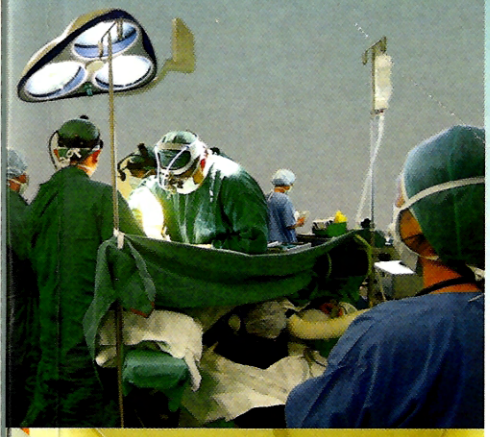
MINISTRY OF HEALTH MALAYSIA



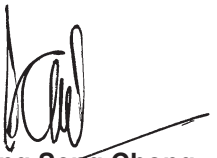
Specialty and Subspecialty Framework of Ministry of Health Hospitals 10 MP (2010 - 2015)

MOH / P / PAK / 234.12 (TR)

Medical Development Division
Ministry of Health Malaysia
December 2011

ACKNOWLEDGMENTS

The Specialty and Subspecialty Framework of Ministry of Health Hospitals for 10th Malaysian Plan (2010-2015) has been developed in collaboration with many dedicated specialists and health service managers across the country, and is a reflection of the efforts of all those people involved. Our appreciation and many thanks therefore go to all these individuals who have given their time, energy and commitment to the framework's inception in 2009-2010. Their contributions have been invaluable towards a framework that will be an essential reference for specialty and subspecialty health services planning in Ministry of Health Hospitals over the next 5 years.



Dr. Teng Seng Chong
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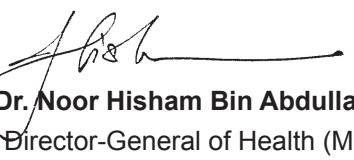
FOREWORD

It is with great pleasure that I present the Specialty and Subspecialty Services Framework for 10MP (2010-2015) for Ministry of Health Hospitals. The framework offers an opportunity to guide the development of secondary and tertiary services for the benefit of all the people in Malaysia. The scope of this framework is necessarily strategic as it guides our thinking and work across all the hospitals for the next 5 years.

The development of this framework recognizes the principles and reflects the objectives of the 10th Malaysia Plan for delivery of equitable, sustainable and quality services. To that end, the development of Specialty and Subspecialty Services has to take cognizance of current gaps, new needs and the probability of success in providing the earmarked services. Current gaps relates to the strengthening of weak areas while new needs are based on the disease burden, demographic change related to the increase in life expectancy and our aging population, the increase in urban population and young people; the epidemiological transition where Malaysia is facing the double burden of infectious diseases and chronic diseases; the new facilities coming on stream and higher consumer demands and expectations. The probability of success in providing services hinges on our future flexibility and capacity to respond especially in terms of resource availability namely financial and workforce, health technology availability and other service challenges.

This strategic framework also gives clear directions on the roles of and the relationships between the hospitals while recognizing the important acute services each hospital provides. It will guide more detailed Specialty and Subspecialty clinical services; workforce and infrastructure planning that will require the ongoing involvement of staff, specialists, health service managers and stakeholders.

Finally, I would like to thank all who have contributed and supported the development of this framework. I look forward to the successful implementation of the directions outlined in this framework. It is only through a sustained commitment to improvement in delivery of Specialty and Subspecialty Services that we will achieve better health for the people of Malaysia.



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SPECIALTY AND SUB-SPECIALTY SERVICES FRAMEWORK 2011-2015

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Subspecialty :

ABBREVIATIONS

State Hospitals

1.	HTF	Hospital TuankuFauziah
2.	HSB	Hospital SultanahBahiyah
3.	HPP	Hospital Pulau Pinang
4.	HRP	Hospital Raja PermaisuriBainun
5.	HTR	Hospital TengkuAmpuanRahimah
6.	HKL	Hospital Kuala Lumpur
7.	HTJ	Hospital TuankuJa'afar
8.	HMK	Hospital Melaka
9.	HSJ	Hospital SultanahAminah Johor
10.	HTA	Hospital TengkuAmpuanAfzan
11.	HSN	Hospital SultanahNurZahirah
12.	HRZ	Hospital Raja PerempuanZainab
13.	HUS	Hospital Umum Sarawak
14.	HQE	Hospital Queen Elizabeth

Major Hospital

1.	SA	Sultan Abdul Halim
2.	KK	Kulim Kedah
3.	SJ	Seberang Jaya
4.	TP	Taiping
5.	TI	TelukIntan
6.	KJ	Kajang
7.	SB	Sungai Buloh
8.	SL	Selayang
9.	AP	Ampang
10.	SD	Serdang
11.	PJ	Putrajaya
12.	TA	TengkuAmpuanNajihah
13.	SI	Sultan Ismail
14.	PS	PakarSultanah Fatimah
15.	BP	BatuPahat
16.	SG	Segamat
17.	HA	Sultan Hj. Ahmad Shah
18.	KT	Kemaman Terengganu

19. KR Kuala Krai
20. TM Tanah Merah
21. SS Sibu
22. MS Miri
23. BT Bintulu
24. SD Sandakan
25. TS Tawau

Minor Hospital

1. LK Langkawi
2. KB Kepala Batas
3. BM Bukit Mertajam
4. SR Slim River
5. SM Seri Manjung
6. GP Grik
7. KK Kuala Kangsar
8. BT Banting
9. LB Labuan
10. PD Port Dickson
11. TN Tampin
12. KJ Kluang Johor
13. KT Kota Tinggi
14. KL Kuala Lipis
15. BP Bentong Pahang
16. PP Pekan Pahang
17. DT Dungun Terengganu
18. GM GuaMusang
19. KP Kapit
20. SK Sarikei
21. SA Seri Aman
22. MK Mukah
23. LB Limbang
24. KS Keningau Sabah
25. KM Kota Marudu
26. LD LahadDatu
27. BS Beaufort Sabah

SPECIALTY AND SUB-SPECIALTY SERVICES FRAMEWORK

2011-2015

1. INTRODUCTION

1.1 The Specialty and Sub-Specialty Services Framework 2011–2015 sets out the planned structure of medical care services provision in Ministry of Health (MOH) Hospitals in Malaysia over the next 5 years. It is an important tool for strategic nationwide planning and will assist State Health Departments and hospital management teams in developing localized Specialty and Sub-Specialty Services plans. The Specialty and Sub-Specialty Services Framework 2011–2015 is a revised, updated and expanded version of the Specialty and Sub-Specialty Services Blueprint 2006–2010. It is based on the most recent status of medical care services in MOH hospitals and projections of future service needs, assisting MOH to prepare and plan for future clinical challenges.

1.2 The scope of the framework is hospital based services, encompassing inpatient and outpatient specialist services as well as ambulatory and clinical support services. Other than provision of a framework for clinical services development it guides capital asset planning and operational decision making. Further, it facilitates a rational workforce planning for the MOH enabling the development of appropriate numbers and skill mix of healthcare providers to deliver high quality services in MOH hospitals.

2. SPECIALTY AND SUBSPECIALTY SERVICES DEVELOPMENT UP TO 9MP (2005-2010)

2.1 The provision of basic medical services towards equitable access for the population was the focus in the early phase of development of medical specialist services in MOH, however, the drive towards quality care and a more evidence based planning focused on services that can achieve better health gains led to basic specialist and subspecialists' services being strengthened and developed in more hospitals.

2.2 During 3rd Malaysia Plan (1976-1980) specialist services were divided into levels i.e. Level 1(Basic Specialties), Level 11(Additional Specialties) and Level 111(Hyper specialties). The concept of regionalization of services started during 3rd Malaysia Plan to facilitate planning and development of a comprehensive range of specialist and subspecialist services within each region.

2.3 Under the 6th Malaysia Plan (1991-1995), 7 basic secondary level specialist services were identified to be developed in all state hospitals and selected district hospitals. These services were: General Medicine, General Surgery, Pediatrics, Obstetrics & Gynecology, Anesthesiology, Pathology and Radiology.

2.4 Under the 7th Malaysia Plan (1996-2000), it was decided to develop 15 specialty and subspecialty services at all state hospitals and major district hospitals. These services were, in addition to the 7 specialty services under the 6th Malaysia Plan: Orthopedics, ENT, Ophthalmology, Psychiatry, Emergency Medicine, Rehabilitation Medicine, Dermatology and Geriatrics.

2.5 Under the 8th Malaysia Plan (2001-2005), it was decided that 45 hospitals in the country shall provide at least 5 basic specialist services (General Medicine, General Surgery, Pediatrics, Obstetrics & Gynecology and Anesthesiology). In addition, 19 of them will develop the 15 specialty / subspecialty services identified under the 7th Malaysia Plan.

2.5.1 However, by the end of the 8th Malaysia Plan:

i. Of the 45 hospitals identified to provide at least 5 basic specialties, only forty-two (93.3%) achieved the target.

ii. Of the 19 state / major district hospitals identified to provide all 15 specialty / subspecialty services, only 1 hospital (5.3%) achieved the target while the rest were able to provide only at least 12 services. Geriatrics services were available only in 1 hospital and rehabilitation medicine in 2 hospitals.

iii. The provision of tertiary level specialist services was regionalized according to 6 care-network zones (North, Central, South, East, Sabah and Sarawak). Only the central region was close to achieving 26 identified major tertiary level specialist services. The northern and southern regions had a majority of the specified services, but the eastern region, Sarawak and Sabah, were relatively underserved.

2.6 Under the 9th Malaysia Plan (2006-2010), MOH continued to improve both the distribution and scope of specialist and subspecialist services in MOH hospitals. In tandem with service plans, the MOH implemented various health manpower resource strategies to ensure the appropriate number and mix of healthcare professionals required to deliver the high quality services expected of its hospitals. In addition, MOH made strategic investments in healthcare infrastructure to ensure that the health system has the necessary capacity to fulfill the needs of specialist and subspecialist services plan.

2.6.1 For 9th Malaysia Plan (9MP), MOH hospitals have been classified functionally as State Hospitals, Major Specialist Hospitals, Minor Specialist Hospitals, Medical Institutions and Non Specialist Hospitals. The hospitals and medical institutions have also been divided according to 6 care network regions. Specialty and subspecialty services that have not enough specialists/subspecialists or are very expensive to set up are developed on a regional basis.

2.6.2 Under the Blueprint, 35 state and major specialist hospitals have been identified to provide a minimum of 15 resident specialty and subspecialty services, another 18 minor specialist hospitals to provide a minimum of 6 resident specialty services, 7 medical institutions to provide specific identified specialties, and 26 identified subspecialty services are to be provided in each region. Two minor specialist hospitals, that is Hospital Bukit Mertajam and Hospital Likas were to respectively provide only 4 and 3 identified specialty services only.

2.6.3 In general, by the end of the 9th Malaysia Plan (2010), the performance of specialty and subspecialty development in terms of availability of resident specialty and subspecialty services in hospitals have improved slightly compared to 2005 for state, major and minor specialist hospitals. Shortfalls are mostly due to the lack of specialist manpower and the reluctance of specialists to be posted to more rural hospitals.

i. Regionally, Central Zone still has the largest number of resident subspecialty services providing all 26 identified services followed by North Zone (20 out of 26 services). By region, only East Zone (15 services) has shown the largest increase(23.1%) in the number of resident subspecialty services available while both Sabah (16 services) and Sarawak (16 services) are still underserved. A total of 6 subspecialty services (Cardiology, Neurosurgery, Urology, Plastic Surgery, Forensic Medicine, Rehabilitation Medicine) are present in all regions in 2010 as compared to only 3 subspecialty services (Plastic Surgery, Pediatric Surgery, Forensic Medicine) available in all zones in 2005. **(Table 1)**

ii. Out of 35 hospitals identified to provide at least 15 specialties, only 13 state hospitals including Hospital Kuala Lumpur (37%) achieved the target compared to 12 (35%) hospitals in 2005. (Table 2)

iii. Out of 18 hospitals identified to provide at least 6 specialties, only 6 (33.3%) hospitals, compared to 4 hospitals in 2005, were able to provide resident specialty services. **(Table 2)**

TABLE 1: Performance of 26 Identified Regional Subspecialty Services for 9 MP

Year	No of services available by zones, (%)					
	North Zone	**Central Zone**	**South Zone**	**East Zone**	**Sabah Zone**	**Sarawak Zone**
	H.Alor Setar, H. Sg. Petani, H.Pulau Pinang, H.Taiping	H.Ipoh, H.Klang, H.Selayang, H.Serdang, H.Ampang, H.Sg. Buluh, H.Kuala Lumpur, IPR, H.Putrajaya, H.Seremban	H.Melaka, H.Sultanah Aminah, H.Sultan Ismail	H.Kuantan, H. K. Trengganu, H.Kota Bahru	H.Kuching, H.Sibu	H.Q. Elizabeth, H.Likas
2005	21 (80.8)	25 (96.2)	17 (65.4)	9 (34.6)	12 (46.2)	13 (50)
2009	20 (76.9)	26 (100)	18 (69.2)	15 (57.7)	16 (61.5)	16 (61.5)

Source: Medical Development Division, MOH (May 2009)

TABLE 2: Performance of Specialist Services Development for 9 MP

Scope of Resident Specialty Services	Target	2005	2009(May)	Specialties/Subspecialties
Minimum 15 specialties	35 hospitals (100%)	12 hospitals (35%)	13 hospitals (37%)	Medicine, Surgery,Paediatrics, Orthopedics, O&G, Anaesthesiology, Radiology, Pathology, Ophthalmology, ENT, Emergency Medicine, Psychiatry, Dental(Oro-Maxillo-Facial, Pediatric), Dermatology, Nephrology
Minimum 6 specialties	18 hospitals (100%)	4 hospitals (22%)	2 Hospitals (11%)	Medicine, Surgery,Paediatrics, Orthopedics, O&G, Anaesthesiology
Specific Specialties	7 Hospitals (100%)	6 hospitals (86%)	7 hospitals (100%)	Psychiatry-4 Mental Institutions Respiratory Medicine-IPR Transfusion Medicine- PDN PKKN-Infectious Diseases
Subspecialty by regionalization	Each region has a minimum of 26 subspecialty (100%)	3 subspecialty available for all regions (12%)	7 subspecial-ty available for all regions (27%)	Cardiology, Cardiothoracic Surg, Neurology, Neurosurgery, Respiratory Medicine, Urology, Plastic Surgery, Hematology, Radiotherapy & Oncology, Hepatology, Hepatobiliary Surgery, Pediatric Surgery, Palliative Medicine, Colorectal Surgery, Rheumatology, Gastroenterology, Nuclear Medicine, Vascular Surgery, Infectious Diseases, Endocrinology, Breast Endocrine Surg, Cardiac Anaes, Upper GI surgery, Hand & Micro Surgery, Forensic Medicine, Rehabilitation Medicine.

Source: Medical Development Division, MOH (May 2009)

3. OVERALL SPECIALTY AND SUBSPECIALTY SERVICES DEVELOPMENT PLAN FOR 10th MALAYSIAN PLAN (2011-2015)

3.1 General Objectives

In line with the 5th Strategic Direction (Quality of Life of an Advanced Nation) of the 10th Malaysian Plan (10MP) that aims to transform the health sector towards a more efficient and effective health system in ensuring universal access to health care, the general objectives of the Specialty and Subspecialty Development Framework for 10MP, as stated in the **Health Sector First Key Result Area (KRA1)** of MOH's 10MP, are as follows:

3.1.1 To provide adequate and effective Specialty and Subspecialty Services for the secondary and tertiary prevention of diseases (early identification and treatment, disease and disability limitation, rehabilitation and palliative care).

3.1.2 To improve access to Specialty and Subspecialty Services appropriate to the needs and resources available.

3.1.3 To improve delivery and quality of Specialty and Subspecialty Services.

3.1.4 To address rising cost as well as ensure the efficient use of resources for Specialty and Subspecialty Services towards a sustainable health system.

3.1.5 To strengthen human capital planning and development with the right numbers, skill mix and required competency towards sustainable Specialty and Subspecialty services delivery.

3.1.6 To adopt appropriate technology and new interventions for the management of diseases to improve quality of Specialty and Subspecialty Services towards better outcomes.

3.2. Definitions

For the purpose of this documentation, and within the context of MOH:

3.2.1 A specialist is a person who possesses a postgraduate qualification in a discipline where there is an accredited training programme into which a qualified medical officer can gain direct entrance.

3.2.2 As a corollary, specialty services are those provided by specialists in the respective disciplines.

3.2.3 A subspecialist is a specialist who has undergone further accredited training in an area subordinate to the specialty, and credentialed to practice in that area. In this documentation, we have not differentiated between subspecialties and specialized areas (or areas of interest).

3.2.4 As a corollary, subspecialty services are those provided by subspecialists in the specified areas subordinate to the respective specialties.

3.3 Guiding Principles

In determining the distribution and scope of resident specialty and subspecialty services under the 10th Malaysia Plan, the MOH will be guided by several principles as follows:

3.3.1 ***Guiding Principle # 1***

Where there are enough specialists / subspecialists in a particular clinical discipline, the relevant resident specialty / subspecialty services will be developed in all states and the Federal Territory at identified hospitals.

3.3.2 ***Guiding Principle # 2***

Where there are not enough specialists / subspecialists in a particular clinical discipline, the relevant resident specialty / subspecialty services will be developed on a regional basis in at least one hospital in each of 6 care-network zones. The 6 care-network zones are:

- North – Perlis, Kedah, Pulau Pinang, Northern Perak (including Ipoh);
- Central – Selangor, WP KL and Putrajaya, Negeri Sembilan, Southern Perak
- South – Johor, Melaka;
- East – Kelantan, Terengganu, Pahang;
- Sabah;
- Sarawak.

3.3.3 ***Guiding Principle # 3***

Where there is no resident specialist / subspecialist to provide a critically needed service, services may be procured from the private sector, universities, medical colleges or the non-MOH sector on a contract (outsourced), sessional or honorarium basis.

The Medical Advisory Committee of the relevant hospital will identify the need for such procurement and make recommendations to the respective State Health Department or the MOH for approval.

3.3.4 ***Guiding Principle # 4***

Human resource allocation for specialty / subspecialty services development will start with the minimum necessary, and based on a multi tasking and incremental approach.

This will assist in ensuring a realistic development of specialty and subspecialty services yet allow expansion of specialty services to meet needs of the local population.

3.3.5 ***Guiding Principle # 5***

Short training in relevant subspecialty areas will continue to be given to general specialists to enable them to provide these services in places where there are no subspecialists, and they will be privileged to do so.

This will provide the rural and underserved populations with some degree of equity and accessibility to some common subspecialty services.

3.3.6 ***Guiding Principle # 6***

The development of a subspecialty within a specialty or further sub specialization within a subspecialty will only be allowed when there are adequate numbers of general specialists or subspecialists in that discipline and if it is in line with the needs of the country.

This will help to rationalize the development and use of manpower as well as provide a better focus for the development of specialists and subspecialists in the country.

3.3.7 ***Guiding Principle # 7***

Subspecialty services will be initially developed under the wing of the General Specialty Department and will expand to become a full fledged Subspecialty Department when there are sufficient resources to deliver services adequately and effectively.

This will help to ensure that resources are utilized optimally while improving accessibility to subspecialty services to the local population.

3.3.8 ***Guiding Principle # 8***

This blueprint will not preclude the flexibility of the MOH to deviate from the general plan in specific instances in order to accommodate special needs that may arise from time to time.

In line with efforts for the restructuring of the public health system in Malaysia in the near future, plans for specialty and subspecialty development may be reconfigured within the general framework to meet the needs of the local population in each region.

3.4 Classification Of MOH Hospitals

3.4.1 At the conclusion of the 8th Malaysia Plan (2001-2005), there were a total of 124 hospitals and 6 medical institutions in the MOH.

3.4.2 By end of 9th Malaysia Plan, there were a total of 130 hospitals and 7 medical institutions. A total of 6 hospitals and an institution became operational during 9MP namely Hospitals Cameron Highlands, Pitas, Kuala Penyu, Kunak, Sungai Buluh, Ampang, and Pusat Darah Negara.

3.4.3 For 10MP, MOH hospitals will continue to be classified functionally as State Hospitals, Major Specialist Hospitals, Minor Specialist Hospitals and Non Specialist Hospitals. However, the category "Medical Institutions" will be renamed as "Medical Institutions and Special Hospitals" in 10MP.

i. The major and minor specialist hospitals differ only by virtue of their workload and scope of specialty services. Hospitals and Medical Institutions/Special Hospitals will continue to be divided according to 6 care network regions but Hospital Raja Perempuan Bainun Ipoh will be relocated to Northern Zone to improve their access to care. Hospital Likas is renamed as Woman and Child Hospital, Likas and classified as a Special Hospital.

ii. Some previously non specialist hospitals will be upgraded to minor specialist hospitals to strengthen access to specialty care and include Hospital Grik (Perak), Hospital Kuala Kangsar (Perak), Hospital Bentong (Pahang), Hospital Pekan (Pahang), Hospital Tampin (Negeri Sembilan), Hospital Gua Musang (Kelantan), Hospital Mukah (Sarawak), Hospital Dungun (Trengganu), Hospital Kota Tinggi (Johor), Hospital Kota Marudu (Sabah), Hospital Beaufort (Sabah) and Hospital Limbang (Sarawak). Likewise, some previously minor specialist hospitals like Hospital Kulim (Kedah), Hospital Bintulu (Sarawak), Hospital Tanah Merah (Kelantan) and Hospital Segamat (Johor) will be upgraded to major specialist hospitals. Implementation of these hospitals as major or minor specialist hospitals will be in phases and will include infrastructure upgrades during 10th Malaysia Plan and may continue over the 11th Malaysia Plan.

iii. Construction began for a total of 6 hospitals during 9th Malaysia Plan (2006-2010) and includes replacement hospitals for Hospital Permai, Hospital Kluang, Hospital Alor Gajah and new hospitals for Shah Alam, Cheras, and Rompin. These hospitals are expected to be operational during 10MP. Hospital Cheras will be a Special Hospital for Rehabilitation services, Hospital Shah Alam as a major specialist hospital and Hospital Rompin as a non specialist hospital. A total of 4 other facilities, namely 2 Special Hospitals (National Cancer Institute Putrajaya and Women Children's Hospital Kuala Lumpur) and 2 non-specialist hospitals (Bera and Tuaran) are at the final stages of planning to be build and expected to be in operation at end of 10MP.

iv. A total of 144 hospitals will be expected to provide Specialty and Subspecialty services by end of 10MP whereby seventy-eight (78) of them will provide resident specialty / subspecialty services of varying scope – i.e. Hospital Kuala Lumpur and state hospitals (14), 26 major specialist hospitals, 27 minor specialist hospitals and 11 Medical Institutions/Special Hospitals **(Table 3)**.

