A.	Planning Stage	State
1.	Psikitric Hospital (Aman Jaya)	Kedah
2.	Shah Alam Hospital	Selangor
3.	Rehabilitation Hospital Cheras	Federal Territory
4.	Woman and Children Hospital	Federal Territory
5.	Rompin Hospital	Pahang
6.	Lawas Hospital	Sarawak
7.	Sri Aman Hospital	Sarawak
8.	Belaga Hospital	Sarawak
9.	Nabawan Hospital	Sabah
B.	Award Stage	
1.	Kluang (New) Hospital	Johore
2.	Psikitric, Tampoi, Johor Hospital	Johore

C.	Construction Stage	
1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	Sg. Petani (New) Hospital Alor Setar (New) Hospital Ampang Hospital Sg. Buloh Hospital Jempol Hospital Cameron Highlands Hospital Pekan Hospital Temerloh Hospital Sarikei (New) Hospital Sabah Medical Centre (SMC)	Kedah Kedah Selangor Selangor Negeri Sembilan Pahang Pahang Pahang Sarawak Sabah
D.	Completed	
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17.	Kepala Batas Hospital Slim River Hospital Selayang Hospital Serdang Hospital Jasin Hospital Pandan Hospital Setiu Hospital Jeli Hospital Muadzam Shah Hospital Dalat Hospital Bintulu Hospital Keningau Hospital Lahad Datu Hospital Kinabatangan Hospital Pitas Hospital Kunak Hospital Kuala Penyu Hospital	Pulau Pinang Perak Selangor Selangor Melaka Johore Terengganu Kelantan Pahang Sarawak Sarawak Sabah Sabah Sabah Sabah Sabah Sabah

Source : Planning and Development Division, MOH

TABLE 5
Achievements of Rural Health Services Projects in 2004

Type of Facility	Total Project (8MP)	Total Project (2004)	Achievement in 2004			
			Tender	Construction	Completed	Others*
Health Clinic/ Community Clinic/ Polyclinics/ New Rural Clinic	230	37	-	3	31	3
Quarters/ Upgrading Rural Clinic (MCQ)	345	40	-	-	37	3
Quarters/ Upgrading Health Clinic (Add. Quarters/ X-Ray and others)	110	25	-	14	10	1
Alternative Birthing Center (ABC)	10	1	-	-	1	-
District Health	13	4	-	-	4	-
Total	708	107	-	17	83	7

*Planning

Source : Planning and Development Division, MOH

TABLE 6
Achievements of Urban Health Services Projects in 2004

Type of Facility	Total Project (8MP)	Total Project (2004)	Achievement in 2004			
			Tender	Construction	Completed	Others*
Health Clinic / Community Polyclinics	156	35	-	3	25	7
Wards	57	9	-	2	7	
Upgrading Hospital Treatment	137	21	-	7	12	2
Hospital Quarters	63	15	-	2	12	1
Ambulatory Care	8	4	-	2	2	-
Low Risk Birthing Centre	1	-	-	-	-	-
Total	422	84	-	16	58	10

*Planning

Source : Planning and Development Division, MOH

TABLE 7
Achievements of Dental Services Projects in 2004

Type of Facility	Total Project (8MP)	Total Project (2004)	Achievement in 2004			
			Tender	Construction	Completed	Others*
Dental Clinic and Mobile Clinics(BP 201 & 203)	199	7	-	4	1	2
Total	199	7	-	4	1	2

*Planning

Source : Planning and Development Division, MOH

TABLE 8
Achievements of Manpower Training Projects in 2004

Type of Facility	Total Project (8MP)	Total Project (2004)	Achievement in 2004			
			Tender	Construction	Completed	Others*
Nurses Training School	13	4	-	-	2	2
Rural Health Training School	2	1	-	-	-	1
Community Nurse's Training School	6	2	-	-	-	2
On-call Complex	5	3	-	2	1	-
Allied Health Professional Collage	9	3	-	1	2	-
Medical Assistant's Training School	2	1	-	-	-	1
Others	10	11	2	-	3	6
Total	47	25	2	3	8	12

* Planning

Source : Planning and Development Division, MOH

Pharmaceutical Services

INTRODUCTION



The Pharmaceutical Services Division (PSD) is a division under the Research and Technical Support Program (P&ST) of the Ministry of Health Malaysia (MOH). The main responsibility of the PSD is to ensure that pharmaceuticals and healthcare products available to the Malaysian public are safe, efficacious, and of good quality; to achieve definite outcomes and improve quality of life. This division is headed by a director and assisted by the director of the National Pharmaceutical Control Laboratory, and two deputy directors responsible for the Pharmaceutical Enforcement Branch and Pharmaceutical Care Management, respectively. There are three main subdivisions within the Pharmaceutical Services Division, namely the National Pharmaceutical Control Bureau, Pharmaceutical Enforcement Branch and Pharmaceutical Care Management.

PROGRAMME RESOURCES

i) Organisational Restructuring

The PSD has created new portfolios for Grade U48 Pharmacists to strengthen planning activities, policy management and services implementation. There are currently 10 new and existing portfolios for Pharmaceutical Care Management and 7 for Pharmaceutical Enforcement Branch. There are 40 professional personnel and 27 administrative and non-professional staffs at the PSD.

ii) Increase in Pharmacy Personnel

The shortage of Pharmacists and Pharmacy Assistants in 2004 has jeopardised the pharmacy services at hospitals and health clinics in terms of optimising the existing services, expanding and developing its services to the level of services available in

developed countries.

The same drawback was also affecting the enforcement and regulatory activities, which encountered pressure in coping up with the rapid development in the pharmaceutical industry and trade. Several steps to overcome the shortage have been taken by the PSD, which include:

- Introduction of compulsory service in the public sector whereby the amendment to the regulation to the Registration of Pharmacists Act 1951 (Amendment 2003) was approved by the Minister of Health and was enforced on 02/09/2004.
- Request for an additional quota for reemployment of retired Pharmacy Assistants on contract basis.
- Recognition in the Diploma in Pharmacy Assistant / Pharmacy accorded to graduates from The Mara University of Technology and The Perak Medical College, to facilitate employment into public service.
- Proposal to recruit Indonesian Pharmacists to work in Malaysia as Pharmacy Assistants on contractual basis.

iii) Promotion

A group of 107 pharmacists has been promoted to grade U48, and 19 Pharmacy Assistants have been promoted to grades U32 and 10 to grade U36. Table 1 and 2 show the number of posts for grades U41 to VU6 for pharmacists and U29 to U40 for Pharmacy Assistants.

TABLE 1
Total Number of Posts for Pharmacists

Grade	2001	2002	2003	2004
U41	569	849	972	980
U44	-	-	-	58
U48	68	97	113	180
U52	-	-	-	21
U54	13	13	13	13
VU 7	3	3	3	4
VU 6	1	1	1	1

TABLE 2
Total Number of Posts for Pharmacy Assistants

Grade	2001	2002	2003	2004
U29	2199	2319	2407	2447
U32	201	245	277	248
U36	33	41	47	51
U38	-	-	5	9
U40	-	-	-	1

ACTIVITIES AND ACHIEVEMENTS

REGULATORY CONTROL OF PHARMACEUTICAL

Pharmaceutical Product Quality Assurance

This activity is responsible for ensuring safety, efficacy and quality of drugs; safety and quality of traditional medicines and cosmetics marketed locally. Samples for testing in National Pharmaceutical Control Bureau (NPCB) laboratories are either samples for registration, surveillance or enforcement activities. A total of 4,266 samples were tested in the year 2004. Statistics related to the tests is as shown in Figure 1.

Until the end of the year 2004 a total of 77,939 products were registered. The statistics for product registration are as shown in Table 3 and 4. A total of 34,099 applications were received for the year 2004 which is an increase of 21% compared to the year before (28,177 for year 2003). The bulk of the application is for cosmetics registration which is 89.8%, followed by traditional medicines 6.5%; OTC products 2.1% and prescription drugs 1.6%. All categories of product show an increase in number of applications compared to the year before. Total revenue collected by NPCB is as shown in Table 5.

NPCB publishes the Drug Control Authority (DCA) Newsletter, Drug Information Circular and MADRAC Newsletter to disseminate drug information and drug regulatory matters to healthcare professionals and those in the industry. Drug Monograph is no longer published since drug information can be accessed through the internet and that drug information is always subjected to changes. The Drug Information and Communication unit at the Centre for Organizational Development received 1,489 enquiries throughout last year through e-mail, telephone, fax and correspondence.

The quality of drugs in the market is monitored by NPCB through surveillance activities. A total of 2,793 samples of registered products has been taken for this purpose and this represented 11.36% of the targeted number of registered products, that is 24,587 products. A total of 1,792 labels and package inserts have been checked and 140 warning letters have been issued.

FIGURE 1
Type Of Samples Tested

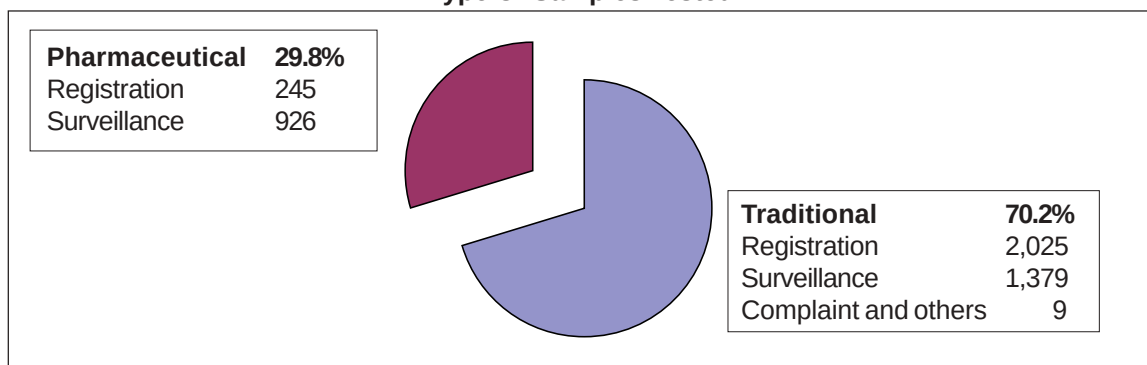


TABLE 3
Application for Registration from 1985 to 2004

Year	Poison	Non-Poison	Traditional Medicine	Cosmetis	Total	
					Annually	Commulative
1985	9	0	-	-	9	9
1986	6,439	-	-	-	6,439	6,448
1987	824	56	-	-	880	7,328
1988	702	2,532	-	-	3,234	10,562
1989	664	2,750	-	-	3,414	13,976
1990	528	597	-	-	1,125	15,101
1991	481	305	-	42	828	15,929
1992	150	60	3,973	145	4,328	20,257
1993	376	111	7,059	51	7,597	27,854
1994	400	168	4,080	31	4,679	32,533
1995	440	239	288	58	1,025	33,558
1996	617	671	415	130	1,833	35,391
1997	532	635	668	123	1,958	37,349
1998	587	606	938	277	2,408	39,757
1999	796	789	1,347	610	3,542	43,299
2000	427	444	1,523	262	2,656	45,955
2001	578	487	1,154	150	2,369	48,324
2002	509	448	1,603	214	2,774	51,098
2003	263	266	1,471	26,177	28,177	79,275
2004	529	720	2,220	30,630	34,099	113,374
Total	15,851	11,884	26,739	58,900	113,374	

TABLE 4
Cumulative Products Registered

Year	Poison	Non-Poison	Traditional Medicines	Cosmetic	Total
1991	5,332	3,331	-	-	8,663
1992	5,862	3,743	-	14	9,619
1993	6,131	3,867	5	109	10,112
1994	6,444	3,954	57	149	10,604
1995	6,691	4,023	339	183	11,236
1996	7,027	4,237	1,852	292	13,408
1997	7,525	4,830	4,347	476	17,178
1998	8,187	5,415	7,819	664	22,085
1999	8,792	5,942	7,966	1,235	23,935
2000	8,813	6,072	8,550	1,467	24,902
2001	8,993	6,696	9,894	1,776	27,359
2002	9,335	6,931	10,758	1,935	28,959
2003	9,659	7,206	12,107	6,656	35,628
2004	10,012	7,432	13,077	47,418	77,939
Total	108,803	73,679	76,771	62,374	321,627

Only 5 degree 1 (within 24 hours) product recalls were issued, one for traditional medicine and 4 for OTC products. There was no degree 2 (within 72 hours) product recall for the year 2004. A total of 145 product batches were ordered to be recalled within 30 days (degree 3) which comprised of 20 prescription drugs, 8 OTC products and 117 traditional medicines. Product registration holders voluntarily recalled 29 product batches which comprised of 15 prescription drugs, 12 OTC products and 2 traditional medicines.

Throughout the year 2004 BPFK received a total of 1,665 Adverse Drug Reaction reports compared to 1,063 reports received last year. Analysis of the reports based on the reporters is as shown in Figure 2. The highest number of reports come from Hospital Kuala Lumpur and the state of Selangor. Most of the reporters are doctors working in government hospitals.

A total of 1,547 licenses were issued in year 2004. There were 227 licensed manufacturers, 456 licensed importers and 864 licensed wholesalers as shown in Figure 3. List and detail information on licensed premises can be browse via NPCB homepage at www.bpfk.gov.my. Information is updated monthly.

Organisational Restructuring

In the middle of the year 2004, the organisation of NPCB was restructured to streamline the functions of registration, quality control, GMP, post registration and organisational developments. The physical infrastructure was also upgraded. New sections and units had been set up such as Clinical Trial Regulatory Unit, Health Supplements Unit, Variation Unit, Chromatography Unit, Tissue Culture Unit and others.

On-line Product Registration

All applications for registration of pharmaceutical products, traditional medicines and cosmetics are carried out on-line with the exception of new chemical entities and biotechnology products. An **on-line task force** was set up to identify problems and issues on on-line system implementation such as problems of principal smart card holder, supplementary card, payment, on-line product classification, data privacy and other related issues. Members of this task force are officers from NPCB, Technology Innovative Resources (TIR), PhAMA and MOPI. This task force has carried out 4 meetings throughout the year 2004.

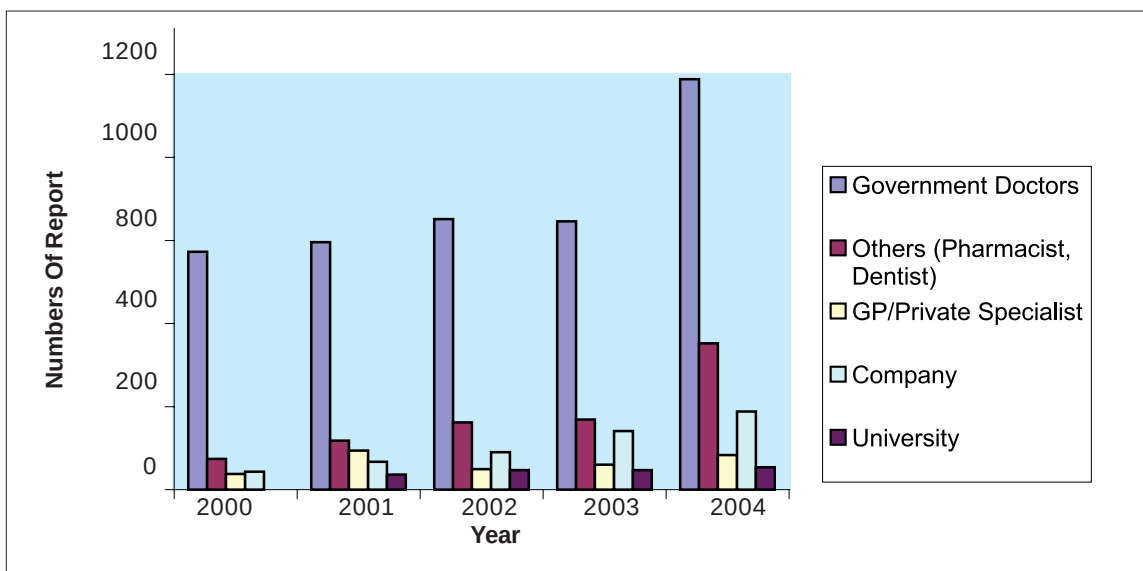
Guidelines Review

A new guideline for registration of pharmaceutical products known as Drug Registration Guidance Document was implemented in April 2004. With this effect, the existing guideline (1993 edition) and the guideline for Registration of Traditional Medicines 1998 are no longer applicable. Other guidelines available are Cosmetic registration guideline and guideline for application for Clinical Trial Import Licence.

TABLE 5
NPCB Revenues (RM) for 2004

ACTIVITIES	RM
Product registration	8,655,350.00
Certificate of Pharmaceutical Products	181,900.00
Import Licence & Import Licence for Clinikal Trials	360,500.50
Manufacturer's Licence	278,200.00
Wholesaler's Licence	423,500.00
GMP inspection	81,295.00
Laboratory Services	342,882.00
Printed Materials Sales	16,055.50
Other Sales	67,874.64
Total	10,407,557.64

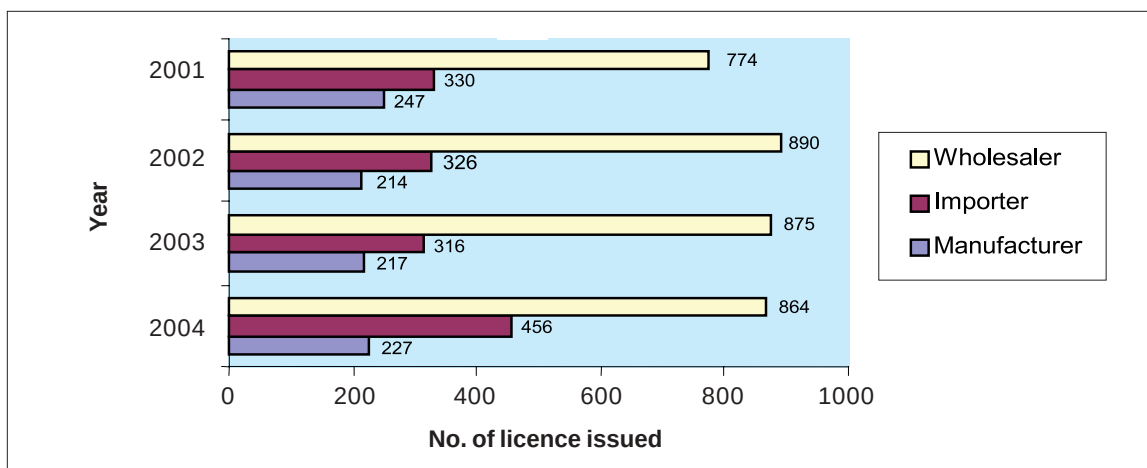
FIGURE 2
Analysis of ADR Reports by Reporters



Hologram Security Device Implementation

The DCA in August 2004 has decided to enforce the use of hologram security device for all registered products including over the counter products (OTC), natural products and health supplements with effect from 1st May 2005. Products exempted from this ruling are cosmetics, vaccines and biologicals. The purpose for this implementation is to greatly minimise the presence of counterfeit, false and unregistered products in the market whether the product is manufactured locally or imported for sale in Malaysia, for the well being of the consumers.

FIGURE 3
Total Number Of Licence Issued



International Involvement

The NPCB is actively involved in the harmonization efforts through the ASEAN Consultative Committee for Standards and Quality (ACCSQ) Pharmaceutical Product Working Group (PPWG), ASEAN Cosmetic Committee (ACC) and Traditional Medicines and Health Supplements Product Working Group (PWGTMHS). Other international involvements include facilitating the fast track ASEAN healthcare integration and EC-ASEAN Economic Cooperation on Quality, Standards and Conformity Assessments; Technical Meetings and initiation of Bilateral Arrangements with ASEAN member countries. The NPCB collaborated with the WHO and PIC/S in conducting GMP training and regional assessments under the EC-ASEAN Technical Cooperation Programme. Joint PIC/S GMP inspections were also conducted in Greece and Netherlands.

International Visitors and Training

As a WHO Collaborating Centre for Regulatory Control of Pharmaceuticals, the NPCB continues to provide training in pharmaceutical quality assurance and regulatory affairs to fellows from other countries. The centre recorded a total of 28 international visitors and WHO fellows from various countries namely Brunei Darussalam, China, Cuba, Fiji, Hong Kong, Mongolia, Singapore, South Africa and Vietnam. The courses provided under this program are designed specifically to cater for the needs of the individual fellows. Training is given either in Quality Control, Drug Registration, Good Manufacturing Practice and Licensing System, pharmacovigilance and post-marketing surveillance activities.

LICENSING AND ENFORCEMENT

The main activities of the Pharmacy Enforcement and Licensing Branch in Pharmacy Division of Ministry Of Health Malaysia are carried out by 11 main units, which are the Advertisement Unit, Inspection Unit, Licensing Unit, Surveillance Unit, Operation Unit (Unregistered Drugs), Operation Unit (Professional), Operation Unit (Cosmetics), Investigation Unit,

Prosecution Unit, Precursor Control Unit, and Consumer Protection Unit.

Premise Inspection

The main activities of inspections are focused on pharmaceutical trade for the purpose of issuing licences to registered pharmacists. Type A licences were issued based on the inspection reports by the Pharmacy Enforcement Officers. In 2004 the premises inspected were 4,097 as compared to 2,515 premises in 2003. The inspections done in 2004 covered 1,643 pharmaceutical premises followed by 717 premises with type B licence, 9 type D licence, 6 type E licence, 761 Sodium Hydroxide permits, 328 PBKD Licences and 633 other premises without licence (Figure 4). The inspections of premises have increased in the year 2004 as compared to the year 2003 especially in Selangor where 771 premises were inspected in 2004 as compared to 396 premises in 2003 followed by Johor with 624 premises inspected in 2004 as compared to 354 in 2003 (Figure 5).