TABLE 3: MOH hospitals by types for RMK-10

SPECIALIST HOSPITAL & INSTITUTIONS				Non-Specialists Hospitals		
HKL + States Hos	**Major Specialists Hos**	**Minor Specialists Hos**	**Special Hospitals/Institutions**			
14	**26**	**27**	**11**	**66**		
Kuala Lumpur Kangar Alor Setar Pulau Pinang Ipoh Klang Seremban Melaka Johor Bahru Kuantan Terengganu Kota Bharu Kuching K Kinabalu	Putrajaya Kulim Sungai Petani Seberang Jaya Taiping, Teluk Intan Ampang, Kajang, Selayang, Serdang, ***Shah Alam,* Sg. Buloh Kuala Pilah Batu Pahat, Muar, Pandan, Segamat, Temerloh Kemaman Kuala Krai Tanah Merah Bintulu Miri Sibu Sandakan Tawau	Labuan Langkawi Bukit Mertajam, Kepala Batas Sri Manjung, Slim River, Grik, Kuala Kangsar Banting Port Dickson, Tampin Kluang, Kota Tinggi Bentong, Kuala Lipis, Pekan Gua Musang, Dungun Mukah, Kapit, Limbang, Sarikei, Sri Aman, Keningau, Lahad Datu, Beaufort, Kota Marudu	IPR *PDN ****PKKN Bahagia Permai Mesra Sentosa Women and Children Hospital, Likas ***Rehabilitation Hospital, Cheras* ** *National Cancer Institute, Putrajaya* ****Women and Children Hospital, Kuala Lumpur*	*Kedah* Baling Jitra Kuala Nerang Sik Yan *PPinang* Balik Pulau Sungai Bakap *Perak* Batu Gajah Ckt Melintang Kampar Parit Bunar Selama Sungai Siput-Tapah *Selangor* K. Kubu Baru Tj. Karang S. Bernam *NSembilan* Jempol Jelebu	*Melaka* Alor Gajah Jasin *Johor* Pontian Kulai Tangkak Mersing *Pahang* Cameron Highl Raub Jerantut Muadzam Shah Jengka ***Rompin* ****Bera* *Terengganu* H. Terengganu Setiu Besut *Kelantan* Tumpat Pasir Mas Pasir Puteh Jeli Machang	*Sarawak* Bau Betong Dalat Daro Kanowit Lawas Lundu Marudi Saratok Serian Simunjan RCBM *Sabah* Beluran Kinabatangan Kota Belud Papar Kuala Peny Kudat Kunak Pitas Ranau Semporna Sipitang Tambunan Tenom ****Tuaran*
Up to 45 resident specialties/ sub-specialties	Up to 20 resident specialties/ sub-specialties	Up to 10 resident specialties	Specific resident specialties	Visiting specialist services		

** Pusat Darah Negara, unlike other hospitals or institutions, has no hospital bed, ** New Hospitals currently under construction, *** New Hospitals currently being planned for construction, **** PKKN, although not yet officially degazetted as a leprosarium, has been amalgamated into Hospital Sungai Buluh for administrative matters*

3.5 MOH Hospital Utilization Review

TABLE 4: MOH Hospitals Utilization Review, 2005-2009

No	Indicators	Year					
		2005	2006	2007	2008	2009	Average (+) increase/(-) decrease annually
1.	Total Admissions	1,852,399	1,905,089	1,964,903	2,072,855	2,139, 906	+3.8%
2.	Total Discharges	1,855,014	1,905,819	1,970,958	2,072,449	2,139,768	+3.6%
3.	Total Patient days	8,334,880	8,458,612	8,709,119	9,039,428	9,092,303	+2.2%
4.	Emergency Department Attendances	4,071,102	4,911,674	5,362,143	5,706,468	6,745,721	+13.62%
5.	Specialist Clinics Attendances	4,679,474	4,913,051	5,316,625	5,685,183	6,161,035	+7.13%
6.	Operations	760,038	782,776	826,276	858,871	911,363	+4.70%
7.	Radiology Investigations	3,117,303	3,262,248	3,692,762	4,256,627	4,551,580	+10.21%
8.	Pathology Investigations	100,740,760	114,062,350	102,121,283	165,111,851	134,440,020	+16.72%

Source: Medical Development Division, MOH June 2010

3.5.1 During the period of 2005-2009, there had been an increase in demand for various types of services. On the average, emergency attendances had increased by 14% and number of operations done by 5% annually. In 2009, the number of Specialist Clinic attendances and number of pathology investigations had increased by about a third while the number of total admissions has increased by one sixth as compared to 2005**(Table 4)**. Thus, many specialties services need strengthening to meet this demand. Established specialties like Medical, Surgical, Pediatrics and Obstetrics & Gynecology with a reasonably appropriate geographical distribution might need basic strengthening while some bottleneck specialties upon which other services are heavily dependent like Anesthesiology, Intensive/Critical Care and Diagnostics Radiology require very significant strengthening of their current capabilities on site and may require expansion in the number of locations to improve accessibility.

3.5.2 The achievement of effective bed utilization is a major concern at most hospitals as hospitals are expensive to build and maintain especially in the current economic situation. Occupancy rate (BOR), Average Length of Stays (ALOS) and Turn over Intervals (TOI) are commonly used indices of hospital operational efficiency. Studies have showed that a reasonable high BOR (80-90%) and a low TOI (1-2 days) and short average length of stay indicate the operational efficiency of available hospital beds. When the hospitals are grouped by functional classification as in Table 5, HKL and State Hospitals followed by Major Specialist Hospitals showed better operational efficiency of available beds compared to other group of hospitals in terms of BOR and TOI. The ALOS are higher in HKL and State Hospitals as these hospitals function as referral hospitals and treat more complex cases.

3.5.3 There has been a measure of bypassing of the population served by Minor Specialists Hospitals and Non Specialists Hospitals as shown by the low BOR and relatively higher TOI at these hospitals. The rise in patients' expectations has contributed to patients' demand for specialty care and they tend to seek medical care from Specialist Hospitals that can offer specialty services. The longer length of stay for Institutions is heavily influenced by long term stay of psychiatric cases.

TABLE 5: Performance of MOH Hospitals by functional categories, 2007-2009

No	Type of Hospital by Functional Classification	Average bed occupancy rate (BOR)%			Average length of stay (ALOS) days			Turn over interval (TOI)days		
		2007	2008	2009	2007	2008	2009	2007	2008	2009
1.	HKL and State Hospitals	76.82	77.89	75.69	4.42	4.44	4.72	1.43	1.33	1.50
2.	Major Specialists Hospitals	62.21	65.99	67.69	3.69	3.69	3.62	2.62	2.30	2.02
3.	Minor Specialists Hospitals	54.63	55.25	57.04	3.17	3.13	3.12	3.14	3.05	2.91
4.	Non Specialists Hospitals	43.62	45.20	50.02	2.97	2.90	2.93	4.80	4.33	4.04
5.	Institutions	63.50	67.03	65.42	127.08	127.08	125.16	57.19	54.94	56.87

3.5.4 The ten leading causes of admissions and deaths in MOH hospitals for the years 1998, 2005 and 2009 are as depicted in **Tables 6 and 7** respectively. The disease pattern in Malaysia is in epidemiological transition. Major health problems have changed from those of acute infectious diseases to chronic lifestyle related disorders like cardiovascular diseases, diabetes mellitus, cancers and age related disorders. Medical services will then need to respond to both acute care and care that address behavioral risk factors and other chronic health factors through early intervention, self management, and partnerships with other service providers and care support.

TABLE 6: Causes of admissions to MOH Hospitals in Malaysia, 1998, 2005, 2009

Rank	1998	2005	2009
1	Normal Deliveries (19.2%)	Normal Deliveries (15. 18%)	Normal Deliveries (13.16%)
2	Complications of Pregnancy, childbirth & Peurperium (12.31%)	Complications of Pregnancy, childbirth & Peurperium (12.03%)	Complications of Pregnancy, childbirth & Peurperium (13.10%)
3	Injury and Poisoning (11.1%)	Accident (8.93%)	Dis of Respiratory System (9.38%)
4	Infectious and Parasitic Diseases (7.42%)	Diseases of Circulatory System (7.07%)	Accident 8.03%)
5	Diseases of Circulatory System (7.12%)	Dis. of Respiratory System (6.98%)	Certain Conditions Originating in the Perinatal Period (7.01%)
6	Dis. of Respiratory System (6.30%)	Certain Conditions Originating in the Perinatal Period (6.25%)	Diseases of Circulatory System (6.91%)
7	Certain Conditions Originating in the Perinatal Period (5.47%)	Dis. of the Digestive System (5.11%)	Dis. of the Digestive System (5.17%)
8	Dis. of the Genito-Urinary System (4.94%)	Dis. of the Urinary System (3.73%)	Ill- Defined Conditions (3.50%)
9	Dis. of the Digestive System (4.51%)	Ill- Defined Conditions (3.34%)	Dis. of the Urinary System (3.42%)
10	Ill- Defined Conditions (3.79%)	Malignant Neoplasm (3.00%)	Malignant Neoplasm (3.02%)

Source: Annual Reports, MOH, 1998, 2005, 2009 Sub-System Medical Care

TABLE 7: Leading causes of deaths in MOH Hospitals in Malaysia, 1998, 2005 and 2009

Rank	1998	2005	2009
1	Heart Diseases and Diseases of Pulmonary Circulation (14.09%)	Septicaemia (16.54%)	Heart Diseases and Diseases of Pulmonary Circulation (16.09%)
2	Septicaemia (12.54%)	Heart Diseases and Diseases of Pulmonary Circulation (14.31%)	Septicaemia (13.82%)
3	Accident (9.67%)	Malignant Neoplasms (10.11%)	Malignant Neoplasms (10.85%)
4	Cerebrovascular Diseases (9.36%)	Cerebrovascular Diseases (8.19%)	Pneumonia (10.38%)
5	Malignant Neoplasms (8.91%)	Accident (5.67%)	Cerebrovascular Diseases (8.43%)
6	Certain Conditions originating in the Perinatal period (6.31%)	Pneumonia (5.30%)	Diseases of the Digestive System (4.98%)
7	Pneumonia (4.76%)	Diseases of the Digestive System (4.45%)	Accident (4.85%)
8	Diseases of the Digestive System (4.63%)	Certain Conditions originating in the perinatal period (4.37%)	Certain Conditions originating in the perinatal period (3.82%)
9	Chronic Obstructive Respiratory Diseases (3.65%)	Nephritic, Nephrotic Syndrome and Nephrosis (3.89%)	Nephritic, Nephrotic Syndrome and Nephrosis (3.58%)
10	Ill- Defined Conditions (3.63%)	Ill- Defined Conditions (2.82%)	Chronic lower respiratory diseases (2.03%)

Source: Annual Reports, MOH, 1998, 2005, 2009 Sub-System Medical Care

3.6 Mapping Of 71 Identified Resident Specialty & Subspecialty Services By State And Hospital, 2011 (Table 8 and 9)

3.6.1 Based on the guiding principles, a total of 78 hospitals have been identified out of 144 hospitals that will be operational in 10MP to be developed for provision of resident specialty and subspecialty services as follows:

i. Fourteen hospitals (14) will be developed to provide up to 45 identified, resident specialty / subspecialty services (i.e. 20 specialty + 25 subspecialty services).

- The 20 specialty services are: General Medicine, General Surgery, Pediatrics, Orthopedics, Obstetrics & Gynecology, Anesthesiology, Radiology, Anatomical Pathology, Chemical Pathology, Lab Hematology, Microbiology, Ophthalmology, Otorhinolaryngology, Emergency Medicine, Psychiatry, Oral

Surgery, Pediatric Dental, Forensic Medicine, Transfusion Medicine and Rehabilitation Medicine.

- The 25 subspecialty services are: Dermatology, Nephrology, Gastroenterology, Endocrinology, Cardiology, Infectious Diseases, Rheumatology, Respiratory Medicine, Urology, Paediatrics Surgery, Neurosurgery, Plastic Surgery, Trauma Surgery, Colorectal Surgery, Spine Orthopedics, Joint Arthroplasty, Adult Intensive Care, Pain Medicine, Paediatrics Intensive Care, Neonatology, Vitreo-retinal, Glaucoma, Child Psychiatry, Maternal Foetal and Gynae-oncology.

ii Twenty-six (26) hospitals will be developed to provide up to 20 identified resident specialty/subspecialty services (i.e. 14 specialty and 6 subspecialty services).

- The 14 specialty services are: General Medicine, General Surgery, Pediatrics, Orthopedics, Obstetrics & Gynecology, Anesthesiology, Radiology, Clinical Pathology, Ophthalmology, Otorhinolaryngology, Emergency Medicine, Psychiatry, Oral Surgery, and Dental Pediatrics.

- The 6 subspecialty services are Dermatology, Nephrology, Infectious Diseases, Respiratory Medicine, Maternal Foetal, and Neonatology.

iii. Twenty-seven (27) hospitals will be developed to provide up to 10 identified, specialty services. The 10 specialty services are: General Medicine, General Surgery, Pediatrics, Orthopedics, Obstetrics & Gynecology, Psychiatry, Emergency Medicine, Radiology, Clinical Pathology and Anesthesiology.

iv. Eleven (11) Special Hospitals/Medical Institutions will be developed to provide specific, resident specialty and subspecialty services, namely, 4 psychiatric mental institutions (Hospital Permai, Hospital Bahagia, Hospital Sentosa and Hospital Mesra) , Institut Perubatan Respiratori (for Respiratory Medicine), Women and Children Hospitals Likas and Kuala Lumpur (for Obstetrics & Gynaecology and Pediatrics), National Cancer Institute Putrajaya (for Radiotherapy and Oncology), Rehabilitation Hospital Cheras (for Rehabilitation Medicine), Pusat Darah Negara (for Transfusion Medicine: non-bedded) and Pusat Kawalan Kusta Negara (National Leprosy Centre) that has been amalgated administratively into Hospital Sungai Buluh.

v. For service development by zones, focus will be given to the development of 26 identified, specialty and subspecialty services as in **Table 8.** This will not preclude the continued development of other subspecialties and areas of interest (specialized areas) on a regional basis.

TABLE 8: Resident Specialty & Subspecialty Services Development Plan for 10MP by Types of MOH Hospitals

Guiding Principle	Scope of specialist / subspecialist services	Number of hospitals	Types of hospitals	Specialist and subspecialist disciplines
Where enough specialists or subspecialists	Up to 45 identified, resident specialties / subspecialties	14	HKL / State hospitals	▪ **20 Specialties** – General Medicine, General Surgery, Pediatrics, Orthopedics, O&G, Anesthesiology, Radiology, Anatomical Pathology, Chemical Pathology, Lab Hematology, Microbiology, Ophthalmology, ENT, Emergency Medicine, Psychiatry, Oral Surgery, Pediatric Dental, Forensic Medicine, Rehab Medicine, Transfusion Medicine ▪ **25 Subspecialties** – Dermatology, Nephrology, Gastroenterology, Respiratory Medicine, Infectious Diseases, Endocrinology, Cardiology, Rheumatology, Urology, Neurosurgery, Plastic Surgery, Trauma Surgery, Colorectal Surgery, Paeds Surgery, Maternal Foetal, Gynae-oncology, Spine Ortho, Joint Arthroplasty, Adult intensive Care, Pain Medicine, Paeds Intensive Care, Neonatology, Vitreo-retinal, Glaucoma, Child Psychiatry.
	Up to 20 identified, resident specialties/ subspecialties	26	Major specialist hospitals	▪ **14 Specialties** – General Medicine, General Surgery, Pediatrics, Orthopedics, O&G, Anesthesiology, Radiology, Clinical Pathology, Ophthalmology, ENT, Emergency Medicine, Psychiatry, Oral Surgery, Dental Pediatrics ▪ **6 Subspecialties** – Dermatology, Nephrology, Maternal Foetal, Neonatology, Infectious Diseases, Respiratory Medicine
	Up to 10 identified, resident specialties	27	Minor specialist hospitals	**10 Specialties:** Gen Medicine, Gen Surgery, Pediatrics, Orthopedics, O&G, Anesthesiology, Radiology, Clinical Pathology, Emergency Medicine, Psychiatry.
	Specific specialties	11	Special hospitals/ medical institutions	• Psychiatry (4) • Respiratory Medicine (1) • Transfusion Medicine (1) • ObGyn & Paediatrics(2) • Radiotheraphy & Oncology(1) • Rehabilitation Medicine(1) ▪ Infectious Diseases(1)

Where not enough specialists or subspecialists	Regionalization of specialties and subspecialties	At least one hospital per zone	Identified specialist hospitals	▪ **Focus on 26 major specialties / subspecialties** – Oncology, Hepatology, Palliative Medicine, Hematology, Geriatrics, Neurology, Upper GI Surgery, Hepatobiliary Surgery, Breast & Endo Surg, Vascular Surgery, Cardiothoracic Surgery, Cardiothoracic Anes & Perf, Reproductive Med, Uro-Gynaecology, Paeds Cardiology, Paeds Endocrinology, Paeds Haemato-Onco, Paeds Nephrology, Paeds Neurology, Interventional Radiology, Oral Path/Med, Forensic Dental, Dental Special Care, Nuclear Medicine, Sports Medicine, Genetics.
Where no specialist or subspecialist	As determined by state / MOH	Specific hospital (s)	Identified specialist hospital (s)	▪ To procure service from non-MOH sector (e.g. university or private hospitals) on an outsourced, contract, sessional or honorarium basis.

Source: Medical Development Division, (MOH) June 2010

TABLE 9: Scope of Resident Specialty / Subspecialty Services by State / Federal Territory under 10 MP Development Plan

TYPES OF HOSPITALS	HOSPITALS		MINUMUM RESIDENT SPECIALTY / SUBSPECIALTY SERVICES
HKL + State Hospital	1. Hospital KL 2. Hospital Kangar 3. Hospital Alor Setar 4. Hospital Pulau Pinang 5. Hospital Raja Perempuan Bainun Ipoh 6. Hospital Klang 7. Hospital Seremban 8. Hospital Melaka	9. Hospital Sult. Aminah 10. Hospital Kuantan 11. Hospital K. Trengg. 12. Hospital Kota Bahru 13. Hospital U. Kuching 14. Hospital QE	**45 Specialties / Subspecialties** ▪ 20 Specialties – General Medicine, General Surgery, Pediatrics, Orthopedics, O&G, Anesthesiology, Radiology, Anatomical Pathology, Chemical Pathology, Lab Hematology, Microbiology, Ophthalmology, ENT, Emergency Medicine, Psychiatry, Oral Surgery, Pediatric Dental, Forensic Medicine, Rehab Medicine, Transfusion Medicine. ▪ 25 Subspecialties – Dermatology, Nephrology, Gastroenterology, Infectious Diseases, Endocrinology, Cardiology, Rheumatology, Respiratory Medicine, Urology, Paeds Surgery, Neurosurgery, Plastic Surgery, Trauma Surgery, Colorectal Surgery, Spine Ortho, Joint Arthroplasty, Adult intensive Care, Paeds Intensive Care, Pain Medicine, Neonatology, Vitreo-retinal, Glaucoma, Child Psychiatry, Gynae-oncology, Maternal Foetal.

Major Specialist Hospitals	1. Hospital Segamat 2. Hospital Selayang *3.* Hospital Serdang 4. Hospital Ampang 5. Hospital Sg. Buloh 6. Hospital Sultan Ismail 7. Hospital Sg. Petani 8. Hospital Kulim 9. Hospital Seb. Jaya 10. Hospital Taiping 11. Hospital Teluk Intan 12. Hospital Kajang 13. Hospital Kuala Pilah 14. Hospital Muar	15. Hospital Batu Pahat 16. Hospital Temerloh 17. Hospital Kemaman 18. Hospital Kuala Krai 19. Hospital Tanah Merah 20. Hospital Sibu 21. Hospital Miri 22. Hospital Sandakan 23. Hospital Tawau 24. Hospital Bintulu 25. Hospital Shah Alam 26. Hospital Putrajaya	**20 specialties/subspecialties** ▪ 14 Specialties – General Medicine, General Surgery, Pediatrics, Orthopedics, O&G, Anesthesiology, Radiology, Clinical Pathology, Ophthalmology, ENT, Emergency Medicine, Psychiatry, Oral Surgery, Dental Pediatrics ▪ 6 Subspecialties – Dermatology, Nephrology, Maternal Foetal, Neonatology, Respiratory Medicine, Infectious Diseases
Minor Specialist Hospitals	1. Hospital Grik 2. Hospital Kuala Kangsar 3. Hospital Langkawi 4. Hospital K. Batas 5. Hospital Bkt Mertajam 6. Hospital S. Manjung 7. Hospital Slim River 8. Hospital Banting 9. Hospital P. Dickson 10. Hospital Tampin 11. Hospital Kluang 12. Hospital Bentong 13. Hospital Kuala Lipis	14. Hospital Pekan 15. Hospital Dungun 16. Hospital Gua Musang 17. Hospital Kota Tinggi 18. Hospital Beaufort 19. Hospital Kota Marudu 20. Hospital Kapit 21. Hospital Sarikei 22. Hospital Sri Aman 23. Hospital Keningau 24. Hospital Lahad Datu 25. Hospital Labuan 26. Hospital Limbang 27. Hospital Mukah	**10 Specialties:** Gen Medicine, Gen Surgery, Pediatrics, Orthopedics, O&G, Anesthesiology, Radiology, Clinical Pathology, Emergency Medicine, Psychiatry
Special Medical Institution	1. Hospital Bahagia 2. Hospital Permai 3. Hospital Sentosa 4. Hospital Bukit Padang 5. Institut Perubatan Respiratori 6. Pusat Darah Negara 7. Pusat Kawalan Kusta Negara	8. Woman and Child Hospital, Likas 9. National Cancer Institute, Putrajaya 10. Rehabilitation Hospital, Cheras 11. Woman and Child Hospital, Kuala Lumpur	**Specific Specialties** • Psychiatry (4) • Respiratory Medicine (1) • Transfusion Medicine (1) • Obs & Gyn & Paediatrics(2) • Radiotheraphy & Oncology(1) • Rehabilitation Medicine(1) • Infectious Diseases(1)

Source: Medical Development Division, MOH (June 2010)

3.7 Current Manpower Strength By Specialty And Subspecialty, 2010

At the end of June 2010, there were a total of 2,699 specialists and subspecialists serving MOH hospitals within 17 general disciplines. Compared to 2006 with a total of 2,190 specialists and subspecialists serving MOH hospitals, there was an increase of 24.4% in the number of specialists and subspecialists. The ratio of subspecialists/specialists in Medical and Surgical Specialty are nearly equal while in the other general specialties, the specialists outnumber the subspecialists by at least 20 percent.

TABLE 10: Specialist / Subspecialist Human Resources in MOH Hospitals, as of June 2010

General disciplines	Number of Subspecialties	Specialists	Subspecialists	Subspecialty Trainees	Total
Medical	14	229	216	109	554
Pediatrics	15	145	81	51	277
Psychiatry	8	69	33	-	102
Radiotherapy & Oncology	-	16		-	16
Surgery	13	157	127	69	353
Orthopedics	8	129	45	-	174
Emergency Medicine	-	68	-	-	68
O&G	5	176	41	-	217
Ophthalmology	8	121	35	-	156
Otorhinolaryngology	4	81	18	-	99
Anesthesiology	8	244	47	-	291
Radiology	7	153	16	7	176
Forensic Medicine	3	17	4	-	21
Pathology	-	188	-	1	189
Nuclear Medicine	-	4		2	6
Sports Medicine	-	8			
Rehabilitation medicine	-	22			
Total	**93**	**1827**	**663**	**239**	**2699**

Source – Medical Development Division, 2010

3.8 Mapping Of Resident Specialty and Sub-Specialty Services By General Specialty, Region and Hospital, 2011

(Please see Table 11 to 17)

4. SERVICE DEVELOPMENT PLANS BY SPECIALTY / SUB-SPECIALTY FOR 10MP (2011-2015)

(Please see Appendix)

5. MONITORING PERFORMANCE OF SPECIALTY AND SUBSPECIALTY SERVICES PROVISION

5.1 Current Status Of Specialty/Sub-Specialty Services By Category of Hospitals

The current status of specialty and subspecialty development in terms of availability of resident specialty and subspecialty services in hospitals as at August 2011 is depicted in Table 11. In general:

5.1.1 Out of 14 hospitals planned to provide up to 45 identified, resident specialties and subspecialties services during 10MP, only 9 hospitals have 30 or more of these specialty and subspecialty resident services. Hospital Sultanah Aminah Johor Bharu, Hospital Kuala Lumpur and Hospital Pulau Pinang have the highest number of services provision with more than 39 resident specialty and subspecialty services while Hospital Tuanku Fauziah Kangar is the lowest with 16 resident specialty and subspecialty services provided. Current performance of available specialty and subspecialty services as planned is 70.3% (Figure 1)

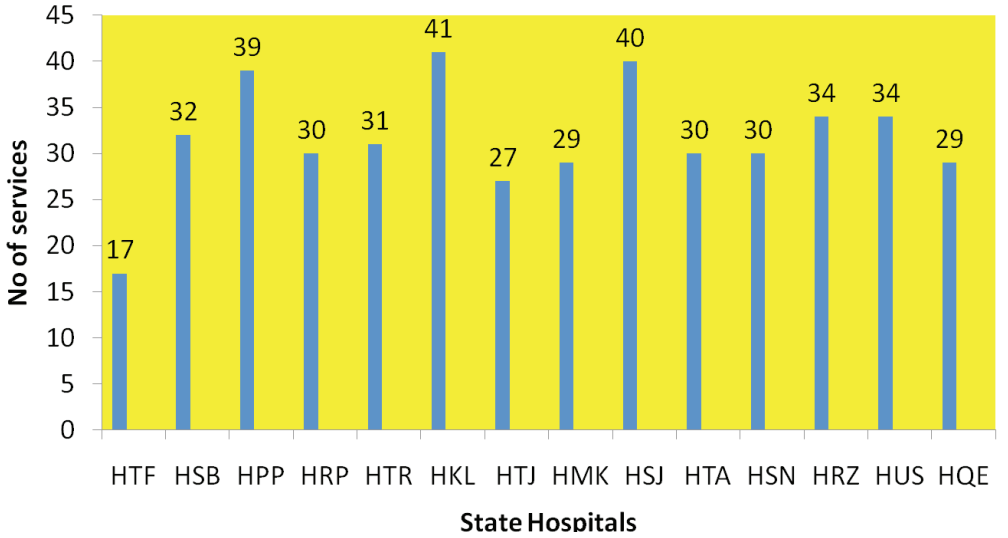
5.1.2 Out of 26 hospitals planned to provide up to 20 identified, resident specialties and subspecialties services during 10 MP, only 8 hospitals currently have 15 or more of these specialty and subspecialty resident services. Hospital Selayang, Hospital Sultan Abdul Halim Sungai Petani and Hospital Taiping has the highest number of services provision with 17 resident specialty and subspecialty services while Hospital Tanah Merah, Hospital Bintulu, Hospital Segamat and Hospital Kemamam is the lowest with 7 resident specialty and subspecialty services provided. Current performance of available specialty and subspecialty services as planned is 58.1 %(Figure 2).

5.1.3 Out of 27 hospitals planned to provide up to 10 identified, resident specialties services during 10MP, only 7 hospitals currently have 5 or more of these specialty resident services. Hospital Sri Manjung has the highest number of services provision with 8 resident specialty services. Current performance of available specialty and subspecialty services as planned is 24.8 %(Figure 3).