Registered Premises Inspection

There is a slight decrease in the registered premise inspections where only 994 premises inspected in year 2004 as compared to 1,088 in year 2003. Eight-hundred and seventy-five (875) medical clinics were inspected in 2004 followed by 99 dental clinic and 20 private hospitals (Figure 6). There was an increase in inspections in several states in 2004 as compared to the previous year. In Penang 52 premises were inspected as compared to only 1; followed by Federal Territory Kuala Lumpur in 26 premises as compared to 10, Terengganu 107 compared to 85 premises and in Federal Territory Labuan 16 premises as compared to 10 premises (Figure 7)

Issuing Of Licences

i. Issuing Of Licences by the State CPF

The number of licence issued has increased dramatically from 2,887 poison licence type A in 2004 to 2,705 in 2003. There was a slight increase in the type B licence and Sodium Hydroxide permit from 1,281 and 1,668 in 2003 to 1,309 and 1,679 in 2004, respectively (Figure 8). The highest increase in the issuance of type A licences in 2004 was in Selangor whereby 891 type A licences were issued compared to 836 in 2003; followed by FTKL where 447 licences A were issued in 2004 in comparison to 403 in the year 2003. For the issuance of type B licences, the increase in the licences issued was in Johor where 181 licences were issued compared to 170 licences in the year 2003 (Figures 9).

ii. Licences Issued by the Pharmaceutical Services Division MOH

The Pharmaceutical Services Division issued import/export authorisation for Dangerous Drug and import/export authorisations for Psychotropic Substances. The import authorisations issued in 2004 has increased from 147 in 2003 to 154. The numbers of export authorisation issued in 2004 was 31 compared to only 15 in 2003. The import authorisations for Psychotropic Substances has increased from 251 in the year 2003 to 278 in 2004, an increase of 11% (Figure 10).

FIGURE 4
Premise Inspection for the year 2003 and 2004

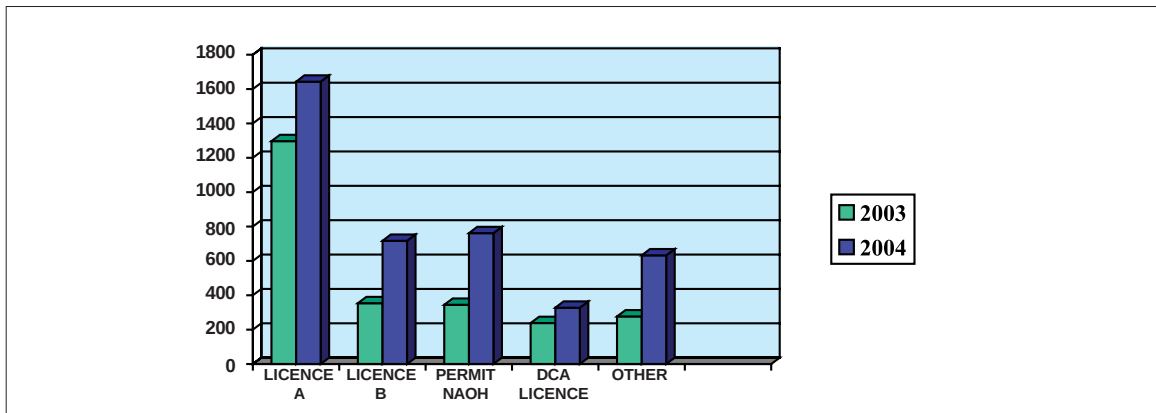


FIGURE 5
Premise Inspections by States in 2004

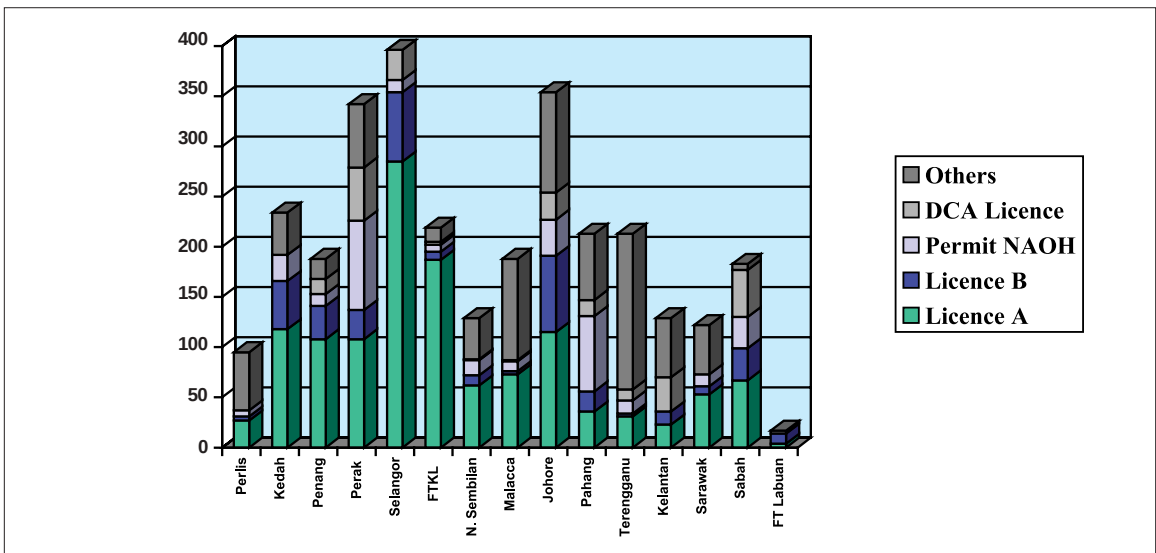


FIGURE 6
Clinics and Private Hospitals Inspections

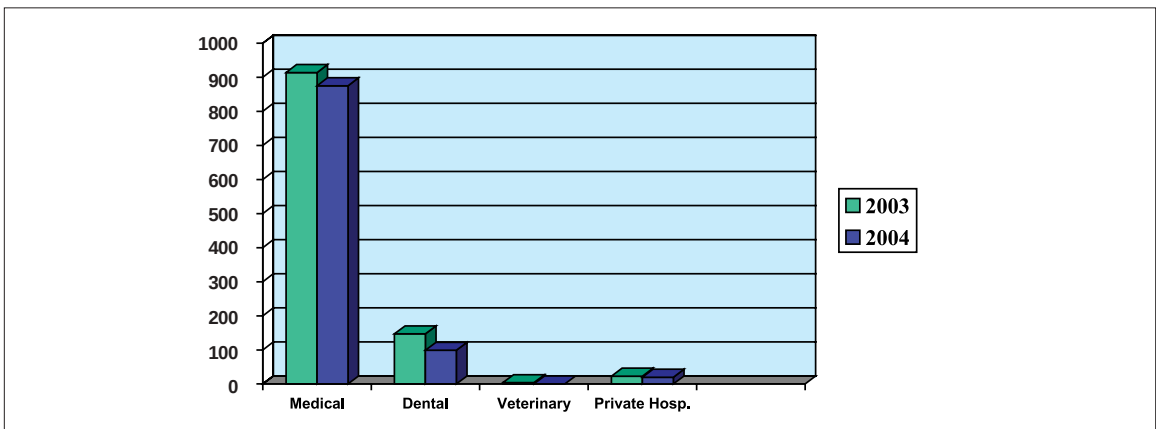


FIGURE 7
Private Clinics and Hospitals Inspections in 2004

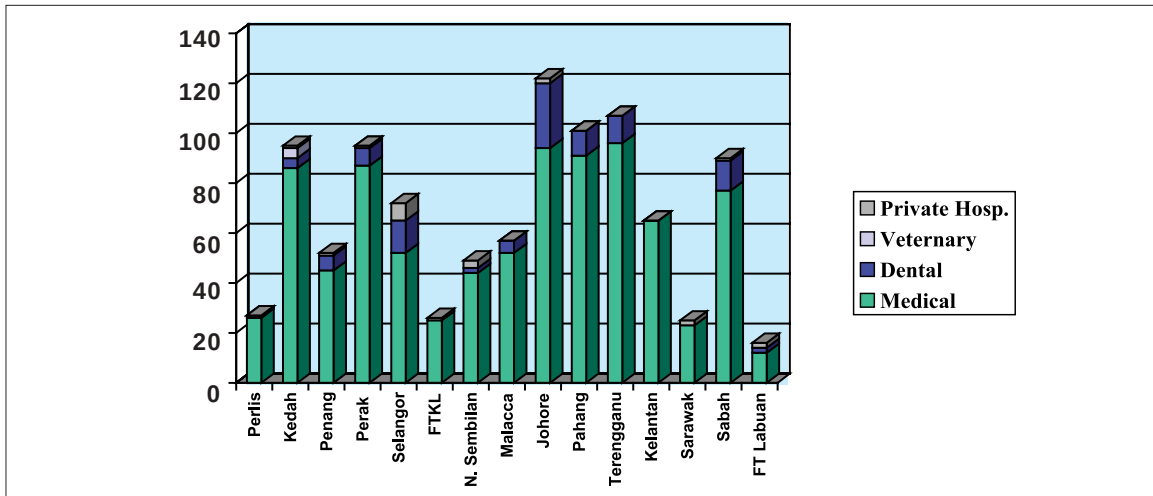


FIGURE 8
Issuing of Licence under Poison Act 1952 (Revised 1989)

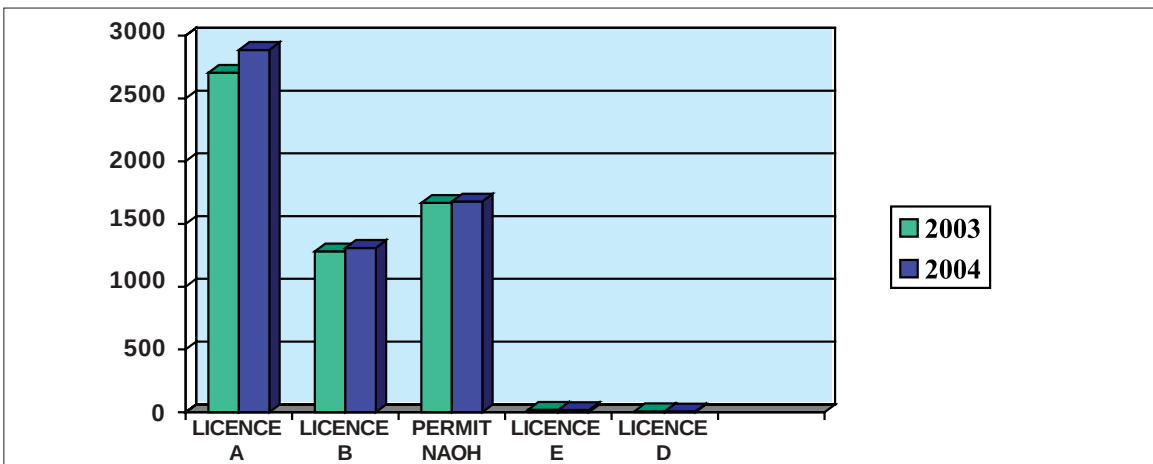


FIGURE 9
Licence Issued by State in 2004

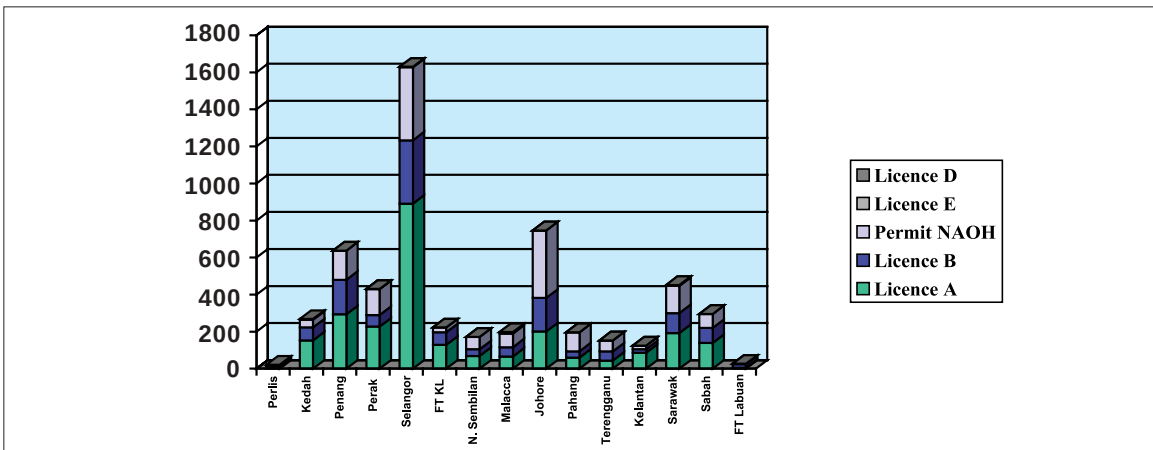
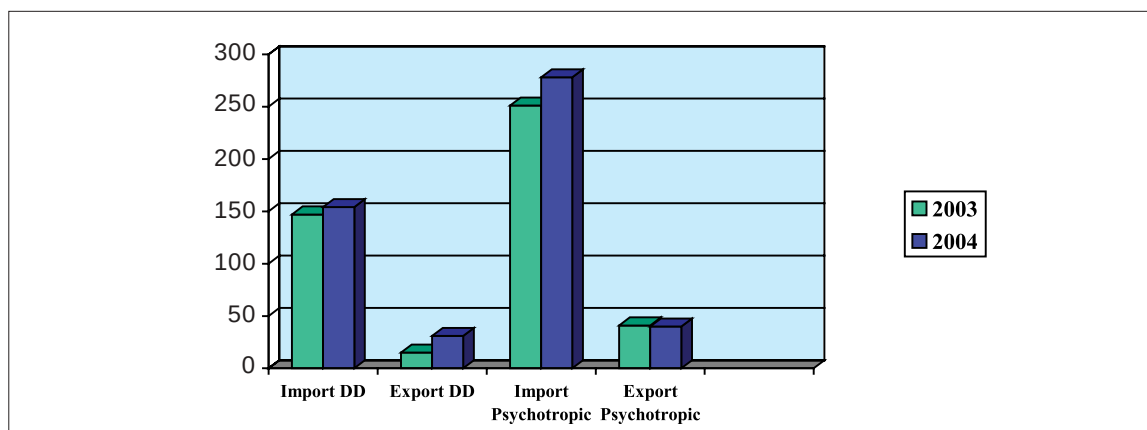


FIGURE 10
Import/Export Authorisation for Dangerous Drugs and Psychotropic Substances



Precursor Control

Export of precursor chemicals uses Pre-Export Notification (PEN) mechanism to prevent diversion of precursor for illicit market. PEN is issued to inform the importing countries regarding export of precursor chemicals under the UN Convention against illicit traffic in Narcotic Drugs and Psychotropic Substances 1988. The numbers of PEN received in 2004 was 1,676 as compared to 1,516 in the year 2003. The numbers of PEN issued for export of precursor chemicals in 2004 was 656 compared to 595 in the year 2003.

Prohibition in import/export to control the precursor is by listing them under the Custom (Prohibition on Import/Export) Order. In 2004 prohibition of import approval for precursor was 208 compared to 203 in 2003. The approval for export was 656 in 2004 compared to 595 in 2003 (Figure 11).

Surveillance

The number of surveillance conducted by all states before an operation in the year 2004 was 280 cases and this data is only collected starting from 2004 (Figure 12). Surveillance was actively done in Selangor with 46 cases followed by Kedah 38 cases and Kelantan 37 cases.

Raids

The Pharmacy Enforcement Branch was active in carrying out raids in 2004 with 13,422 items seized as compared to 7,119 items in 2003, an increase of 88.54% (Figure 13). Success of raids has increased from 86.9% in the year 2003 to 91% in 2004. The value of seizure rose from RM 7.24 million in 2003 to RM 27.3 million in 2004 (Figure 14). The value of seizure was highest in Selangor with RM 14.93 million followed by FTKL and Sarawak at RM 3.12 million and RM 2.9 million respectively.

FIGURE 11
Control of Precursor Chemicals

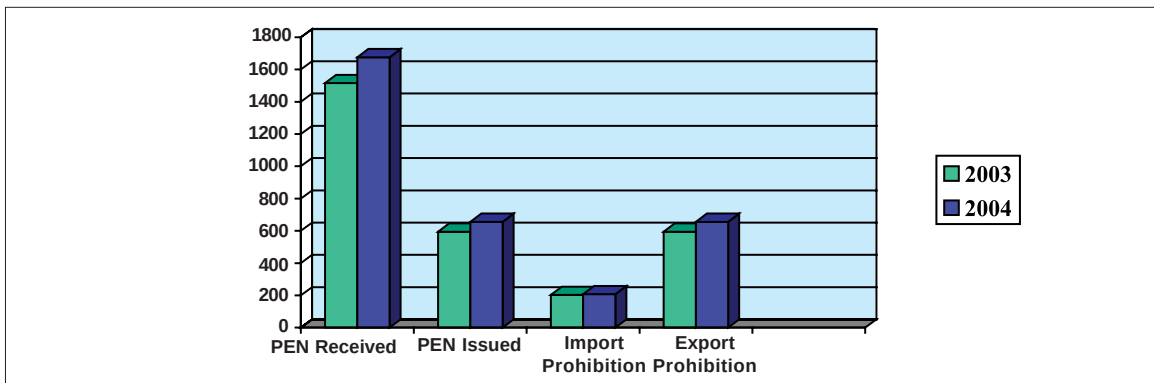


FIGURE 12
Number of Surveillance for Operations by State in 2004

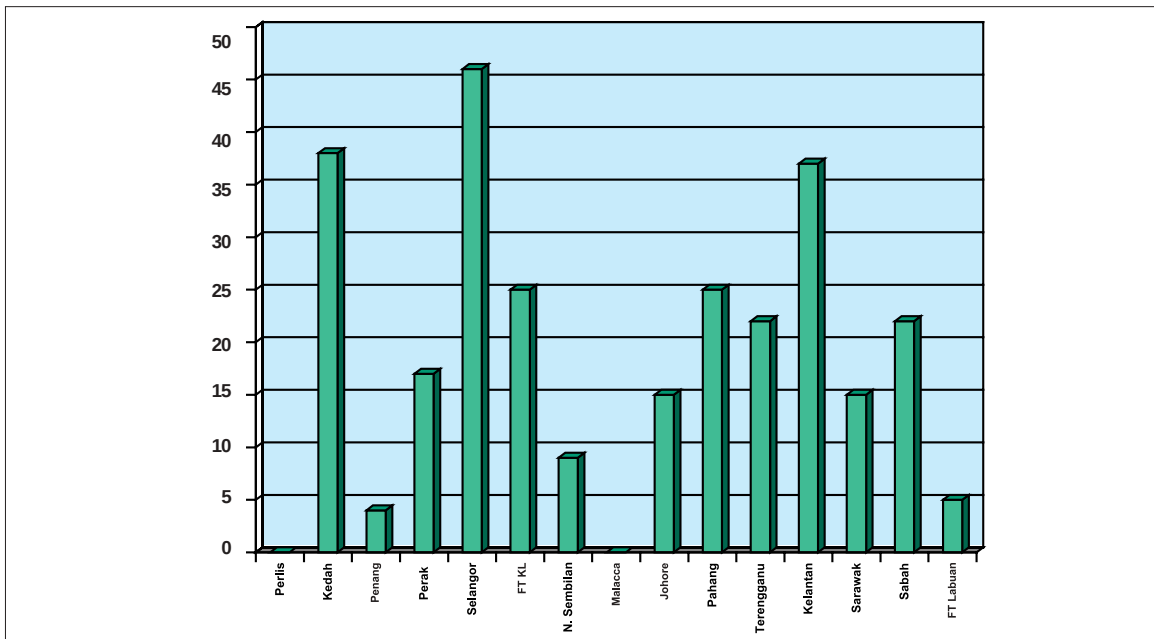
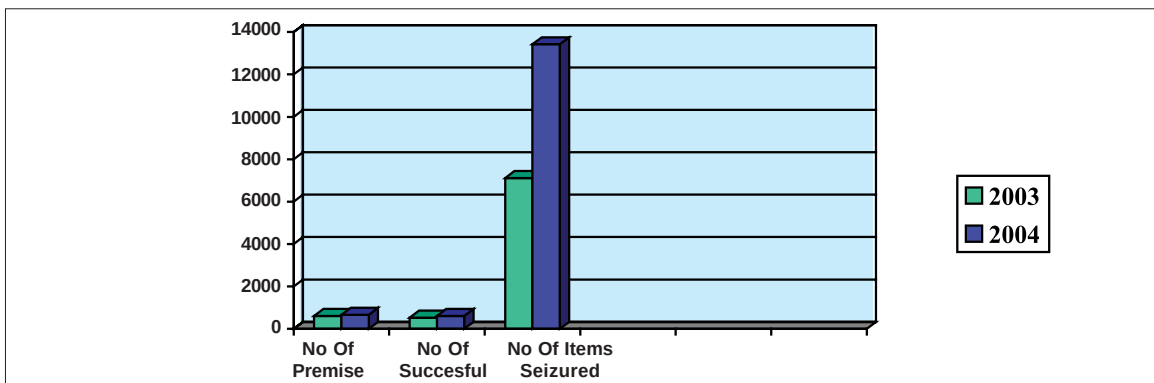


FIGURE 13
Number of Premises Raided and Items Confiscated



Seizures of Unregistered Products

The values of unregistered products seized rose tremendously in the year 2004 with value of seizures at RM 20.62 millions compared to RM 6.43 million in 2003 (Figure 15).

Prosecution

Four hundred and ninety-two (492) cases were mentioned in court for the year 2004 compared to 548 cases in 2003. The number of cases convicted was 226 in 2004 compared to 230 for 2003. However the amount of penalty collected has increased from RM606.6 thousand in 2003 to RM856.7 thousands in 2004. The highest fine collected was RM253.2 thousand in Selangor followed by RM 250.8 thousand in FT Kuala Lumpur (Figure 16).