5.1.4 Regionally, of the 26 identified, resident specialty/subspecialty services for regional development, the Central Zone has the highest number of these services already in place (26 services), followed by Northern Zone with 20 services provided. The Sabah zone (11 services) and Sarawak

Zone (12 services) is still underserved. Current performance of available specialty and subspecialty services as planned is 59.6 %(Figure 4)

Figure 1: Current Status of Specialty/Sub-Specialty Services for State Hospitals

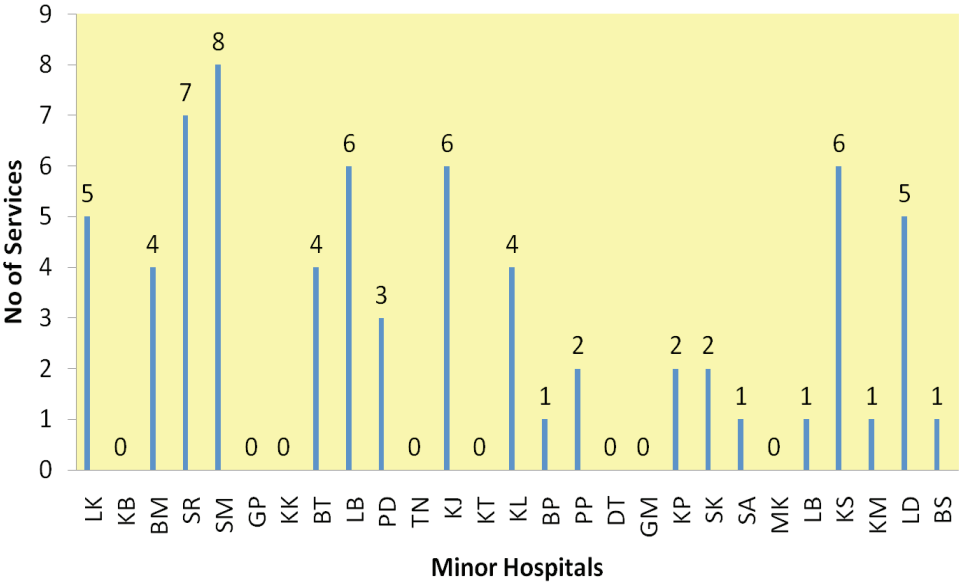


Source: Medical Development Division, Aug 2011.

Figure 2: Current Status of Specialty/Sub-Specialty Services for Major Specialist Hospitals

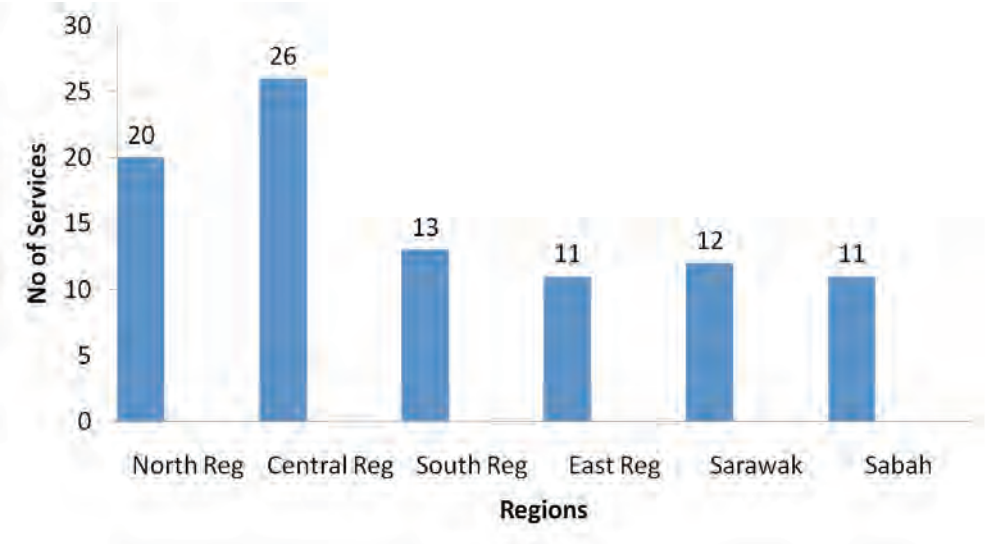
Source – Medical Development Division, 2011(August)

Figure 3: Current Status of Specialty/Sub-Specialty Services for Minor Specialist Hospitals



Source – Medical Development Division, 2011(August)

Figure 4: Current Status of Specialty/Sub-Specialty Services for Regional Services



Source – Medical Development Division, 2011(August)

5.2 Proposed Key Performance Indicators

The following key performance indicators for the 10MP have been identified for the Specialty and Subspecialty services development plan.

5.2.1 Essential Resident Specialty & Subspecialty Services Development Plan for MOH Hospitals by State/Federal Territory

At least half (≥ 50%) of State Hospitals provide a minimum of 35 of the identified specialty and subspecialty services, with resident specialists and subspecialists available.

- Current status: 21.4 %(3 hospitals) of State Hospitals provide a minimum of 35 of the identified specialty and subspecialty services, with resident specialists and subspecialists (August 2011)

At least half (≥ 50%) of Major Specialist Hospitals provide a minimum of 15 of the identified specialty and subspecialty services, with resident specialists available.

- Current status: 30.8%(8 hospitals) of Major Specialist Hospitals provide a minimum of 15 of the identified specialty and subspecialty services, with resident specialists available (August 2011)

At least half (≥ 50%) of Minor Specialist Hospitals provide a minimum of 6 of the identified basic specialty services, with resident specialists available.

- Current status: 18.5%(5 hospitals) of Minor Specialist Hospitals provide a minimum of 6 of the identified basic specialty services, with resident specialists available

5.2.2 Identified Specialty and Subspecialty Services Development Plan for MOH Hospitals by Regions

All Regions (100%) shall have a minimum of 15 of the identified specialties and subspecialties services with resident specialists and subspecialists available.

- Current status: 33.3%(2 regions) of regions have a minimum of 15 of the identified specialties and subspecialties services with resident specialists and subspecialists available

6. CONCLUSION

The scope of this framework is necessarily strategic-it will guide our thinking and work across MOH Hospitals for the next decade. The development of this framework recognizes the guiding principles and reflects the objectives of MOH for delivery of equitable and sustainable health services. Bearing in mind the need for future flexibility and the capacity to respond to growing demands, changing needs, future advances in health technology and service delivery and other health service challenges, the framework is not meant to be rigid but will be refined from time to time when necessary.

TABLE 11: Development Plans for Resident Specialty and Sub-Specialty Services by Region and Type of Hospitals, 10 MP

No	Services	Region	Types of Hospitals			
			HKL and State Hospital	Major Specialists Hospitals	Minor Specialist Hospitals	Special Hospitals/ Medical Institutions
A : MEDICAL SPECIALTY						
1.	General medicine		√	√	√	
2.	Respiratory medicine		√	√		√
3.	Infectious diseases		√	√		√
4.	Rheumatology		√			
5.	Hepatology	√				
6.	Palliative Medicine	√				
7.	Hematology	√				
8.	Gastroenterology		√			
9.	Cardiology		√			
10.	Geriatrics	√				
11.	Neurology	√				
12.	Endocrinology		√			
13.	Oncology	√				√
14.	Nephrology		√	√		
15.	Dermatology		√	√		
B : SURGICAL SPECIALTY						
1.	General Surgery		√	√	√	
2.	Upper GI Surgery	√				
3.	Colorectal Surgery		√			
4.	Hepatobiliary Surgery	√				
5.	Breast & Endocrine Surg	√				
6.	Vascular Surgery	√				
7.	Neurosurgery		√			
8.	Cardiothoracic Surgery	√				
9.	Urology		√			

No	Services	Region	Types of Hospitals			
			HKL and State Hospital	Major Specialists Hospitals	Minor Specialist Hospitals	Special Hospitals/ Medical Institutions
10.	Pediatrics Surgery		√			√
11.	Plastic Surgery (includes hand & Microsurgery)		√			
12.	Trauma & Burns		√			
C : OBSTETRICS & GYNECOLOGY SPECIALTY						
1.	Gen Obstetrics & Gynecology		√	√	√	√
2.	Maternal-Fetal		√	√		√
3.	Reproductive med	√				√
4.	Gyne-Oncology		√			√
5.	Uro-Gynaecology	√				√
D : PEDIATRIC SPECIALTY						
1.	General Pediatrics		√	√	√	√
2.	Advance Gen Paeds	√				
3.	Adolescent Medicine	√				
4.	Paeds Cardiology	√				
5.	Paeds Endocrine	√				
6.	Gastroenterology	√				
7.	Hematology/Oncology	√				
8.	Paeds Infectious Diseases	√				
9.	Paeds Intensive Care		√			
10.	Nephrology	√				
11.	Neurology	√				
12.	Respiratory Medicine	√				
13.	Dermatology	√				
14.	Neonatology		√	√		
15.	Rheumatology	√				
E : ORTHOPEDICS SPECIALTY						
1.	General Orthopedics		√	√	√	
2.	Advanced trauma	√				
3.	Pediatric orthopedics	√				
4.	Spine orthopedics		√			
5.	Joint Arthroplasty		√			
6.	Ortho oncology	√				
7.	Sports Orthopedics	√				
8.	Gen Ortho & Adv Musculoskeletal	√				
9.	Foot and Ankle	√				

No	Services	Region	Types of Hospitals			
			HKL and State Hospital	Major Specialists Hospitals	Minor Specialist Hospitals	Special Hospitals/ Medical Institutions
F : OPHTHALMOLOGY SPECIALTY						
1.	Gen Ophthalmology		√	√		
2.	Vitreo-retinal		√			
3.	Paed ophthalmology	√				
4.	Cornea refractive surg	√				
5.	Occuloplastic & Orbital Surg	√				
6.	Medical Retinal	√				
7.	Neuro-opthalmology	√				
8.	Glaucoma		√			
G : OTORHINOLARYNGOLOGY SPECIALTY						
1.	Gen Otorhinolaryngology		√	√		
2.	Rhinology	√				
3.	Pediatrics	√				
4.	Laryngology & Oesophalogy	√				
5.	Head & Neck Surgery	√				
6.	Fascioplastic, Head & Neck Reconstructive Surg.	√				
H : PATHOLOGY SPECIALTY						
1.	Clinical Pathology			√	√	√
2.	Anatomical Histopathology		√			
3.	Microbiology		√			
4.	Chemical Pathology		√			
5.	Hematology	√				
6.	Genetics	√				
I : RADIOLOGY SPECIALTY						
1.	General Radiology		√	√	√	
2.	Neuroradiology	√				
3.	Musculoskeletal	√				
4.	Pediatrics	√				√
5.	Gastrohepatobiliary	√				
6.	Interventional Radiology	√				
7.	Uroradiology	√				
8.	Breast Imaging	√				

No	Services	Region	Types of Hospitals			
			HKL and State Hospital	Major Specialists Hospitals	Minor Specialist Hospitals	Special Hospitals/ Medical Institutions
J : ANESTHESIOLOGY SPECIALTY						
1.	General Anaesthesiology		√	√	√	
2.	Pain Medicine		√			√
3.	Cardiac Anaes & perfusion	√				
4.	Neuro-anaesthesia	√				
5.	Obstetric Anesthesia	√				√
6.	Adult Intensive care		√			
7.	Pediatric Intensive Care		√			√
K : PSYCHIATRIC SPECIALTY						
1.	General Psychiatric		√	√	√	√
2.	Child & Adolescent		√			√
3.	Psycho geriatric	√				√
4.	Liaison	√				√
5.	Forensic psychiatry	√				√
6.	Substance Abuse	√				√
7.	Community & Rehab	√				√
8.	Neuropsychiatry	√				√
L : REHABILITATION MEDICINE			√			√
M : NUCLEAR MEDICINE SPECIALTY		√				√
N : FORENSIC MEDICINE SPECIALTY			√			
O : EMERGENCY MEDICINE SPECIALTY			√	√	√	
P : TRANSFUSION MEDICINE			√			√
P : DENTAL SPECIALTY						
1.	Oral Surgery		√	√		
2.	Pediatrics Dental		√	√		
3.	Forensic Dental	√				
4.	Special Care Dentistry	√				
5.	Oral Pathology	√				

√ Resident Specialty and Sub-Specialty Services planned at various levels of facilities

TABLE 12 : SCOPE OF SPECIALTY AND SUBSPECIALTY SERVICES FOR STATE HOSPITALS AND HKL, AUGUST 2011

		NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	
		DISCIPLINE CODE																																															
HKL AND STATE HOSPITAL		**HOSPITAL**	**General Medicine**	**Dermatology**	**Nephrology**	**Infectious Diseases**	**Respiratory Medicine**	**Gastroenterology**	**Rheumatology**	**Endocrinology**	**Cardiology**	**General Surgery**	**Urology**	**Plastic Surgery**	**Neurosurgery**	**Colorectal Surgery**	**Trauma & Burn**	**Pediatrics**	**Neonatology**	**Pediatrics Surgery**	**Pediatrics Intensive Care**	**Orthopedics**	**Arthroplasty**	**Spinal Surgery**	**Pathology**	**Chemical Pathology**	**Hematology**	**Microbiology**	**Anatomical Pathology**	**Anesthesiology**	**Adult Intensive care**	**Emergency Medicine**	**Obstetrics & Gynecology**	**Maternal Foetal Med**	**Gynae-oncology**	**Opthalmology**	**Vitreo-Retinal Opth**	**Glaucoma**	**Otorhinolarygology**	**Radiology**	**Transfusion Medicine**	**Sports Medicine**	**Rehabilitation Medicine**	**Psychiatry**	**Child Psychiatry**	**Forensic medicine**	**Oral Surgery**	**Dental Pediatrics**	Total Disciplines With Resident Specialists
Perlis	**1**	Tuanku Fauziah	✓	✓								✓						✓				✓	✓				✓			✓		✓	✓		✓		✓	✓	✓				✓			✓	✓	**17 (37.77%)**
Kedah	**2**	Sultanah Bahiyah	✓	✓	✓		✓	✓			✓	✓		✓		✓		✓		✓	✓	✓	✓	✓			✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓		✓	✓	✓	**32 (71.11%)**
Pulau Pinang	**3**	Pulau Pinang	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓				✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	**39 (86.66%)**
Perak	**4**	Raja Permaisuri Bainun	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓			✓		✓		✓		✓			✓		✓	✓		✓	✓	✓	✓	✓			✓	✓			✓	✓		✓	✓	✓	**30 (66.66%)**
Selangor	**5**	T. Ampuan Rahimah	✓	✓	✓	✓	✓	✓		✓		✓						✓	✓			✓				✓	✓	✓	✓	✓		✓	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**31 (68.88%)**
W. Persek.	**6**	Kuala Lumpur	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**41 (91.11%)**
N. Sembilan	**7**	Tuanku Jaafar	✓	✓	✓				✓	✓		✓						✓	✓			✓					✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓		✓	✓	✓	**27 (60.0%)**
Melaka	**8**	Melaka	✓	✓	✓				✓	✓		✓						✓	✓			✓					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	**29 (64.44%)**
Johor	**9**	Sultanah Aminah	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	**40 (88.88%)**
Pahang	**10**	Tengku Ampuan Afzan	✓	✓	✓			✓	✓		✓	✓	✓					✓	✓	✓		✓	✓			✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓				✓		✓	✓	✓	**30 (66.66%)**
Terengganu	**11**	Sultanah Nur Zahirah	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓				✓	✓			✓	✓	✓			✓	✓	✓	✓	✓	✓	✓			✓	✓		✓	✓				✓	✓		✓	✓	**30 (66.66%)**
Kelantan	**12**	R. Perempuan Zainab II	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓				✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓			✓	✓		✓	✓	✓		✓	✓	✓		✓	✓	✓	**34 (75.55%)**
Sarawak	**13**	Umum Kuching	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓			✓	✓	✓		✓	✓	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓				✓		✓	✓	✓	**34 (75.55%)**
Sabah	**14**	Queen Elizabeth	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							✓				✓	✓	✓	✓	✓		✓			✓	✓		✓	✓	✓		✓	✓	✓		✓	✓	✓	**29 (64.44%)**

✓ Resident Specialty available. Sourse : Medical Development Division, August 2011

Not Applicable

TABLE 13 : SCOPE OF RESIDENT SPECIALTY AND SUBSPECIALTY SERVICES BY MAJOR HOSPITAL, AUGUST 2011

N0.			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
DISCIPLINE CODE																							
MAJOR HOSPITAL		**HOSPITAL**	**General Medicine**	**Dermatology**	**Nephrology**	**Infectious Diseases**	**Respiratory Medicine**	**General Surgery**	**Pediatrics**	**Neonatology**	**Orthopedics**	**Pathology**	**Anesthesiology**	**Emergency Medicine**	**Obstetrics & Gynecology**	**Maternal Foetal Med**	**Opthalmology**	**Otorhinolarygology**	**Radiology**	**Psychiatry**	**Oral Surgery**	**Dental Pediatrics**	Total Disciplines with Resident Specialists
Kedah	1	Sultan Abdul Halim	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	**17 (85.0%)**
	2	Kulim	✓					✓	✓		✓		✓	✓	✓					✓	✓		**9 (45.0%)**
Pulau Pinang	3	Seberang jaya	✓		✓			✓	✓		✓		✓	✓	✓		✓		✓		✓		**9 (45.0%)**
Perak	4	Taiping	✓		✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**17 (85.0%)**
	5	Telok Intan	✓					✓	✓		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓		**13 (65.0%)**
Selangor	6	Kajang	✓					✓	✓		✓		✓	✓	✓				✓	✓	✓		**10 (50.0%)**
	7	Sungai Buloh	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	**16 (80.0%)**
	8	Selayang	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	**17 (85.0%)**
	9	Ampang	✓					✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	**15 (75.0%)**
	10	Serdang	✓		✓			✓	✓		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	**15 (75.0%)**
	11	Shah Alam																					
W. Persekutuan	12	Putrajaya	✓					✓	✓		✓		✓	✓	✓		✓	✓	✓	✓	✓		**12 (60.0%)**
N. Sembilan	13	T. Ampuan Najihah						✓	✓		✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	**13 (65.0%)**
Johor	14	S. Ismail, Pandan	✓	✓				✓	✓		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	**15 (75.0%)**
	15	Muar	✓	✓	✓			✓	✓		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓		**15 (75.0%)**
	16	Batu Pahat	✓					✓	✓		✓		✓	✓	✓		✓	✓	✓	✓			**11 (55.0%)**
	17	Segamat	✓					✓	✓		✓		✓		✓					✓			**7 (35.0%)**
Pahang	18	S. Hj Ahmad Shah	✓					✓	✓		✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	**13 (65.0%)**
Terengganu	19	Kemaman	✓					✓	✓		✓		✓		✓				✓				**7 (35.0%)**
Kelantan	20	Kuala Krai	✓					✓	✓		✓	✓	✓	✓	✓		✓		✓	✓	✓		**12 (60.0%)**
	21	Tanah Merah	✓					✓	✓		✓				✓				✓	✓			**7 (35.0%)**
Sarawak	22	Sibu	✓					✓	✓		✓		✓	✓	✓		✓	✓	✓	✓			**11 (55.0%)**
	23	Miri	✓					✓	✓		✓		✓	✓	✓		✓	✓	✓	✓	✓		**12 (60.0%)**
	24	Bintulu	✓					✓	✓		✓		✓		✓		✓						**7 (35.0%)**
Sabah	25	Sandakan	✓					✓	✓		✓	✓	✓	✓	✓		✓	✓	✓	✓			**12 (60.0%)**
	26	Tawau	✓					✓	✓		✓		✓	✓	✓		✓	✓	✓				**10 (50.0%)**

✓ Resident Specialty Available, (Source : Medical Development Division, August 2011)

TABLE 14 : SCOPE OF RESIDENT SPECIALTY AND SUBSPECIALTY SERVICES BY MINOR HOSPITAL, AUGUST 2011

NO.			1	2	3	4	5	6	7	8	9	10	
DISCIPLINE CODE													
MINOR HOSPITAL		HOSPITAL	General Medicine	General Surgery	Pediatrics	Orthopedics	Pathology	Anesthesiology	Emergency Medicine	Obstetrics & Gynecology	Radiology	Psychiatry	Total Disciplines With Resident Specialists
Kedah	1	Langkawi	✓	✓		✓		✓		✓			5 (50%)
Pulau Pinang	2	Kepala Batas											0 (0%)
	3	Bukit Mertajam	✓		✓					✓		✓	4 (40%)
Perak	4	Slim River	✓	✓	✓	✓		✓		✓		✓	7 (70%)
	5	Seri Manjung	✓	✓	✓	✓		✓		✓	✓	✓	8 (80%)
	6	Grik											0 (0%)
	7	Kuala Kangsar											0 (0%)
Selangor	8	Banting	✓		✓	✓				✓			4 (40%)
W. Persekutuan	9	Labuan	✓	✓	✓	✓		✓		✓			6 (60%)
N. Sembilan	10	Port Dickson		✓		✓				✓			3 (30%)
	11	Tampin											0 (0%)
Johor	12	Kluang	✓	✓	✓	✓				✓		✓	6 (60%)
	13	Kota Tinggi											0 (0%)
Pahang	14	Kuala Lipis	✓			✓		✓		✓			4 (40%)
	15	Bentong	✓										1 (10)
	16	Pekan	✓		✓								2 (20%)
Terengganu	17	Dungun											0 (0%)
Kelantan	18	Gua Musang											0 (0%)
Sarawak	19	Kapit		✓						✓			2 (20%)
	20	Sarikei			✓					✓			2 (20%)
	21	Seri Aman								✓			1 (10%)
	22	Mukah											0 (0%)
	23	Limbang								✓			1 (10%)
Sabah	24	Keniangau	✓	✓	✓			✓		✓	✓		6 (60%)
	25	Kota Marudu								✓			1 (10%)
	26	Lahad Datu	✓	✓	✓			✓		✓			5 (50%)
	27	Beaufort								✓			1 (10%)

✓ Resident Specialty Available

Source: Medical Development Division, August 2011)

Table 15: CURRENT AND PLANNED RESIDENT SPECIALTY / SUBSPECIALTY SERVICES BY SPECIAL HOSPITAL / INSTITUTION (2010-2020)

STATE / FEDERAL TERRITOTY	HOSPITAL	Anaesthesiology	Transfusion medicine	Respiratory	Maternal Fetal Medicine	Neonatology	O&G	Ophthalmology	Paediatrics	Pediatric Dental	Psychiatry	Forensic psychiatry	Comunity & rehabilitation psychiatry	Gynae-oncology	Adult Intensive Care	Spinal cord injury rehabitation	Rehabilitation Medicine
Special Hospitals/ Institutions	1. Bahagia										✓	✓	✓				
	2. Permai										✓		✓				
	3. Sentosa										✓						
	4. Bukit Padang										✓						
	5. IPPR			✓													
	6. WCH Likas	✓			✓	✓	✓	✓	✓	✓				✓	✓		
	7. Rehabiltation Cheras															✓	✓
	8. PDN		✓														

TABLE 16 : RESIDENT SPECIALTY / SUBSPECIALTY BY REGIONS, AUGUST 2011

HOSPITAL	1 Hepatology	2 Palliative Medicine	3 Hematology	4 Geriatrics	5 Neurology	6 Oncology	7 Upper GI Surgery	8 Hepatobiliary Surgery	9 Breast And Endocrine Surg	10 Vascular Surgery	11 Cardiothroracic Surgery	12 Cardio Anes & Perf	13 Reproductive Med	14 Uro-Gynaecology	15 Paeds Cardiology	16 Paed Endocrinology	17 Paeds Haema/Oncology	18 Paeds Nephrology	19 Paeds Neurology	20 Radiology Interventional	21 Forensic Dental	22 Oral Pathology	23 Special Care Dentistry	24 Sports Medicine	25 Nuclear Medicine	26 Genetics
NOTHERN (Perlis, Kedah, Pulau Pinang, Perak)																										
Alor Star								✓					✓	✓												
S. Petani																						✓				
P.Pinang		✓	✓		✓	✓		✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓					✓	✓
Seberang Jaya					✓								✓													
Taiping																										
Ipoh		✓	✓										✓	✓						✓		✓		✓		
CENTRAL REGION (Selangor, Federal Territory KL, Federal Territory Putrajaya, Negeri Sembilan)																										
Klang													✓											✓		
Selayang	✓	✓						✓	✓					✓				✓		✓						
Serdang										✓	✓	✓			✓								✓	✓		
Ampang			✓																							
Sg. Buloh							✓																	✓		
K.Lumpur				✓	✓	✓			✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ins. Per. Resp.																										
Putrajaya									✓							✓										
Seremban							✓											✓						✓		
SOUTH REGION (Johore, Malacca)																										
Melaka			✓	✓			✓																			
S. Aminah			✓		✓						✓	✓			✓										✓	
Sult. Ismail						✓			✓								✓	✓				✓				
EAST REGION (Pahang, Trengganu, Kelantan)																										
Kuantan														✓				✓				✓				
K. Trengganu					✓		✓		✓					✓												
Kota Bahru			✓						✓		✓	✓			✓				✓			✓				
SARAWAK																										
Kuching			✓	✓		✓		✓			✓	✓	✓		✓		✓		✓			✓			✓	
Sibu																										
SABAH																										
Q. Elizabeth			✓		✓	✓						✓	✓									✓		✓		
Likas						✓								✓	✓		✓	✓								
Sandakan																										
Tawau																										

✓ Resident Specialist Available

(Source: Medical Development Division, August 2011)

TABLE 17 (A-M): RESIDENT SPECIALTY AND SUBSPECIALTY SERVICES BY REGIONS 2010

17(A)

MEDICAL SUBSPECIALTIES	North	Central	South	East	Sarawak	Sabah
Resp. Med.	✓	✓	✓	✓		✓
Inf. Disease	✓	✓	✓	✓		✓
Rheumatology	✓	✓	✓	✓		✓
Hepatology		✓				
Palliative Med		✓				
Haematology	✓	✓	✓	✓	✓	
Gastroentero.	✓	✓	✓	✓		✓
Cardiology	✓	✓	✓	✓	✓	✓
Geriatrics						
Neurology	✓	✓	✓			✓
Endocrine	✓	✓			✓	✓
Oncology		✓	✓		✓	✓

17(B)

SURGICAL SUBSPECIALTIES	North	Central	South	East	Sarawak	Sabah
Upper GI						
Colorectal	✓	✓		✓		
Hepatobillary	✓	✓				
Breast & Endo	✓	✓	✓	✓		
Vascular		✓				
Neuro. Surg.	✓	✓	✓		✓	✓
Cardiothoracic	✓	✓	✓	✓	✓	
Urology	✓	✓	✓		✓	✓
Paed. Surg.	✓	✓	✓	✓	✓	
Plastic Surg. Hand & Microsurgery	✓	✓	✓	✓	✓	✓
Trauma						

17(C)

O&G SUBSPECIALTIES

	North	Central	South	East	Swk.	Sabah
Maternal-Foetal	✓	✓	✓	✓	✓	✓
Reproductive Med.	✓	✓	✓	✓		✓
Gynae-Oncology	✓	✓	✓	✓	✓	✓
Uro-Gynaecology	✓	✓		✓		

17(D)

PAEDIATRIC SUBSPECIALTIES

	North	Cent.	South	East	Swk.	Sabah
Adolescent Med						
Paed. Cardiology			✓		✓	
Advance Gen. Paed.						
Endocrine		✓			✓	
Gastroenterology	✓	✓	✓	✓		✓
Haematology/Oncology	✓	✓			✓	✓
Infectious Disease	✓	✓	✓	✓		✓
Intensive Care	✓	✓		✓	✓	
Nephrology	✓	✓	✓	✓		✓
Neurology	✓	✓		✓	✓	✓
Respiratory		✓				
Dermatology		✓				
Neonatology	✓	✓	✓	✓	✓	✓
Rheumatology	✓	✓	✓	✓		✓

17(E)

ORTHOPAEDIC SUBSPECIALTIES

	North	Central	South	East	Swk.	Sabah
Advanced Trauma						
Paediatric Ortho.	✓	✓				
Spine	✓	✓	✓	✓	✓	✓
Joint Arthroplasty	✓	✓	✓	✓	✓	✓
Ortho. Oncology		✓	✓	✓		
Sports Ortho.		✓				
Gen Ortho.&Adv. Musculoskeletal		✓		✓		
Foot & Ankle						

17(F)

ANAESTHESIA SUBSPECIALTIES	North	Central	South	East	Swk.	Sabah
Cardiac Anes & Perfusion	✓	✓	✓		✓	
Neuro-Anaesthesia	✓	✓		✓		
Obstetric Anaesthesia		✓				
Intensive Care	✓	✓				
Paeds Anaesthesia	✓	✓			✓	

17(H)

OTORHINOLARYNGOLOGY SUBSPECIALTIES	North	Central	South	East	Swk.	Sabah
Otoneurology Skull Base Surgery		✓	✓	✓		
Rhinology	✓	✓		✓		
Paediatrics	✓	✓				
Laringology & Oesophagology						
Head & Neck Surgery	✓	✓	✓		✓	
Facioplastic, Head Neck Recon. Surgery	✓	✓	✓		✓	

17(G)

OPTHALMOLOGY SUBSPECIALTIES	North	Central	South	East	Swk.	Sabah
Vitreo-retinal	✓	✓	✓	✓		✓
Paed Opthalmology		✓				✓
Cornea Refractive Surg	✓	✓				
Occuloplastic & Orbital Surgery		✓				
Medical Retinal		✓				
Neuro-Opthalmology						
Glaucoma	✓	✓	✓			

17(I)

FORENSIC MEDICINE	North	Central	South	East	Swk.	Sabah
Forensic Medicine	✓	✓	✓	✓	✓	✓

17(J)

NUCLEAR MEDICINE	North	Central	South	East	Swk.	Sabah
Gen. Nuclear Medicine	✓	✓	✓	✓	✓	

17(K)

REHABILITATION MEDICINE	North	Central	South	East	Swk.	Sabah
Gen. Rehab. Mrdicine	✓	✓	✓	✓	✓	✓

17(L)

RADIOLOGY SUBSPECIALTIES	North	Central	South	East	Swk.	Sabah
Neuroradiology			✓			
Musculoskeletal				✓		
Paediatrics		✓	✓			✓
Interventional Radiology	✓	✓	✓			
Gastrohepatobiliary		✓				
Uroradiology		✓				
Breast Imaging		✓				

17(M)

PSYCHIATRIY	North	Central	South	East	Swk.	Sabah
Child & Adolescent	✓	✓	✓	✓	✓	✓
Psycho Geriatric		✓	✓			
Liaison	✓	✓	✓			✓
Forensic Psychiatriy		✓	✓			
Substance Abuse						
Community & Rehabilitation	✓	✓	✓			
Neuropsychiatry		✓	✓			

✓ Current Resident Specialty and Subspecialty

Source : Medical Development Division January 2011

NAME OF SUBSPECIALTY : CARDIOTHORACIC ANAESTHESIOLOGY AND PERFUSION

		PRESENT STATUS	PROPOSED EXPANSION 10MP
1.	Availability of resident services	Four (4) KKM Heart Centres: • H Pulau Pinang • HSA JB, Johor • HUS Kuching, Sawarak • H Serdang, Selangor • Two (2) new KKM Heart Centres Starting services 2010: • HQE Kota Kinabalu, Sabah • HRPZII Kota Bahru, Kelantan • HTAA Kuantan, Pahang	New Cardiology and Cardiothoracic Surgical services: • HSB Alor Setar • HTAA Kuantan -continued Expansion of current facilities: • H Pulau Pinang (Phase-II 9MP: Proposed new 11-Storey Cardiac and Surgical Block, Hospital Pulau Pinang) Proposed replacement/procurement of equipment in current facilities : • H Pulau Pinang o Intubating Fibre-optic Scope o Ultra-Sound Machine o CICU Haemodynamic Monitors • HSA JB o CICU Haemodynamic Monitors o CICU Ventilators o Intubating Fibre-optic Scope • HUS Kuching o Heart-Lung Machine o Intra-Aortic Balloon Pump • H Serdang o Heart-Lung Machine
2.	Networking/ Outreach	Nil	Nil
3.	Outsourcing/ Purchase of Services	H Pulau Pinang : Outsourcing of Paediatric Cardiac Surgical Services to local private (Adventist Hospital) and overseas (Narayana Hospital, India) paediatric cardiac centers.	Long term plan is to train and form KKM Paediatric Cardiac Surgical, Paediatric Cardiac Anaesthesiology and Perfusion teams in H Serdang and H Pulau Pinang.

4.	Collaboration with Universities/ other agencies	H Pulau Pinang : Visiting sessional Paediatric Cardiac Surgeon, Mr Hafiz Law, from Gleneagles Hospital. Paediatric Cardiac Anaesthesia and Perfusion Services provided by Hospital Pulau Pinang.	Long term plan is to train and form KKM Paediatric Cardiac Surgical, Paediatric Cardiac Anaesthesiology and Perfusion teams in H Serdang and H Pulau Pinang.
5.	No. of Specialists (& trainees in brackets)	H Pulau Pinang: 4 (2) HSA Johor Bahru : 4(1) HUS Kuching: 2 (2) H Serdang: 4 (3)	I staffing level *Current* infrastructure: H Pulau Pinang (2 OT): 8(4) H SA Johor Bahru (2 OT) : 8(4) HUS Kuching (1 OT): 4(2) H Serdang (2 OT): 8(4) *New* Heart Centres: HQE Kota Kinabalu (1 OT) : 4(2) HRPZII Kota Bahru (1 OT): 4(2) HSB Alor Setar (1 OT): 4(2) HTAA Kuantan (1 OT): 4(2) Calculation base on formula: 1 OT: 2 Surgeons 1 Surgeon: 2 Anaesthesiologists Cardiac Anaesthesiologists cover includes Cardiothoracic Intensive Care, Invasive Catheterization Lab, Perfusion, and Peri-operative Transoesophageal services.
			Shortage: • 14 trained Cardiac Anaesthesiologists for current Heart Centres. • Additional 16 are to be trained for newer Heart Centres. • Expansion of Penang Heart Centre to 4 OTs requires another 8 more to be trained. • **Total shortage: 38 Cardiac Anaesthesiologists.**

6.	Major gaps/issues	1. Loss of human resources at all level to private centers due to lack of financial incentive and long working hours. 2. Shortages of trained nurses and other allied health staff. Promotions are frequently bundled with intra-hospital transfer to other departments rather than being retained within the same specialty area. 3. Shortages of CICU beds resulting in occasional cancellation of elective lists. 4. Shortages of trainees in cardiothoracic surgery.	
		5. Inadequate Cardiac intensivists input in CICU patient care for increasingly sicker surgical population. 6. Challenges in setting up new Heart Centres: a) Need to avoid duplication of KKM Heart Services within same geographical area. b) Need to bring services to East Coast and East Malaysia	
7.	Other Proposals		1. Provision of extra corporeal membrane oxygenation (ECMO) service. 2. Training and formation of KKM Paediatric Cardiac Surgical core team, comprising of surgeons, anesthesiologists, perfusionists and allied health personnel. 3. Continue resources and funds for short course training in :

			a. Paediatric Cardiac Anaesthesia b. Cardiac Intensive Care c. Paediatric Perfusion/ Cardiopulmonary Bypass d. Transoesophageal Echocardiography e. Extra Corporeal Membrane Oxygenation
			4. Development of Post Basic Courses for Cardiac Allied Health Personnel: a. National Perfusion Course: Essential to include an apprenticeship programme of 5 years with KKM Post Basic Certification in Cardiac Perfusion. b. Cardiothoracic Intensive Care Post Basic Nursing Course c. Cardiothoracic Peri-operative Nursing Course (for OT staff) 5. Development of a National Transoesophageal Echocardiography Certification Training programme. 6. To organize Annual Paediatric Cardiac visiting team from UK/ Australia/India to KKM Heart Centres for surgeries of complex congenital heart defects.

NAME OF SUBSPECIALTY : ADULT INTENSIVE CARE

		PRESENT STATUS	PROPOSED EXPANSION 10 MP
1.	Availability of resident services	As of Jan 2010, all major hospitals offer adult intensive care service	Intensive care units shall be available in all hospitals that provide anaesthetic service.
2.	Networking / Outreach	As of date, there are 4 established ICU networks. These networks allow transfers of deserving critically ill patients from ICU to another when ICU bed is not available in the parent hospitals. Central: HKL, H. Selayang, H.Sg. Buloh, H. Ampang, H. TAR Klang, H.Seremban, H.Kajang Northern: H.Kangar, H.Alor Setar, H. Sg Petani, H.PP, H.Taiping, H. Seberang Jaya, H.Kulim Perak: H.Ipoh, H. Taiping, H.Slim River, H.Sri Manjung, H.T.Intan Southern: H. Melaka, H. HSAJB, HIS Pandan, H.Muar, H.Segamat, H. B.Pahat	Establish other networks: Central East network: H. TAAKuantan, HKT, H.Kemaman, H.Temerloh North East : HRPZII, H.USM, H.K.Krai Real-time on-line tracking of availability of beds within the network.
3.	Outsourcing / Purchase of Service	Nil	Nil
4.	Collaboration with Universities / other agencies	Nil	Nil

5.	No. of specialists (& trainees)	The number of intensivists (& trainees) are as follows: 1. HKL – 2 intensivists (2 trainees) 2. HPP – 1 intensivist (2 trainees) 3. HSAJB – 1 intensivist (1 trainee) 4. HA.Setar – 1 intensivist (1 trainee) 5. HSg Buloh – 1 intensivist (1 trainee) 6. HKT – 1 intensivist (1 trainee) 7. HKB – (1 trainee) 8. HTAR Klang – (1 trainee) 9. HQE KK – (1 intensivist) 10. HSerdang – (1 trainee) 11. HSelayang – (1 trainee) 12. HMelaka - 1 intensivist (1 trainee)	All state and major specialist hospitals shall be staffed with at least one resident intensivist per hospital. The unit shall be staffed with additional intensivists as follows: Staff: Bed Consultant 1:5 Specialist 1:6 Total intensivists required: 54 at the end of the 10 MP
6.	Major gaps / issues	1. Acute shortage of ICU beds 2. Fragmentation of ICUs into specialty ICUs e.g. Neuro ICU, Uro ICU. Also fragmentation of the unit into High Dependency Unit and Intensive Care unit.	1. The number of ICU beds in a hospital shall be 4% of total hospital beds for state hospitals and 3% of total hospitals beds in other category of hospitals. An additional 1% for each surgical sub-specialty. a. Open up existing non-functional intensive care beds (121 beds) b. Establish more ICU beds (101 beds) 2. Integrate all intensive care units and high dependency units under one intensive care service for better and effective utilization of staff and equipment.

		3. Lack of trained intensivists	3a. Provide more scholarships for overseas training. 5 per year for 2011 and increased to 10 per year for subsequent years. 3b. Introduce a 3 year locally trained fellowship in adult intensive care as an alternative.
		4. Lacked of trained intensive care nurses, and other allied health staff	4a. Increase the number of intake Of nurses for the existing post-basic intensive care nursing course 4b. Introduce a post-basic intensive care nursing course which is conducted as an open system 4c. Introduce locum service for trained intensive care nurses 4d. Employ trained intensive care nurses from foreign countries
		5. The increased in number of specialists, medical officer and nurses are not in tandem with the increase in number of beds	5. The staffing requirement per ICU bed shall be as follows Staff: bed Consultant 1:6 Specialist 1:5 Medical officer 1:2 Nurse 5:1
		6. Insufficient funding for consumables. Situation worsened with the pressure to increase number of beds.	6. Sufficient funding for consumables shall be made at a cost of RM 4500 per bed for an average length of stay of 4.5 days
		7. Insufficient funding for associated services e.g. nephrology (renal replacement therapy), pathology, radiology	7. Sufficient funding shall be made available for renal replacement therapy service
		8. No scheduled replacement of old equipment	8. Scheduled replacement of equipment of more than 8 years shall be done on a regular basis
7.	Other proposal	1. To improve patient safety and quality of care	1a. Teleconferencing facilities shall be made available to ICUs without resident intensivists 1b. Major ICUs shall be equipped with clinical information system (CIS) 1c. Ultrasound machine ($\pm$ echocardiography capability) shall be available in all ICUs

NAME OF SPECIALTY / SUBSPECIALTY : ANAESTHESIOLOGY / LIVER TRANSPLANTATION ANAESTHESIA

		PRESENT STATUS	PROPOSED EXPANSION RM10
1.	Availability of resident services	Only in Selayang Hospital which is the National Transplant Hospital	NIL
2.	Networking / Outreach	NIL	NIL
3.	Outsourcing / Purchase of services	NIL	NIL
4.	Collaboration with Universities / other institutions	NIL	NIL
5.	No. of specialists (and trainees in brackets)	3 specialists (2 trainees)	5 Adult and 5 Paediatric Anaesthetist trained to anaesthetize adult and paediatric cases
6.	Major Gaps / Issues	1. Training I. Anaesthesia i) Lack of trained anaesthetist in liver transplantation due to long hours, heavy workload, lack of incentives II. Postoperative care i) Lack of trained Intensivist in managing post operative liver transplant critical care. ii) Lack of trained supporting staff in the ICU in the care of critically ill children iii) Lack of staffing in the ICU-Immediate postoperative care in ICU would require 2 nurses per post transplant patient per shift.	1. Train more liver transplant anaesthetist, intensivist and supporting staff so that the workload may be reduced

		2. Equipment & Funding i) General Anaesthesia Machine, monitors, and warming devices in the two operating theatres need to be upgraded ii) Non functioning Thromboelastography machine (TEG) and Rapid Infusion system iii) No stat laboratory in the operating theatre which is a standard for all liver transplant centers iv) There is no Activated clotting time (ACT) available v) No fibreoptic bronchoscope for children in the Intensive Care Unit vi) Lack of funding for disposables	2. Upgrading of a. GA machines to Anaesthesia Workstations b. OT Hemodynamic monitors c. blanket warming system d. blood/fluid warming system e. Thromboelastography machine (TEG) f. Rapid Infusion system 3. A Stat Laboratory in the operating suite with: a. Activated Clotting Time (ACT) machine b. ABG machine c. TEG machine (Thrombo-elastography machine) 4. To purchase fiberoptic bronchoscope for children for bronchoscopic suction 5. To increase funding for disposables
7.	Other proposal		

NAME OF SPECIALTY ANAESTHESIOLOGY / SUBSPECIALTY : NEUROANAESTHESIA

		PRESENT STATUS	PROPOSED EXPANSION RM10
1.	Availability of Resident Services	Current hospitals with eurosurgical services 1. HKuala Lumpur 2. HSungai Buloh 3. HPulau Pinang 4. HIpoh 5. HSultanah Aminah Johor Bahru 6. HUS Kuching 7. HQE Kota Kinabalu Neurosurgical Centres with Neuroanaesthetist 1. HKL (2 neuroanaesthetists) 2. HSungai Buloh (1 neuroanaesthetist) 3. HPulau Pinang (1 neuroanaesthetist) 4. HTAA Kuantan (1 neuroanaesthetist)	Future hospitals with neurosurgical services 1. Alor Setar 2. Kuala Trengganu 3. Melaka All centres with neurosurgical services should have trained neuroanaesthetists providing the knowledge and expertise in neuroanaesthesia and neuroaintensive care services There should be adequate number of operating OT's for elective neurosurgical cases (Minimum of 2 OT lists per week) and neurosurgical emergencies (on 24 hour standby) There should be adequate number of ICU beds to support the neurosurgical workload in the neurosurgical centres and to accept referrals from nearby hospitals. There should be adequate support for diagnostic and interventional neuroradiological services.
2.	Networking / Outreach	Hospital USM (Kelantan) UIA (Kuantan) UMMC (Klang Valley) HUKM (Klang Valley)	For neurosurgical subspeciality services there should be networking of the various neurosurgical centres in terms of patient transfer or neuroanaesthetists/ neurosurgeons visiting other centres. Neurosurgical subspeciality services include 1. Functional neurosurgery 2. Vascular neurosurgery 3. Paediatric Neurosurgery 4. Endoscopic neurosurgery 5. Interventional neuroradiology

3.	Outsourcing / Purchase of services	Hospital Sungai has outsourcing of neurointerventional radiological services	Nil
4.	Collaboration with Universities / other institutions	There will be collaboration of surgical and anaesthetic expertise with the start of functional neurosurgical services with the universities (UMMC and HUKM)	see #7
5.	No. of specialists (and trainees in brackets)	5 Neuroanaesthesia specialists 4 Neuroanaesthesia trainees	We should have 10 neuroanaesthetists by the end of RM10 with further 10 neuroanaesthetists in training
6.	Major Gaps / Issues	1. There is an overall lack of anaesthetists and medical officers to cater for the neurosurgical workload in almost all the neurosurgical centres 2. Lack of ICU beds for neurosurgical workload, both for elective neurosurgical cases as well as neurosurgical emergency cases 3. Pre-hospital retrieval services is inadequate for the large numbers of polytrauma cases seen currently, hence delay in receiving proper care 4. Neuro and spine rehabilitative services are inadequate to address the large number of neurotrauma cases 5. 24 hour radiological support services (CT and diagnostic angio) is not available in all hospitals 6. Thrombolytic therapy for emergency stroke management is still not available in most hospitals	1. There is a need for establishing criteria for training anaesthetists and locating them in sufficient numbers in neurosurgical centres. 2. Neurosurgical lists should have dedicated anaesthetists for their cases. 3. There should be proper development of ICU beds for neurotrauma cases. Currently, many neurotrauma patients are denied immediate access to ICU beds due to heavy demands from various disciplines. 4. There should be a team of other support services in a neurotrauma centres. Neurohabilitative physicians, occupational health experts, physiotherapists, family counsellors and home nursing teams.

7.	Other proposal	1. There should be a national neurotrauma registry to monitor the number of neurotrauma cases in the country and outcome of the care givento them. 2. Establish stroke centres for advanced care of acute stroke victims. Will need team comprising of neurointensivists, neuroanaesthetists, neuroradiologists, neurologists and neurosurgeons in designated centres. 3. We should consider establishing stem cell research programmes in Malaysia for neuro and spine trauma.	1. To have a national neurotrauma database and study to improve the care of head injured patients in Malaysia. 2. A Neuroscience institute for research and advanced care of the neurological diseases. The institute will have collaboration with other world-class neuroscience institutes from other countries. 3. Setting up stem cell research programmes with our institutes of higher learning.

NAME OF SPECIALTY / SUBSPECIALTY : OBSTETRIC ANESTHESIA.

		PRESENT STATUS	PROPOSED EXPANSION 10 MP.
1.	Availability of Resident Services.	1. Hospitals with resident Obstetric Anesthetist are: 1. Hospital Kuala Lumpur 2. HTAR Kelang 3. Hospital Selayang. 2. The majority of other state hospitals, the obstetric services are run by the general anesthetists. 3. The HOD of Anesthesia and Intensive care department oversee all the needs and development of obstetric anesthesia services in their respective hospitals. 4. Critically ill obstetric patients are managed in general ICU with either intensivists or general anesthetists.	1. All state hospitals with the following criteria should develop resident services in RMK-10: • Hospitals with annual delivery of 10000 or more. • Hospitals with existing or new Maternal and Child Complex. *(it was estimated 15 hospitals will meet the above criteria by the end of RMK-10)* 2. In state hospitals with annual delivery less than 10000, it is desirable to have resident Obstetric Anesthetists or anesthetists with special interest in Obstetric Anaesthesia. *The resident Obstetrics Anesthetists' scope of clinical duties should cover obstetric anesthesia service, gynecological surgery, obstetric analgesia service and other related obstetric subspecialty services that require anesthesia expertise eg: IVF.* *The Obstetric Anesthetists shall be in-charge of clinical and operational services of the obstetric anesthesia. They should give feedback to Anesthesia HOD with regard to development plan and budget requirement)*

			3. All state hospitals with obstetric services should have a minimum number of 4 dedicated HDW beds to cater for anticipated or unanticipated obstetric emergencies. These beds should be incorporated in any newly built Maternity Complex or could be identified from the existing ICU or existing obstetric facilities should be equipped with equivalent to ICU standard of equipment. All critically ill obstetric patients will be co-managed in general ICU with either intensivists or general anesthetists.
2.	Networking/ outreach.	Nil	Nil
3.	Outsourcing / Purchase of services	Nil	Nil
4.	Collaboration with universities / other agencies.	Training for KKM anesthetists undergoing subspecialty/ fellowship program	1. To establish at least two local training centers for obstetric anesthesia subspecialty during RMK-10. Propose: HTAR Kelang, HKL. 2. Simulator based workshop to learn how to deal with critical incidents in collaboration with university
5.	Number of specialists (and trainee in bracket)	Currently there are 3 qualified Obstetric Anesthetists. (3 trainee undergoing training)	Need another 15 Obstetric Anesthetists by the end of RMK-10. (something achievable if the current rate of intake maintained ie 3 candidates per year)
6.	Major gap / issues	Unavailability of 24 hours dedicated obstetric anesthesia and obstetric analgesia services in almost all state hospitals throughout the country.	1. To ensure both services available for 24 hours a day. 2. Also to ensure effective Code Pink team available to deal with obstetric emergencies and resuscitation.
7.	Other Proposal		1. Simulator based workshop to learn how to deal with critical incidents 2. Regular Obstetric Life Support Course (OLS)

NAME OF SPECIALTY / SUBSPECIALTY : ANAESTHESIOLOGY / PAEDIATRIC ANAESTHESIA

<table>
<tr><th></th><th></th><th>Present Status</th><th>Proposed expansion RM10</th></tr>
<tr><td>1.</td><td>Availability of resident services</td><td>Paediatric anaesthesia must develop in tandem with the paediatric surgical services.

Paediatric Anaesthetist must be posted to hospitals where there is a Paediatric Surgeon.