Advertisements

The number of applications received in 2004 was 1,236 consisting of 1,129 applications for advertisement of medicines/remedies and 107 for advertisement of medical services. 'Fast Track' approval was introduced in 2004 to fasten the approval for advertisement consisting of 677 for advertisement of medicine/remedies and 74 for advertisement of medical services. Normal applications were 302 for both types of advertisements. 54 applications were rejected and 5 applications do not require approval (Figure 17).

PHARMACEUTICAL CARE MANAGEMENT

Procurement and Distribution

This Division handed the portfolio of Secretariat for the Price Negotiations Committee for the Approved Products Price List of Syarikat Pharmaniaga back to the Procurement and Privatization Division. This unit conducted 3 meetings to draw up the specifications of 60 drugs to be tendered and 5 meetings were held to evaluate tender offers for 53 drugs. The total value of drug purchases from Syarikat Pharmaniaga Logistics Sdn Bhd for the year was RM 417 million for drugs and RM 77 million for medical equipment. For these purchases, the 5 highest value drugs are shown in Table 6. The value of all drug contracts handled in 2004 were RM 320.44 million as compared to RM 205.37 million in 2003 which is an increase of 56% (Table 7).

Ministry of Health Drug Formulary

i. Drug Formulary

The Ministry of Health Drug Formulary contains a list of drugs approved for use in all hospitals/Institutions in the Ministry of Health. The Formulary is to promote rational and cost-effective use of drugs, whereby newer and effective drugs are introduced in a controlled manner to minimise wastage and funds to purchase drugs are optimally used.

FIGURE 14
Value of Seizure by State (RM thousand)

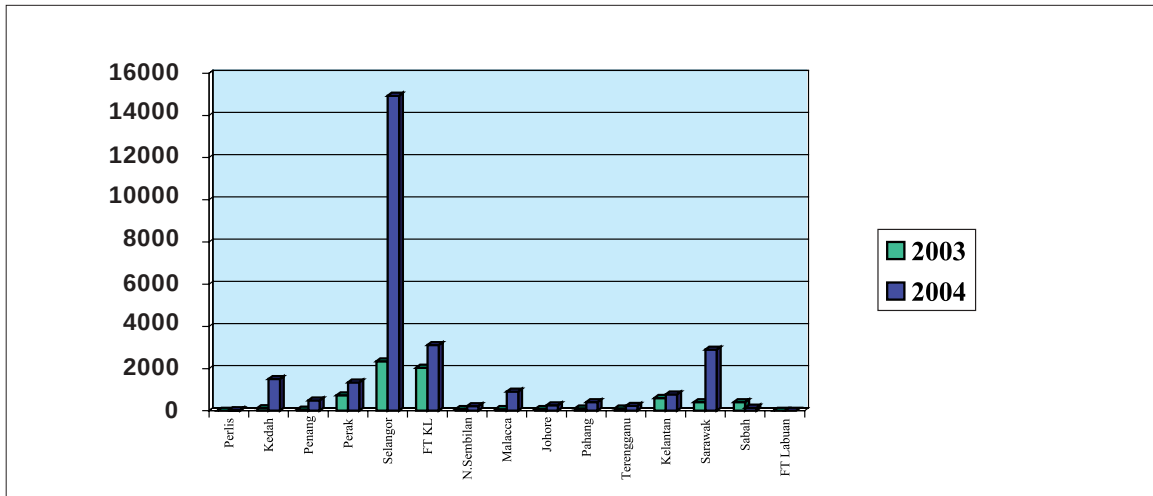


FIGURE 15
Seizure of Unregistered Products by State (RM thousand)

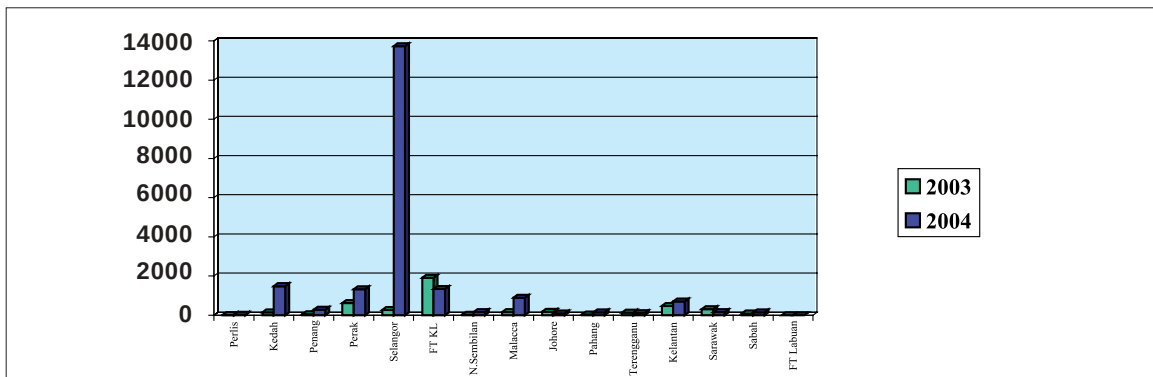


FIGURE 16
Amount of Fine Collected for Cases Prosecuted under The Poison Act 1952 and Sales of Drug Act 1952(revised 1989) in (RM thousand)

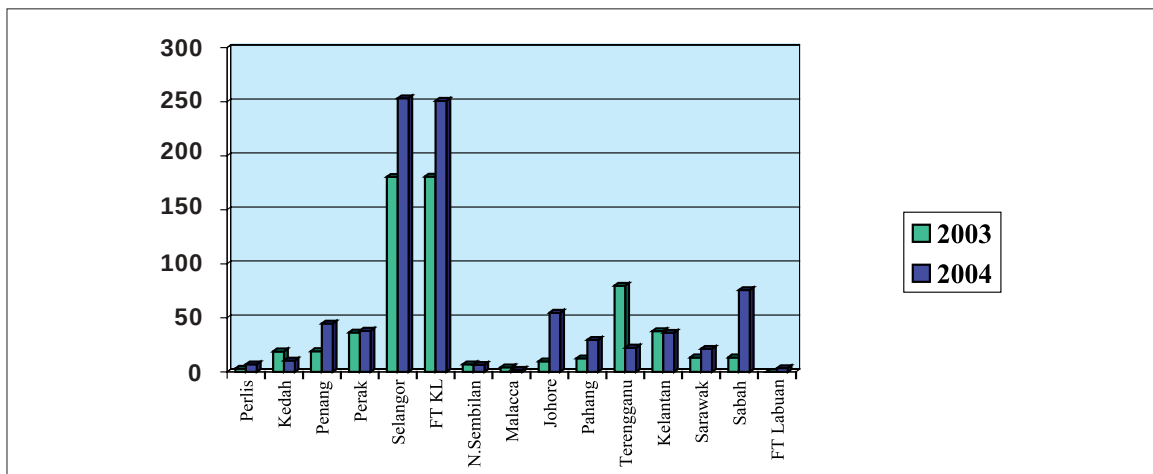


FIGURE 17
Advertisement Approval

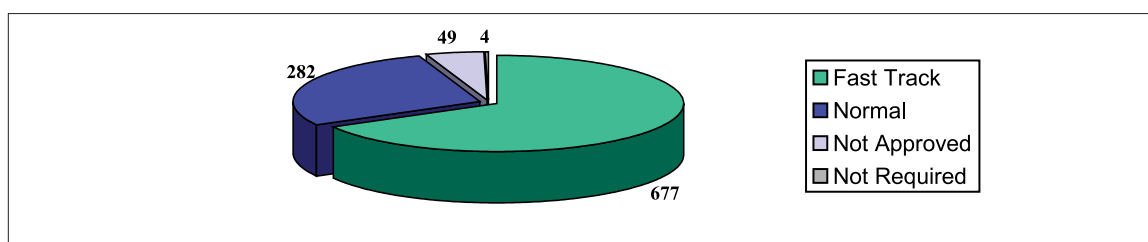


TABLE 6
Comparison of 'Highest Value Drugs' for 2003 and 2004

2003		2004	
Drug Class	Purchase Value (Million RM)	Drug Class	Purchase Value (Million RM)
Cardiovascular	70.2	Cardiovascular	77.3
Antibiotic	60.7	Antibiotic	60.7
Neuromuscular	39.4	Neuromuscular	34.0
Metabolism	38.1	Metabolism	45.0
Other Antimicrobial	21.1	Other antimicrobial	35.3

TABLE 7
Drug Expenditure

Year	2000	2001	2002	2003	2004
Expenditure (RM Million)	346.3	485.0	526.5	751.3	808.0

The Ministry of Health Drug List Review Panel that is made up of Senior Consultants and pharmacists in the Ministry of Health will review and update the drug listed in the formulary from time to time. The Panel is assisted by 16 Drug Working Committees from various specialised disciplines. This is to ensure a comprehensive, evidence-based and dynamic list of drugs is available for prevention and treatment of patients in the Ministry of Health.

In 2004, 3 meetings were held to review the Ministry of Health Drug Formulary. Applications for proposal to delete or add a drug, to change indication or formulation or category of prescribers who can start prescribing were applied in forms known as proformas. These proformas were first discussed at the Hospital Drug & Therapeutic Committee and if approved will later be discussed at the state level. It will then be sent to the secretariat at the Pharmaceutical Services Division who will process the proformas for review at the national level. (Table 8)

The Ministry of Health Drug Formulary 4th edition was printed at the end of 2004 and it contains 1,389 preparations. The interactive CD-ROM version of the Drug Formulary was also produced for distribution to the users in the Ministry of Health.

TABLE 8**Application, Approved and Deleted Drugs in Ministry Of Health Drug List from 2000 to 2004**

Year	Proforma Received	No. of Panel Meetings	No. of Circulars on Amendments	Drugs Approved		Drugs Deleted
				Proforma B	Proforma D	
2000	201	2	1	13	15	76
2001	206	2	3	26	63	3
2002	199	2	3	18	31	8
2003	270	2	3	20	23	40
2004	192	3	3	20	36	17

ii) Registered Drugs Out of The MOH Drug List

In 2004, approval for using registered drugs out of the Ministry of Health Drug Formulary was given to 501 applications which consisted of about 120 types of drugs worth RM 7,420,006 while 153 applications worth of about RM 1,544,310.29 were rejected as do not meet the criteria set by the Ministry of Health Drug List review Panel. (Table 9)

TABLE 9**Approval for Use of Registered Drugs Outside Ministry Of Health Drug List**

Year	2000	2001	2002	2003	2004	
					Approved	Rejected
Value (RM)	3,195,815	5,775,582	8,036,549	8,088,467	7,429,006	1,544,310
Types of drugs	137	170	161	160	120	82
No. of request	619	1024	929	642	501	153

Clinical Pharmacy Services

The Pharmaceutical Service of hospitals and health clinics under the Ministry of Health aims to provide comprehensive patient-centered pharmaceutical care. The activities have included the provision of clinical pharmacy services such as clinical pharmacokinetics (CPS), total parenteral nutrition (TPN), oncology pharmacy, ward pharmacy service, patient drug therapy monitoring and medication counseling.

i. Medication Counseling Service

Medication counseling through individual, discharge and group sessions is carried out by hospital pharmacists to help patients achieve intended health outcomes through good compliance as well as handling any adverse drug events that may arise from their drug use. A total of nearly 62,000 patients were counselled on their medication in 2004.

Pharmacists also actively participate in multidisciplinary group counseling sessions for asthma, diabetes mellitus, hypertension, renal, antenatal care as well cardiac rehabilitation programmes. A few major hospitals have been identified to establish pharmacists managed medication counseling/adherence clinics to provide pharmaceutical care to patients in critical areas of treatment such as asthma, renal transplant, HIV/AIDS, diabetes mellitus, coronary heart disease and others to ensure quality drug use.

ii. **Ward Pharmacy Service**

Almost all hospital pharmacies throughout the country have adopted individualized drug delivery system for in-patients by implementing the Unit-of-Use/Unit Dose System. This system of medication delivery has the advantage of providing personalised and continuous supply of medication to patients, with better compliance and reduced wastage as compared to the traditional system where the wards order drugs in large quantities and have led to overstocking and wastage.

Clinical pharmacists are now based in medical wards as well as the intensive care units of hospitals. They contribute actively in participating in ward rounds with doctors and other health-care team members. They provide drug information and consultation on medication related issues as well as conducting medication therapy monitoring and thereby aid in optimizing drug therapy and improving patient health outcomes

Specialisation in clinical pharmacy practice in the following pharmacotherapy disciplines and hospitals have been established in 2004 to improve the quality of pharmaceutical care to patients:

Respiratory Pharmacy	-	Hospital Malacca
Critical Care Pharmacy	-	Hospital Kuala Terengganu
	-	Hospital Selayang
	-	Hospital Kuala Lumpur
Cardiology Pharmacy	-	Hospital Umum Kuching
Nephrology Pharmacy	-	Hospital Selayang

iii. **Clinical Pharmacokinetic Service**

In 2004, a total of 57,402 patients had received individualized drug therapy through the pharmacy clinical pharmacokinetic service (CPS) provided by 67 hospitals throughout the country. Through the CPS, pharmacists provide consultation on appropriate dosing of 12 types of drugs namely:

- | | |
|-----------------|-----------------|
| • gentamicin | • netilmicin |
| • amikacin | • vancomycin |
| • digoxin | • phenytoin |
| • carbamazepine | • valproic acid |
| • theophylline | • ciclosporin |
| • lithium | • methotrexate |

Apart from that, the pharmacy provides 24 hours call service for toxicology serum monitoring and consultation of paracetamol poisoning. A total of 712 calls were received by pharmacists in 2004. Through this service, the use of N-acetylcysteine in paracetamol poisoning had been optimized.

iv. Total Parenteral Nutrition and IV Admixture Service

By the end of 2004, there were 20 MOH hospitals providing total parenteral nutrition [TPN] service. A total of 8,051 and 19,691 TPN bags were prepared for paediatric and adult patients respectively. The TPN pharmacists provide consultation on individualized parenteral nutrition requirements as well as ensure safe ready-to-use preparations for the patients. An indicator whereby pharmacists need to conduct pharmaceutical review on patients that require TPN was introduced in 2004 to further improve quality of care in these patients. Due to manpower constraints, only 10 (50%) of hospitals with cleanroom facilities are able to provide IV Admixture service for 49,037 cases.

v. Oncology Pharmacy Service

A total of 31 hospital pharmacies in the country dispense cytotoxic drugs to cancer patients. By the end of 2004, only 12 hospitals have pharmacy cytotoxic drug reconstitution facilities. 21,953 cancer cases were supplied with reconstituted drugs by pharmacy and this number had almost tripled and doubled that of the year 2001 and 2003 respectively.

There is an urgent need to build new or upgrade current CDR facilities to meet GMP standards to ensure all reconstitution are carried out under controlled environment and not in open wards for personnel safety as well as ensuring prepared products are free from microbial contamination.

The Pharmaceutical Services Division has formed an Oncology Pharmacy Expert Group (OPEG) to discuss and address clinical as well as technical issues of oncology pharmacy practice. Members of the group include an oncology pharmacy consultant from University Sains Malaysia, oncology pharmacists from hospitals as well as GMP auditors from the National Pharmaceutical Control Bureau. The group has initially provided consultation on cleanroom facilities requirements to meet GMP standards as well as standardization of standard operating procedures (SOP) to ensure output of highest quality and safety. A total of 13 hospital pharmacies with CDR facilities as well as those under plan to built new ones were visited by OPEG advisory group in 2004 and it was found that all existing facilities (10) did not comply with GMP requirements. Funds will be requested under the 9th Malaysia Plan to upgrade all facilities to meet GMP requirements.

vi. Nuclear Pharmacy

Four hospitals have been identified to provide pharmacy nuclear services namely Hospital Pulau Pinang, Hospital Kuala Lumpur, Hospital Sultanah Aminah Johor Bahru and Hospital Umum Kuching. Till the end of 2004, pharmacists from Hospital

Pulau Pinang and Kuala Lumpur are involved in the Quality Control and preparation of radiopharmaceuticals for nuclear medicine use. The progress of hospital pharmacy services is as shown in Table 10.

TABLE 10
Achievements in Hospital Pharmacy Service

Services	2004
1. <i>Clinical pharmacokinetic service</i>	
<i>i. No. of hospitals</i>	67
<i>ii. No. of cases</i>	57,402
<i>iii. No. of drugs</i>	14
2. <i>Parenteral nutrition service</i>	
<i>i. No. of hospitals</i>	20
<i>ii. No. of bags(adults)</i>	8,051
<i>iii. No. of bags(Children)</i>	19,691
3. <i>Intravenous admixture service</i>	
<i>i. No. of hospitals</i>	10
<i>ii. No. of cases</i>	49,037
4. <i>Cytotoxic drug reconstitution service</i>	
<i>i. No. of hospitals</i>	12
<i>ii. No. of cases</i>	21,953
5. <i>Patient medication counselling service</i>	
<i>i. No. of out-patients</i>	35,737
<i>ii No. of in-patients</i>	25,799
<i>iii Total</i>	61,536
6. <i>Drug dispensing service</i>	
<i>i.No. of prescriptions dispensed</i>	8,857,608
<i>ii No.(%) prescriptions screened</i>	7,528,967

Information Provision and Consumer Education

A new unit to coordinate information provision and consumer education has been set up through the restructuring exercise of the PSD. This unit is responsible in providing drugs and pharmaceutical information to health professionals and personnel, and the general public. At the same time this unit is also responsible in coordinating all programmes pertaining to consumer education within the pharmacy service and with other agencies. Presently this unit is in the process of getting knowledge databases and other references and equipment for it to function efficiently and effectively.

Primary Care Pharmacy

The Primary Care Pharmacy Unit was formed to improve the quality of primary care pharmacy services at the health clinics at both urban and rural areas. Pharmacists play an important role in enhancing the health of the public through provision of new scopes and development of primary care pharmacy services. Among the potential scope that pharmacists can explore is pharmaceutical care provision for chronic elderly patients and

preventive programmes among babies and children through the immunisation and school programmes.

Integrated Drug Dispensing System

The Integrated Drugs Dispensing System (IDDS) was started in December 2001 whereby only a few states took part in the pilot project. Currently, only Sabah has not started the system.

The aim of introducing IDDS is to help the patients, particularly follow-up cases, to get drugs supplied at health facilities nearest to home, and this will benefit patients who stay in remote area.

From the data collected, the following conclusions can be made:

- i. The cost of category A drugs was higher compared to categories B&C, which was in the range of 71-78% from the total cost of IDDS drugs.
- ii. The cost of categories B&C drugs was about 22-29% only.
- iii. Cost of IDDS drugs at intrastate level was much higher compared to the interstate level.
- iv. Cost of IDDS drugs at intrastate level was about RM 1.16 million a year and for interstate the cost was about RM 0.46 million a year.
- v. Regarding the number of prescription, about 34-36% of the intrastate prescription was IDDS referral cases; while for the interstate prescription the percentage is much higher, that is 50-60%.

Other Units

Several other units were formed as a breakaway from the existing units via the PSD restructuring and these units are the Pharmacy Practice (Hospital), Research and Development, and Quality. From this restructuring the practices governed under them can be managed more efficiently. Other new units that were set up are the Price Monitoring Unit, National Medicine Policy Unit, Compulsory Service Unit and Interagency and International Relations Unit.

SECRETARIAT TO STATUTORY BOARDS

Pharmacy Board

The Pharmacy Board of Malaysia [PBM] is responsible for the registration of pharmacists, body corporate and pupil pharmacists in the whole country. At the end of 2004, the total number of pharmacists registered was 4,613 (including the re-registered pharmacist). Besides the registration of pharmacist, the Pharmacy Board is also actively involved in other activities such as the renewal of Annual retention for Pharmacist, Body Corporate, accreditation programme and conducting Forensic Examination.

On 2nd September 2004, the Compulsory Service for Pharmacist came into effectiveness, whereby all it is compulsory for new graduates to work for 4 years in a public hospital or institution. The new graduates will be given the title, provisional pharmacist for the first year before going for full registration. In the next three years, after finishing the provisional year they will work in a public hospital or institution as a fully registered pharmacist with the condition that they stay in the public service for the whole of the three years in a row. The statistics compiled by the board on the registration status of pharmacists in the country is shown in Table 11.

TABLE 11
Pharmacy Board – Registration Statistics

Activities	2004
1. No. of New Pharmacist Registered	444
2. No. of Pupil Pharmacists Registered	333
3. Number of Provisional Pharmacists	-
4. No. of New Body Corporate Registered	92
5. No. of Renewals of Annual Retention Certificate	3,506
6. No. of Renewal of Annual Certificate for Body Corporate	164
7. Total Number of Pharmacist in the Register (including the re-registration)	4,613
8. Total Number of Active Pharmacist (New Registered and Renewed Annual Retention)	4,394
9. No. of New Premises Recognised for Pupillage Training	-
10. No. of Evaluated Pharmacy Degree Qualifications	1

PBM is known as the only Board who actively taking part in monitoring the beginning of the years for pharmacy programme in universities to see whether it suits to the needs of the public. This year PBM is actively evaluating pharmacy programme in 2 public universities and 1 private university in 2004. They are Bachelor of Pharmacy in MARA University of Technology, Bachelor of Pharmacy in Islamic International University and Bachelor of Pharmacy in University College International Sedaya in Cheras (UCSI). UCSI now offers three different courses in Pharmacy. They are UCSI-USM External, UCSI- Curtin University of Technology and in the progress to start is UCSI own programme, Bachelor of Pharmacy. In year 2004, UCSI- USM External has been recognized by PBM. Others are still in the monitoring stage as they will only recognized when the first cohort graduate.

In the year 2004, Pharmacy Board Training Committee is in the effort to review the Training Module for Provisional Pharmacist training purposes. The target is to come out with the complete training module which will cover various pharmacy fields so that these first cohort of provisional pharmacists will get a chance to learn more as a preparation to continue their 3 years of compulsory years.

Year 2004, is the year where many activities have been carried out, looking at more needs of pharmacist in the public, PBM has actively recognizing a few universities to cater for new students each year who interested to do pharmacy and also putting up some policies to ensure the progress of the profession in all over the country from time to time.