<table>
<tr><th>Hospital</th><th>Consultant Paediatric Surgeon</th><th>Paediatric Anaesthetist</th></tr>
<tr><td>HKL</td><td>2 + 3 trainee surgeons</td><td>3+ 3 trainee paediatric anaesthetist</td></tr>
<tr><td>Alor Star</td><td>1</td><td>-</td></tr>
<tr><td>Penang</td><td>1</td><td>-</td></tr>
<tr><td>Kota Baharu</td><td>1</td><td>1</td></tr>
<tr><td>Kuantan</td><td>1</td><td>-</td></tr>
<tr><td>Malacca</td><td>1</td><td>-</td></tr>
<tr><td>Johor Baharu</td><td>1</td><td>-</td></tr>
<tr><td>Ipoh</td><td>1</td><td>1</td></tr>
<tr><td>Kucing</td><td>1</td><td>1</td></tr>
<tr><td>Likas, Kota Kinabalu</td><td>1</td><td>1</td></tr>
<tr><td>H. Selayang</td><td>-</td><td>1</td></tr>
<tr><td>Seremban</td><td>-</td><td>1</td></tr>
</table></td><td>All State Hospitals with dedicated Paediatric Surgeons must be supported by a Paediatric Anaesthetist.

The ratio of Paediatric Surgeon to Paediatric Anaesthetist is 2:1.

Priority of Placement of Paediatric Anaesthetist according to the paediatric surgical requirements in descending order:

1. Alor Star
2. Kuantan
3. Johor Baharu
4. Kucing
5. Penang
6. Malacca
7. Kuala Terengganu
8. Klang
9. Likas</td></tr>
<tr><td>2.</td><td>Networking / Outreach</td><td>NIL</td><td>NIL</td></tr>
<tr><td>3.</td><td>Outsourcing / Purchase of services</td><td>Sessional Paediatric Anaesthetist anaesthetizes twice a week in HKL.</td><td>NIL</td></tr>
<tr><td>4.</td><td>Collaboration with Universities / other institutions</td><td>University Putra Malaysia.

The Paediatric Anaesthetist from UPM anaesthetizes and does calls in HKL</td><td>NIL</td></tr>
<tr><td>5.</td><td>No. of specialists (and trainees in brackets)</td><td>9 Paediatric Anaesthetist

(6 trainees)</td><td>Total of 18 Paediatric Anaesthetists. All state hospitals should have a Paediatric Anaesthetists.</td></tr>
</table>

6.	Major Gaps / Issues	1. Maldevelopment of total Paediatric anaesthesia services in children esp. in other surgical disciplines e.g. Paediatric ENT/ Neurosurgery/ Plastic 2. Paediatric anaesthetists must be posted to hospitals with Paediatric Surgeons to utilize their expertise. 3. Funding There should be extra funding for paediatric anaesthesia and pain services for disposables in tertiary and regional paediatric surgical centers. 4. Equipment In the tertiary referral center, regional centers and state hospitals, a) Lack of adequate high end ventilators with new modes, high frequency ventilators, non invasive ventilators b) Infusion pumps in the operating theatres c) Inadequate warming mattress and warming blankets d) Inadequate overhead radiant warmers e) Upgrading of PCA pumps 5. Training Lack of paediatric anaesthetist or anaesthetist with paediatric anaesthesia interest in the regional and state hospitals.	1. The development of an Independent Children's Hospital in tertiary and regional centers of Paediatric Surgery 2. Paediatric anaesthetist must be posted to hospitals where there is a dedicated paediatric surgical service. 3. There should be more funding for disposables for both PICU and the paediatric anaesthesia and pain management services for HKL as a tertiary referral center and for all regional and state hospitals offering paediatric anaesthesia services/ paedatric surgical services 4. <u>HKL, the tertiary referral center</u> a) Upgrading of 8 PICU monitors and 10 CIS (> 10years) b) Upgrading of ventilators able to do new modes of ventilation, non invasive ventilation and for more high frequency ventilation ventilaotrs c) Trans- esophageal Echo (TEE) d) Upgrading of infusion pumps in the operating theatre and for pain management e) Upgrading of PCA pumps f) Upgrading of warming devices e.g. fluid warmers, blood warmers

		i) Compromises perioperative care leading to poor outcome of paediatric patients especially in complex cases and neonates ii) Non dedicated anaesthetist per theatre (anaesthetist covering more than one theatre). In paediatric anaesthesia, there must be a dedicated trained anaesthetist per theatre while administering anaesthesia for children. ii) The number of paeditric anaesthetist trained is not in tandem with the number of paediatric surgeons which may compromise care as more complex surgeries are done. More Paediatric surgeons are being trained under the Masters in Paediatric Surgery iii) Training opportunities for anaesthetists, medical officers and staff nurses. Lack of up-to-date knowledge and skills in paediatric anaesthesia and resuscitation in children 6. Lack of a proper retrieval system for transfer of ill paediatric patients from peripheral hospitals to tertiary and regional centers leading to poor outcome of the paediatric surgical patient 7. Operating theatres are not 'Child-Friendly'. Children are still changed into the 'white' OT attire.	<u>For regional centers</u> To be well equipped with a) adequate ventilators b) infusion pumps c) warming devices-fluid/ blood warmers, warming mattress, overhead warmers, warming blankets d) PCA pumps 5. The development of an Independent Children's Hospital in tertiary (HKL) and regional centers of paediatric surgery 5.1 Train more paediatric anaesthetist and anaesthetist with special interest in children where Paediatric anaesthetists are not available e.g. in Malacca, aneasthesia is provide by a paediatric interest anaesthetist who spent 6 months in HKL for training in paediatric anaesthesia 5.2 Funded attachment in tertiary centres which involves supervised work with a paediatric anaesthetist colleague. The establishment of regional groups/ networking of paediatric anaesthetists to facilitate joint CME and improve competency. 6. Implement or improve retrieval system for children (with Paediatricians) 7. All operating theatres must be 'Child Friendly' including the ACC theatres. Children should be recovered in separate recovery areas from adults.
7.	Other proposal	1. Paediatric Burns ICU in the tertiary center	1. An Independent Paediatric Burns ICU is required for the management of these children with proper area for dressing and baths. There should be a National Policy on Care of Paediatric burns.

NAME OF SPECIALTY / SUBSPECIALTY : ANAESTHESIOLOGY / PAIN SERVICES

		PRESENT STATUS	PROPOSED EXPANSION RM10
1.	Availability of resident services	<u>Acute Pain Services</u> Available in all state hospitals and most district hospitals with specialists. <u>Chronic Pain Services</u> Pain clinic or Regional Pain center to be in all state hospitals, HKL and other major specialist hospitals in Klang Valley Current: 4 Regional Pain Centers and 2 Pain Clinics already started services, 1 more Regional Pain Center and 3 more Pain Clinics planned to be set up in mid-2010 Regional Pain Centers: 1. Hospital Selayang (Central) 2. Hospital Ipoh (Central) 3. Hospital Sultan Ismail, JB (Southern) 4. Hospital Raja Perempuan Zainab II, KB (East) 5. Hospital Pulau Pinang (Northern) (2010) Pain Clinics 1. Hospital TAR, Klang 2. Hospital Melaka 3. Hospital Kuala Lumpur (2010) 4. Hospital Seremban (2010) 5. Hospital Sultanah Aminah, JB (2010)	<u>Acute Pain Services</u> APS should be available in **all** district hospitals with specialist anaesthetists. Funding for existing APS should be available – for purchase of more PCA/epidural pumps every 2 years and for purchase of consummables annually. <u>Chronic Pain Services</u> 2 more Regional Centers 1. Hospital Umum Sarawak, Kuching (Sarawak) 2. Hospital Queen Elizabeth, Kota Kinabalu (Sabah) 6 more Pain Clinics 1. Hospital Kangar 2. Hospital Alor Setar 3. Hospital Kuantan 4. Hospital Kuala Terengganu 5. National Cancer Institute 6. Cheras Rehab Hospital

2.	Networking / Outreach	Networking to be started in 2010 – to support the new Pain clinics set up 1. Hospital Selayang to Hospital Seremban, HKL and Hospital TAR Klang 2. Hospital Sultan Ismail to Hospital Sultanah Aminah JB 3. Hospital Ipoh to Hospital Pulau Pinang	Networking to support all new clinics in the first year of operation 1. Hospital Selayang to Cheras Rehab Hospital, National Cancer Institute, and Hospital Kuantan 2. Hospital Sultan Ismail JB and Hospital Selayang to Hospital Umum Kuching and Hospital QEH KK 3. Hospital PRZII Kota Bharu and Hospital Selayang to Hospital Kuala Terengganu 4. Hospital Ipoh to Hospital Kangar and Hospital Alor Star
3.	Outsourcing / Purchase of services	Hospital Selayang has a sessional Clinical Psychologist to help run the Pain clinic (once a week) and to run the Pain Management Program (two weeks program, twice a year)	Pain Clinics to purchase services of Clinical psychologist experienced in chronic pain management where available.
4.	Collaboration with Universities / other institutions	HUSM in Kubang Kerian and HPRZII in KB – collaboration in terms of training of those doing the Fellowship program	1. Pain Clinic in HTAA Kuantan will be run by specialist from UIA Kuantan together with specialist from KKM (when available). 2. Pain Clinic in HUS Kuching will be run by specialist from UNIMAS together with specialist from KKM (when available).
5.	No. of specialists (and trainees in brackets)	7 Pain specialists (12 trainees)	19 pain specialists by 2013

6.	Major Gaps / Issues	1. No specific space and facilities for Pain clinics and Regional Pain Centers in designated hospitals. Hospital Melaka, HPRZII KB and HTAR Klang do not have designated space for the Pain clinic and are sharing space with the Anaesthetic clinic. 2. Inadequate support from physiotherapy / occupational therapy in some hospitals 3. Not enough clinic psychologists available especially those who are trained in chronic pain management 4. Inadequate number of nurses to support chronic pain clinic and interventional pain work – currently we are using APS nurses to help us but this takes them away from their day-to-day APS work. 5. Lack of specific funding for Pain service – including acute pain and chronic pain. Currently we are using the anaesthesia allocation for drugs and for consummables. 6. Development of Pain services not in tandem with Palliative Care and Rehabilitation services.	1. All new Ambulatory Care Centers in hospitals where Pain clinics / pain centers are to be set up should include space for clinic (at least 3 consultation rooms) and interventional pain procedures (1 operating theater, with Image intensifier) 2. Create posts for physiotherapist/occupational therapists and clinical psychologists as part of the pain clinic team. In the meantime, designated Occ/ physio therapists should be assigned to pain clinics and pain centers.. 3. Identify and train physiotherapists / occupational therapists and clinical psychologists in chronic pain management. 4. Dasar Baru and / or One-off for equipment for acute and chronic pain service is required. This has been submitted three times in the past 5 years without success. 5. Additional allocation to the anaesthesia budget for drugs and consumables should be given to hospitals with pain clinics. Alternatively, there should be a separate budget for the Pain service in all hospitals with APS and with Pain Clinic or Pain Center. 6. Development of Pain service should be in tandem with Palliative Care and Rehabilitation services – i.e. if the above services are planned for a particular hospital, a pain clinic / pain center also has to be set up at the same time. Posts and promotions of the pain specialists running the service should also be in tandem with the other specialties.

7.	Other proposal		1. To develop at least two of the Regional Pain Centers as centers of excellence for Interventional Pain 2. To incorporate TCM into current management of patients in Pain clinics / Pain Centers – this can be done by having a TCM practitioner (e.g. acupuncturist) posted to the Pain clinic to treat patients who are deemed suitable for this treatment after assessment by the pain specialist.

NAME OF SPECIALTY/SUBSPECIALTY : BREAST AND ENDOCRINE SUGERY

		PRESENT STATUS	PROPOSED EXPANSION 10 MP
1.	Availability of resident services	• 6 Hospitals 1. HPutrajaya – 4 Consultants (Breast, Endocrine Surgery, Metabolic/Obesity 2. HKL- 1 Consultant 3. HPulauPinang – 1 Consultant 4. HSIJB – 1 Consultant 5. HSNZ,KT – 1 Consultant 6. HRPZII, KB – 1 Consultant (2 - 6:Breast & Endocrine Surgery)	• Breast & Endocrine Surgery Services: - Hospital Umum Sarawak • Metabolic and Obesity Surgery for each regional centres • Sentinel Node Biopsy Service for each regional centre.
2.	Networking/Outreach	1. HPJ to HKL & HSerdang -2x/ monthly (Renal Parathyroid Surgery) 2. HSNZ,KT to HTAA Kuantan – bi-monthly (6x/year) 3. HPJ to HUS Kuching (on request)	Hospital Queen Elizabeth Kota Kinabalu
3.	Outsourcing/Purchase of Service	NIL	NIL
4.	Collaboration with Universities/other agencies	Provide training/attachment for trainees from Universities. (UMMC & UNIMAS)	
5.	No. of Specialists (& trainees in brackets)	HPJ – 4 (3 + 2 – oversea attachment) HKL – 1 (3) HSI – 1 (2) HPP – 1 (2) HSNZKT – 1 (1) HRPZIIKB – 1 (2)	Minimum 2 Breast & Endocrine Consultants per regional centre.

6.	Major gaps/issues	1. No service for East Malaysia 2. The number of trained Consultant still too small for each regional centre. 3. Infrastructure and Facilities – ▪ Ultrasound machines for surgeons ▪ Sentinel Lymph Node Biopsy services ▪ Metabolic/Obesity Surgery requires expensive equipment and most patients could not afford as they come from lower income group ▪ Very limited facility for Radio-iodine ablation (RAI) treatment resulting in very long queue for patients receiving treatment. Limited number of expert personnel to run the facility. 4. Very small number of other trained personnel i.e Radiologist and Pathologist in Breast and Endocrine Field – Currently only HPJ has one resident trained pathologist. All other regional centres do not have any breast-trained pathologist. Only 2 gazetted/certified Breast Radiologist.	To equip each regional centre adequate facilities which include Ultrasound Machines; Sentinel Node Biopsy facilities. To equip HPJ with Obesity Surgery Equipment To increase RAI facilities to be available in all regional centres. To train more Radio-nuclear Physician. To train more Pathologist and Radiologist to be specialized in Breast & Endocrine. Therefore able to equip each Regional Centres with at least 1 Pathologist and I Radiologist. Total number required: - 6 Breast Pathologists. - 6 Breast Radiologists
7.	Other proposal	1. To increase other trained personnel: Breast Care Nurses; Breast Counsellor; Physiotherapist (Lymphoedema); trained Dietitian with management of obese patients. 2. To increase trained Endocrinologists in management of obese patients	

NAME OF SUBSPECIALTY : CARDIOTHORACIC SURGERY SERVICE

		PRESENT STATUS	PROPOSED EXPANSION 10MP
1.	Availability of resident services	Four (4) hospitals: 1. Hospital Pulau Pinang. 2. Hospital Sultanah Aminah Johor Bahru 3. Hospital Umum Sarawak, Kuching. 4. Hospital Serdang, Selangor.	1. To replace the old existing infrastructures with brand new infrastructures since the available space constraint especially at the first two hospitals could no longer be maximized. 2. The mechanical and engineering components of the facilities need to be replaced for patient's safety and comfort.
2.	Networking/Outreach	Networking among the centres (share knowledge through CME programme, training and share experiences)	To encourage more networking among the centres and with other centres and other agencies within the country (to share knowledge and experiences)
3.	Outsourcing/Purchase of Service	Nil	To have private surgical services (on sessional basis), if there is a need.
4.	Collaboration with Universities/ other agencies	Collaboration between MOH Cardiothoracic Surgery Department with IJN in provision of Cardiothoracic Surgery Service and training of Cardiothoracic Surgery Fellowship trainee has been practised all this while.	1. To have more collaboration with IJN and universities by having a common training programme for Cardiothoracic Surgery. 2. To have more collaboration between the three parties in other aspect such as training of surgeons and allied health personnel, to ensure adequate workforce.
5.	No. of specialists (& trainees in brackets)	13 surgeons (3 trainees)	1. Number of surgeons (and trainees) must be increased to meet the demand. 2. Need to have more Paediatric Cardiac Surgeon in order to handle complex paediatric cardiac cases.

6.	Major gaps/ issues	1. High workload, and increasing challenging cases due to increasing population and aging population.	1. Need more man power to overcome this issue. Need to have and maintain experienced personnel in the service.
		2. Resignation of senior and experienced specialists from the service.	2. Ministry must ensure them from leaving services by ensuring timely promotions
		3. Stressful and un-conducive working condition and old facilities.	3. Working condition must be improved and it must be made more conducive.
		4. Old existing infrastructures with space constraint.	4. Issue of space constraint need to be addressed in order to meet the demand.
		5. Long training programme for Cardiothoracic Surgeon is compulsory to ensure adequate training and exposure as well as to ensure safety to the patients.	5. Programme must be scrutinised and properly monitored to ensure quality of the programme and the trainee trained.
		6. There is no formal training programme (LDP) for allied health personnel in the Department, other than the mento-mentee type.	6. To implement new programme for Cardiothoracic Surgery allied health personnel for COT, CICU and CTW.
		7. Growth of new centres: i. Hospital Queen Elizabeth, K.K. ii. Hospital Raja Perempuan Zainab II iii. Hospital Tengku Ampuan Afzan iv. Hospital Alor Star, Kedah	7. New centres must be well planned, cost-effective and with justifiable reasons. So that the service provided by each centre will be a sustainable one. Budget and manpower must be adequate.

7.	Other proposal	1. Every centres need to embark on new techniques and technologies to ensure the service delivered are reliable and up-to-date. 2. Cardiothoracic Surgery Operational Policy has been prepared and submitted. 3. The running of Cardiothoracic Surgery (MyCARE) Registry was interrupted due to inadequate support and some internal issues.	1. All surgeons from every centre must keep abreast with new techniques and new technologies, and to incorporate into their service, whenever applicable, workable, and beneficial. 2. Standard guidelines in the Cardiothoracic Surgery Service Operational Policy must be followed and carried out by all parties to ensure smoothness of the service delivery. 3. Cardiothoracic Surgery Registry needs to be fully supported by the ministry and some internal issues need to be rectified in order for it to be sustainable and practicable.

NAME OF SPECIALITY / SUBSPECIALITY : DERMATOLOGY

		PRESENT STATUS	PROPOSED EXPANSION 10 MP
1.	Availability of resident services	New major hospital without the service of resident dermatologist: 1. Hospital Temerloh 2. Hospital Seberang Jaya 3. Hospital Putra Jaya 4. Hospital Ampang 5. Hospital Sg. Buloh Hospital Queen Elizabeth Sabah has a contract dermatologist.	To employ contract dermatologist for Hospital Kuala Terengganu. In the interim period, a monthly visit by a dermatologist from HKL/Kuantan. To post a resident dermatologist for Hospital Kuala Terengganu in 2013, graduate of Advance Master in Dermatology. To post a resident dermatologist to Hospital Queen Elizabeth Sabah in 2013
2.	Networking / Outreach	New major hospitals in Klang Valley only has KKM Visiting Dermatologist: 1. Hospital Putra Jaya 2. Hospital Ampang 3. Hospital Sg. Buloh 4. Hospital Serdang Teledermatology in Sabah is implemented at 6 sites.	Teledermatology in Sabah will be carried out in another 6 sites and klinik kesihatan in Semporna and Lahad Datu with moh.net. Teledermatology for Terengganu state.
3.	Outsourcing / Purchase of Servise	Dermatopathology services is grossly underdeveloped. There is no preference to train dermatopathologist under the present oversea training for pathologist. Dr Kreenathan has been trained in Dermatopathology and currently the main expert for KKM. However he is now in Johor Bahru. Dr Lee (UPM) and Dr Latifah (Pathology, HKL) is now assisting Department of Dermatology but they do not have a formal attachment for dermatopathology from another well- established center abroad. Two previous dermatologist that gone for attachment in Dermatopathology are not able to give formal report as they do not have a master in Pathology	To oursource histology for Dermatology report abroad either as the primary pathologist report or to seek second opinion. Suggestion: 1. Prof Steven Kossard, Skin and Cancer Foundation, Australia. 2. Dr J.E. Calonje, St. Johns Institute of Dermatology 3. Prof Nopadon Noppakun, Chulalongkorn Hospital, Bangkok, Thailand 4. Prof Pailoor Jayalakshmi, PPUM, Malaysia

4.	Collaboration with Universities / other agencies	Currently Dept. Of Dermatology, HKL is collaborating with PPUKM for the Advance Master in Dermatology programme. It is a four year programme. Entry criteria: 1. MRCP holders and after 1 year gazettement by KKM as a medical specialist. 2. Master of Internal Medicine and after 1 year gazettement by KKM as a medical specialist.	The programme will be reviewed. 1. 1st-3rd year: Master of Internal Medicine. 2. 4th to 6th year: Advance Master in Dermatology. The 4th year of Internal Medicine is the first year of Advance Master in Dermatology. To complete in the next 3 years. The programme will carried out together with PPUKM. Candidate will graduate with Master of Internal Medicine and Advance Master in Dermatology at the end of 6th year.
5.	No. of Specialists (& trainees in brackets)	6 HKL Specialist/Consultant (10 trainees) 1 Consultant PPUKM (1 trainee) 1 Consultant PPUM (1 trainee)	1 Consultant Selayang Hospital (1 trainee): June 2010 until Dec 2011 1 Consultant Seremban Hospital (1 trainee): June 2010 until Dec 2011 1 Consultant Penang Hospital (1 trainee) June 2010 until Dec 2011: 6 HKL Consultant (12 trainee – max. Capacity until June 2014) Other places/years pending intake.
6.	Major gaps/issues	i. Inadequate no. of Dermatopathologist in government service. Therefore it is grossly underdeveloped. ii. Syndromic Approach for treatment of Sexually Transmitted Infection (STI's) does not capture aetiological diagnosis	A scholarship should be given every year for pathologist to do attachment in Dermatopathology abroad for 9 months to 1 year. The scholarship should start from 2010 until 2014 to cover for 5 regions in Malaysia: Northern region, Central Region, Southern Region, East Peninsular and Sabah & Sarawak • Syndromic approach should only be carried out in health centers without family medicine specialist (FMS) or medical officer (MO). • Aetiological diagnosis for STI's must be carried otherwise in primary care centers

			• FMS and MO should undergo training programme on management of STI's. Therefore Bahagian Kawalan Penyakit KKM must organise a 2 yearly workshop or conference.
		iii. Occupational Health Physician is not getting adequate chance to address occupational skin diseases in Malaysia	Occupational Health Physician should do regular clinical sessions in state hospitals with a skin unit or skin department to pick up occupational skin diseases especially in major industrial and agricultural states
		iv. Lack of awareness to diagnose Hansen's Disease and tecnical expertise to do slit skin smear (SSS) Cases are missed by Fomema doctors despite yearly check-up and other doctors at primary care.	• Bahagian Kawalan Penyakit KKM should organise a 2 yearly conference for Hansen's Disease. The participants should include Family Medicine Specialist (FMS), Medical Officer (MO) and Fomema appointed doctors
		To standardised facility in all state hospital. Each hospital must have an officer qualified to do SSS at any time.	• Bahagian Kawalan Penyakit should conduct twice/ year workshop to train paramedics or Medical Laboratory Technician (MLT) to do SSS, proper reading of Bacteriological Index (BI) and Morphological Index (MI), monitoring and reporting of Hansen's Disease.
		v. Inadequate Hansen's Disease Management at primary care level (Klinik Kesihatan with or without FMS and those with MO)	• Each state hospital must have a paramedic or MLT that can provide SSS, proper reading of BI and MI, monitoring and reporting of Hansen's Disease to ensure continuity. • Clinical Practise Guideline on Hansen's Disease should be developed. The date will be decided upon later.

7.	Other proposal	i.Lack of uniformity / standardisation in services and equipment provided at various state hospitals. ii. Lack of regular meeting between Ministry of Health (MOH) and dermatologist to address issues on STI's services and control.	• FMS and MO in klinik kesihatan should co-manage uncomplicate Hansen's Disease upon diagnosed by Dermatologist in State Hospitals. SSS can be regularly done in state hospital for regular monitoring. • STI's and Hansen's Disease should be part of their curriculum for FMS. • Every state hospital with a Dermatology unit must be able to provide phototherapy (NBUVB) • CO2 laser service is encouraged in states with resident dermatologist. • Periodic meeting, twice a year to be initiated by MOH. • There should be a 3 yearly review of STI's guideline.

NAME OF SPECIALTY : EMERGENCY MEDICINE

		PRESENT STATUS	PROPOSE EXPANSION IN 10MP
1.	Availability of resident services	Specialists services available in 31 hospitals (as of 1 March 2010) • HKL • 13 state hospitals • 17 specialist hospitals	6 other specialist hospitals and hospitals that provide housemanship training • HSI Johore Bahru • HKemaman • HKuala Krai • HSri Manjung • HSlim River • HMiri
2.	Network/Outreach	Hospitals with resident specialists to other hospital without resident specialist hospitals within the state.	Prehospital care services – Networking of hospitals in Klang Valley – Networking with other government agencies and NGO's – Communication and coordination network (nationwide, statewide and region wide) • Prehospital care services and disaster management - Networking with other health facilities and universities • Networking of subspecialty services such as Hyperbaric Medicine, Disaster Medicine, Acute Medicine, Toxicology and Infectious diseases, Traumatology, Critical Care Services • Networking of subspecialty service within the state and region such as hyperbaric medicine and toxicology • Gradual increment of numbers of specialist in the current hospitals that provide specialty services, HKL and State hospitals to have a minimum of 6 specialist by 2015

			• Networking with District hospital on Trauma referral with neurosurgical services on the prehospital and hospital referral for neurotrauma cases
3.	Outsourcing / purchase of service	Outsourcing and MOU with NGOs in one hospital (HTAR) for additional provision of ambulance service	• Outsourcing pre-hospital care services includes outsourcing Air Ambulance and Water Ambulance Services • Outsourcing critical equipment / hardware to ensure minimal downtime
4.	Collaboration with Universities / other agencies	UKM Medical Centre, UM Medical Centre , Malaysian Red Crescent and St John's Ambulance for Prehospital Care Service	Collaboration and networking with other government agencies that provide first responders service such as Fire and Rescue Department and Jabatan Pertahanan Awam, Jabatan Laut Malaysia
5.	No of Specialist (& trainess in brackets)	A total of **51 specialist** in Emergency Medicine currently serving with Ministry of Health (as of 1 March 2010)	Total number of trainees USM UKM UM
6.	Major gaps / issues	1. Inadequate number of specialists, medical officers and allied health professionals 2. A need for 24 hr. active specialist services in all hospitals *(currently only available in HKL)* 3. Inadequate resources to cater the need for prehospital care services 4. Need infrastructure, structural and equipments upgrade in many hospitals 5. Scope of service provided need enhancement to improve specialty development	1. Increase the number of trainees in Emergency Medicine gradually over a period of five years 2. Replacement & procurement of major biomedical equipment for hospitals. 3. Procurement and replacement of ambulances yearly basis to ensure steady increment and replacement of ambulances (land, water and air) 4. Improve and upgrade the standard equipment in Emergency and Trauma Department 5. To upgrade & improve the existing emergency department structure fulfilling structural requirements of dedicated zone s

		6. Improve in Research and Development which include Registry Database (Trauma) and scientific papers publications	6. To improve diagnostic capability of emergency department at point of care 7. Overseas courses and attachment for doctors to promote area of interest and subspecialty development which include; • Courses: Disaster Management, Emergency Medical Planning and Preparedness, Hyperbaric Medicine, WMD (CNRNE Courses), Emergency Cardiac Care, International Conference Of Emergency Medicine • Attachment in: Pre Hospital Care, Critical Care, Trauma Care, Toxicology, Acute Medicine, Retrieval Medicine, Paediatric Emergency Medicine • Increase the numbers of trainees for Masters in Emergency Medicine
7.	Other proposal	1. Implementation and adherence to the human resource norms based on the service needs 2. To develop the Organization of EMTS in all specialist minor hospital 3. Enhancement of present organization involving major specialist hospital 4. To realize / re-organize trauma service in relation to the establishment of trauma centre	1. One Emergency Physician per shift for 50,000 ED attendances annually 2. Medical Officer : Work Load 1:40 patient per 7 hour shift per day for non critical case per one examination room 1 : 20 patient per 7 hour shift per day for semi critical case 1 : 7 patient per 7 hour shift per day for critical case

		5. To develop / enhance critical components of : - Observation Medicine - Infectious Disease and Fever Management Centres - OSCC	3. Nurses and Medical Assistant : Patient workload Emergency Department that reports 200 patients per day and 20 ambulance calls, the minimum necessary staff required just to manage the clinical duties alone are as follows. 10% red zone: 20 pts 4 paramedics 25% yellow : 50 pts 2 paramedics 65% green : 130 pts 1 paramedic Ambulance : 20 pts 2 paramedics 4. 1 nurse : 4 patient per shift in observation ward 5. Norms for staff resources in the Emergency Department Based on a workload per hour per person model (Dr and paramedic only)

NAME OF SPECIALTY : **ENDOCRINOLOGY**

	PRESENT STATUS (2010)		PROPOSED EXPANSION 10MP (2011 – 2015)
1.	Availability of resident services	**12 hospitals (as of July 2010) with 16 endocrinologists (Regional centres in bold)** **Hospital** **No. of Endocrinologist** ***ZON SENTRAL*** **Wilayah Persekutuan** **Hospital Putrajaya** 4 Hospital Kuala Lumpur 1 **Selangor** Hospital TAR Klang 1 Hospital Selayang 1 Hospital Ampang 1 **Perak** Hospital Taiping 1 **Negeri Sembilan** HTJ Seremban 1 ***ZON SELATAN*** **Melaka** Hospital Melaka 1 **Johor** Hospital Sultanah Aminah JB 1 ***ZON UTARA*** **Pulau Pinang** Hospital Pulau Pinang 2 ***ZON MALAYSIA TIMUR*** **Sarawak** Hospital Umum Kuching 1 **Saba**h Hospital QE Kota Kinabalu 1	**Proposed expansion of resident services to another 7 hospitals** **2011** Hospital Ipoh Hospital Alor Setar Hospital Sungai Buloh Hospital Kota Baru **2012** HTAA Kuantan **2013** HTNZ Kuala Terengganu Hospital Serdang **Propose to strengthen regional centres with 3-4 endocrinologists and state hospitals with at least 2 endocrinologists.** **Following this to consider initiating endocrinology service in a second tertiary hospital within each state with at least 1 endocrinologist.**

2.	Networking/ Outreach	**Hospital Putrajaya (HPJ)** 1. HPJ to HKL (weekly visits) 2. HPJ to H Serdang (2-weekly visits) 3. HPJ to HSAJB (monthly visits since Feb 2008 till July 2010) 4. HPJ to HTAA Kuantan (2 monthly since Jan 2009) 5. HPJ to H Kuala Terengganu (3 monthly since July 2010) **Hospital Pulau Pinang (HPP)** 1. HPP to H Seberang Jaya (monthly since 2006) 2. HPP to Hosp Alor Setar (monthly since June 2010) **Hospital Taiping** 1. H Taiping to H Ipoh (weekly visits) **Hospital Sultanah Aminah Johor Baru (HSAJB)** 1. HSAJB to H Batu Pahat (3 monthly visits ,start April 2010) 2. HSAJB to Hosp Sultan Ismail, JB (monthly since Feb 2010) **Hospital Umum Sarawak (HUS) Kuching** 1. HUS Kuching to H Miri (3- monthly visits) 2. HUS Kuching to H Sibu (3-monthly-visits) **Hospital Queen Elizabeth Kota Kinabalu (HQEKK)** 1. HQEKK to H Tawau (3-monthly) 2. HQEKK to H Sandakan (3- monthly) 3. H QEKK to H Keningau (3-monthly)	**Where resident services have been initiated there will be less frequent and eventual cessation of outreach / visiting services** **2011** **Hospital Melaka** H Melaka to H Muar **HTJ Seremban** HTJ Seremban to H Kuala Pilah **2012** **Hospital Queen Elizabeth Kota Kinabalu (HQEKK)** HQEKK to H Lahad Datu **Hospital Alor Setar** H Alor Setar to H Kangar **Hospital Sultanah Aminah Johor Baru (HSAJB)** HSAJB to H Kota Tinggi **Hospital Seremban** HTJ Seremban to H Port Dickson

3.	Outsourcing / Purchase of Services	Outsourcing of clinical services • HPulau Pinang from Penang Medical College (PMC) • HSAJB from Monash University, JB Outsourcing of Radiological services • HPJ to UPM Hospital Serdang Outsourcing/ Purchase of laboratory services • Certain lab tests sent to private lab - Gribbles lab	Necessary to complement and strengthen the current service: • Chemical Pathology / Endocrine Laboratory Service - certain laboratory tests to obtain from academic institution or private laboratories • Interventional Radiology services from HUKM, UMMC or HUSM
4.	Collaboration with Universities/ other agencies	***A. TRAINING*** **Undergraduate Medical Training** 1. **UITM**: Training of undergraduate 4th year medical students for 2 week attachment in the Endocrine Unit Hospital Putrajaya since 2008 **Postgraduate Medical Training** 2. **PPUKM, PPUM** : **Postgraduate Masters in Internal Medicine** doctors are sent for a three month attachment to the Endocrine Unit, Hospital Putrajaya as part of their subspecialty rotation in their 2nd-3rd years **Endocrine Subspecialty Training** 3. **MOH Endocrine Fellowship Subspecialty Training Program** Fellowship committee consists of representatives from PPUM, PPUKM, HUSM, Penang MC (PMC) and IMR.	**2012** **Postgraduate Medical Training** **UITM** has started Masters in Internal Medicine Course and doctors may be sent for a three month attachment to the Endocrine Unit, Hospital Putrajaya as part of their subspecialty rotation in their 2nd-3rd years, Endocrine fellowship training program is currently open to only MOH specialists. Propose to open fellowship training program to those from universities as well as foreign applicants. Propose to add more MOH training centres in RM10 as more will qualify as trainers. For common exit evaluation following required training period for both MOH and university trainees

		Program started in 2003 incorporates 1-2 year rotations in endocrine centres in PPUM, PPUKM and HUSM along with MOH training centres (HPJ and HPP) as part of the 3-year training period. Overseas attachment within the 3 year training period is encouraged. Exit evaluation exams are carried out by a panel of examiners from PPUM/ PPUKM/ HUSM/PMC and private hospitals.	
5.	No. of specialists (and trainees)	**2010** There are currently 16 trained endocrinologists in 12 MOH Hospitals and 9 trainees undergoing MOH Endocrine Fellowship Program **Hospital (trainees)** — **No. of Specialists** Hospital Putrajaya 4 (2) Hospital Kuala Lumpur 1 Hospital TAR Klang 1 Hospital Selayang 1 Hospital Ampang 1 Hospital Taiping 1 Hospital Seremban 1 Hospital Melaka 1 Hospital Sultanah Aminah JB 1 Hospital Pulau Pinang 2 (2) Hospital Umum Kuching 1 Hospital QE Kota Kinabalu 1 **Training centres outside MOH** PPUM (2) PPUKM (2) HUSM (1) **Total 16 (9)** ***Loss of 2 endocrinologists from MOH*** 1. 2008 – 1 endocrinologist left for private practice 2. 2010 – 1 endocrinologist left for overseas (UK)	Predicted total no. of trained endocrinologists in MOH for the following years (based on current no. of specialists and those currently within the training program) are as follows: **2011** 22 endocrinologists **2012** 24 endocrinologists **2013** 25 endocrinologists There is an average of 1-2 applicants per year for the MOH Endocrine subspecialty fellowship program in the recent few years. Therefore a predicted increase in no. of trained endocrinologists in MOH of 1-2 per year as of 2014 onwards. There is a need to encourage and build interest in endocrinology as subspecialty. Another important consideration for the future is to develop "diabetology" as an independent specialty with a shorter required training period as there is a bigger need for diabetologists with the increasing prevalence of diabetes in Malaysia. **Target: Total number of 30 endocrinologists by the end of RM 10 (2015)**

6.	Major Gaps / issues / Challenges	1. A need to recognize endocrinology subspecialty as an independent department and activity (separate from General Internal medicine) at center of excellence and regional centers to enable progressive development of the subspecialty 2. Inadequate allocation for purchase and use of endocrine drugs. From 2008, there has been an allocation for endocrine drugs, distributed to 7 designated hospitals/ centres, amounting to RM 3.9 million. Drug treatment of patients with certain neuroendocrine tumors is very expensive- ie use of monthly Octreotide LAR for adjuvant treatment of acromegaly following inadequate control for surgery costs RM 70,000 – 90,000 per patient/ per year 3. No separate allocation for endocrine laboratory tests/ reagens in regional centres. Limited array of tests available. 4. Inadequate Radioiodine (RAI) services and facilities in the country, currently available in HKL, HPP and limited services in HSAJB and Hospital Kuching. Patients need to travel long distances to receive RAI for benign and malignant thyroid disease. 5. Inadequate support and development of associated and supporting specialties and subspecialties in the regional centres i.e. Pathology (Chemical Pathology, Endocrine Histopathology / Cytopathology), Radiology (interventional)Neurosurgery – Pituitary Surgery Endocrine Surgery Paediatric Endocrinology.	1. Proposal to set up a centre for Adult and Pediatric Endocrinology and Endocrine surgery in the second phase/ expansion of Hospital Putrajaya planned for RM 10. This will allow further expansion of the field 2. Current Allocation/ Funds for purchase of endocrine drugs need to be increased in total as the service has expanded since 2008 and will continue to expand throughout RM 10. Need for separate drug budget for management of certain neuroendocrine tumors, managed and followed up primarily by endocrinologists ie – acromegaly, carcinoid tumors 3. Need to develop and improve endocrine laboratory services in each regional centre and enable certain rare tests to be made available at central level (HKL / HPJ). Regional Endocrine centres will need separate allocation for endocrine laboratory tests/ reagens 4. Propose to start RAI service in HQEKK by 2011 – for benign thyroid disease. Also will require RAI service to develop in east coast regional centre. 5. To work together with other related specialties towards delivering multidisciplinary services in regional centres and where possible later in state hospitals

		6. Inadequate development of associated paramedic training towards developing a specialized team - Diabetes nurse educators - Diabetes management nurses / nurse managers - Podiatrist / diabetes foot nurses - Endocrine nurses 7. Inadequate patient support services for endocrinology and diabetes. 8. Lack of statistics on burden of endocrine diseases in MOH ie thyroid disease, pituitary disease and neuroendocrine tumors. This is necessary for us to project future requirements of service, economic impact 9. Currently all endocrinologists in MOH are general endocrinologists with no further training in specialized areas - Thyroidology - Neuroendocrinology - Obesity - Metabolic Bone disease - Reproductive endocrinology – male/ female - Endocrine Oncology	6. Paramedic training - To encourage greater interest and involvement of paramedics into post basic training for DM - To consider creating an advance training program for paramedics involved in diabetes management towards developing diabetes nurse practitioners, in parallel with other developed countries. - Need to develop diabetes foot service in each state with multidisciplinary involvement – wound care specialist nurses, diabetes foot nurses, endocrinologist, orthopaedics, vascular surgery 7. To develop better patient support services – diabetes resource centres, patient education programmes 8. Initiating database/ patient registry on major and rare endocrine disorders among all MOH endocrine centres. 9. Need to identify individual consultants with interest and consider further specialized training in the mentioned areas to enable local experts in the field.

7.	Proposed introduction of new programmes / services, training	1. Obesity Multidisciplinary Management Service; a dedicated clinic is currently available in HPutrajaya With bariatric surgery available (since 2007) – propose development similar service in regional centres. 2. Combined Neuro Endocrine services available in HKL, HPP, H Taiping and HSAJB Propose to develop neuroendocrinology / pituitary surgery in HPJ. Need to identify centres as well as dedicated surgeons for Pituitary surgery within MOH as this will impact on patient outcomes. Pituitary surgery should only be performed in hospitals with endocrinology support to ensure patients have combined management in the perioperative period as well as during the long term followup which will require use of hormone therapies. 3. Setting up of a dedicated Diabetes Foot clinic/ service in regional centres – now available in HKL, Hosp Klang and Hosp Ipoh only. 4. Setting up of Multidisciplinary Thyroid cancer clinics run by a team of endocrinologists, endocrine surgeons and nuclear medicine physicians - as many thyroid cancer patients are not followed up well and screening and surveillance for recurrent or progressive disease is often not optimal. Patient outcomes are also generally poor.

NAME OF SPECIALTY : GENERAL MEDICINE

A.		PRESENT STATUS	PROPOSED EXPANSION 10MP
1.	AVAILABLITY OF RESIDENT SERVICES	All State Hospital and Hospitals with Specialists - General Medical departments are headed by General Physician or subspecialty consultants - In majority of the hospitals where there subspecialists are present, subspecialist units are placed under the department of General Medicine except for hospitals that were recognised as subspecialist hospital such as Ampang Hematology), Selayang (Hepatology), and Putrajaya (Endocrinology).	i. To trained more generalist to head General Medical department and to serve as consultant in all district hospitals with specialists. ii. To create more senior post in General Medicine in particular the U54 and JUSA posts.
2.	NETWORK / OUTREACH	i. General Physicians visit all district hospitals in the state and receive referrals from them as well as from health clinics. ii. Receiving referrals from private health institution for advice and further management.	To continue in 10MP
3.	OUTSOURCING / PURCHASE OF SERVICE	▪ Hospital Kuala Lumpur : refers to IJN for special cardiology/ cardio surgical management. ▪ HPulau Pinang: Vascular surgeon from Penang Medical College ▪ HRPZ11 Kota Bharu: USM for invasive Cardiology Lab.	To continue in 10MP
4.	COLLABORATION WITH UNIVERSITIES/ OTHER AGENCIES	Many of the state hospitals are used by Medical faculties of different universities to train their students. ▪ HPulau Pinang : with Penang medical College on vascular, endocrine, neurology . ▪ HTAR Klang : With UM for teaching of 3rd. year Medical students. ▪ HTAA Kuantan : with IUM (Islamic University Malaysia) till 2015	To continue in 10MP

		▪ Hospital Muar : Training centre for Manipal University and FMS UKM. ▪ HRPZ11, Kota Bahru : USM – student teaching and research.	
5.	NUMBER OF SPECIALISTS AND TRAINEES (brackets)	Presently , there are about 16 Senior General Physicians and 5 on contract. Majority of specialists in general medical service are those waiting for gazettement and subspecialty training. ▪ HPulau Pinang : Consultant 1, Clinical specialist 2, Trainee (1) ▪ HTAR Klang : 2 general physician with 1 on contract. 6 clinical specialist (pre gazettement). ▪ Hosp. Seberang Jaya : 1 consultant (contract). ▪ HTAA Kuantan : 1 consultant General physician, 10 specialists (6 gazetted specialist and 4 undergoing gazettement) ▪ Hospital Kuala Lipis : 1 specialist ▪ Hospital Temerloh : 5 (general and subspecialists) ▪ Hospital Pekan : 1 specialist ▪ HRPZ11 : General Medicine Consultant 1, Specialist 4 (Other subspecialty 8 sconsultants and specialist) ▪ Hospital Kuala Krai – 1 Specialist	Pahang requested specialist for Hospital Jerantut, Hospital Raub and Hospital Jengka Facilitates training in AIM by giving more training scholarships and fast tracking candidates.
6.	MAJOR GAPS / ISSUES	i. Generally, there is insufficient number of GIM consultants thus number of trainers, and specialists in general medical areas are either waiting for gazettement / for sub specialty training ii. Shortage of MOs and specialists iii. Lack of supervision of Junior staff iv. Over crowding of general wards / clinics. v. Expansion and upgrading of clinical areas. vi. Lack of storage space	i. Train more doctors in AIM (Advance Internal Medicine) ii. All senior consultants must become trainers for AIM. iii. To have more general wards as the numbera are short of requirement iv. To establish Acute Medical wards, for stablisation and as triaging centre before referring to subspecialty if needed.

		vii. Insufficient budget for assets viii. Insufficient budget for drug ix. ICT facilities related to clinical and medical record services are inadequate x. Few opportunities in advance training for General physicians in service	v. Isolation wards / dengue wards to be established nearby general Medical wards.
7.	OTHER PROPOSAL	1. Generally to upgrade and if possible to increase the number of general medical wards in view of overcrowding. 2. To identify or build new hospitals for sub specialty for decanting and decentralization of subspecialty services. 3. To improve facilities for teleconferencing especially in states with few subspecialty	1. To identify some district hospitals with specialists for subspecialty services, to prevent shortage of beds in General Medicine. 2. Presence of AIM (Acute Internal Medicine) trained consultants in all states and district with specialist hospitals. By 2015 all Medical department of hospitals with specialist should be headed by a General Physicians. This department must be fully equips with basic diagnostic equipment – ECHO machine, Spirometry, Blood gas machine, ECh and endoscope facilities. 3. ACC in Kota Bahru, Johor Bahru and HKL 4. Cardiology, Respiratory and Neurology service in HRPZ11

NAME OF SPECIALTY : GENETICS

Clinical Genetics and Clinical Biochemical Genetics (inborn errors metabolism)

		PRESENT STATUS	PROPOSED EXPANSION 10MP
1.	Availability of resident services	Institut Pediatrik	▪ To establish National Genetic Centre with 5 regional centers To set up regional genetic and metabolic centre in 10 MP: Penang, Johor Bahru, Kuching 11 MP : Kota Bharu/ KTerengganu, Kota Kinabalu Consolidation of both clinical and laboratory genetic service under one administration has been approved by KPK & DG in April 2009. Restructuring process is underway in HKL but needs further facilitation.
2.	Networking / Outreach	▪ Hospital Pulau Pinang: outreach clinic on a monthly basis. **Full service in Hospital Pulau Pinang till Dec 2007*	▪ HTARKlang ▪ Hospital Selayang, to reduce clinic congestion in HKL and to overcome the lack of clinic facilities in HKL.
3.	Outsourcing/ Purchase of services	Mainly for laboratory testing. Please see below	Mainly for laboratory testing.
4.	Collaboration with Universities / other agencies	▪ Linking with overseas genetic centers [many UK centers, Germany, Netherlands]/ metabolic centers[Manchester, Nijmegen, Adelaide] in diagnostic consultations ▪ Collaboration with many worldwide centers on ad hoc basis in research.	Nil
5.	No. of Specialists (& Trainees)	▪ 3 Clinical Geneticists ▪ 2 trainees	To train <u>Clinical geneticists</u> (Number needed by end of RM10: 5 in KL, 1 each in 3 regional centre – 4 more to be trained as 1 is currently undergoing her final year of training programme)

			Metabolic dietician (Number needed by end of RM10: 2 in KL, 1 each in 3 regional centre -2 more to be trained as 1 in Penang has been trained) Genetic nurse specialists (Number needed by end of RM10: 4 in KL, 2 each in 3 regional centre- 10 to be trained)
6.	Major gaps/issue/ challenges	▪ Lack of clinical geneticist & genetic counselors/ nurse specialists, leading to long waiting list for appointment & unequal access to service in terms of geography ▪ Lack of metabolic specialist, resulting in delayed diagnosis and treatment causing irreversible long term neurological handicap ▪ Lack of metabolic dietician ▪ Many orphan drugs used to treat inherited metabolic diseases are not registered in “blue book” ▪ No written management guidelines on ultra-orphan disorders which require ultra-expensive treatment ▪ Lack of care model for adult patients with IEM ▪ No universal newborn screening for early /presymptomatic IEM diagnosis ▪ Lack of clinic facilities in HKL compromising patient privacy. ▪ Lack of IT support and online access to current literatures which are crucial in delivering most up to date genetic service	
7.	Other proposal		▪ to include orphan drugs for emergency treatment into MOH formulary list: sodium benzoate, sodium phenylbutyrate, arginine and carnitine ▪ national policy on ultra orphan diseases eg lysosomal disorders

1. **Laboratory Genetics**

		PRESENT STATUS	PROPOSED EXPANSION 10MP
1.	Present availability of services: a) Cytogenetics	▪ *Cytogenetic lab, HKL:* caters for the whole country. This cause heavy workload and long TAT.	▪ To set up regional labs in: Penang & Kuching under 10MP Johor Bahru & Kota Kinabalu under 11MP
	b) Biochemical Genetics	▪ *Metabolic lab, Institut Pediatrik*: provide limited IEM testing for patients within Institute Paediatric only. ▪ *IMR***:** More IEM tests are available but service is provided to the whole country. This causes heavy workload and long TAT [turnaround time].	▪ To strengthen the biochemical genetic, cytogenetic and molecular genetic laboratories in HKL in terms of scope of tests and facilities
	c) Molecular Genetics	▪ Available in HKL [Genetic lab] and IMR [Molecular Diagnostics & Protein Unit] for the whole country but the current scope of tests is limited due to constraint in human resources, operational funding and infrastructure. ▪ No cancer genetic services offered on a routine basis	▪ To strengthen molecular diagnostics facilities and set up cancer genetics laboratory service in HKL
2.	Networking/outreach	▪ Close cooperation among HKL and IMR genetic and metabolic labs exists ▪ Collaboration with overseas lab in research and also diagnosis of rare genetic/ metabolic diseases. ▪ Link with UK genetic labs [Edinburgh & Salisbury], and Australian genetic lab[Melbourne], Australian metabolic lab [Adelaide] and Netherland metabolic lab is particularly strong.	▪ Smart partnership with International centres of excellence such as Salisbury Genetic reference lab in UK. ▪ Networking with other public and private genetic labs in Malaysia

3.	Outsourcing/ Purchase of services	Some IEM laboratory tests [eg lysosomal disorders (LSD), neurotransmitters disorders, mitochondrial disorders, sterol biosynthesis disorders, glycogen storage disorders (enzyme)], molecular tests that are not available in Malaysia and prenatal testing are outsourced to overseas centres	It would be more cost effective to outsource certain rare disease genetic/metabolic testing to overseas centers.
4.	Collaboration with Universities / other agencies	Nil	
5.	No. of Specialists / (trainees)	-	
6.	Major gaps/issue/ challenges	1. Lack of trained cytogeneticists, molecular geneticists, Biochemical Geneticist (Medical/Pathologist, Scientific Officer) to supervise the labs and to do highly specialised cytogenetic, metabolic and molecular testing. 2. Lack of *dedicated* scientific officers & MLTs to perform cytogenetics, molecular genetic and biochemical genetic testing in the regional genetic laboratories. 3. Inadequate diagnostic facilities & infrastructure 4. Lack of laboratory diagnostics for prenatal genetic service in the country 5. Diagnostic IEM samples have to be couriered from outside KL – resulting in delayed diagnosis and treatment, leading to irreversible long term neurological handicap 6. Transportation of samples to labs in KL is hampered by delay & poor temperature control, resulting in poor quality results.	