Medicine Advertisements Board

The Medicine Advertisement Board is empowered by law to set policies and guidance on advertisements of medicines, appliances, remedies and skill and services that relate to medical and health claims. Accordingly, The Board has issued 2 guidelines to help advertisers in devising advertisement formats which are deemed acceptable and suitable for publication in the various media in the country. The objective of the guideline is to ensure responsible advertising in promoting the sale of medicines, appliances, remedies and skill and services that relate to medical and health claims. The board operates on the premise that advertisements to the general public should be guided by the following principles.

- a. Advertisements should help people to make rational decisions on the use of medicines, appliances, remedies and skill and services that relate to medical and health claims.
- b. Advertisements should take into account the people's legitimate desire for information regarding their health
- c. Advertisements should not take undue advantage of people's concern for health.

The Board meets once a month to deliberate on advertisement applications that have been received for the month. The Board discusses each application and may decide on any of the following:

- a. Approve an application without any changes
- b. Approve an application with changes
- c. Reject an application as being not suitable for publication.
- d. Withhold decision subject to more information from the applicant or expert opinion from related agencies, associations or authorities.

Generally, the advertisers are advised to adhere strictly to principles laid down in the guidelines as the Board uses these guidelines as the basis for all its decisions. Apart from some specific examples, the guidelines are quite general in nature. This is intended and is also inevitable because guidelines of this nature cannot be expected to deal in specific terms issues that may range from simple advertisements to promotional materials that contain complex technical information formulated in highly subjective terms. Advertisements may also differ in the way they are presented to the public. Some try to reach the consumer in simple terms yet some others may employ the use words and statements that are highly exaggerated. So the guideline takes into consideration the aspirations of the advertisers without compromising on its responsibility to ensure only accurate and responsible information reaches the consumer.

Two committees have been formed to upgrade the advertisement guidelines. These committees are Advertisements Guideline Committee for Products and Advertisements Guideline Committee for Services. For the year 2004, the Board received a total of 1236 applications. Table 12 shows the summary of applications processed by the Medicine Advertisement Board for year 2004 and Table 13 shows the comparison of applications processed in the last 3 years.

TABLE 12
Summary of Applications Processed by MAB, 2004

Activities	Products	Services	Total (%)
1. No. of applications	1,129	107	1,236
2. No. of approvals	959	94	1053 (85.2%)
3. No. of approvals through Fast Track System	677	74	751 (60.8%)
4. Fee collected	RM 112,900	RM 10,700	RM 123,600

TABLE 13
Comparison of Applications Processed

Activities	2002	2003	2004
1. No. of applications	1,029	881	1,236
2. No. of approvals	900	803	1,053
3. No. of FAST TRACK approvals	-	488 (55.4%)	751 (60.8%)
4. Fee collected	RM 102,900	RM 88,100	RM123,600

Poison Board

The Poisons Board acts as an advisory board has been empowered to assess the classification of medicine/chemical substance, thereby to advice the minister in accordance to the provisions of the Poisons Act 1952. The Board met for its 59th meeting on 29th January 2004 and 60th meeting on 19th August 2004 and decided on the following:

i. Classification of poisons

The Board has agreed with the classification of thirty (30) chemicals as in Table 14.

ii. Amending the classification of a Poison

- a. Deferiprone maintained as group C poison.
- b. Desferrioxamine is classified as group C poison
- c. All preparation containing ethyl ether is classified as group B poison in Part I. Exemption in part II for all preparations unless in group B
- d. Thirteen precursors were added into the poison list.
- e. Condom containing local anesthetic is classified as poison and the poison list was amended.
- f. All preparations containing Ractopamine is classified as poison group A in Part I but when compounded with animal feeds it is classified in Part II

Drug Control Authority

The Drug Control Authority (DCA) is responsible for the registration of pharmaceutical, traditional and cosmetic products and issuing of manufacturer's, wholesaler's and import licences. The NPCB is the secretariat and the executive arm of the Drug Control Authority. Throughout the year 2004 the DCA has held 11 meetings.

The DCA has made decision to cancel registration or not to allow products containing certain ingredients based on safety issues:

- To cancel registration of products containing Cisapride in view of the association of cardiotoxicity.
- To cancel the registration of all products containing Comfrey and Senecio *spp* as both of these herbs contain unsaturated pyrrolizidine alkaloids (PA) which are considered to be hepatotoxicity and hepatocarcinogens.
- To cancel registration of products containing terfenadine in view of the association of cardiac adverse events arising from the use of terfenadine

TABLE 14
Classification of New Chemical Entities

No.	Name of Drug/ chemical entity	Therapeutic classification	Group
1.	Amisulpride	Antipsychotic	B
2.	Ertapenem sodium	Antibiotic	B
3.	Tenecteplase	Fibrinolytics	B
4.	Ziprasidone Hydrochloride	Antipsychotic	B
5.	Bimatoprost	Antiglaucoma	B
6.	Arthemeter	Antimalarial	B
7.	Lumefantrine	Antimalarial	B
8.	Adefovir dipoxil	Acyclic nucleotide	B
9.	Etorcoxib	NSAID	B
10.	Natamycin	Antifungal	C
11.	Paraclacitol	Vitamin D analogue	C
12.	Ganirelix	Hormones	B
13.	Fondaparinux sodium	Antithrombotic	B
14.	Doxofylline	Bronchodilator	C
15.	Imidapril Hydrochloride	Ace Inhibitor	B
16.	Gefitinib	Anti cancer	B
17.	Rosuvastatin	Lipid lowering agent	B
18.	Deferiprone	Iron chelating agent	C
19.	Parecoxib sodium	NSAID	B
20.	Mirtazapine	Antidepressant	B
21.	Aprepitant	Antiemetic	B
22.	Itopride Hydrochloride	Gastro-prokinetic	B
23.	Anagrelide	Platelet reducing agent	B
24.	Escitalopram	Antidepressant	B
25.	Doxazocin mesylate	Antihypertensive	B
26.	Voriconazole	Antifungal	B
27.	Ziprasidone mesylate	Neuroleptic	B
28.	Drospirenone	Contraceptive	C
29.	Ethinyl estradiol	Contraceptive	C
30.	Atosiban	Myometrial relaxant agent	B

TRAINING

The Pharmacy Services Division (PSD) had organised several short courses for the pharmacists and pharmacy assistants. However, the number of scholarships provided for pharmacists to pursue Masters and Ph.D. degrees was limited, and therefore postgraduate training opportunities is inadequate. The PSD has also formed a committee on Continuous Professional Development (CPD) Programme. The programme has been successfully throughout the year of 2004 in which 60% of pharmacists and pharmacy assistants has achieved the minimum credit points required.

The PSD had conducted 17 in-service courses whereby some 714 staffs of various categories has benefited. Of these 581 were pharmacists, 133 were pharmacy assistants and administrative assistants (storekeepers). RM 156,872.80 was spent for the courses. Four pharmacists have undergone short overseas training and a sum of RM79,348.00 was spent for these training. They include one pharmacist from Hospital Umum Kuching who went for a one-month attachment program in clinical cardiology pharmacy practice at Fremantle Hospital, Perth Australia, and 2 pharmacists from Hospital Kuala Lumpur and Hospital Tengku Ampuan Afzan, Kuantan were sent to Peter MacCallum Cancer Centre, Melbourne Australia to undergo a one-month training programme in clinical oncology pharmacy practice.

Hospital Malacca, Kuala Terengganu and Selayang have been identified as clinical pharmacy training centres for local and foreign pharmacists. Throughout the year 2004, 10 hospital pharmacists were trained in Hospital Malacca and Kuala Terengganu. Hospital Pulau Pinang has been identified as a training centre for Nutrition Support Pharmacy Service and 6 hospital pharmacists had been provided training. Two WHO fellows from Palestine underwent 3 weeks clinical pharmacy training in Hospital Malacca and Selayang and one week training in Hospital Pulau Pinang in the months of April and September 2004.

CONCLUSION

Impact of Pharmaceutical Services on Health Problems and the Pharmaceutical Sector

The successful implementation of the various pharmacy service activities has contributed towards the availability and accessibility of medicines and pharmaceutical products that are of quality, safe and efficacious in the country. It has also contributed towards better provision of the service to patients and consumers.

The maintenance of quality medication in the market is further strengthened by the enforcement of the relevant pharmacy legislations and guidelines. The enforcement activities licensing, surveillance, raids, prosecution and precursor control. Raids and inspections have been stepped up to stamp the illegal sale of poisons, unregistered products and adulterated traditional medicines that can cause harm to consumers. The value of unregistered products that were confiscated has increased tremendously (20.6 million in 2004 as compared to 6.43 million in 2003). This showed that there are many products which has no quality and hazardous to health in the market. Therefore, the sale and distribution of products that are unsafe and of no value to human lives have increase has

posed a great challenge and more efforts are needed to overcome this challenge.

Monitoring of advertisements has been enhanced towards ensuring public access to correct and reliable information on medicines and health services and efforts have been made to speed up the process. Regional cooperation on pharmaceuticals has also taken place through the harmonization efforts by various ASEAN and WHO committees and working groups. This is also one of the means to ensure that Malaysian products are of equal standing and accepted in the world. The provision of pharmaceutical care has been enhanced through the improvement of the various clinical activities. The improvements carried out include upgrading of infrastructure in various hospitals and strengthening of pharmacists' skills. More pharmacists were given training through workplace attachments either locally or overseas. The field of Clinical Pharmacy specialities has also been broaden and strengthened to enable pharmacists' to contribute more significantly towards the health of patients.

Expectations and Future Directions

The PSD will continue to intensify its various activities in the coming years given the improved manpower situation, to develop its services in tandem with the Ministry of Health's mission and vision.

The shortage of manpower, especially for pharmacists has jeopardised the provision of pharmacy services in the country, whereby expansion in the scope of service at the hospitals and health clinics could not take off well. Although the compulsory service was gazetted in September 2004, there was no intake of provisional pharmacists in that year. However, the intake of provisional pharmacists in 2005 will give a new light to the pharmacy service which has been restrained due to the lack of human resource. In the years ahead, the existing regulatory system focusing on safety and efficacy of pharmaceutical products to protect public health will be strengthened through enhancement of pharmacovigilance activities, exchange of technical information and collaboration with other regulatory authorities on product evaluations and Good Manufacturing Practice (GMP) inspections.

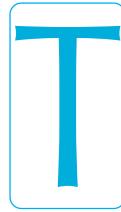
Improved in the awareness and knowledge on health among the public will augment the efforts taken in regulatory, enforcement and pharmaceutical care activities in ensuring the safety of medicines and pharmaceutical products that are available to them. Improved strategies in public education and health knowledge especially on medications and other pharmaceutical products will result in a more informed public and accord better consumer protection. Greater involvement of the media and increase utilisation of information and communication technology would be looked into as strategies in improving public education in pharmaceutical-related matters.

Geared towards improving and upgrading the quality of pharmacy practice, various strategies have been outlined which include integrating pharmaceutical care service at all levels of healthcare, accreditation of pharmacy facilities, services and application of the latest information technology system in all pharmaceutical care service including drug management system. The proficiency of the pharmacy personnel will be upgraded through credentialing system, continuous professional development programme and specialization of pharmacy service for various disciplines of medicines

The PSD will also strengthen the rational utilisation of drugs and improve the inclusion process of drugs into the MOH Drug List through pharmacoeconomics evaluation and drug utilisation research. Greater efforts will be made to involve pharmacists at the practice level to carry out early evaluation of the drug literature through hands-on training of critical appraisal and evidence-based evaluation. Proposals for more scholarships to be awarded to pharmacists for postgraduate training will be continuously pursued. Specialisation in appropriate fields of pharmacy will be identified so as to ensure pharmacists who have completed their postgraduate degrees are placed appropriately. Besides postgraduate courses, specialisation programmes will be continued with hands-on training in the country as well as overseas.

Engineering Services

INTRODUCTION



The Engineering Services Division started off in 1968 as the Environmental Health and Engineering Unit under the Division of Health. During that time it had two sections; the Public Health Engineering Section and the Radiation Protection Section. In 1981 this Unit was upgraded to be the Engineering Services Division. The Engineering Services Division at present consist of four main sections :

- Environmental Health Engineering
- Radiation Health and Safety
- Hospital Engineering
- Regulatory Unit

ACTIVITIES AND ACHIEVEMENT

ENVIRONMENTAL HEALTH ENGINEERING

The Environmental Health Engineering activities have four core programmes, namely the Water Supply and Environmental Sanitation Programme, the National Drinking Water Quality Surveillance Program (NDWQSP), Clinical Waste Management Programme and the Environmental Health Protection.

Water Supply And Environmental Sanitation Programme

This programme involves the construction of rural water supply systems, sanitary latrines and proper facilities for the disposal of sullage water and solid waste in the rural area. It was initiated in 1974 as an effort to reduce/control the incidence of water-borne and excreta related diseases, through the provision of water supply and sanitation facilities.

i) *Rural Water Supply*

One of the objectives of this programme is to provide adequate safe water supply to rural community. The programme incorporate 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 through out 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 programme was planned according to 5 year Malaysia development plan. A total of 6,052 of various types of systems were installed up to 2004. These systems provided service to 8,393 houses with a population of 44,483. The overall status of rural water supply coverage is about 95.39% that represent 1,619,758 rural houses with a population of 8,098,790 (*Table 1*)

ii) *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 odors, 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. It is hope that after sometime, the people will realise the benefit of such a practice and will construct their own latrines in the future when replacement becomes needed.

The end of 2004, MOH has constructed a total of 1,671,085 of pour flush latrines. The coverage of sanitary latrines at the end of 2004 was 98.42% that represent 8,355,425 of rural population. (*Table 2*)

iii) *Sullage and Solid Waste Disposal*

In the early stage of the BAKAS programme, the installation of sullage and solid waste disposal was given lower priority due to the urgent needs for water supply and sanitary latrines. As the coverage of water supply and sanitary latrines is almost 100% achieved, the installation of sullage and solid waste disposal has been given a higher priority. Up until the end 2004 a total of 962,946 sullage disposal systems and 1,135,450 solid waste disposal systems were constructed, representing a total household coverage of 56.71% and 66.87% respectively. (*Table 2.*)

TABLE 1
Construction Of Rural Water Supply Project By Ministry Of Health In 2004

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 (Cumulative)	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	38,148	-	-	-	-	-	-	-	-	201	201	201	201	37,342	97.89
Kedah	175,539	33	76	3	25	-	-	-	-	1,459	1,462	1,495	1,563	168,714	96.11
Penang	70,528	0	-	-	-	-	-	-	-	101	101	101	101	93,382	132.40
Perak	148,641	11	28	1	110	4	110	1	1	92	92	109	341	147,219	99.04
Selangor	94,316	-	-	-	-	-	-	-	-	-	-	-	-	92,749	98.34
N.Sembilan	66,389	1	1	-	-	-	-	-	-	123	123	124	124	66,437	100.07
Malacca	68,716	-	-	-	-	-	-	-	-	58	58	58	58	66,528	96.82
Johore	143,557	3	3	2	17	5	141	16	16	34	34	60	211	143,365	99.87
Pahang	135,824	13	45	-	-	3	101	-	-	243	243	259	389	113,529	83.59
Terengganu	126,429	57	57	-	11	-	-	-	-	856	896	913	964	115,409	91.28
Kelantan	242,102	-	-	749	1,277	11	204	-	-	623	623	1,383	2,104	205,145	84.73
Sarawak	191,637	4	80	-	-	19	558	499	499	3	42	525	1,179	185,777	96.94
Sabah	196,165	-	-	-	-	14	348	810	810	-	-	824	1,158	184,162	93.88
Malaysia	1,697,991	122	290	755	1,440	56	1,462	1,326	1,326	3,793	3,875	6,052	8,393	1,619,758	95.39

TABLE 2
Construction Of Latrines, Sullage and Solid Waste Disposal System By Ministry of Health In 2004

State	No. of Rural Houses	Sanitary Latrines			Sullage Disposal System			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	38,148	159	37,753	98.96	240	19,317	50.64	176	22,373	58.65
Kedah	175,539	560	173,531	98.86	1,150	31,499	17.94	607	68,432	38.98
Penang	70,528	233	93,579	132.68	130	76,072	107.86	508	86,383	122.48
Perak	148,641	437	147,773	99.42	750	79,834	53.71	404	101,235	68.11
Selangor	94,316	443	93,302	98.92	102	75,805	80.37	860	78,189	82.90
N.Sembilan	66,389	36	66,839	100.68	231	50,343	75.83	48	52,029	78.37
Malacca	68,716	193	68,024	98.99	250	47,822	69.59	0	59,675	86.84
Johore	143,557	149	143,090	99.67	350	126,679	88.24	59	127,791	89.02
Pahang	135,824	353	113,614	83.65	254	79,285	58.37	264	82,516	60.75
Terengganu	126,429	513	123,528	97.71	290	60,183	47.60	649	77,938	61.65
Kelantan	242,102	1,076	239,432	98.90	757	74,836	30.91	758	130,123	53.75
Sarawak	191,637	1,453	188,656	98.44	2,000	113,640	59.30	1,660	107,879	56.29
Sabah	196,165	965	181,964	92.76	204	127,631	65.06	26	140,887	71.82
Malaysia	1,697,991	6,570	1,671,085	98.42	6,708	962,946	56.71	6,019	1,135,450	66.87

National Drinking Water Quality Surveillance Programme

The National Drinking Water Quality Surveillance Programme (NDWQSP) is designed for continual improvement of drinking water quality towards zero defects. As a result, guidelines for the implementation of an effective and comprehensive NDWQSP were formulated with the co-operation of agencies such as World Health Organisation (WHO), Public Works Department (PWD), Department of Chemistry (DOC) and Department of Environment (DOE) in early 1980s. These guidelines were being the foundation for the launching of the NDWQSP in 1983. However, in 2004, the guidelines were revised and compiled into a NDWQSP manual that is recently used nationwide.

The principal objective of NDWQSP is to raise the standards of health by ensuring the safety and acceptability of the drinking water provided to the public 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 programme ensures the public health and water work personnel will be alerted in time if the quality of drinking water is deteriorates. Thus, this will enable them to take preventive or remedial measures before occurrence of any major outbreak of disease or poisoning can occur.

The NDWQSP that has been adopted nationwide since 1986 provides a mechanism towards improving drinking water quality through five key programme elements; i.e. monitoring, sanitary survey, data processing and evaluation, remedial action and institutional examination. Since the implementation of the programme, the drinking water quality in the country has generally improved and the current status of drinking water can be readily assessed.

The main activity under the NDWQSP is the monitoring activity at public water supply systems. It covers all monitoring and assessment activities at public water supply systems (urban and rural areas); i.e. routine sampling, sanitary surveys, technical audits, etc. In year 2004, 138,342 water samples were taken from nearly 490 water courses which cover the whole states in Malaysia. Nearly 200 sanitary surveys were implemented throughout the country in 2004, with 36 public water treatment plants need follow-up action. Since last year, the routine sampling and monitoring for pesticides were initiated nationwide, inclusively for organochlorine. The water sampling performance for 2004 is as shown in Table 3.

Other activities under the NDWQSP are the investigation and assessment at estates, resort islands and rural areas. Most of the water supply systems in the stated areas are privately owned or rural public water supply systems which were provided by the Ministry of Health through the Rural Environment and Sanitary Programme (RESP). More than 350 estates in Malaysia and 20 resort islands in Johore, Selangor, Pahang and Terengganu were investigated and assessed in year 2004. Since last year, the sampling and investigation were expanded to pesticide parameters for nearly 80 estates in Selangor, Pahang and Negeri Sembilan.

Investigation activities during water crisis were implemented last year for several affected areas in Negeri Sembilan, Malacca and Johore. During the aftermath of the tsunami, drinking water and sanitation safety were undertaken at influenced coastal areas and temporary

shelters, mostly in Perlis, Kedah and Penang. In 2004, there were several training and research collaborations specifically for NDWQSP, namely National Sanitary Survey Course for Bt. 4 Public Water Supply System in Bentong, Pahang, Advanced NDWQSP Course, Hands-On Training for Web-Based “Water Quality Surveillance” (WQS) Software and a research on *Cryptosporidium* and *Giardia* in Sungai Selangor water course. Technical comments were also being given to approximately 96 local manufacturers for the packaged drinking water/natural mineral water licensing in 2004

Quality Assurance Programme (QAP) For National Drinking Water Quality Surveillance Programme. (NDWQSP)

To further enhance the effectiveness of the programme, a Quality Assurance Programme (QAP) for NDWQSP was launched in December 1992 and implemented by all states in Malaysia in January 1993. Since 2004, the QAP standards were set based on five performance indicators; i.e. violation rates for residual chlorine, *E.coli*, combined residual chlorine and *E.coli*, turbidity and aluminium. The standards are revised each year so that it can be made more stringent to be consistent with any improvement of the national annual average. Table 4 indicates a compliance trend for every performance indicator from 1993 to 2004, while Table 5 shows the breakdown of the NDWQSP QAP performance for 2004.

Clinical Waste Management

The Clinical Waste Management consists of the following components:

- Development of policy and guidelines
- Training and advisory services
- Programme monitoring
- Programme evaluation

In 1992, a policy and guidelines on clinical waste management that meet all requirements stipulated in the Environmental Quality (Scheduled Wastes) Regulation 1989 was formulated. The guidelines known as “Guidelines For The Management Of Clinical and Related Waste in Hospitals and Health Care Establishment, Ministry of Health” consist of three main section, i.e., policy, guidelines and action plan for clinical waste programme.

The clinical waste service was privatized to three concession companies on 1st of January 1997. The company and the zone that the service is provided is as following:

Faber Mediserve Sdn. Bhd.	-	Northern zone, Sabah and Sarawak
Redicare (M) Sdn. Bhd.	-	Eastern and Central zone
Pantai-Medivest Sdn. Bhd.	-	Southern zone

During 2004, total of 6,737 tonnes of clinical waste were sent to the three concession companies.