7.	Other Proposal		1. National quality assurance body based in Genetic Dept in HKL/IMR (to supervise quality issue in genetic tests in Malaysia) 2. To establish practice guidelines for genetic laboratory testing in collaboration with relevant professional bodies eg Malaysian Medical Genetic Society 3. More cytogeneticists, molecular geneticists, biochemical geneticists as well as Scientific officers and MLTs are required.

NAME OF SPECIALTY : GERIATRIC

		PRESENT STATUS	PROPOSED EXPANSION 10MP
1.	Resident services	1. Hospital Kuala Lumpur	1. Hospital Melaka (Geriatrician : Dr George Anthony Taye Wei Chun 1/11/2010) 2. Hospital Taiping (Geriatrician : Dr Cheah Wee Kooi 1/9/2011) 3. Hospital Kuala Lumpur (Geriatrician : Dr Alan Pok Wen Kin 1/9/2012) All above are now undergoing training.
2.	Networking /Outreach	Geriatric Unit at Hospital Banting – weekly visits HTJ Seremban – weekly visits HSg Siput - 3 monthly visits HoSASTemerloh – 2 monthly visits HUS Kuching – Resident geriatrician resigne	Visits to be continued. Visits to Kuching Hospital will be arranged pending budget from SGH as KKM has rejected funding.
3.	Outsourcing / Purchase of service	Hospital Sg. Siput – 2 monthly visits by Private Geriatrician	To continue services
4.	Collaboration with Universities / other agencies	**1. University Malaya Medical Centre** – Active collaboration with geriatricians in UMMC for • Geriatric conferences – lectures • Nursing workshops • Teaching workshops • Producing clinical guideline on dementia • Final year medical students teaching	Maintain services, and collaboration program as in 2009

		Teaching program (geriatrics) for 2. University Putra Malaysia • Degree nursing • Medical students 3. University Kebangsaan Malaysia • Occupational therapist 4. Kolej Sains Kesihatan Bersekutu(KSKB) • Occupational therapist • Physiotherapist **Other agencies :-** 5. Alzheimers Disease Foundation – many workshops and training programs for dementia since 2005 6. MMA – one dementia workshop done 2009 7. Majlis Kebajikan dan Pembangunan Masyarakat Kebangsaan Malaysia (MAKPEM) – yearly training of social workers in long term care **Institutions** 8. Health Systems Research • Research on Falls in public hospitals 9. Dementia CPG 2009 committee 10. Health online – Health portal on geriatrics (currently developing graphics/ video content)	

5.	No of specialists / trainees	**Specialists :** 2009 – 3 Geriatricians 2010 – 2 geriatricians as one in Sarawak Hospital resigned **No of trainees** 4 trainees – • 1 completed but resigned and migrated to Australia (Feb 2010) • 3 in training	
6.	Major gaps/ issues	**Current issues :-** 1. Reduction in scholarship for overseas training. The reduction was not announced and one geriatric trainee was caught off guard and only found out after training started in Singapore. Trainees should be told before they leave for the overseas training program so as not to cause financial inconveniences as the reduction was very significant. Future trainees had to have their training shortened due to the above. This results in shorter clinical exposure during the period. 2. Gazettment by specialist registry. The specialist registry failed to recognize geriatricians and placed all under the category of internal medicine. This does not augur well for the profession and there is no official recognition by the country's official registry. This will impact on future trainees as they will nto see the advantage of doing geriatrics.	1. The geriatric fellowship committee have sat and decided that overseas training will be now 6 months. 2. All geriatricians who have undergone sufficient training are gazzetted as such by the registry.

		1. In view of the limited resources (as there are only two geriatricians currently, visits to Sg SIput, Temerloh and Sarawak Hospitals will be infrequent as the two geriatricians have to maintain the units at Hospital Kuala Lumpur, Seremban and Banting. 2. Potential issues of placement for geriatric trained nurses undergoing degree program. There is a need for posts so as to ensure retention of staff and expertise. The U41 nursing posts for the unit should be specific to geriatric trained nurses as most of the degree programs in the country have no significant geriatric component.	3. The visits to peripheral units will be more frequent once trainees graduate by 2012. 4. Future geriatric units will be headed by U41 degree nurses with geriatric training.
7.	Other proposal	1. Reinstate the original amount for overseas training for subspecialties which are not established such as geriatrics. 2. Formal recognition by the specialist registry should be given for the geriatricians who are currently in service with adequate qualifications. 3. The geriatric unit HKL has now 4 nurses undergoing degree program. We will require 4 U41 nursing posts in the next 3 years to ensure that the expertise will still be contained within the geriatric fraternity. If the posts are not available, then the staff will be transferred out thus losing their skill and expertise in the unit.	

NAME OF SPECIALTY : HAEMATOLOGY

		PRESENT STATUS	PROPOSED EXPANSION RMK10
1.	Availability of resident services	1. HAmpang 2. HPulau Pinang 3. HIpoh 4. HTAR Klang 5. HQEH KK 6. HUS Kuching 7. HRPZ Kota Bahru	1. HMelaka 2011 2. HSA JB 2011 3. HTAA Kuantan 2013
2.	Network/Outreach	1. HAmpang > HKuantan, HSeremban, Melaka, HSA JB 2. HPPinang > HAlor Setar, HKangar 3. HIpoh > HTeluk Intan, HTaiping 4. HKuching > HSibu, HMiri 5. HQEH KK > HSandakan, HKeningau 6. HRPZ Kota Bahru> HSNZ KTerengganu	
3.	Outsourcing/Purchase of service	Laboratory service for reference tests ie. cytogenetics, molecular haematology, coagulation is centralized in Hospital Ampang but workload is too high.	1. Outsourcing of cytogenetic and molecular services from Northern areas e.g Ipoh, Pulau Pinang and Kota Bahru to USM 2. Transplant service for patient from Kota Bahru can be performed in HUSM; in view of the distance and inconvenience to patient
4.	Collaboration with universities/other agencies	Nil	1. To consider MOU with USM for transplantation service for patient in Kota Bahru and Kuala Terengganu 2. High end laboratory service e.g cytogenetics, molecular tests for Northern region.

5.	No of specialists/ trainees	1. Dr Zanapiah Zakaria – due to return from Canada after Fellowship in Transplant for H Ampang. 2. Dr Lim Soo Min – at Peter McCallum in Melbourne, planned for HAS JB in 2011 3. Dr Guan Yong Khee – 2010 scholarship, planned for Melaka 4. Dr Jay Suriar – 2010 scholarship, planned for Ampang in coagulation/ thrombosis 5. Dr. Jerome Tan – planned for Ipoh 6. Dr Ahlam Nair – planned for Kuantan 7. Dr Liew Hong Keng – planned for HSA JB 8. Dr Chiang Su Kien – planned for transplant programme in Pulau Pinang 9. Dr Xavier Sim – planned for Kuching 10. Dr Kuan Jew Win – planned for Kuching 11. Dr Bahariah – lecturer in UPM	1. Dr Lim Su Hong – planned for HTAR Klang 2. Dr Zamzurina
6.	Major gaps/ issues	1. No specific budget activity for Haematology 2. Lack of laboratory support outside of Ampang especially in East coast and in East Malaysia 3. Haemophilia management in the state hospitals are poor with patients not getting on-demand factor concentrates+ and treatment is not holistic with neglect of other comorbidities. Many haemophilia sufferers have joint disability, hepatitis, behaviour issues.	1. Dasar Baru RMK 10 have been submitted with budget for drugs, consumables and reagents 2. Laboratory in Hosp Ampang has to be expanded with clean room for stem cell lab and more space and more Scientific Officers and junior MLTs 3. Outsourcing of laboratory services to universities that are offering the relevant tests

			4. To employ contract specialists in clinical and laboratory haematologists in Kota Kinabalu. Currently there is Dr Chiam, a haematology trainee at NUS Singapore who has completed training and is keen to return to Sabah MOH service in August 2011. There are also two Iraqi haematopathologists who are keen to remain in Sabah and should be extended as Sabah will be expanding service in Hospital Likas and need coverage for Sandakan and Tawau. 5. Haemophilia management to be done at state levels by clinical haematologists/ paediatricians and not from the blood banks.
7.	Other proposal		1. Expand haemophilia service in Hospital Ampang with full range of treatments including physiotherapy, orthopaedics, dentistry, psychiatry and hepatitis care. Centralised funding for haemophilia factor concentrates or distribution of concentrates to be managed by clinicans ie. Clinical haematologists/ paeds haematologists 2. Expanding transplant centre in Hosp Pulau Pinang and establishing Hospital Likas with stem cell laboratory and stem cell ward 3. Disbursed so that cancer patients can have access to expensive targeted treatments.

			4. Shared responsibility with pharmaceutical companies for drug access e.g MYPAP 5/7 programme for Glivec. Others like Nilotinib 6/6 or Decitabine 1/1 or Lenalinomide 4months purchase and the rest free are examples of pt access programmes 5. Employing contract officers for Kuching and Kota Kinabalu to ensure remote areas in Sabah and Sarawak are not neglected. Better promotions for doctors serving in East Malaysia. 6. Ensure Jusa Cs for all state haematologists 7. To expand the laboratory in Ampang with a new wing, space identified on the roof top

NAME OF SPECIALTY / SUBSPECIALTY : HEPATOLOGY

		PRESENT STATUS	PROPOSED EXPANSION 10 MP
1.	Availability of resident services	▪ Hospital Selayang only (Transplant centre)	Non Transplant Centre ▪ Hospital Umum Sarawak, Kuching ▪ Hospital Pulau Pinang ▪ Hospital Tengku Ampuan Afzan, Kuantan
2.	Networking/Outreach	Co-infection Clinic Hospital Sungai Buloh	▪ Multi transfused Clinic – Hospital Ampang ▪ Secondary and Tertiary Levels Liver Clinics (Hospital Umum Sarawak Kuching, Hospital Pulau Pinang, HTAA Kuantan)
3.	Outsourcing / Purchase of Service	Nil	Nil
4.	Collaboration with Universities / other agencies	Only for training ie master program or training of trainees from gastroenterology training program	Same as before
5.	No. of Specialists & trainees in brackets	• Dr.Tan Soek Siam • Dr. Haniza Omar • Dr Mohd Shamsul Amri (Trainee) • Dr Mohd Syed Redha (Trainee) • Dr Saravana Kumar (Trainee)	More trainees are needed for the proposed expansion.
6.	Major gaps /issues	▪ Lack of trained hepatologist ▪ Cost of treatments and specialized laboratory tests	• Special consideration for potential takers of the Hepatology Programme. • Hepatology Programme is currently being reviewed. • Postgraduate Hepatology Course • Allocation for treatments and specialized lab tests • Allocation for Hepatology related journals

7.	Other proposal	Hepatitis Education Clinics (counseling service)	1. Improvement of service on the management of Portal Hypertension • Portal Pressure Study/ TIPPS • Day care ascites 2. Non invasive assessment of liver fibrosis • Fibroscan

NAME OF SPECIALTY / SUBSPECIALTY : INFECTIOUS DISEASES

		PRESENT STATUS	PROPOSED EXPANSION 10 MP
1.	Availability of resident services	Available in 8 hospitals 1. Hospital Sungai Buloh 2. Hospital Raja Perempuan Zainab II, Kota Baharu 3. Hospital Pulau Pinang 4. Hospital Ipoh 5. Hospital Umum, Sarawak 6. Hospital Queen Elizebath, Kota Kinabalu 7. Hospital Kuala Terengganu 8. Hospital Sultanah Aminah, Johor Bharu	1. Hospital Alor Setar 2. Hospital Melaka
2.	Networking / Outreach	1. Hospital Sungai Buloh to Hospital Kuala Lumpur, Institut Jantung Negara, Hospital Selayang, Hospital Melaka 2. Hospital Pulau Pinang to Hospital Alor Setar 3. Hospital Raja Perempuan Zainab II, Kota Baharu to Hospital Tumpat 4. Hospital Sultanah Aminah JB to Hospital Muar	To continue
3.	Outsourcing / Purchase of Servise	NIL	NIL
4.	Collaboration with Universities / other agencies	NIL	NIL
5.	No. of Specialists (& trainees in brackets)	-	Another 11 Infectious Diseases physicians posts to be filled nationally
6.	Major gaps/issues	▪ Insufficient number of Infectious Diseases Physicians, total number now 21 (requirement 32) ▪ Hospital Alor Setar & Hospital Melaka – will be filled in next 1 year ▪ Gaps : No Infectious Diseases physicians identified in Hospital TAA Kuantan & Hospital Seremban yet	

7.	Other proposal		1. To introduce new service: Travel Medicine 2. Development of Infectious Diseases Unit with isolation facilities ▪ Hospital Tumpat ▪ Pusat Kawalan Kusta Negara, Hospital Sungai Buloh 3. To strengthen regional Infectious Diseases centers in: ▪ Hospital RPZ II, Kota Baharu ▪ Hospital Sultanah Aminah, Johor Bharu, ▪ Hospital Pulau Pinang ▪ dan Hospital Ipoh

NAME OF SPECIALTY / SUBSPECIALTY : *NEUROLOGY (ADULT)*

		PRESENT STATUS	PROPOSED EXPANSION 10 MP
1.	Availability of resident services	Currently resident adult neurologists MOH are available in the following hospitals: ▪ Hospital Kuala Lumpur ▪ Hospital Pulau Pinang ▪ Hospital Seberang Jaya ▪ HNZ Kuala Terengganu In addition, there are Neurophysiology Units (performing neurodiagnostic procedures) available at all state hospitals plus Hospital Taiping, Batu Pahat, Sibu, Miri, Tawau and Sandakan. These units are operated by trained Assistance Medical Officers.	With the present number of neurology trainees, the proposed expansion of neurologist posting (1 Neurologist) is as follows. ▪ Hospital Melaka by 2011 ▪ HSB Alor Setar by 2012 ▪ THJ Seremban by 2012 ▪ HRPB Ipoh by 2013 ▪ HRPZ 11 Kota Bahru by 2014 ▪ HUS Sarawak Kuching by 2014
2.	Networking / Outreach	▪ Neurologist visit from HKL to state hospitals without resident neurologist (Hospital Ipoh, Klang, Seremban, Johor Bahru, Kota Bahru, and Kuching) for every 1-2 months. The visit is for 1-3 days depending on the distance and the patient work-load. ▪ Neurologist visit from HSJ to HSB Alor Star and Hospital Taiping. ▪ Neurologist visit from HSNZ KTerenganu to HRPZ Bahru (alternating with HKL) and also HTAA Kuantan	The visit will be terminated once resident neurologist is available at the respective hospital
3.	Outsourcing / Purchase of Service	Two private neurologists visit weekly for an afternoon session to HUS Kuching in addition to regular 2 monthly visit (3 days visit) by a neurologist from HKL.	The visit will be terminated once resident neurologist is available at Hospital Kuching.
4.	Collaboration with Universities/ other agencies	▪ Neurologist visit to Hospital Queen Elizabeth (Kota Kinabalu) monthly by rotation from three local universities (PPUKM, PPUM, and HSUM). ▪ Hospital Melaka receives service a neurologist from the University of Manipal ▪ (Melaka)	The visit will be terminated once resident neurologist is available at Hospital QEH.

		▪ In addition, the neurology trainees will have a 4-month rotation at the local universities namely PPUKM or PPUM to gain more knowledge and skill in neurology. ▪ Exit viva examination for Neurology trainee is done with collaboration with PPUKM and PPUM	
5.	Number of Specialist (& trainees in brackets)	Number neurologists and trainees. 1. Hospital Kuala Lumpur – 7 (5) 2. Hospital Pulau Pinang – 1 (1) 3. Hospital Seberang Jaya – 1 4. HSNZ Kuala Terengganu – 1	To develop Regional Neurology Center with minimum of 1 neurologist per region. (North, Centre, South, East, Sabah And Sarawak)
6.	Major gaps / issues	1. Inadequate number of neurologist in MOH. Currently there are 6 physicians undergoing neurology subspecialty training. In addition there 6 more physicians who have interest in joining neurology training but still waiting their gazettement. Hopefully they will remain in MOH and able to fill the gap in the number of neurologist in MOH. 2. Short-term measures to overcome shortage of neurologist are to encourage a contract neurologist especially a Malaysian who has completed training and service in our neighboring country. We also have come across a contract neurologist from Middle East with local language barrier. Therefore MOH should consult the National Head Service of particular discipline regarding qualification and language suitability before signing the contract of a contract officer. 3. Currently accredited training center for neurology include HKL, HKT, and later HPP. Subsequently other identified training center is Hospital Sultanah Aminah Johor Bahru, Hospital Kuching and Hospital Kota Kinabalu when the identified future resident neurologist has gained enough experiences in neurology with minimum of 2 years post neurologist gazettement. 4. Trained neurophysiologies Assistant Medical Officers (AMO) who are promoted are posted out of the unit when promoted. This is a great lost to the service as well as leaving a gap while waiting to train a new AMO. 5. Inadequate budget to upgrade the current neurophysiology units outside HKL to buy new equipments.	

7.	Other proposal	1. It is important to ensure that neurology service is more attractive with better (faster) in the promotion. This is mainly to encourage neurologists to continue their service in MOH. We proposed that the grading should be as follows: • National Head Service : JUSA A • Head of regional service : JUSA B • State head of service : JUSA C • Consultants: UD 54 - JUSA B • Specialists : UD 48 – 52 2. Physicians (post MRCP / Master) interested to enter neurology subspecialty training program should be allowed to start the training once they are gazzetted as a general physician. 3. To establish National Neurology Registry in collaboration with Clinical Research Center (CRC). For a start, National Stroke registry has completed the process of planning and now undergoing a trial period at the hospital with resident neurologist (HKL, HPP, HSJ, and HKT). It is hope to extend the same format to other neurological disease especially epilepsy and Parkinson disease. 4. Under MP-10, Stroke management is identified as one of the MOH priorities of management development. A proposal has been sent to MOH as a proposal of the comprehensive multidisciplinary planning and strategies involve in overall stroke management.

NAME OF SPECIALTY / SUBSPECIALTY : NUCLEAR MEDICINE

		PRESENT STATUS	PROPOSED EXPANSION 10 MP
1.	Availability of resident services	• Hospital Pulau Pinang • Hospital Putrajaya	▪ Hus Sarawak, Kuching ▪ HSA, Johor Bharu
2.	Networking/ Outreaching	Networking with ▪ **University**: USM, UM, UKM ▪ **Private Centers**: Sime Darby Medical Centre ▪ **Government**: All the existing nuclear medicine centre, Bahagian Farmasi ▪ **Intergovernmental agency**: Nuclear Malaysia Atomic Energy Licensing Board ▪ **Regional:** Forum for Nuclear Cooperation in Asia Asian School of Nuclear Medicine ▪ **International:** International Atomic Energy Agency (IAEA)	
3.	Outsourcing/ Purchase of Service	Yes but limited due to budgetary issue	To reduce substantially once new centre has the facilities and services
4.	Collaboration with Universities/other agencies	▪ **University**: USM, UM, UKM ▪ **Private Centers**: Sime Darby Medical Centre ▪ **Government**: All the existing nuclear medicine centre, Bahagian Farmasi ▪ **Intergovernmental agency**: Nuclear Malaysia ▪ Atomic Energy Licensing Board ▪ **Regional:** Forum for Nuclear Cooperation in Asia Asian School of Nuclear Medicine ▪ **International:** International Atomic Energy Agency (IAEA)	To continue and expand collaboration so as to acquire the latest experience and technology know- how.

5.	No. of Specialists (& trainees in brackets)	**KKM** ▪ 4 gazettes specialists ▪ Trainee: 2 sub specialization to graduate in 2012 ▪ Masters programme: 4 in second year 4 in first year	To recruit more sub specialization trainees in nuclear medicine To increase the number of masters candidate once the number of trainers has increased expected in 2014
6.	Major gaps / issues	<u>Infrastructure</u> Not all centers has infrastructure to do the range of nuclear medicine in diagnostic and therapy	To continue expanding nuclear medicine services to meet the country requirement. All nuclear medicine centers should have the following: 1. Diagnostic services, 2. Therapeutic services 3. Therapy ward with radiation protection facilities 4. PET-CT services. This expansion program is also in collaboration of the national cancer blueprint.
7.	Other proposal	The blueprint has been set since 2002 for the above requirement and every year in the Mesyuarat Pengurusan Perkhidmatan Perubatan Nuklear with senior KKM official the progress and requirement has been presented. Unless KKM support the request for expansion, there can be no further expansion of service as nuclear medicine service very much depend on infrastructure, equipment and manpower. Also in nuclear medicine we have to deal with life (active) radioactivity, as such we need more staff as the same stuff cannot by law be exposed to high radioactivity.	To get KKM assistance in getting the proposed ▪ infrastructure, ▪ Facilities, ▪ equipment, ▪ budget and human resource

NAME OF SPECIALTY / SUBSPECIALTY : OBSTETRIC AND GYNAECOLOGY

		PRESENT STATUS	PROPOSED EXPANSION 10 MP
1.	Availability of resident services	48 hospitals with specialists services	i. To provide specialist services to district hospital with 2000 deliveries. ii. To develop subspecialty unit.
2.	Networking / outreach	All the state hospitals with resident specialists on a monthly or 2 monthly visit to hospitals without resident specialist	To continue in 10MP
3.	Outsourcing / purchase of services	Radiotherapy services for Gynae – Oncology cases i. Northern region (Perlis, Kedah, Pulau Pinang, Northern Perak) purchased from Mount Mirian Hospital. ii. Negeri Sembilan purchased from Nilai Cancer Institute & Cancer Hospital iii. Southern region (Kelantan, Terengganu , Pahang) for purchased from HUSM Kubang Kerian iv. Sabah purchased from Sabah Medical Centre	i. Lack of Embryologists - A need to outsourcing the services ii. Genetic Lab services - A need to outsource from Singapore iii. To setup Embryologists Lab iv. To setup Genetic Lab
4.	Collaboration with Universities / other agencies	i. Hospital Raja Permaisuri Bainun, Ipoh with Royal College of Medicine Perak (RCMP) ii. Hospital Alor Setar and Hospital Sg. Petani with Asian Institute of Medicine, Sciece & Technology (AIMST) iii. Hospital Pulau Pinang with Penang Medical College (PMC) iv. Hospital Serdang with University Putra Malaysia v. Hospital Selayang with (UiTM) vi. Hospital Melaka & Hospital Muar with Melaka Manipal Medical College	To continue in 10MP

		vii. Hospital Tuanku Jaafar, Seremban & Hospital Batu Pahat with International Medical University (IMU) viii. Hospital Umum Sarawak with University Malaysia Sarawak (UNIMAS) ix. Hospital TAA, Kuantan with International Islamic University x. Hospital TAR Klang with University Malaya xi. Hospital Sultanah Aminah, JB with Monash University xii. Hospital Likas and Hospital Queen Elizabeth with University Malaysia Sabah xiii. Hospital Kangar with ACMS/ USU xiv. Hospital Ampang, Hospital Kuala Pilah, Hospital Tampin with USIM	
5.	No of specialists & trainees in brackets	i. Specialist output less then 20 per year ii. Subspecialty output - Maternal Fetal – 1 per year - Uro –gynaecology – 1 per year - Reproductive Medicine - 1 per year - Gynae – oncology - 1 per year	i. Specialist output to increase 40 per year ii. Subspecialty output - 2 per year for each discipline
6.	Major gaps / issues	i. Obstetric Basic Life support course to be introduced nation wide ii. Lack of specialised nurse in O&G subspecialty. iii. Perceived rising numbers of complaints and law suit iv. Inadequate staff patient ratio in critical care area.	• Introduction of Obstetric Basic Life support course in all MOH hospital. • To relook at the previous proposal for specialised nurse in O&G subspecialty. • Replacement of BER and > 10 years old or outdated equipment. • Labour Suites to replace open labour ward.

		v. Absence of resident specialist in labour room on 24 hour basis.
		vi. Non availability of second OT's for Obstetric emergencies within acceptable norms for waiting time
		vii. Inadequate operative time for Gynaecology (especially for Oncology and miscarriages)
		viii. Inadequate availability of ambulance care services
		ix. Rising LSCS rate
		x. Low passing rate in MOG exam
		xi. Old equipment need to replace
		xii. Lack of specialist in Sarawak
		xiii. Subspecialty requirement
			• Additional Maternity OT for areas with identified needs
			• To employ foreign specialist to work in Sarawak
			• Proposed expansion / resident specialist services.
			  • At least 2 resident O&G specialist for any hospital providing O&G specialist services. The total number of specialist required per hospital can be based on the total delivery per year as in Lampiran A.
			  • Subspecialty needs as in Lampiran A