With the implementation of this program, it is envisage that a proper clinical waste management by all Ministry of Health’s hospitals and health care facilities can be carried out in conformity with the legal and environmental health requirements.

TABLE 3
Summary of Sampling Performance for 2004, Malaysia.

State	Group 1			Group 2			Group 3			Group 4		
	A	B	C	A	B	C	A	B	C	A	B	C
Perlis	1,102	912	82.8	356	302	84.8	113	99	87.6	28	23	82.1
Kedah	9,598	9,448	98.7	2,088	2,034	97.4	610	592	97.0	223	199	89.2
Penang	4,380	4,136	94.4	880	744	84.5	303	266	87.8	116	83	71.6
Perak	12,751	11,782	92.4	2,702	2,444	90.5	833	742	89.1	411	385	93.7
Selangor	10,660	9,144	85.8	2,585	2,136	82.6	727	624	85.8	232	137	59.1
F.T Kuala Lumpur	2,177	1,115	51.2	440	220	50.0	150	74	49.3	20	9	45.0
Negeri Sembilan	6,085	1,031	16.9	1,325	145	10.9	432	30	6.9	163	10	6.1
Malacca	3,187	2,965	93.0	668	528	79.0	202	108	53.5	48	17	35.4
Johore	15,081	14,065	93.3	3,854	3,327	86.3	885	752	85.0	374	304	81.3
Pahang	14,404	13,729	95.3	3,975	3,769	94.8	1,169	1,082	92.6	656	574	87.5
Terengganu	6,551	6,475	98.8	1,516	1,359	89.6	412	375	91.0	118	60	50.8
Kelantan	6,294	6,265	99.5	1,424	1,419	99.6	470	469	99.8	240	239	99.6
Pen. Malaysia	92,270	81,067	87.9	21,813	18,427	84.5	6,306	5,213	76.9	2,629	2,040	77.6
Sarawak	21,096	17,583	83.3	4,917	3,270	66.5	1,706	1,219	71.5	782	380	48.6
Sabah	9,407	7,559	80.4	2,124	1,114	52.4	701	410	58.5	243	60	24.7
Malaysia	122,773	106,209	86.5	28,854	22,811	79.1	8,713	6,842	73.5	3,654	2,480	67.9

Note:

Group 1 - Bacteriological and physical parameters.

Group 2 - Chemical parameters.

Group 3 - Heavy metals, trihalomethane and inorganic compounds.

Group 4 - Pesticides and organic compounds.

A = Number of samples scheduled (ideal schedule

B = Number of samples taken.

C = Percentage of samples taken (%).

TABLE 4
A Compliance Trend For Every NDWQSP QAP Performance Indicator From 1993 until 2004

Indicator Year	Residual Chlorine (%)	<i>E.coli</i> (%)	Residual Chlorine & <i>E.coli</i> (%)	Turbidity (%)	Aluminium (%)
1993	8.5	2.5	1.3	-	-
1994	5.3	1.3	0.5	-	-
1995	5.1	1.3	0.4	-	-
1996	4.8	1.3	0.4	7.7	-
1997	3.3	1.3	0.3	7.6	-
1998	3.1	1.3	0.3	6.7	-
1999	3.1	1.3	0.3	5.8	-
2000	3.1	1.3	0.3	4.8	-
2001	2.8	0.9	0.3	4.1	-
2002	2.8	0.9	0.3	3.8	-
2003	2.8	0.9	0.3	3.4	-
2004	2.8	0.5	0.3	3.2	10.2

Environmental Health Protection

The main components of environmental health protection programme cover the area of wastewater management, solid waste management, and air pollution and indoor environment. The principal goal of this program is to establish a system to monitor the health aspects of all activities related to wastewater, solid waste, and air pollution and indoor environment to enable timely intervention on policy development, planning and implementation of programme to protect public health.

The Environmental Health Protection Programme also places a special attention for environmental health requirements to be properly and adequately considered in Environmental Impact Assessment (EIA) process. The current practice of EIA study only involved mainly the study of the impact of development projects on the physical or natural environment with a nominal touch on the impact of such projects on human health. In 2002, EHIA Guideline submitted to the Department of Environment was accepted and agreed to be included as one of the requirement in the EIA to be carried out by the project proponent.

RADIATION HEALTH & SAFETY BRANCH

The Radiation Health & Safety Branch (RHSB) is responsible for ensuring the safe, effective and efficacious and optimum use of ionizing radiation in medicine. Two approaches are adopted to carry out this responsibility, i.e. via licensing and enforcement under the Atomic Energy Licensing Act 1984 (Act 304) for hospitals and clinics in the private sector and via implementation of all the requirements of Act 304 and its subsidiary regulation in the government hospitals and health clinics under the Ministry of Health (MOH). For the government sector the approach also includes Quality Assurance Programme (QAP) and medical physics advisory services. RHSB is also responsible to develop Codes & Standards for ionizing radiation, non-ionizing radiation and medical devices. It is also responsible to

TABLE 5
Performance of QAP for NDWQSP in 2004, Malaysia.

Indicator State	Residual Chlorine (QAP < 2.8%)			E.coli (QAP < 0.5%)			Residual Chlorine & <i>E. coli</i> (QAP < 0.3%)			Turbidity (QAP < 3.2%)			Aluminium (QAP < 10.2%)		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Perlis	738	128	17.3	738	1	0.1	737	10	1.4	708	12	1.7	225	78	34.7
Kedah	8,136	106	1.3	8,137	15	0.2	8,135	20	0.2	8,128	254	3.1	1,562	135	8.6
Penang	3,403	85	2.5	3,375	5	0.1	3,370	0	0.0	3,344	14	0.4	401	30	7.5
Perak	9,388	48	0.5	9,389	15	0.2	9,388	6	0.1	8,769	98	1.1	1,832	159	8.7
Selangor	7,959	245	3.1	7,965	15	0.2	7,959	3	0.0	7,949	102	1.3	1,639	211	12.9
F.T. K. Lumpur	513	1	0.2	513	6	1.2	513	0	0.0	511	2	0.4	93	9	9.7
Negeri Sembilan	4,211	85	2.0	4,211	15	0.4	4,211	13	0.3	4,206	129	3.1	860	124	14.4
Malacca	2,813	119	4.2	2,800	17	0.6	2,800	17	0.6	2,811	56	2.0	488	36	7.4
Johore	12,144	344	2.8	12,289	45	0.4	12,140	0	0.0	12,024	72	0.6	2,768	754	27.2
Pahang	10,765	609	5.7	10,763	112	1.0	10,763	196	1.8	10,739	425	4.0	2,545	618	24.3
Terengganu	5,663	60	1.1	5,680	4	0.1	5,663	0	0.0	5,655	48	0.8	1,041	54	5.2
Kelantan	5,086	575	11.3	5,082	499	9.8	5,082	31	0.6	5,086	618	12.2	1,029	206	20.0
Pen. Malaysia	70,819	2,405	3.4	70,942	749	1.1	70,761	296	0.4	69,930	1,830	2.6	14,483	2,414	16.7
Sarawak	12,326	152	1.2	12,596	109	0.9	12,203	0	0.0	7,662	37	0.5	2,198	622	28.3
Sabah	6,232	469	7.5	5,347	54	1.0	5,343	147	2.8	5,487	453	8.3	675	186	27.6
Malaysia	89,377	3,026	3.4	88,885	912	1.0	88,307	443	0.5	83,079	2,320	2.8	17,356	3,222	18.6

Note: A = Number of samples analyzed.

B = Number of samples violated.

C = Percentage of samples violated (%).

improve and update existing Codes & Standards in these areas.

Activities and Achievements

(i) Licensing

A total of 686 evaluations for license applications were made in 2004 and this comprised of 80 evaluations for new licenses and 606 for license renewals. There was a total of 2,590 licenses issued for the premises on 2004 and the classification of these licenses is as in Table 6:

TABLE 6
Number of Premises By Type and Class Of License

Class Licence	Dental	GP's / Specialist Clinic	Hospital/ Radiologist Clinic	Radiotherapy Centre	Veterinary	University/ Lab	Consultancy	Total
Class A	-	-	6	2	-	-	-	8
Class C	1,116	1,265	119	2	33	19	-	2,554
Class A & C	-	-	6	12	-	-	-	18
Class H	-	-	-	-	-	-	10	10
Total	1,116	1,265	131	16	33	19	10	2,590

(ii) Monitoring & Enforcement

All enforcement activities including inspections, investigations, raids and prosecutions are carried out on all licensed premises to ensure maximum compliance to licensing requirements. A total 190 premises were inspected to ensure they comply with all licensing requirements. From that inspection, 105 (55%) of the premises complied with all licensing requirements and 85(45%) of premises did not comply with all licensing requirements. Also 51 warning letters were issued and 25 x-ray machines were *sealed*.

(iii) Quality Assurance Programme (QAP) & Medical Physics Advisory Services.

This service is designed for all MOH's hospitals and clinics where ionising radiation is used for medical purposes. It is aimed at ensuring 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 patient to radiation. The activities carried out in this service, namely, vetting and evaluation, inspection and monitoring and surveillance are implemented to assist MOH's hospitals conform to regulatory requirements.

In this activity, a total of 221 general radiology services and 340 dental services MOH's hospitals/health clinics were monitored. A total of 85 plans were inspected and evaluated. New projects and upgrading of hospitals were also involved and all these projects were successfully implemented.

This Branch also successfully organized 5 workshops in Ionizing Radiation (IR) and Non-Ionizing Radiation(NIR) to increase and to improve radiation protection and quality of medical diagnostic imaging service in government hospitals and health clinics.

(iv) Development of Codes & Standards

The activities carried out to develop Codes & Standards include;

- (a) To develop Guidance Notes in radiology, radiotherapy and nuclear medicine to compliment a new regulation “ Radiation Health And Safety Regulation (The used of ionizing radiation in medicine, dental & Veterinary) 200_ . Which is will gazette.
- (b) To carry out studies which is related safety in the used ionizing radiation (IR), non-ionizing radiation (NIR) and Medical Devices.
- (c) Compilation of international standards and references from other countries.
- (d) To carry out studies on surveillance system in other countries.
- (e) To measure electromagnetic field levels on selected hospitals in the Klang Valley for electromagnetic interference evaluations medical equipment.
- (f) To participated in ‘*International EMF Project*’ under WHO’s organized.
- (g) To standardized measurement of electromagnetic field from telecommunication stations structure for assessment exposure levels to the public.
- (h) To organize conference with stakeholders for the purpose of circulating information and obtaining feedback from the public.
- (i) Involved in related International Conferences.
- (j) Cooperation with SIRIM in developing standards.

In alignment with the Ministry of Health’s vision of achieving the nation’s vision, the RHSB had endeavoured to upgrade services in medical physics so as to expand rapidly and contribute towards the achievement of this vision. This service will also protect the public from the risk and danger that may result from the use of ionizing and non ionizing radiation for medical purposes and to ensure that the benefits from them (ionizing & non ionizing radiation) were maximized.

This Branch is also in the process of developing medical physics services in Malaysia at par so that this service with that in the developed countries. It aims to give positive contributions in achieving the nation’s vision.

HEALTHCARE FACILITY ENGINEERING

Activities and Achievement

Healthcare Facility Engineering Section’s primary are to coordinate and monitor the maintenance and minor works programme for MOH buildings and facilities, implement selected projects and minor works and to provide technical advice for development projects, technology assessment an procurement of engineering and medical equipment.

i) Program Management

Under *Dasar Baru* programme, the Unit has been entrusted to carry out the activities as illustrated in the following Table.

Activities	Cost (RM)	Expenditure%
Replacement of CSSD equipment	750,000.00	0 (To be paid in 2005)
Replacement of split/window airconditioning for Health Offices and Clinics	1.25 million	100
Replacement of Mortuary Body Freezer	350,000.00	100
Procurement of Ambulance	64 million	64

ii) Project Management

Type of Project	No. of Project
Upgrading Healthcare Facilities	7
Upgrading Engineering Systems (Mechanical)	10
Upgrading Engineering Systems (Electrical)	6
Replacement of Biomedical Equipments	3

iii) Technical Advise Services (Engineering)

Healthcare Facilities Engineering Section also played a vital role in the procurement of medical and engineering equipment (electrical/mechanical) for Hospitals and Health Institutions. Majority of the requests for verification of specifications and tender technical evaluation came from Medical Division, Dental Division, Planning and Development Division and State Health Departments as in the table below :

Technical Advise Services	Numbers
Comment on procurement for biomedical equipment	12 units
Verification of specification	25 units
Testing & Commissioning for biomedical equipment	26 units
Testing & Commissioning for new facility	15 facilities

Other programmes which manage by this unit were:-

- Development of Medical Device Act
- Secretariat for PMC Nihon Sekkei Inc under MITI Sumitomo Loan
- Provide technical input on payment for PMC QSCP
- Provide technical input on parking remuneration payment
- Study on technical equipment/system
- Study on ambulance under MOH
- Study on energy efficiency at Ipoh and Selayang Hospital

h) Secretariat for VO & EOT Committee Meeting at MOH level

For the existing health institutions, the need for improving and upgrading the building and equipment/ system to cater for the expansion of medical services is inevitable. The planning as well as the implementation of this program requires more manpower and resources. In most cases, upgrading of engineering systems and replacement of equipment are done on the ad-hoc basis due to lack of manpower and resources. With a more manpower and resources, achievement in the year to come should be done in a well-planned manner.

REGULATORY UNIT OF THE HOSPITAL SUPPORT SERVICES

The privatization of hospital support services involves a total of 123 hospitals and 4 institutions of the Ministry of Health in 1997. This project involves an annual expenditure of more than RM500 million for a concession period extending for fifteen years. The Concession Agreements between the Government of Malaysia and the three companies namely, Faber Medi-Serve Sdn. Bhd., Radicare (M) Sdn. Bhd. and Pantai Medivest Sdn. Bhd. were signed on 28th October 1996. The Take Over Date of all the services and the transfer of 2,681 Government employees from the Ministry of Health to the three companies took place on 1st January 1997.

A Regulatory Unit was established in March 1998 in the Engineering Services Division of the Ministry of Health to monitor the performances of the Concession Companies. The Unit comprises of a unit head (Deputy Director) and 7 senior engineers in the fields of Biomedical, Mechanical, Electrical, Civil and Public Health Engineering. The Government has also appointed an independent consultant, Sistem Hospital Awasan Taraf Sdn. Bhd. (SIHAT) to assist the Regulatory Unit to supervise this project. Under the supervisory and consultancy contract, SIHAT Sdn. Bhd. will monitor the project through periodic field inspections, the use of the central management information system, technical audits and feedbacks from the various hospitals and concession companies.

One of the major activities of the Regulatory Unit is to monitor the implementation and compliances of the services to the Concession Agreement, Technical Requirements and Performance Indicators (TRPI), Master Agreed Procedures (MAP) and Hospital Specific Implementation Plan (HSIP).

The additional assets procured throughout the year and the upgrading of the hospitals by the Ministry of Health has contributed significantly to the increase in the workload of the hospital support services. The grant of concession has also been extended to the newly completed hospitals and the concession companies have been mobilized into these new hospitals. Apart from monitoring and mobilization of the five hospital support services, the Unit is also actively involved in the technical inspection of any newly completed hospitals or projects before hand-over. Table 7 below indicates the workload of the hospital support services for 2004.

TABLE 7
Workload of the Hospital Support Services in 2004

No. of Contract Hospitals	134
No. of FEMS assets	254,718
No. of BEMS assets	106,491
No. of scheduled work orders	1,015,712
No. of unscheduled work orders	471,553
Weight of clean linen issued	25,637,740
No. of supervisory visits	17,593
No. of NCRs	46,481
No. of new hospitals/ projects inspected before hand-over	13

Privatising the five hospital support services has resulted in substantial benefits to the Ministry of Health specifically and to the nation in general. A comprehensive clinical waste management system has been established in all the Ministry of Health's Hospitals. The cleansing service provides a clear and visible evidence of the improvements made as a result of privatization. All hospitals are not only well maintained and kept clean but hygienic too at all times. High quality linen is supplied for staff and patient use with the laundering techniques controlled in line with the infectious control procedures. Evidently, operations and managements of the engineering services have improved with all works requested and complaints being tracked through a well-structured computerized management information system. A proper fault reporting system has also been defined. All the assets are registered and their maintenance histories updated. Planned preventive maintenance is scheduled and carried out on all biomedical equipment, plants, facilities and engineering systems, thus making the Ministry of Health the fore runner in instilling good maintenance culture within its organization.

National Institute of Health

INTRODUCTION



The National Institutes of Health (NIH) Malaysia was first conceived in the early 1990s and approved in the 7th Malaysia Plan. The NIH now comprises 7 institutes: Institute for Medical Research (IMR), Institute for Public Health (IPH), Institute for Health Management (IHM), Institute for Health Promotion (IHP), the Network of Clinical Research Centers (CRC), Institute for Health Systems Research (IHSR) and the National Institute for Natural Products, Vaccines and Biologicals (NINPVB).

Each NIH institute has its own major research thrusts. The IMR will focus on biomedical research, the CRC on clinical research, the IPH on public health research, the IHM on health management research, the IHP on behavioural research and the IHSR on health systems research. The NINPVB will conduct research on natural products, vaccines and biologicals as well as potential commercialization of the research products. While research is the core business of all NIH institutes, these institutes also provide training and conduct courses, workshop, seminars and conferences to disseminate research results to enhance research utilization. This is an effort to link research to training and practice as well as policy-making.

OBJECTIVES OF NIH

The inception of NIH was with the following primary objectives:

- i) Encourage health research to support health services
- ii) Encourage networking and linkages between component institutes of the NIH and also with other research agencies, within and outside the country

- iii) Encourage use of research in health management so that programs and research activities are needs driven and cost-effective, through priority setting, resource allocation and development of facilities and human resources that are effective and systematic and
- iv) Produce new discoveries to strengthen health systems and health technologies which are up to date.

INSTITUTE FOR MEDICAL RESEARCH

ACTIVITIES AND ACHIEVEMENTS

Research

In 2004, IMR was engaged in 79 projects. The Institute published 51 scientific papers and produced 31 reports. The reports are generally prepared to meet specific requests made by various government departments and agencies. In addition, staff of the Institute presented 163 papers at local and international conferences and seminars.

There are eight research centres in IMR.

Allergy and Immunology Research Centre (AIRC)

The Allergy and Immunology Research Centre is engaged in research and in providing specialized diagnostic tests in allergy, autoimmune disease, transplantation immunology and primary immunodeficiency. Research in food allergy is the central focus in this area. The project on fish allergy identified the major fish allergens with MALDI-TOF MS and Q-TOF MS. The aim of the second food allergy project is to determine the prevalence of sensitivity to food in children with autism and/or attention deficit hyperactive disorder. The objectives of an almost completed study of patients with allergic sinusitis/chronic sinusitis is to determine if their fungal allergy is implicated in the sinusitis and to identify the common fungal allergens. Research was also carried out to provide effective diagnostic tests in the field of allergy. The confirmation of a drug allergy, for instance, is especially difficult in the absence of reliable test. To this end, a study was conducted to evaluate the use of CD63 expression and leukotriene secretion as *in vitro* markers of basophil activation to diagnose drug allergy. The centre also evaluated the use of Phadiatop as an inhalant allergy screening test amongst local patients with allergy. The Centre continues to produce new standardized allergen extracts for use in the diagnosis of allergy. The project on the evaluation of a low cost in-house serum lipoprotein (a) test kit for the rapid assessment of coronary heart disease has been completed and the kit is ready for use in clinical laboratories.

Cancer Research Centre (CaRC)

The *Haematology Unit* carries out research and specialized diagnostics services mainly in the areas of anaemia, thalassaemia and haematological malignancies. The Unit serves as the national referral centre for bone-marrow cytogenetic studies and is also as the sole provider of the confirmatory test for alpha thalassaemia in the Ministry of Health. It continues

to explore the use of advanced molecular techniques to provide fast and accurate diagnosis for patients with haematological diseases. To this end, the Unit was occupied with studies on 1) the quantification of *BCR-ABL* fusion transcripts using real time PCR to monitor MRD (minimal residual disease) in CML patients, 2) the detection of haemoglobinopathies and thalassaemias by the Hydrasys Sytem, 3) the production of in-house probes for Flourescent *in situ* hybridization (FISH) using BAC (bacterial artificial chromosomes) clones, 4) developing a rapid PCR test for the detection of Fragile X Syndrome, 5) the monitoring of minimal residual disease in CML , and 6) the evaluation of KKU-DCIP Clear Reagent Kit for the diagnosis of HbE, a hemoglobinopathy.

The *Molecular Pathology Unit* was engaged in two major projects on cancers. The first project, a molecular study of colorectal cancer, due to be completed this year, was funded by the National Biotechnology Directorate, MOSTE. This study identified a number of mutations among sporadic colorectal tumours. The objectives of second project are 1) to screen microalgae extracts for anti-neoplastic and antiviral properties using nasopharyngeal carcinoma cell lines, and 2) to elucidate the mechanism of these properties at the molecular level. The Unit continues to provide a molecular diagnostic service for selected paediatric diseases such as MELAS, Angelman/Prader Willi syndrome and spinal muscular atrophy.

Cardiovascular Disease, Diabetes and Nutrition Centre (CDNRC)

The Cardiovascular Disease, Diabetes and Nutrition Centre (CDNRC) carried out three projects in 2004. The objective of first project, '*In vitro* and *in vivo* studies of water-soluble Kacip Fatimah extract', was to use cell culture and animal model studies to identify the bio-active fractions of Kacip Fatimah affecting the endocrine system. The data obtained from this study, undertaken by the *Diabetes and Metabolic Disorders (DMD) Unit*, will be included in the application to the Malaysian Dug Control Authority for permission to conduct clinical trials with the extract. Preliminary data suggests that the water soluble Kacip Fatimah extract does affect the endocrine system thereby supporting the traditional claims made about this herbal product. The second project, undertaken by the *Nutrition Unit* of CDNRC, is an evaluation of the efficacy of the water iodinator system in selected schools in Terengganu. The Ministry of Health has implemented an Iodine Deficiency Disorder eradication programme in which the water supply to schools in selected areas in Malaysia is iodinated with the water iodinator system. In Terengganu, the iodinated water supplementation programme has been operating since 1997. The objective of the study is to determine the efficacy of the water iodinator system and factors affecting this programme. The results showed that the water iodinator system has failed in its objective to provide iodine supplementation to school-going children in Terengganu. Following on from this project, the third CDNRC project examined the application of a modified micro-method for the measurement of urinary iodine. The main objective of this project was to improve upon current methods, used in the IMR, to measure urinary iodine. This assay is important in the assessment and monitoring of iodine deficiency in populations. The study showed that the turnaround time and cost were reduced in the modified method.

Environmental Health Research Centre (EHRC)

The Environmental Health Research Centre (EHRC) maintained its focus on environmental health related research and activities. In the year 2004, the Centre continued with the

study on the health effects of air pollution in the Klang Valley; started a project on exposure to mercury in dental health personnel; continued with the doctoral study of exposure to selected pesticides/insecticides in vegetables consumed by the population in Selangor; and collaborated with University of Monash on a microbiological study of drinking water from the distribution system of the Semenyih Treatment Plant. The Centre was also awarded a research grant from the Ministry of Natural Resources and the Environment (MONRE) to carry out a retrospective study on climate change and its relationship to selected disease patterns in Malaysia. The data from this study will be included in the UNDP Project Document entitled 'Enabling Activities for the Preparation of Malaysia's Second National Communication' to the United Nations Framework Convention on Climate Change (UNFCCC). The EHRC rendered its consultancy services in a public health study for a detailed Environmental Impact Assessment (EIA) for the proposed hydroelectric project in Ulu Jelai Pahang. The EHRC assisted in the investigation of the diarrhoeal outbreak in Cameron Highlands and Shah Alam by analyzing water samples from the affected areas. The EHRC continued to maintain its ISO14001 certification for the year with commitment to continue improving the environmental management systems for the prevention of pollution and the enhancement of health. The EHRC continued its role as an information clearing house, through the annual publication of the Environmental Health Focus.

Herbal Medicine Research Center (HMRC)

The four units of the Herbal Medicine Research Center *ie.* Phytochemistry, Bioassay, Toxicology and Pharmacology and Information collectively focus their research on establishing the efficacy and safety of herbal products.

The main activity of the *Phytochemistry Unit* is the extraction and fractionation of herbal products and the tandem development of methods such as High Performance Liquid Chromatography (HPLC) and Gas Chromatography – Mass Spectrometry (GC-MS) for the analysis of whole extracts and these isolated fractions. The Unit has also begun 1) the bioassay guided fractionation of plants like *Ganoderma*, *Hibiscus rosa sinensis* (Bunga Raya), *Vitex negundo* (Lemuni), *Gynura precumbens* (Sambung nyawa) and *Piper sarmentosum* (Kaduk), and 2) the development of a method for the extraction of essential oils from *Acorus calamus* and *Curcuma xanthorrhiza*.

The *Bioassay Unit* continues to screen plant extracts and current data shows that so far, 489 extracts have been screened for anti-malaria properties. The screened extracts include those from *Aralidium pinnatifidum* (Hempedu buaya, stem), *Mitragyna speciosa* and its active chemical compound, *Mitragynine*. Promising extracts are further studied to determine the mechanism of their action. The *in vivo* and *ex vivo* studies on *Goniothalamus scortechinii* (Selada putih) have identified a bioactive compound with potent anti-malaria activity. Drug combination studies, of this compound, are being carried out *in vitro* and *in vivo* to establish its efficacy as an anti-malarial. The unit is also in an advanced stage of research with *Eurycoma longifolia* (Tongkat Ali), which lead to a standardized anti-malaria product. Besides screening for anti-malaria activity, plants extracts, obtained from researchers within and outside IMR, have also been screened for anti-proliferative activity. Some of these extracts with good anti-proliferative potential have been studied further. The unit is extending the scope of its research by developing research methods to examine the hepato-protective and anti-hypertensive properties of certain medicinal plants.

The *Toxicology and Pharmacology Unit* conducted both *in vitro* and *in vivo* toxicology studies of selected plants with established properties. The studies on standardized preparation of *Labisia pumila* (Kacip fatimah), *Orthosiphon stamineus* (Misai kucing) and *Andrographis paniculata* (Hempedu bumi) have been completed. The information obtained from this phase will be utilized in Phase II of research which will involve clinical study. The Unit has developed the *in vitro* mutagenicity and genotoxicity tests. The latter employs the Ames and Mouse Lymphoma Assay (MLA).

The on-going development of the Global Information Hub on Integrated Medicine (Infohub) is being facilitated by the Information Unit. This year, the concept of this portal web was introduced in several international meetings including the ASEAN + 3 Meeting and the Bilateral Meetings with Thailand, China and Indonesia. The poster presentation won first prize at the 2nd International Congress on Traditional Medicine & Materia Medica, held in Iran. A community survey entitled '*Tinjauan Kebangsaan Penggunaan Perubatan Tradisional dan Komplementari*' was carried out in August 2004. This is a collaborative project between Herbal Medicine Research Centre and the Institute of Health System Research. The objective is to study the Traditional & Complementary Medicine (T/CM) practices in Malaysia, specifically seeking to determine the prevalence, distribution and pattern of utilization of T/CM in the community as well to determine the community-perceived esteem for T/CM practitioners or doyens. This survey covered around 2000 private households in all the states of Malaysia (7926 respondents), using face-to-face interview and post-coded questionnaires. The project is currently at the data cleaning stage and the report should be issued before the end of 2005.

Infectious Disease Research Centre (IDRC)

The major thrust of research in the *Acarology Unit* continues to be in ticks and tick-borne diseases. The on-going work on human otoacariasis, with Hospital Tengku Ampuan Afzan, Kuantan, yielded 63 ticks, which was less than the yield of the previous year. All ticks isolated were *Dermacentor* spp with 4 adult *Dermacentor astrosignatus*. Work to elucidate the laboratory life-cycle duration of a local tick *Haemaphysalis nadchatrami*; was started with engorged ticks collected off goats from Bentong, Pahang. The laboratory life-cycle of a storage mite *Tyrophagus putrescentiae* was also studied. In this regard, various methods used in the *in vitro* feeding of ticks were studied to facilitate the establishment of laboratory colonies of ticks. The Unit participated in scientific expeditions to Tasik Chini Forest Reserve, Pahang; Bukit Labohan Forest Reserve, Terengganu; and, Gunung Mandi Angin Forest Reserve, Terengganu. Many acarine ectoparasites were collected from the small mammals and birds trapped in these expeditions and their species distribution data added considerably to the existing knowledge of acarine fauna in Malaysia. A survey of house dust mites in a students' hostel was initiated to determine whether there is an association between mite densities and different floor levels in the hostel building.

The *Bacteriology Unit* continued its surveillance of resistance, in certain bacteria, to commonly prescribed antibiotics. A preliminary study on the *in vitro* antibiotic susceptibility of Malaysian *Helicobacter pylori* isolates was carried out to determine the resistance pattern of this organism to the commonly prescribed antibiotics, namely clarithromycin, amoxicillin, amoxicillin-clavulanate, metronidazole, ciprofloxacin, levofloxacin and tetracycline.

Another study examined the effect of changing the empirical antibiotic therapy, for febrile neutropenic patients, from ceftazidim-amikacin to cefepime-amikacin, on the incidence of Extended Spectrum Beta-lactamase (ESBL) related infections in the paediatric Oncology and Bone Marrow Transplant Ward, Kuala Lumpur Hospital. To date the Unit has isolated 65 strains of *Enterobacteriaceae* from rectal swabs obtained in this study and 31 (48%) were found to be ESBL producers. Another study in the surveillance of resistance to commonly prescribed antibiotics, examined strains isolated from stool specimens of households in Selangor and Wilayah Persekutuan. This study was done in collaboration with Epidemiology Unit, IMR. A study of the susceptibility pattern of methicillin-resistant *Staphylococcus aureus* (MRSA) against teicoplanin showed that such strains from Malaysian hospitals are susceptible to teicoplanin. Hence, this antibiotic has the potential as an alternative regime in the treatment of MRSA infections. The Unit continued its surveillance of antibiotic resistance in several bacteria, namely enteropathogens, *Streptococcus pneumoniae* and *Haemophilus influenzae*. The Unit also started a study on optimization of PCR and sequence analysis of *rdxA* gene in metronidazole resistant and sensitive *Helicobacter pylori* strains in Malaysia. The aim was to determine the mechanism of mutation in *rdxA* gene.

A study on phenotypic and molecular characterization of *Leptospira interrogans* and epidemiology of leptospirosis in 7 Malaysian hospitals was carried out. The aims of the study were to characterize *Leptospira interrogans* isolated from patients in hospitals in Malaysia, both by phenotypic observation and by molecular technique, and to determine the epidemiology of the disease caused by this organism.

Research into vector biology and control was the major focus of the Medical *Entomology Unit* in 2004. More studies on mosquito microbial control agents were initiated which included the evaluation of a new tablet formulation (Vectobac DTâ) of *Bacillus thuringiensis* H-14 (Bti) against container-breeding *Aedes* larvae. Initial field testing indicated this formulation was promising in dengue control programme. Another study was also conducted to test the bioefficacy of a new formulation of Bti, VectoBac WG applied by mass fogging in the control of dengue vectors in a residential area in Selangor. The preliminary results were encouraging and the trial is on-going. An IGR (insect growth regulator), diflubenzuron was field tested against container-breeding *Aedes* larvae & early results were promising. In another study on dengue vectors, a new formulation of IGR, pyriproxifen was lab- & field-tested against container-breeding *Aedes* larvae. Applied at a dosage of 0.02 mg/L, the larvae were completely eliminated for 4 months in the lab & 10 weeks under field conditions. A study on the infection proteins of dengue infected *Aedes aegypti* & *Ae albopictus* showed the presence of specific proteins, which may be diagnostic, while attempts to irradiate the adults with ultra-violet light C to alter their susceptibility to dengue virus failed. For the rapid detection of dengue virus in the vector mosquitoes, RT-PCR techniques were developed & optimised. A RT-PCR kit was subsequently designed and developed.

Field evaluation of a new formulation of deltamethrin against malaria in aboriginal settlements by residual spraying in Pahang was initiated in August. This WG formulation is expected to be more superior than the WP formulation currently used. The WG formulation was also pre-tested on bamboo surfaces in the lab to simulate surfaces in the village houses. Applied at 20 mg/m², the formulation remained effective up to 6 months against *An maculatus*. At the regional level, a longitudinal malaria survey in Laos represented a major

malaria study by the Unit. *An. dirus* A was found to be the primary vector and sporozoite rates were highest during the dry season.

In the studies of chemical insecticides, the temporal effect of pyrethroid formulations applied by ULV generator against the housefly, *Musca domestica* was looked into. It was found that the best time to conduct space spraying against the strains tested was in the afternoon. Other insect studies carried out included mosquito larval survey in Putrajaya, extraction of anti-microbial agents from larvae of *Lucilia cuprina* used for maggot debridement therapy, protein profiles that may be diagnostic in corpse-inhibiting fly maggots, factors accounting for the breeding of biting midges in coastal area, field evaluation of rodenticides and survey of fleas in field-collected rodents.

The *Parasitology Unit* continued to collaborate with the Institute of Tropical Medicine, University of Nagasaki, Japan in the area of research on protective immunity against malaria among the Orang Asli (OA). The OA have been previously reported to express HLA-B*1513 which appears to protect them from severe malaria. Selected peptides of *Plasmodium falciparum* targeting the epitopes of CD8+ t-cell were designed and their responses measured by the amount of IFN-gamma produced were studied. About 60% of HLA-B*1513 positive individuals showed a positive response to some of the peptides whereas none of the HLA-B*1513 negative individuals responded. The peptides were derived from genes expressed in the sporozoite or late trophozoite stages. Other research activities include studies on the screening of local plant extracts for anti-malarial properties, the seroprevalence of cysticercosis, the re-investigation of *Schistosoma malayensis* foci in Kedah and molecular studies on *Toxoplasma gondii*.

The Parasitology Unit continued to serve as the WHO Collaborating Centre for Training of Lymphatic Filariasis Elimination Programme since 2003. At regional level, the Centre hosted and organized the 3rd SEARO-WPRO Programme's Managers Meeting and the 4th WPRO Proposal Review Group (PRG) meeting in March, 2nd till 4th of 2004. During these meetings, training on the new mapping software for the Programme to Eliminate Lymphatic Filariasis (PELF) was also conducted. A total of 30 participants from various countries within the SEARO and WPRO WHO regions attended the training session. At national level, the Unit continued to support the national lymphatic filariasis elimination programme through consultation and training activities including microscopy training for local participants in Slim River, Perak and a workshop in Johor Bahru organized by Vector Borne Disease Control Section, Ministry of Health.

The Unit has served as the National Coordinator for the National Anti-Malaria Drugs Response Surveillance Programme since 2003 to support the MOH Malaria Control Programme. Data collected is useful in monitoring drug resistant malaria in the local population. In line with the National Quality Assurance programme, Parasitology Unit initiated and continues to provide the External Quality Assurance Programme in malaria and filariasis microscopy for the State Vector Laboratories since 2003. However, it is envisaged that the function will be carried out by National Public Health Laboratory, Sungai Buloh, once it is able to handle the programme

The Unit was also directly involved in organizing the 3 days Drugs for Neglected Diseases Initiative (DNDi) Asia Meeting and Workshop. The meeting was hosted and organized by

the Ministry of Health Malaysia, in collaboration with DNDi and WHO, in February 2004. The purpose of the meeting was to identify capabilities and capacities in drug research, development and production, in the region, particularly targeting the neglected diseases endemic in Asia. A total of 120 participants from Asia, Europe and Americas attended the meeting.

The *Virology Unit* focussed on research pertaining to locally important medical viruses, aiming to determine the epidemiology of the viruses and to develop new technology for the rapid diagnosis of these viruses. In August 2004, the Unit was involved in the investigation of the Avian Influenza outbreak having been designated the National Reference Laboratory for Avian Influenza in early 2004. From August to October 2004 a total of 29 suspected cases from Kelantan (the state where the highly pathogenic avian Influenza, H5N1 was detected among poultry) were investigated. Virus isolation and PCR was carried out on 93 samples from these patients. All tested negative. A real time PCR was optimized in the unit and preliminary results were available within 24 -36 hours of receipt of sample. With the experience gained from the SARS outbreak, staff were able to work efficiently and confidently in the P3 laboratory. We were also involved in the investigation of other outbreaks such as dengue, meningoencephalitis and influenza. The Unit also continued to provide laboratory support for the liver transplant services of Selayang Hospital.

Studies to determine the viral aetiology of acute and chronic hepatitis continue. The current data confirms earlier observations that hepatitis A is still the main cause of acute viral hepatitis in symptomatic/hospitalised Malaysian patients. A significantly larger proportion of chronic liver disease and liver cancer in our population is due to hepatitis B virus rather than the hepatitis C virus. The project on maternal-child HIV initiated in 1990 is aimed at determining the epidemiology of paediatric HIV and evaluating available diagnostic tests to facilitate early diagnosis of paediatric HIV infection. The Polymerase Chain Reaction (PCR) technique routinely provides early diagnosis of HIV infection in the paediatric age group. The programme of HIV sero-surveillance continued with the division serving as the National reference centre for the study of cases with difficult or unresolved serology. HIV-2 sero-surveillance was introduced several years ago. Current data indicates that HIV-2 has not been introduced into the local Malaysian population. The Unit also carried out a surveillance programme on circulating dengue virus serotype, influenza and hand, foot and mouth diseases for Ministry of Health. The dominant circulating dengue serotype for 2004 was Dengue 1 and Influenza A/Fujian/411/2002-like strain was found to be the predominant strain in the first half of the year and A/Wellington/1/2004-like strain was the predominant strain in the latter half of the year.

Medical Research Resource Centre (MRRC)

The Medical Research Resource Centre (MRRC) comprises of nine units, namely Epidemiology & Biostatistics, Information Technology, Biotechnology, Evidence Based Medicine, Laboratory Animal Resources, Electron Microscope, Library & Information Resource, Medical Photography & Audio Visual and Biomedical Museum. The core function of the centre is to provide their services to the other research centres in IMR and to the Ministry of Health.

The *Biotechnology Unit* continued to carry out research on *Legionella pneumophila*. A case of Legionnaires' disease was reported after detecting *Legionella* antigen and DNA in the patient's urine samples. This 38-year-old male patient was admitted to a private hospital in Kuala Lumpur and presented with fever, symptoms of respiratory infection and diarrhoea. Sputum, stool and blood cultures were negative and serological tests for *Mycoplasma* and *Legionella* were also negative. However, an in-house sandwich ELISA, developed using four different monoclonal antibodies against *L.pneumophila* serogroup 1, was performed on his urine sample. This tested positive for the *L. pneumophila* antigen. The *L.pneumophila* mip gene was also detected in his urine by polymerase chain reaction and was confirmed by DNA sequencing. The patient responded well to treatment with erythromycin. Therefore, *L.pneumophila* should not be overlooked as one of the causative agents of pneumonia and rapid detection of antigen and DNA in urine should be employed to provide an early diagnosis of the infection. The Unit also continued to investigate the role of other genes in the susceptibility to systemic lupus erythematosus. The role of the angiotensin-converting enzyme (ACE) gene was investigated in Chinese patients with systemic lupus erythematosus specifically the correlation between insertion (I)/deletion(D) polymorphism in this gene. The data from this study suggested that the ACE genotype was not associated with genetic susceptibility to SLE in this particular group. The Unit also studied the giardine gene of *Giardia duodenalis* (local isolates) obtained from a group of Orang Asli admitted to Gombak Hospital by polymerase chain reaction. The study concluded that the two set of primers used were able to detect *G. duodenalis* to the genus and species levels specifically.

The *Epidemiology and Biostatistics Unit* was engaged in the following research projects: 1) Burden of Disease, 2) Bacterial Transmission among new army recruits in Port Dickson (PD), 3) Knowledge, attitudes and practices of dengue among students in Faculty of Allied Health Science, National University of Malaysia (UKM) and among populations in Bandar Baru Bangi, Selangor, 4) The study of mosquitoes associated with *Dirofilaria* (DogHeartworm) in 3 different areas in Kuala Lumpur and 5) Sensitivity study of a commercially available rapid diagnosis test kit in comparison to the gold standard wet mount method of detecting microfilaria in dogs. The 'Burden of Disease' study, which is being done in collaboration with the Institute of Public Health, is partially supported by, both, the World Health Organization (WHO) and the Ministry of Health, Malaysia. Both the Disability Adjusted Life Years (DALY), a measure of the total impact of mortality and non-fatal health outcome of disease and illness, and Years of Life Lost (YLL) are being used to evaluate the burden of disease. A Burden of Disease report for the year 2000 is near completion. The study of bacterial transmission among new army recruits in PD was conducted in collaboration with the Bacteriology Unit, IMR. The study of the knowledge, attitudes and practices of dengue among students in Faculty of Allied Health Science, UKM and among the populations in Bandar Baru Bangi, Selangor was carried out with the assistance of university students, on attachment to the Epidemiology Unit. The report of this study is also near completion. The two projects on *Dirofilaria* (Dog Heartworm) listed above are being conducted in collaboration with the Entomology Unit IMR. The Unit also provided consultancy services in epidemiology and statistics and training in research methodology within and outside the institute.

Specialized Diagnostics Centre (SDC)

The *Biochemistry Unit*, SDC maintained a core interest in method development for the early diagnosis and management of Inherited Metabolic Disorders in Malaysia. Three new methods were developed in 2004. Firstly, a rapid screening method for amino acid, organic acid and fatty acid disorders which employs state-of-the-art technology was developed and evaluated in 2004. This method allows the rapid screening of these disorders to be done in 2 minutes and will be used to provide an early diagnosis of IMD for newborns in Malaysia. Two screening methods being developed for Lysosomal Storage disease are: a method using enzyme chitotriosidase, found in the lysosomes of white blood cells, and a method using thin layer chromatography to screen for urinary oligosaccharide. A comparison of methods for analyzing amino acids was carried out to explore the possibility of replacing the expensive and slow HPLC method with the fast and cheap tandem mass spectrometer. Our preliminary study showed good correlation between the two methods. A new method for the diagnosis of peroxisomal diseases, such as the analysis of very long chain fatty acids and phytanic acids, is being developed by a UKM student as her Master's project. The work is being done in our laboratory under the co-supervision of a staff member of the Unit. This method uses gas chromatography with a flame ionization detector. The Unit also evaluated newly developed methods such as the assays for carnitine, mucopolysaccharides detection and homocysteine measurement to ensure that they are appropriate. Data to determine normal reference ranges and cut off levels for these new analytes is being collected for the interpretation of results. The analysis of data from patient samples received in 2004 provided valuable information on the incidence and phenotype of diseases such as pheochromocytoma, 3-hydroxyisobutyric Acidemia, Ethylmalonic aciduria and glycerol kinase deficiency, in Malaysia.

The *Unit of Molecular Diagnostics and Protein* in the Specialized Diagnostics Centre serves as the Referral Specific Protein Laboratory for diseases such as Multiple Myeloma and other Paraproteinemias. Studies have also been conducted on "Effects of M-Proteins on Polyclonal Immunoglobulins in Patients with Monoclonal Gammopathies" and "IgG Subclasses In Multiple Myeloma in Malaysia". During the course of 2004 it has strengthened its research and development in mutational screening by DHPLC and mutational analyses of gene sequences in a number of genes of interest. These genes include the ETHE1 gene, which is examined in ethylmalonyl encephalopathy, and certain mitochondrial genes, namely D-Loop, ND1, ND4, Cytochrome B and MTATP 6 genes, which are investigated in mitochondrial myopathy. The screening of amplified products mixed with wild-type amplicons of the ETHE1 gene by DHPLC detected the presence of a heterozygous and homozygous mutation in exon 2 and 5 from four patients in 21 patients analyzed. DNA sequencing confirmed the nucleotide changes that lead to amino acid changes in both cases. At the end of the year, acquisition of a Real-Time PCR thermocycler, added SNP detection or allelic discrimination, genotyping and the quantitation of genes, to the capability of the Unit. The Unit has established the method of amplification and sequencing of the FRAXA 1 gene for Fragile X syndrome screening. The number of CGG repeats revealed in amplicon sequencing enables the discrimination between normal and pre-mutation patients and the full mutation where amplification fails. The confirmation of full mutation Fragile X syndrome by non-radioactive Southern Blotting is also being developed and is in the final stage of optimization. With the development of all the above methods the Unit has gone a

step forward towards strengthening its second major function as a referral laboratory for molecular diagnostics in certain genetic diseases, particularly those affecting biochemical parameters, for the country. The Unit continued to participate in the final year of a prioritized MBD-IRPA research project on Mutational Analysis Of CDKN1B and Mitochondrial Genes In Colorectal Carcinoma.

- **Diagnostic Services**

In 2004, the Institute performed 226,738 diagnostic tests compared to 188,653 in 2003, represents an increase of 20 %.

- **Consultative Services**

Staff members of the IMR provided advisory and consultative services to the Ministry of Health (MOH) Malaysia, other government departments and agencies, as well as international organizations. Most units of the Institute also serve as referral centres for MOH laboratories throughout the country.

- **Scientific and Technical Training Programmes**

Training activities carried out by the Institute comprise both 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 three-year Diploma in Medical Laboratory Technology course 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 274 scientists, medical doctors and allied personnel from other departments and local and foreign institutes. A total of 61 undergraduates from various local tertiary institutions received training through attachments spent at the various units at the institute. The Institute also conducted 62 training courses during the year.

- **Conferences and Staff Development**

Staff members of the Institute participated actively in both local and international conferences. A total of 929 staff members attended 186 conferences, seminars and scientific meetings while 435 attended 88 short national and international courses. In the course of the year, 7 scientists from the institute obtained their Masters and 3 received their PhD degrees.

ACTIVITIES AND ACHIEVEMENTS

Research

The year 2004 saw the staff in the Institute initiating several major research projects carried out on its own or in collaboration with and funding from several agencies like WHO, JHEOA, IRPA & UNDP. These include the National Burden of Disease Study, Improving the Medically Certified Death Certification, the Health Status of Orang Asli, Indoor Air Quality, Malaysian National Health Accounts, Attitude towards smoking among medical students in University Malaya, National Ear and Hearing Disorders, Dietary Practices, Intervention Package to Improve Exclusive Breastfeeding Practice and Evaluation of Young Doctors Programme in the primary schools in Kelantan, Trengganu and Pahang.

In addition to the above there were also about 30 intervention projects aimed at behavior change in the community undertaken by the student Health Education officers with the supervision from Health Education Officer in IPH and lecturers from UKM.

Special Projects

Several major research projects were carried out. Among these were the National Burden of Disease Study which started in 2001, the National Ear and Hearing Disorders which started in 2003 and the Breast Feeding Intervention Package.

Preparations are underway for the Third National Health Morbidity Survey.

Training

There were eleven long courses conducted in the Institute. These included the training of Health Education Officers at the Post Graduate level for 2 groups, the Health Inspectors Basic and Post Basic training and the Public Health Nurses Training (April & July session). In addition to these, 48 short courses were conducted for public health personnel.

Consultancy Services

The Institute also provided consultancy services. Among the notable ones are in the field of Burden of Disease, Breast Feeding, Risk Communication for program managers and professional staff. The Institute also contributed significantly in planning and organizing the First Asia Pacific Conference on Public Health.

Two free papers were presented at the First Asia Pacific Conference on the Burden of Disease.

Staff Development

To equip the staff in the IPH with the latest educational technology and to keep abreast with the latest developments in the relevant fields of public health and information

technology, staff members were sent for various courses, workshops, seminars and conferences. Two members were given international exposure at the John Hopkins School of Public Health, USA on Quality Assurance and Risk Communication.

CONCLUSION

The Institute for Public Health aspires to become a regional center for public health training and also to be in the forefront of public health research. In mounting for these challenges the Institute has already undertaken the Third National Health and Morbidity Survey, and The National Ear and Hearing Disorders Survey and is also increasing number of short courses as requested by its clients.

INSTITUTE FOR HEALTH SYSTEMS RESEARCH

ACTIVITIES AND ACHIEVEMENTS

The activities successfully undertaken in 2004 were as follows:

Research

- The World Health Survey 2002(WHS 2002)

The Institute spearheaded the Malaysia-WHO WHS 2002 which attempted to study the country's Health System Performance and seek to measure this in terms of health levels, health equalities, responsiveness levels, responsiveness equalities, and fairness of financial contribution. Data collection and data entry were completed in 2003, ahead of many other countries which participated in this multi-country survey. In 2004, the Institute carried out literature review and some preliminary analyses while awaiting the standardisation and further guidance from the WHO coordinating teams in Geneva to complete the analysis and report-writing.

- Situational Analysis of the Implementation of MSC-MOH Tele-Consultation Services(TCS)

A study to describe the extent of implementation of the Tele-Consultation Services at all 42 sites had been undertaken. Self-administered questionnaires were given to state coordinators responsible for the implementation and also the end-users of TC. Data on the utilization pattern obtained from the vendor was also analyzed. In general, the findings noted uneven utilization uptake of the TC services with better utilization amongst those facilities with family medicine specialists and for radiology consultation.

- Pilot Study on Health Research System Analysis (Continuation)

This is a project continued from 2003. Health Research System Analysis is an effort by the WHO to strengthen health research capacity and health research systems in

its member countries. It was initiated and coordinated by the Department of Research Policy & Cooperation, World Health Organization (WHO) Geneva. A common methodology was used by participating countries to enable them to describe and analyze their health research systems and stimulate action; understand the contribution of health research systems in improving health and health equity; and enable evidence-based advocacy to governments and international organizations to increase investments in health research. In 2004, the Institute continued to participate in the pilot study which involved data collection for survey on individuals, media analysis and focus group discussions. The instruments for survey on organizations and country information are expected to be ready by 2005. From the results of the pilot study and other available information, the Institute is presently working on a case study on enhancing the use of research results for policy action.

- National Community Survey on the Utilization of Traditional and Complementary Medicine (New)

Designed as a cross-sectional community-based study, the survey sought to acquire as much information on the prevalence and practices of T/CM in the Malaysian community. The latter included the types of health problems or conditions that made people choose T/CM, preferred T/CM products and procedures, frequency of visits to practitioners and expenditures on T/CM. In addition, the survey also attempted to identify and compile a list of well known T/CM practitioners (doyens), from the perspective of the community. The data collection phase was concluded in 6 weeks and had yielded a response rate of 81.2 %. Presently, data cleaning is being carried out to be followed by data analysis and report writing.

- Implementation of the Client Charter in the Ministry of Health Malaysia (New)

This involved almost all health facilities in the country as well as a sample of the clients to the facilities. The results from the study will provide information on the extent of availability of the Client Charter, a description of the approaches adopted in its development, the extent and mode of its monitoring and evaluation as well as the quality (including comprehensiveness, adequacy and responsiveness) of its content. The study is presently in the data entry and data cleaning phase.

In addition, the Institute facilitated more than 20 projects as part of its on-going Research Methodology Workshops, and was also actively involved as collaborators to the following projects:

- Evaluation of Family Medicine Specialists(FMS)
- Young Adult's Oral Health
- Evaluation of the "TAK NAK" Campaign
- Development of the Quality of Life (QOL) Index for Malaysian Population
- Socio-economic Impact of Psychiatric Disorders and Quality of Life
- Foresight 2015
- "Kacip Fatimah": A Qualitative Study
- An Intervention Study On Infant Feeding Practices In Negeri Sembilan

Training

In 2004, the Institute conducted 17 courses. A total of 728 attendees had received training in fields related to research methodology in HSR, Health Outcomes, Quality Improvements and community survey.

As a WHO Collaborating Centre, the Institute had played host to many Visiting Fellows, national and international visitors, and student attachments. In 2004, the Fellows and Visitors came from Mongolia, USA, UK and Japan. The Institute also provided attachment programs for a number of final year and masters students from local universities.

The Institute continued with its own human resource strengthening and capacity building by sending its officers to various training courses both locally and internationally.

Consultancy Services

Throughout 2004, IHSR's professional staff had been actively involved in providing consultancies and technical assistance in the various fields.

In addition, they were also involved in delivering lectures and as invited speakers at the various conferences and seminars organised both by the MOH and local academic institutions.

For the year 2004, the Institute had engaged a consultant from SIRIM, Malaysia to assist its members in understanding the concept and the mode of implementation of ISO 9001:2000.

Presentations and Publications

Being a research institute, presentations and publications are a priority to the Institute. A total of 26 presentations at various national and international forums had been made. In addition, 10 articles had successfully made its way into journal publications and 13 reports had been published in proceedings and bulletins.

The Institute had also successfully co-authored and published 3 books on quality improvements, namely: *"Promoting Quality"*, *"Managing Performance"*, and *"Training of Trainers for Quality Assurance"*. In addition, 4 training manuals for use in the National Community Survey on the Utilisation of Traditional and Complementary Medicine amongst the Malaysian Community had also been developed.

The Institute also continued to maintain registries of all HSR projects conducted and personnel trained in HSR Methodology, Health Outcomes and Quality Assurance workshops throughout the country, with copies of the reports available in the Institute's resource centre. These registries can also be accessed online through the Institute's website (www.ihsr.gov.my).

CONCLUSION

To further promote Health Systems Research and other related research and creative endeavors, the IHSR will continue to emphasize on collaborative research areas, these include improving patient safety, patient-centered outcomes, policy analysis as well as to find ways of strengthening the utilization of research findings. In addition, the capacity and capability of the institute is being strengthened through networking and linkages with other research organizations. Being a WHO Collaborating Centre for Health Systems Research and Quality Assurance/Quality Improvement (QA/QI), IHSR will continue to provide technical support to Western-Pacific countries in areas of HSR and QA/QI.

INSTITUTE FOR HEALTH MANAGEMENT

ACTIVITIES AND ACHIEVEMENTS

There are three core functions of IHM namely research, training and consultation related to area of health management, that were carried out incrementally since 2001. However, since IHM has the facilities for training in terms of space and equipments, demand on using those facilities are markedly increasing. In 2004, IHM had 65 collaborative activities with various agencies be it within ministry or NGOs as compared to 49 in 2003 and 18 in 2002.

There are two types of research that are carried out by IHM, those planned early of the year and ad-hoc basis which commonly instructed by the top management of MOH whenever there are emerging issues. In general, average for research conducted by IHM is four per year. In 2004, 4 out of 6 researches were completed within the same year. Out of that 2 were ad hoc basis. Findings were either presented or published in scientific journal. For details, refer Table 1.

TABLE 1
Performance of Research by IHM, 2001- 2004

Research	Year			
	2001	2002	2001	2001
Total number of research projects planned	2	4	1	6
Total number of research projects completed	2	4	1	4
Total number of research findings presented/ published	4	46	7	5

Training component has gradually increased in numbers as in line with increase demand and manpower capacity. In 2001, there were 5 training courses offered. However, in the following year, 35 courses were conducted as the training capability and capacity were available. Since then, the average courses conducted remain around 36 per year. In 2004, IHM had conducted 83.7% of the total training planned as in Table 2.

TABLE 2
Performance of Training in 2004

Training	2004		
	planned	conducted	% achieved
Total number of training	43	36	83.7
• Research related (<i>e.g action research</i>)	2	2	100.0
• Services related	31	25	80.6
• ICT related	10	9	90.0

As a training center, IHM had produced several modules and publication related to the training needs and health management related issues. In 2004, there were 3 publications developed namely “Towards Patient’s Delight”, “Guidelines in Auditing MS ISO 9001:2000” and “*Penerapan Budaya Korporat*”.

The third component of IHM core function is consultation. To date, the requests were mainly in the area of quality and information technology such as auditing and documentation related to MS ISO 9001:2000 and statistical software usage.

CONCLUSION

Despite of shortage in manpower capacity, IHM strives to fulfill the need of health care providers and MOH in general. Within the limited capacity, the core functions of IHM continue to prosper. Smart partnership, effective and efficient collaborative networking, ensures the continuity of services provided. Continuous support from the top management are crucial in ensuring things to be and can be done promptly and efficiently.

NETWORK OF CLINICAL RESEARCH CENTERS

ACTIVITIES AND ACHIEVEMENTS

Research

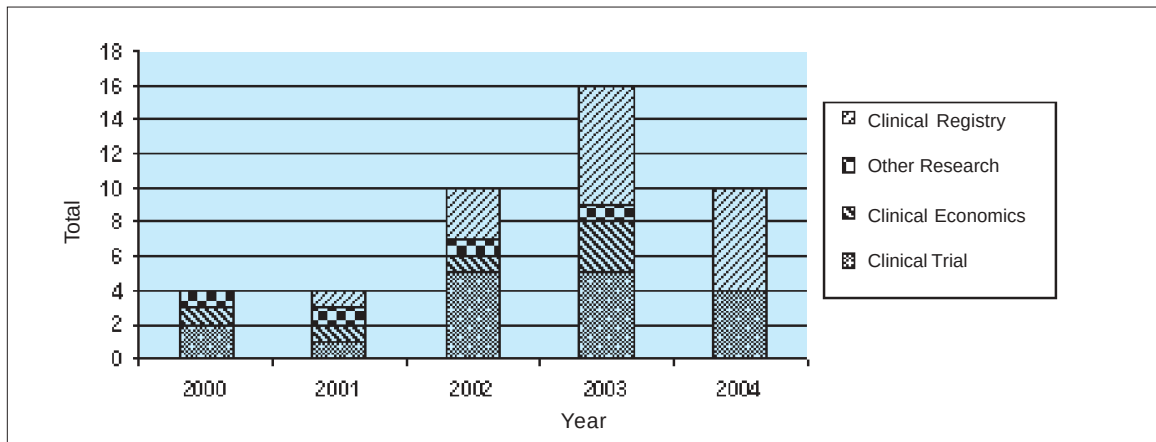
Overall there seems to be an increase in the number of projects undertaken by CRC. The number of projects is as shown in Figure 1

Publication

Overall there seems to be an increase in research publications and technical reports from year to year. The details are shown in Figure 2. There has been a gradual shift from publications in MJM and regional journals towards publications in international journals such as the American Heart Journal.

*Research publications available for <http://www.crc.gov.my/publications/>

FIGURE 1
Projects Undertaken by CRC



Training

There were a total of 8 courses conducted by CRC in 2004, training a total of 241 participants. Among the specific areas of expertise provided were on research methodology & biostatistics, good clinical practice, clinical economics workshop, quality improvement in health care and critical appraisal.

Consultation

There were a total of 51 consultations in year 2004. The requests for consultations were mainly from Hospital Kuala Lumpur clinicians and Master's students on attachment in Hospital Kuala Lumpur. The consultations were mainly for study design and statistical analysis. There were 3 consultancies on Good Clinical Practice to University of Guangzhou, China and Institute for Research in TCM Beijing, China under World Health Organization (WHO) sponsorship.

Awards

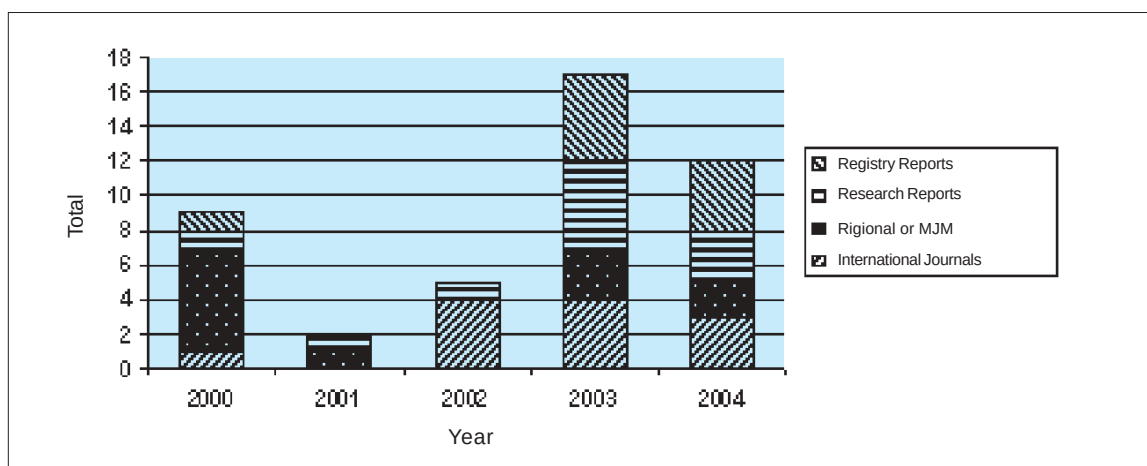
Peter Reizenstein Prize

The "Assessing Doctors" performance: Application of CUSUM technique in monitoring doctor's performance. *"Int J Quality in Health Care 2002;14:251-8"* was nominated as best paper published for the Peter Reizenstein Prize, first for Malaysia in association with the journal.

CONCLUSION

In 2004, CRC was organized into seven units of which four (Clinical Epidemiology, Evidence Based Medicine, Clinical Trials & Clinical Economics) were research units while the remaining three were support units. In terms of manpower, 26% of posts remained unfilled in CRC including 1 U48 post, 2 Q41 posts and 1 Q27 post. Research activities have increased,

FIGURE 2
Total Research Publication



especially in the establishment and maintenance of clinical databases. The increasing workload on clinical databases is reflected in the increasing number of registry reports while research publications and technical reports have remained relatively stable. It should be noted that given the increasing size and complexity of the types of the research projects undertaken by CRC, most of the recent research require a longer duration to complete and may not be completed within the reporting year when the research grant was awarded. Training has also become an increasingly important activity for CRC. Both the number of training events and the average number of participants per event have increased, placing more strain on the staff concerned to organize and coordinate the events concerned. CRC has set a track record of being able to deliver its promise to her clients in term of research and research related projects. CRC intends to maintain this track record with the vision of one day becoming the National preferred partner for future clinical research.

THE NATIONAL INSTITUTE FOR NATURAL PRODUCTS, VACCINES AND BIOLOGICALS

The National Committee for Herbal Medicine Research and Development (NRDHM), approved by the Cabinet in April 2002 and launched by the Minister of Health on 22 March 2003, is spearheaded by the Ministry of Health and will strategize the development and coordination of the master plan for R&D in herbal medicine research, produce relevant guidelines to ensure quality, safety and integrity of data in line with local regulations, create harmonization, understanding and collaboration between researchers, identify training and infrastructure needs in herbal medicine R&D, set targets and facilitate new product discovery and development and address issues pertaining to Intellectual Property Rights.

On 21 May 2003, YAB Prime Minister announced the setting up of a National Institute for Natural Products, Vaccines and Biologicals (NINPVB) under the auspices of the Ministry of Health. The NINPVB is the Ministry of Health's contribution to the Prime Minister's aspiration of making Malaysia the region's biotechnology hub and becoming a developed country by 2020. Till completion of the building and infrastructure, the research activities will be initiated and housed in the Institute for Medical Research in Jalan Pahang, Kuala Lumpur.

Natural products offer a vast and virtually unlimited source of new agents for pharmaceutical industries. The government has allocated vast amounts of funding through various mechanisms in the last two decades to promote research and development of Malaysia's own homegrown herbal medicinal products but to date there has been no commercial Malaysian herbal medicinal product available. The reasons for this include the lack of a research and development blueprint in herbal medicinal products, fragmented and duplicated research and the lack of an attractive and conducive environment that can foster biotechnology development and investment in infrastructure as well as commercialization. In addition to this, there is no one single facility that could cater for all aspects of research in natural products from discovery to market.

As for Vaccines, Malaysia was producing its own vaccines in the early 20th century through the Vaccine Producing Unit (VPU) in IMR. Several vaccines including Smallpox vaccines, Rabies vaccines, Cholera vaccines, Typhoid / paratyphoid vaccines, Tuberculin injections and Anti-venoms against Malaysian Pit Piper were produced. The MOH saved large sums of foreign exchange, which would otherwise have been spent on purchasing vaccines. Unfortunately the VPU was officially closed and vaccine supplies for Malaysia had to be obtained entirely from abroad. This entire dependence on vaccine would mean that Malaysia have to allocate vast amounts of funds for the increasing need to control endemic infectious diseases in the country and the region. There is therefore a need to cater for R&D and production of new vaccines required for diseases prevalent in the region e.g. dengue, nipah, enterovirus and Japanese encephalitis, in this country.

PROPOSED FUNCTIONS OF NINPVB

This Institute will perform 3 main functions, namely:

- i) To complement and execute the activities of the National Committee for Research & Development in Herbal Medicine (NRDHM) and bring to market, potential herbal medicinal products besides prioritising research in natural products with medicinal potential.
- ii) Conduct research and development of selected vaccines of importance to the nation and the region using the latest technologies and
- iii) To create a conducive environment for development of entrepreneurship among researchers as well as drive and develop smart partnerships with the industry and appropriate centers of excellence.

RESEARCH AGENDA

For Natural Products, the NINPVB will implement, promote and monitor rigorous research in T/CM, bring together an alliance of expertise within MOH, other local research institutions and private entities with the purpose of integrating research, development, clinical trials and commercialization of potentially useful natural products, support, enhance and complement the coordinating and consolidation efforts undertaken for R&D in Herbal Medicine through the NRDHM and establish public-private sector collaboration to accelerate and fast track the commercialization of potential herbal medicinal products by

promoting inter-sectoral research using government grants eg Industrial Grant Scheme to support research and development. It will also promote establishment of manufacturing facilities to support the production of herbal products, laboratories capable of conducting high-end technologies currently not available in Malaysia and the region for the discovery and development of herbal products, promote the conduct of basic and applied multidisciplinary research to discover and develop natural products for use as pharmaceuticals and dietary supplements and facilitate the understanding of the biological and chemical properties of medicinal plants.

For Vaccines, the NINPVB will ensure adequate supply of basic childhood vaccines (DPT, OPV/IPV, Hepatitis B, MMR HiB), cater for R&D for newer vaccines required as per disease prevalence in the ASEAN region (Nipah virus vaccines, Japanese Encephalitis vaccine, Enterovirus vaccines and dengue vaccines, create a critical mass of experts on vaccine R&D, be able to scale up any seed vaccine from other sources in time of emergencies for example Smallpox or Anthrax vaccines. NINPVB will also seek smart partnership with 'biotech' start up until Phase 3 (technology transfer with exclusivity arrangements) and the industry for mass production and marketing.

INSTITUTE FOR HEALTH PROMOTION

ACTIVITIES AND ACHIEVEMENTS

Research

In 2004, the Institute of Health Promotion was involved in several research projects led by the Institute of Health Systems Research. These include:

- i) National Survey on the Utilisation Pattern of Traditional and Complementary Medicine 2004. This survey was conducted nation-wide and aimed to gather information regarding the use of Traditional and Complementary Medicine in the country.
- ii) Health Research System Analysis (HRSA)
- iii) Study on the Implementation of Client Charter in the Ministry of Health

Apart from these, the Institute was also a collaborator in the Foresight 2015 Study organised by the Institute for Medical Research (IMR), the objective of which was to identify research priorities for the Ministry of Health.

Training

The Institute was involved in conducting training and workshops with the Institute for Health Systems Research.

Human Resource Development

The Health Promotion programme hopes to get more staff especially in research to enable it to carry out its planned functions and operations more effectively. Considering that it has only one staff at present, it is extremely difficult for it to function as an effective health promotion research institute, as long as this lack of staff is not overcome. As such, a *Dasar Baru* was forwarded requesting for new posts and staff to serve the IHP. A total of 29 posts were requested comprising of 20 management and professional posts and 9 support staffs. Nevertheless, even with a staff of 1, the Institute had managed to be involved in at least 4 self development sessions, in the forms of local courses, workshop and seminar.

CONCLUSION

Considering the extreme importance of behavioural research in alleviating the quality of life of the population, it is hoped that the present lack of staff can be quickly overcome so as to achieve all the initial objectives and goals of the Institute's establishment. With an increase in manpower, it is envisaged that the Institute will be able to reach greater heights in health research besides being able to contribute more effectively to the population in general.

QUALITY ASSURANCE PROGRAMME



Quality Assurance Programme

INTRODUCTION



he term Quality Assurance (QA) is being used in the Ministry of Health (MOH) to encompass all planned and systematic approach to monitoring and accessing care, which identify opportunities for improvement within a mechanism for continuous improvement.

The provision of good quality health care services has always been a major focus of the MOH. This desire for quality services could be traced to the 5th Malaysia Plan (1980-1985) where the need to strengthen the evaluation process in health care system was identified.

As a strategy to continuously monitor the quality of its services, the MOH launched the Quality Assurance Programme (QAP) in 1985. The latter resulted in the creation of a formalised structure to support quality improvement. A National Steering Committee for QAP in the MOH, supported by QAP committees for the various health services at national levels. QA committees are also formalized at state and hospital levels.

Many other quality improvement efforts have also been implemented by the various programmes since then. Between 1996 and 1997, ten years following the launching of the QAP, a nation-wide evaluation on the implementation of the 17 quality improvement efforts in MOH was conducted. One of the outputs of this evaluation was the publication of the Strategic Plan for Quality in Health. The plan is basically a framework within which decisions may be made regarding priorities and needs in addressing quality-related issues and along which its operationalisation will be developed, translated and implemented at the various levels.

QUALITY ASSURANCE PROGRAMME

The QAP is intended to improve the quality, efficiency and effectiveness of the delivery of health services. Improvements in the quality of services require the development of objective measurements of quality of care and also formalisation of a mechanism to continuously monitor, detect shortfalls in a planned manner, investigate systematically the cause of such shortfalls and subsequently to institute appropriate corrective measures.

The specific objectives of QAP are as follows:

- i. To inculcate a quality culture in the healthcare community,
- ii. To establish a quality management system
- iii. To integrate quality improvement efforts
- iv. To continually improve standards of healthcare services and
- v. To promote a quality-conscious society

To coordinate the QAP for the MOH, a National QA Secretariat was created. The Secretariat was initially under the purview of the Medical Division. However, it was subsequently transferred to the Institute for Health Systems Research (IHSR) in December 2001, following the designation of the IHSR as a WHO Collaborating Centre for Health Systems Research and Quality Improvement.

The terms of reference of the IHSR on QA among other includes to serve as the national coordinating body for the development of quality assurance and improvement (QA/I), to support the integration of QA/I into the managerial process health policy and system development, performance and accountability, and to provide technical support for capacity building in QA/I and its institutionalization through dissemination of best practices in QA/I.

Activities of the National QA Secretariat in 2004

The Secretariat had successfully organized a National Steering Committee meeting and 3 Technical Committee meetings. A two-day elective course on Quality Assurance was also organized for post-graduate students undertaking the Masters in Public Health degree in University Malaya in 2004. Two introductory technical sessions on QA were held with the administrative divisions of the MOH.

Two training sessions - 'Writing Quality Improvements for Publication' and 'Promoting Quality Assurance' had been carried out. The workshop on 'Writing Quality Improvements for Publication' was a follow up of feedback received from a survey undertaken by the Secretariat at the 2003 National QA Convention. This workshop focused on guiding participants to write for publication following formats acceptable for journal publication either locally or internationally. The workshop on 'Promoting Quality Assurance' was the first of a four series of workshop to be organised to train trainers for quality improvement.

The Secretariat had also participated in the 5th MOH - Academy of Medicine Malaysia Scientific Meeting 2004 (incorporating the 7th Scientific Meeting of the National Institutes of Health, MOH) held from 25-28 August 2004 by organizing a pre-Scientific Meeting workshop on implementing a quality improvement initiative. This 5th Scientific Meeting

was of great significance to the work of the Secretariat as the theme was 'Quality and Medical Professionalism', which highlighted and emphasised the need and importance of ensuring and sustaining quality.

Through out the year, the Secretariat provided technical inputs to various programmes and state health departments. The training module on "Promoting QA" had been distributed to all health programmes, state departments, hospitals and institutions within the MOH. The Secretariat is currently updating a database on QA/QI projects undertaken by the various states.

QA/QI Activities in MOH

a) The National Indicator Approach (NIA) and Hospital/ District Specific Approach

In its strive to enhance the delivery of quality services, the National QA Programme adopted two approaches; the National Indicator Approach (NIA) and the Hospital/ District Specific Approach (HSA/DSA). For the NIA, common indicators and standards have and continued to be developed by the various health programmes. These indicators are monitored nationally but investigated locally; shortfalls are analysed and corrective actions taken. To date, all programmes have implemented the NIA but are in differing stages of implementation (Table 1).

TABLE 1
Phases of QA Implementation by Programmes

Programmes	Year initiated	Awareness	Indicator Development	Implementation
Patient Care Services	1985	✓	✓	✓
Promotive & Preventive Care Services	1990	✓	✓	✓
Pharmaceutical Services	1990	✓	✓	✓
Engineering Services	1990	✓	✓	✓
Laboratory Services	1992	✓	✓	✓
Oral Health Services	1992	✓	✓	✓
Training	1997	✓	✓	✓
Planning & Development	1998	✓	✓	
Administration & Finance	2003	✓		

Unlike that of the NIA, the HSA/DSA requires that local staff identify the areas where shortfall in quality has or may occur, monitor, investigate and take appropriate remedial actions. As such, the HSA/DSA covers a wide range of topics that are of local concern. A list of HSA/DSA projects conducted by health facilities is available online at www.ihsr.gov.my.

b) Accreditation of Hospitals

To promote the quality culture, MOH subscribes to the Hospital Accreditation standards of the Malaysian Society for Quality in Health (MSQH). The MOH hospitals voluntarily subscribe to the accreditation processes, including the educational programmes and continually reviews their quality initiatives. Until end of 2004, 33 hospitals in the MOH had been accredited by MSQH.

c) Laboratory Accreditation

The MOH introduced an accreditation programme for its laboratories by implementing the ISO/IEC 17025:1999 and 15189:2003. The secretariat responsible for this programme is currently based at the Department of Pathology Kuala Lumpur Hospital and is being supported by the Engineering Services Division and the National Association of Testing Authorities Australia (NATA). Plans are being drawn up to ensure that all medical laboratories be accredited by the year 2008.

Since 2004, NATA had initiated the assessment process for the National Blood Bank, and the laboratories of Kuala Lumpur, Kota Bharu, Tengku Ampuan Afzan and Kuala Terengganu Hospitals.

d) MS ISO 9000 Certification

The MOH was also aggressive in pursuing the implementation of a quality management system based on the ISO 9000 certification for all its health facilities, departments and institutions.

The secretariat responsible for the implementation is housed at the Engineering Services Division. The secretariat is responsible for obtaining and subsequent disbursement of resources that will facilitate health facilities to plan their activities towards achieving certification. By end of year 2004 a total of 141 MOH agencies has been report certified to MS ISO 9000 (ISO 9002:1994 and ISO 9001:2000). Certification was given by MAMPU for ISO 9002:1994 version and for MS ISO 9001:2000 version, certification was given by SIRIM, QAS International and Moody International. However, certification base on ISO 9002:1994 version is only valid until 31hb. December, 2003. All certified agencies have been advice to review their system to fulfill the requirement of ISO 9001:2000 as directed by GMDAC No. 2/2002.

e) Training in Quality Assurance

Recognising that QA concepts and approaches evolve with time, training is an essential component to ensure the successful implementation of the QA programme. In the early phase of QAP development, the emphasis of training then was creating awareness and building consensus on the importance and value of QA. Presently, the QA training programme aims to continuously develop a critical mass of health personnel knowledgeable in QA that are able to provide technical support at local level. The problem-solving approach is adopted for QA, emphasising on the

development of multidisciplinary teams. Training modules were developed and participants were given additional reference materials on QA. Since 2003, the National QA Secretariat has embarked on producing a 4-series module on 'Measuring and Managing Quality of Health Care'

On-the-job training had also been widely used to enhance capacity and capability in QA at national and local levels. Individuals were also given the opportunities to attend international forum on quality improvement to widen their perspectives in conducting and managing quality improvement.

f) Dissemination and Documentation of Quality Assurance Activities

Aggressive efforts were put in place in 2004 to enhance dissemination and documentation of QA activities. These include the scientific meetings, workshops on writing quality improvement, Quality Bulletin and newsletter.

CONCLUSION

The success of implementing QA in the MOH Malaysia is very much linked to the proverb "where there is a will, there is a way". The challenges faced by the committed leaders and health personnel at all levels were turned into opportunities to bring quality improvement to the fore front.

However, within the concept of continuous improvement, there are many more opportunities for QA in MOH to improve. Among the important issues in managing quality improvement is the need for consolidation and integration of all efforts in improving quality into a common goal. The Strategic Plan for Quality in Health can be used as a guide. Quality must remain as the driving force in achieving the best possible care for Malaysia.

PUBLIC HEALTH LEGISLATION

7

Public Health Legislation

In 2004, there was one new Regulation enacted and several existing laws and subsidiary legislation amended and they are as listed below:-

Registration of Pharmacists Act 1951 (Act 371)

There was one new regulation passed under Act 371 called the Registrations of Pharmacists Regulations 2004. This new regulation repealed the Registrations of Pharmacists Regulations 1953. The new regulations included new provisions for the pharmacy board, provisional registration and disciplinary inquiries.

Food Act 1983 (Act 281)

The Food Regulations 1985 was amended by the Food (Amendment) Regulations 2004. The amendment amongst others dealt with pesticide residue and amendments to the Sixteenth Schedule. Besides that the key event was the enactment of the Control of Tobacco Product Regulations 2004 which specifically regulates all dealings pertaining to tobacco products including sponsorship, advertisements, packaging and areas allowed for smoking.

Medical Act 1971 (Act 50)

The Third Schedule to Act 50 was amended by the Medical (Amendment of Third Schedule) Order 2004 wherein new institutions that have attained recognition were inserted.

Medical Assistants (Registration) Act 1977 (Act 180)

The Act was amended whereby the list of medical assistants was updated and a new list was gazetted.

Dental Act 1971 (Act 51)

Act 51 was amended through the Dental (Second Schedule Amendment) Order 2004 with several new institutes of higher learning included in the list of recognised institutions together with their qualifications.

Dangerous Drugs Act 1952 (Act 234)

There was an amendment to Act 234 whereby the Dangerous Drugs (Amendments) Regulations 2004 was gazetted on 1 July 2004. Amongst the amendments was the introduction of a new definition to the word “product” and also the Third Schedule was replaced with a new list.

Sales of Drugs Act 1952 (Act 368)

A regulation was gazetted to appoint the date of coming into operation of two provisions under the Control of Drugs and Cosmetics Regulations 1984.

Poisons Act 1952 (Act 366)

There were two amendments to Act 366 through the Poisons List (Amendments) Order 2004 and the Poisons List (Amendments) (No. 2) 2004. Both the amendments were to include new poisons or to amend current poisons listed in the list.

Others

Several notifications on appointment and revocation of the members of the Boards or Council under the Ministry of Health such as the Malaysian Medical Council, Malaysian Optical Council, Malaysian Dental Council and Pharmacy Board were made and gazetted under the respective Act or Regulations.

INTERNATIONAL COLLABORATION IN HEALTH

83



International Relations



he Ministry of Health Malaysia through the International Relations Section, Corporate Division which was formed in August 2004 continued the Ministry's effort in edifying bilateral and multilateral relationships with international organizations and other foreign countries in the field of health and trade. In this regard, Malaysia provided assistance to developing countries especially in the Asia Pacific region, in uplifting the health status of the people in these countries.

The healthcare sector has long been safely entrenched in the social sector, with its traditional role of caring and managing the well-being of the national public through an efficient and effective healthcare delivery system. However, with advances in traveling time and other modernizations, the world is getting smaller, and diseases spread faster which have resulted in grave impacts on the country's economy. Now the health sector needs to be given an international impetus, and health issues will need to be given an equal, if not more, emphasis than diplomatic, security, economic, trade and investment and human rights issues.

At present the Ministry reaped many benefits through activities carried out through the cooperation in health with the World Health Organization (WHO), to uplift the standard of health care in the country. Specifically the areas focussed were in:

- i) Short/ long term consultancy and advice in specific fields health;
- ii) Training of Ministry official in health related areas through awards of fellowships/ scholarships;
- iii) Exchange of information and reports on specific diseases; and
- iv) Attendance in seminars, conferences, workshops and short courses held both inside and outside the country.

SIGNIFICANT WHO'S MEETINGS

WHO organised few high level meetings that involved ministers/officials involved in policy making in their respective countries:

- i) The Pre-World Health Assembly for Commonwealth's Minister of Health Meeting in Geneva, Switzerland;
- ii) The World Health Assembly held in Geneva from 16-25 May 2004. The Malaysian delegation was headed by the Honourable Dato' Dr. Chua Soi Lek, Minister of Health;
- iii) WHO Regional Committee Meeting on 13 to 17 September 2004 was held in Shanghai, China.

Other than that there were also about forty (40) applications from the Ministry's officers to attend meeting in the international arena under the WHO funding whereas there were 262 other applications on meetings abroad covered by the Ministry. This Section also prepares the Regular Budget Contribution, Tropical Disease Research Contribution, Contribution to the Technical Support Group and the International Hospital Federation Membership.

OFFICIAL VISITS/MEETINGS

To strengthen bilateral and multilateral relationship with foreign countries in the field of health, several visits has been made, among these were:

- i) Technical Group Meeting between Malaysia-Brunei in Miri, Sarawak
- ii) Bilateral Meeting between Malaysia-China in Kota Kinabalu, Sabah
- iii) Bilateral Meeting between Malaysia-Indonesia in Kuala Lumpur
- iv) Ministers of Health ASEAN Meeting, 12-19 March 2004
- v) Ministers of Health ASEAN+3 Meeting, 17-20 March 2004

This Section also coordinates and facilitates foreign dignitaries visiting the Ministry of Health Malaysia such as:

- i) Visit by the Honourable Minister of Health Maldives, 17-20 Jun 2004
- ii) Visit by the Honourable Minister of Health Timor-Leste, 20-27 February 2004

BILATERAL AND MULTILATERAL TIES

The International Relations Section was involved in various meetings and works closely with the Ministry of Foreign Affairs and the Ministry of International Trade and Industry (MITI). Thus the International Relation is steering the Ministry in the trade in health matters through FTAs and also multilateral agreements with the ASEAN countries.

Free trade agreements (FTAs) are being negotiated and signed at a feverish rate everywhere. Some may feel that FTAs are a second-class form of trade liberalization, and that the global

mode fostered by WTO produces superior results. In Malaysia, both modes are being pursued at an equal pace. The Malaysian government is of the opinion that such FTAs should be encouraged, since such pacts would create more opportunities for businesses while ensuring that the country's vital interests are protected and promoted. Continuous dialogue with the industry has enabled Malaysia to adopt appropriate strategy in pursuing FTAs. Hitherto this Ministry has initiated bilateral trade agreements with these countries with the guidance of MITI:

- i) Australia
- ii) New Zealand
- iii) Japan
- iv) India
- v) United States of America

The International Relations Section with the leadership of the Ministry of Foreign Affairs established the Joint Committee Meeting (JCM) with foreign countries. In collaboration with the Ministry of Foreign Affairs, the Section also prepared brief and talking points in conjunction with the Most Honourable Prime Ministers visit to any foreign countries.

As a case in point, the Ministry of Health has been designated the task to coordinate the process of integration and liberalization of the healthcare services sector under the WTO and ASEAN. In essence, this means that the Ministry of Health is ultimately responsible to ensure that all decisions made during the ASEAN Summit by the Heads of Governments, to integrate and liberalize the healthcare services sector by the year 2010 be dutifully implemented, and the measures as stipulated under the Roadmap for the Integration of Healthcare Sector be judiciously carried out. Notwithstanding that, the Ministry is also responsible to be actively involved in negotiations for the healthcare services sector under the ambit of the WTO and ASEAN fora. To achieve all of these noble aspirations, the Ministry of Health will need to envision, strategize and formulate a cohesive and comprehensive plan towards the future goals and policy direction of the trade-related healthcare services sector for the country. The multilateral section coordinates and facilitates inputs in preparation for these meeting under the multilateral collaboration:

- i) ASEAN Coordinating Committee on Services (ASEAN-CCS) Meeting
- ii) ASEAN Healthcare Sectoral Services Working Group Meeting
- iii) Senior Economic Officer (SEOM) Meeting

In another aspect, the International Relations Section also acts as the focal point for the deliverance of technical expertise and assistance in the field of health to foreign countries through its multilateral and bilateral roles. This is an important and encompassing role, which requires unequivocal support and commitment from the top management to ensure its successful implementation. It is imperative that the deliverance of expertise and technical assistance be of a globally-acceptable standard and quality.

IMPORTANT EVENTS IN 2004





Important Events In 2004

15 April

Officiating of “13th Congress of the Federation of Asia Ocenia Perinatal Societies”, Sunway Resort Hotel & Convention Centre, Selangor.

29 April

Officiating of Management Conference, Concorde Hotel, Shah Alam, Selangor

3 May

Officiating of Die Pan Cambridge College Training Centre, Summit Parade Complex, Batu Pahat, Johore

9 May

Officiating of 1st International Thalassemia Seminar and officiating of International Thalassemia Day, Corrus Hotel, Kuala Lumpur.

13 May

Officiating of Haemodialysis Centre Banting, Banting, Selangor.

14 May

Officiating of “ 3rd Biennial Conference On Cardiopulmonary Bypass 2004” Eden Garden Hotel, Johor Bahru.

14 June

Officiating of World Blood Transfusion Day, Blood Bank Centre, Kuala Lumpur.

24 June

Officiating of “The 12th International Healthcare Conference” Sunway Pyramid Convention Centre, Selangor.

31 July

Officiating of 2nd Convocation Malacca-Manipal Medical College, Malacca.

9 August

Officiating of Ultrasound machine capitulation from AVON to Hospital Putrajaya.

12 August

Officiating of 23rd Ministry of Health Sports and Athletics Championship, Perak Stadium, Ipoh, Perak.

21 August

Officiating of logo and lineament of FOMEMA Sdn. Bhd. in conjunction with Official opening of Federal Territory FOMEMA Branch, Damansara Heights, Kuala Lumpur.

23 August

Officiating of ASEAN Consultation on The Impact of AFTA on Tobacco Trade and Health, Equatorial Hotel, Pulau Pinang.

26 August

Officiating of “5th MOH-AMM Scientific Meeting, Incorporating The 7th NIH Scientific Meeting” Sunway Resort Hotel, Petaling Jaya, Selangor.

25 September

Officiating of 10th Anniversary Mahkota-Medical Centre, Malacca.

27 September

Officiating of “Nafas Baru Bermula Ramadhan 1425 Hijrah” Dining Hall Parliament Building, Kuala Lumpur.

28 September

Officiating of “Accreditation Award” AusHealth Gleneagles Oncology Centre, Gleneagles Hospital, Selangor.

1 October

Officiating of 5th Perak Mental Health Convention, Casuarina Park Royal Hotel, Ipoh, Perak.

23 October

Officiating of Tunku Abdul Rahman College Convocation, KTAR Main Campus, Setapak, Kuala Lumpur.