NAME OF SPECIALTY / SUBSPECIALTY : OPHTHALMOLOGY

		PRESENT STATUS	PROPOSED EXPANSION RMK-10
1. a)	Availability of resident services	**Resident Ophthalmology specialist service is available in 36 hospitals** 1. H Kangar 2. H Alor Setar, HSungai Petani, 3. H Pulau Pinang, H Bukit Mertajam 4. H Ipoh, H Taiping, H Teluk Intan, H Seri Manjung 5. H Klang, H Selayang, H Serdang, H Sg Buloh, H Ampang 6. HKL, H Putra Jaya 7. H Seremban, H Kuala Pilah 8. H Melaka 9. HJB, HIPandan, H Muar, H Batu Pahat 10. H Kuantan, H Temerloh 11. H KT 12. HKota Baru 13. H QE KK, H Tawau, H Keningau, H Sandakan 14. H Kuching, H Sibu, H Miri, H Bintulu	**Hospitals with Proposed New Ophthalmology Services (To set up the ophthalmology department which includes 2 ophthalmologists and 2 optometrists)** **- in order of priority** 1. HSri Aman (Sarawak) 2. HLangkawi (Kedah) 3. HGua Musang (Kelantan) 4. HLabuan (Wilayah Persekutuan) 5. HKemaman (Trengganu)
b)	Previous services available but not now	▪ H Lahad Datu, (Sabah) ▪ H Kuala Krai, (Kelantan)	Ophthalmolgists to be posted to these hospitals
c)	Hospital without Ophthalmologist but with Optometrist services	**1. Creation of posts for Optometrists in District Hospitals without Ophthalmologist** and to supply basic instruments for refraction in these hospitals– Achieved **2. Presently there are 10 hospitals with resident optometry services.** 1. HKulim, (Kedah) 2. HLangkawi, (Kedah) 3. HKepala Batas. (Pinang) 4. HSlim River (Perak) 5. HSegamat (Johore) 6. HKluang (Johore) 7. HKuala Lipis (Pahang) 8. HSri Aman, (Sarawak) 9. HLabuan (W.P.) 10. HKemaman (Trengganu)	**Additional District Hospitals with proposed creation of posts for Optometry services** **-** At least 1 optometrist in each hospital. And basic equipment for this service must also be supplied. **- in order of priority** 1. HTg Karang 2. HBanting 3. HSabak Bernam 4. HKuala Kubu Baru 5. HTanah Merah 6. HPasir Mas 7. HMachang 8. HBesut 9. HKuala Berang 10. HKota Tinggi

			11. HMersing (Johore 12. HPort Dickson 13. HJelebu 14. HJempol 15. HJenka 16. HMuadzam Shah 17. HGua Musang 18. HBaling 19. HJitra 20. HHulu Terengganu 21. HGemas 22. HBeufort
d)	New Hospital (RMK9) with planned Ophthalmology services but no service yet	1. HShah Alam (Selangor)	HShah Alam, Selangor (2 ophthalmologist and 2 optometrist to be posted when the hospital starts functioning)
2.	Networking /Outreach	1. Visits to district hospitals at regular intervals. 2. Cataract surgery outreach program in hospitals without ophthalmologist in Sabah and sarawak	1. Regular visits to Hospitals without Ophthalmology service to be arranged at State level 2. Sub-specialist coverage to Hospitals with Ophthalmologists – priority to East Malaysia ▪ Oculoplasty ▪ Medical Retina ▪ Peadiatric Ophthalmology ▪ Cornea
3.	Outsourcing/Purchase of service	Nil	1. Outsourcing **Orthoptic services** to complement oculoplasty service 2. Outsourcing **Refractive surgery** to complement corneal service

4.	Collaboration with Universities/other agencies	*Service* 1. Collaboration with WHO and Lions International foundation for the elimination of childhood blindness at Hospital Queen Elizabeth, Sabah 2. Collaboration with Lions and DHL to facilitate cornea transplant services 3. Collaboration with Eye Fund of the Malaysian Medical Foundation to purchase equipment for cataract outreach camps.- 'Sabah Mission for Vision' : ''Spectacle Dispensing Project' in Sabah ; "Intraocular lens subsidy project " where intraocular lenses were given to 4 state hospitals for use in needy patients. Training *Postgraduate in Ophthalmology* 1. KKM negotiated with the universities at the conjoint committee for ophthalmology (universities and KKM) for a conjoint exam be conducted for uniformity of quality of postgraduates. Presently only UKM and USM have conjoint their exam. 2. Presently there is no uniformity in the training structure	1. To collaborate with Universities and Private Institutes for sub-specialties and procedures not available in the government centres eg: refractive surgery, neuro-ophthalmology, VEP, ERG, OCT 2. To collaborate with KEMAS / Jabatan Perpaduan / Private Kindergarten for "Preschool screening programs" 3. To collaborate with IPTA, PTS, private hospitals / institutions and NGO's in continuous professional development programs. *Postgraduate in Ophthalmology* 1. To ensure that the masters programme candidates from the 3 universities offering the programme i.e. UKM, UM, USM sit for a conjoint exam beginning with the Part 1 exam (proposed to begin in 2010). By 2013 the exam should be truly conjoint for all parts i.e Part 1, part 2, and Part 3. 2. Training of post graduates must be made completely rotational for all trainees. There should not be any 'in-campus' or 'out-campus' candidates. A plan should be made to rotate the candidates between the KKM hospitals and the universities so as not to jeopardise the services of the universities or KKM facilities.

5.	No of specialists (and Trainees in brackets)	a) In December 2009 there were **165 specialists** in KKM b) 34 trainees per year are accepted to undergo training by the local universities at the end of RMK 9	a) Increase the number of posts for specialist in the proposed new Ophthalmology services centres as above. b) To increase the number of medical officers being accepted into the Masters training program annually – to 40 trainees per year
6.	Major Gaps/issue	1. Data from the National Eye Database states that the unaided visual outcome following cataract surgery revealed that 30% achieve satisfactory vision. Phacoemulsification machines and A-scan machines in most hospitals are 5-10 years old and are not very accurate in predicting refractive outcome for cataract surgery.Presently operating assistance and support staff in most hospitals utilize clinic staff to work in operating theatre. Day care centre/ACC/ OT in most centres are currently underutilized 2. Shortage of Sup-specialists and supporting staff – both paramedics and technical staff. 3. Hospitals where subspecialist are posted are not well equipped 4. Hospitals with Optometrists but without Ophthalmologists are not well equipped.	1. <u>Basic specialty services</u> a) Cataract service in all hospitals - to upgrade equipment in stages concentrating on A-scan/IOL master, Keratometer, B scan, Phacoemulsification machine. b) Increasing the number of cataract surgeries done at each hospital by increasing the operating hours and optimising utilization of Day Care Centres/ ACC/OT. There should be more support staff to run both services (clinic and operating theatre) simultaneously. 2. <u>Sub-specialty Service</u> a) <u>*National*</u> (The following centres should have priority in upgrading their services) VR – H. Selayang Medical retina – H. SelayangCornea – H. Sg Buloh Pead – HKL Oculoplasty – H. Serdang b) <u>*State*</u> All state hospitals to have VR and Glaucoma subspecialty service To purchase OCT for all hospitals with VR and Glaucoma service

			c) <u>*Regional*</u> • Cornea – H. Sg Buloh, H Alor Star, HSA JB, HNZ KT, HUS Kuching, HQE Kota Kinabalu • Peads – HKL, H.Penang, HJB, HKT HQE KK, HUS Kuching • Oculoplasty – H.Serdang,H. Penang, H.JB, H. Kuantan, H.Kuching, HQE Kota Kinabalu • Medical Retinal – HSelayang, HPP, HTAA Kuantan, HSA JB, HUS Kuching 3. To upgrade equipment that is more than 10 years old, eg: fundus camera, laser machines, operating microscope with digital imaging and recording system, automated perimetry 4. a) To upgrade basic optometry equipment. b) To develop subspecialty Optometry services in all state hospitals ▪ Binocular vision Clinic ▪ Visual therapy Clinic with Visual Rehabilitative Optometrist ▪ Low Vision Clinic. ▪ Contact Lens Clinic ▪ Amblyopia Clinic

7.	Projects approved from RM 9	• Upgrading of eye clinic HKL – Achieved • Dasar Baru for cornea service – H.Sungai Buloh – Acihieved • Hopsital Kuantan - oculoplasty services was started but had to discontinue as Dr Hamida the Oculoplastic surgeon has resigned. • HJB -VR surgery and glaucoma – achieved • Peadiatric Opthalmology – HQE KK achieved • HSelayang - Medical Retina Unit and Oculoplasty - Achieved Setting up of Ocularist lab achieved. • VR and glaucoma - Kota Bahru – VR-achieved. Glaucoma - trainee undergoing training • Upgrading of Eye Clinic H Melaka – Not achieved as the money was chanelled for another department which was in need of the funds. • Glaucoma service in H Kuching – Dr Vivian had to be redirected to Kuantan as there was an acute shortage there.	• VR service in Pulau Pinang. – Subspecialist has been trained and sent there in 2010. There is an urgent need to upgrade the equipment for this service to be fully functional. • Glaucoma in Kuantan – Subspecialist trainee has completed his training and awaiting exit certification. • Glaucoma in Seremban – Subspecialist trainee has been identified and is undergoing training • Glaucoma in Melaka – Subspecialist trainee has quit the training programme. Presently a new candidate is being trained. • Glaucome in H Kangar – Subspecialist trainee has not completed his training – may quit the training programme. • VR and Glaucoma in Kuching – Subspecialist trainee has been identified to undergo training. • VR in Kuala Trengganu – Subspecialist trainee was unsuccessful in the exit certification • Peadiatric glaucoma to be established in HKL • Upgrade facilities in hospitals with VR. service

8.	Proposed Training	*Post basic ophthalmic nursing for the AMO's and Nurses* For a period of time it was run as a distant learning programme and later converted to training centre programme. *Subspecialty training for paramedics* *Masters in Optometry training* Presently only 2 Optometrists are doing their Masters in Orthoptics, 1 per year since 2009 *Subspecialty training in Ophthalmology* A structured 3 year subspecialty training programme was developed in a) Vitreoretinal surgery b) Glaucoma c) Oculoplasty d) Medical Retina and onclology e) Cornea f) Paediatric Ophthalmology g) Comprehensive Ophthalmology *Optometry Subspecialty development* - Nil – *Post graduate training in Ophthalmology* 1. KKM negotiated with the universities at the conjoint committee for ophthalmology (universities and KKM) for a conjoint exam be conducted for uniformity of quality of postgraduates. Presently only UKM and USM have conjoint their exam. 2. Presently there is no uniformity in the training structure.	For post basic ophthalmic nursing to be continued as training centre programme to have better quality of trained staff. To have ongoing training for paramedics and optometrists in specific sub-speciality, to complement the sub-speciality service department needs. 1. To increase the number of Optometrists being accepted into the Masters in Orthoptics training program annually - to 2 trainees per year. 2. To increase the number of Optometrists being accepted into the Masters in Clinical Optometry training program annually – to 2 trainees per year. To continue with the year subspecialty training programme for ophthalmologists. To develop a) Neuro- ophthalmology b) Paediatric glaucoma c) Paediatric vitreoretinal surgery *Optometry Subspecialty development* Specific training for optometrists to complement the subspecialty development – to send at least 4 trainees per year to hospitals / universities in USA/ UK/ Australia

			a) Orthoptics b) Binocular Vision / Vision Therapy c) Diagnostic optometrist d) Family Practice Optometrist e) Primary care f) Cornea and Contact Lens g) Geriatric optometrist h) Paediatric optometrist i) Low Vision and Rehabilitation j) Ocular Disease k) Refractive and Ocular Surgery l) Community health Optometrist *Postgraduate in Ophthalmology* 1. To ensure that the masters programme candidates from the 3 universities offering the programme i.e. UKM, UM, USM sit for a conjoint exam beginning with the Part 1 exam (proposed to begin in 2010). By 2013 the exam should be truly conjoint for all parts i.e Part 1, part 2, and Part 3. . 2. Training of post graduates must be made completely rotational for all trainees. There should not be any 'in-campus' or 'out-campus' candidates. A training schedule should be made to rotate the candidates between the KKM hospitals and the universities so as not to jeopardise the services of the universities or KKM facilities and fully utilise the benefits of each sector.

9.	Other proposals	1. Detection of refractive error in school children and preschool children 2. Detection of ocular complications of Diabetic Retinopathy a) Purchase of fundus cameras b) To better coordinate with JKN on the programmes for early detection of complications c) Pilot project on Tele DR Trengganu - completed d) Laser machines - Most hospitals have laser machines with need replacement as they frequently breakdown due to age.	1. Addressed in item 1c. as above 2. a) The number of fundus cameras in presently adequate especially in West Malaysia. There is a need for more cameras in East Malaysia. b) There still needs to be better co-ordination for diabetic eye screening at the primary care level. c) Workshops and training should be given to PHCW on fundus photography and grading of photographs. d) Laser machines need to be further upgraded or new ones purchased to be able to manage the complications of diabetic retinopathy. 3. To develop 'Age –related Degeneration' and Glaucoma treatment modules as it involves expensive medication

NAME OF SPECIALTY / SUBSPECIALTY : ORTHOPAEDIC AND TRAUMATOLOGY

1.	PRESENT STATUS	
a.	Present availability of services	• All State hospitals • Federal Territory hospitals: HKL and Hosp. Putrajaya • All Specialist hospitals except Likas, Kemaman, Kepala Batas, Bukit Mertajam, Slim River,Banting, Port Dickson, Kapit, Sarikei, Sri Aman,Sirian
b.	Where previous services available but not anymore now	Kemaman Labuan Kuala Lipis
c.	Networking/ Outreach	Available within all states • Specialist Hospitals with Orthopaedic Surgeon to other specialist hospitals without Orthopaedic Surgeon and non specialist hospital in all state involving coverage to 53 hospitals. • State Orthopaedic surgeons responsible to identify hospitals & provide networking
d.	Outsourcing / Purchase of Services	Nil
e.	MOU with External Agencies/ Universities	Nil
f.	Major Gaps / issues / challenges	1. Lack of funds to replace worn out / broken /BER assets 2. Inadequate funds for basic Ortho implants 3. Human resource limitation – high resignation rate, unequal distribution(urban- based > rural-based) 4. Lack of OT time(perennial problem) Trauma OT is still not made available in some major hospitals 5. Lack of clinic space(most centres) 6. Lack of R&D impetus 7. Slow pace of essential supporting services 8. Small number of sub-specialists
2.	WAY FORWARD	
a.	Proposed expansion of resident. spec. services	• Hosp Tanah Merah & Kuala Krai- with Ortho specialists, need to be upgraded to training hosp for House-officers • Hosp Kuala Lipis • Hosp Slim River • Hosp Sarikei

b.	Proposed expansion of networking / outreach	All State Ortho surgeon's responsibility to identify areas of networking within the state and intensifies services Another 11 Hospitals Kelantan: Hosp Kota Bharu to Hosp Bachok Sabah: QEH Kota Kinabalu to Beaufort and Ranau Perak: Hosp Ipoh to Hosp Kampar Pahang: HTAA Kuantan to Hosp. Rompin Sarawak: HUS Kuching to Lundu, and KK Belaga Kedah: Hosp Sg. Petani to Yan, Baling & Sik Selangor: HTAR to Tg Karang, Banting Sg. Buloh to KKB(additional support to existing network by Hosp. Selayang)
c.	Proposed outsourcing / purchase of services	Computer aided surgery(CAS) navigation system, spinal cord monitoring system, operating microscope, to upgrade existing specialized services in identified centres
d.	Proposed introduction of new programmes/ services	Subspecialty services in regional centres • **Paediatric Orthopaedic** Existing: HKL, Selayang Plan: Alor Setar, Kangar, HSI, HTAA, Kuching • Spine Surgery Plan: HSAJB, Kota Bharu, Alor Setar, QEH • Ortho. Oncology Plan: Putrajaya, KIV one centre in Northern zone, one in Sabah • Sports orthopaedic Plan: Seremban,HSI • Gen. Ortho and Advanced Musculoskeletal Trauma Plan: Seberang Jaya, Sg. Buloh • Upper Limb and Hand in HUS Kuching *Head of subspeciality to identify 2 new centres once 2 present subspecialists qualify • Foot & Ankle Plan: Hosp Kangar, QEH
e.	MOU with external agencies/ Universities	MOU with Majlis Sukan Negara (MSN). Sports and Arthroscopy subspeciality group(HKL)
f.	Project approved	Kelantan – upgrading Orthopedic Services (RM 1 million) under RMK9
g.	Proposed projects – RMK9 mid term	Nil

h.	Proposed replacement/ procurement equipment	1. Navigation system for all State hospitals (3 supplied) 2. Image intensifiers – provision to identified hospitals for upgrading of services, replacing existing ones(old/BER) 3. OT Tables – replacements for existing hospitals 4. SSEP/MEP Machine – for hospitals with spine services. 5. Operating microscope- identified centres with Upper limb/ hand surgery subspecialist.
i.	Proposed training	Overseas and local training. Short courses or attachment overseas. Nomination for HLP & CBBP only for those in fellowship programme and have passed the first part Ortho fellowship examination
j.	Recommended staff: workload	-
k.	Other proposals	1. Review R&D initiatives, Ortho registries 2. Review subspeciality training programme 3. Proposed under RMK 10 Kelantan/Trengganu - Spinal & Amputee Rehabilitation(prosthetic/orthotic centre) HUS Kuching - Sports Injury and Sports Medicine HKL- Sports injury & sports rehab. service Bone Harvesting /Procurement services - Need to strengthen and identify teams according to zones - North zone- identify team - Central zone- HKL team - South zone- to identify team - East zone- team from HUSM 4. Training - By 2012, only one qualifying examination for intake into Masters in Orthopaedic surgery programme. 5. Monitoring of subspecialist register in KKM 6. Coordinated organization of courses(national level)

NAME OF SPECIALTY / SUBSPECIALTY : OTORHINOLARYNGOLOGY

		PRESENT STATUS	PROPOSED EXPANSION 10 MP
1.	Availability of resident services	Hospital Tuanku Fauziah, Kangar. Hospital Sultanah Bahiyah, Alor Setar Hospital Sultan Abdul Halim, Sg. Petani Hospital Pulau Pinang Hospital Bkt. Mertajam Hospital Raja Permaisuri Bainun, Ipoh Hospital Taiping Hospital Teluk Intan Hospital Selayang Hospital Tuanku Ampuan Rahimah, Klang Hospital Sg. Buloh Hospital Serdang Hospital Ampang Hospital Kuala Lumpur Hospital Putrajaya Hospital Tuanku Jaafar Hospital Melaka Hospital Pakar Sultanah Fatimah, Muar Hospital Batu Pahat Hospital Sultanah Aminah, JB Hospital Sultan Ismail, Pandan, JB Hospital Tuanku Ampuan Afzan, Kuantan Hospital Sultan Ahmad Shah, Temerloh Hospital Sultanah Nur Zahirah, KT Hospital Raja Perempuan Zainab II, KB Hospital Umum, Kuching Hospital Miri Hospital Sibu Hospital Queen Elizabeth, K. Kinabalu Hospital Dutchess of Kent, Sandakan Hospital Tawau.	Hospital Kulim, Kedah Hospital Seberang Jaya , P Pinang Hospital Seri Manjung, Perak Hospital Slim River, Perak Hospital Labuan, WP Labuan. Hospital Kuala Pilah, NS. Hospital Alor Gajah, Melaka. Hospital Kluang, Johor Hospital Kemaman, Terengganu Hospital Kuala Krai, Kelantan Hospital Tanah Merah, Kelantan. Hospital Likas, Kota Kinabalu Hospital Bintulu, Sarawak
2.	Networking / Outreach	Available within all states. Hospitals with resident ENT surgeons providing services on regular scheduled visits to other hospitals that have no resident ENT surgeons. Otherwise cases will be referred to the hospitals where resident's specialists are available.	To well equipped these peripheral hospitals with basic ORL treatment units and instruments.

		Cases that require subspecialty management will be referred to the relevant hospitals with the subspecialist's services. Network services: Hospital Alor Star: - Hospital Langkawi - Hospital Sik Hospital Sg. Petani. - Hospital Baling - Hospital Kulim Hospital Bkt Mertajam, P Pinang. - Hospital Kepala Batas Hospital Taiping. - Hospital Parit Buntar - Hospital Kuala Kangsar Hospital Teluk Intan - Hospital Manjung Hospital Klang. - Hospital Tg. Karang Hospital Seremban - Hospital Port Dickson - Hospital Kuala Pilah Hospital Melaka - Hospital Jasin Hospital Sultanah Aminah - Hospital Kluang Hospital Sultan Ismail - Hospital Mersing Hospital Tg Ampuan Afzan - Hospital Pekan - Hospital Jerantut - Hospital Temerloh - Hospital Bentong - Hospital Raub - Hospital Kuala Lipis	Hospitals with operation theater services; to equip the operation theater with instruments for basic ORL procedures to be performed.

		Hospital Kuala Terengganu - Hospital Dungun - Hospital Besut - Hospital Kemaman - Hospital Hulu Terengganu Hospital Raja Perempuan Zainab II - Hospital Tumpat - Hospital Machang - Hospital Jeli - Hospital Gua Musang - Hospital Kuala Krai - Hospital Pasir mas - Hospital pasir Puteh - Hospital Tanah Merah Hospital Umum Sarawak - Hospital Bintulu - Hospital Lundu - Hospital Serian - Hospital Sri Aman Hospital Queen Elizabeth, Sabah - Hospital Ranau - Hospital Kudat - Hospital Keningau - Hospital Beufort - Hospital Sandakan - Hospital Beluran - Hospital Kinabatangan - Hospital Tawau - Hospital Kunak - Hospital Semporna - Hospital Lahad Datu	
3.	Outsourcing / Purchase of Services	Nil.	Speech and language therapists for the rehabilitation of cochlear implant patients may be of short term basis until adequate numbers of speech therapists are available in KKM. Outsourcing may be from HUKM, HUSM or other private institutions.

4.	Collaboration with Universities / Other Agencies	UKM: - Neuro-Otological services / Cochlear Implant. - Tracheo-Laryngeal procedures. - Audiological & Speech therapy services. UM: - Neuro-otological services. - Tracheo-Laryngeal Services. USM: - Paediatric ORL services. IMR: - Allergy services.	To carry on with the present collaboration at a greater capacity. To establish collaboration with other training centers worldwide for the purpose of sending our subspecialist training.
5.	No. of Specialists (& trainees in brackets)	No. of specialists : 110 No. of trainees : (40)	140. (50)
6.	Major Gaps / issues	i. Financial issues: 1) Operational budget – Inadequate 2) Equipment replacement for BER items. 3) Asset Procurement. 4) Consumables 5) Short/ refresher courses. 6) National level seminars/ workshops ii. Resignation of specialists / subspecialists. iii. Infrastructure: Limited and inadequate space for clinics in most of the hospitals. iv. Too few Speech and Language Therapists and some of them are posted to the hospitals where there is no ORL services eg. District hospitals.	▪ Improve the budget allocations. ▪ Prompt replacement. ▪ Adequate allocation. ▪ Adequate allocations ▪ Improve financial support ▪ Adequate allocation Improve on Scholarship “Bond”. Better promotion schemes. To improve the infrastructure of clinic space in To recruit more Speech and Language Therapists and to fill in the posts in the hospitals where there are ORL services available. With the starting of cochlear implant program in KKM, more speech and language therapists should be placed in the identified cochlear implant regional centers.

7.	Other proposals	i. Allergy services in few hospitals. ii. Sleep related disorders / Lab in few centers. iii. Skill laboratory for training of specialists. iv. Cochlear implant program started in 2008 in Regional Hospitals.	▪ To expand the services to all major hospitals with ORL services. ▪ To start the service to other hospitals / regional centers. ▪ To set up skill laboratories in all the major hospitals with ORL trainees. ▪ To improve on the allocation budget for cochlear implant in these hospitals.

SPECIALITY AND SUBSPECIALITY SERVICES BLUEPRINT 2010-2015

1. NAME OF SPECIALITY PAEDIATRIC SURGERY

2. PRESENT STATUS (at end of 9th MP)

2.1 Available Resident Paediatric Surgeons

Sector	Hospital	Region	Number of Consultant Paediatric Surgeons	Number of trainee surgeons
Public (KKM)	HKL	Central	2	3
	Alor Star	North	1	-
	Penang	North	1	
	Kota Bahru	East	1	-
	Kuantan	East	1	-
	Melaka	Central	1	-
	Johor Bahru	South	1	-
	Ipoh	Central	1	-
	Kuching	Sarawak	1	-
	Likas, Kota Kinabalu	Sabah	1	-
Public University	UMMC	Central	3	-
	HUKM	Central	2	-
	HUSM	East	1	-
Private university	IMU(covering Seremban)	Central	1	-
Private	Gleneagles , KL		1	
	Pantai Bangsar, KL		1	
	Tawakkal, KL		2	
	SJMC, Subang		1	
	Damansara Specialist		1	
	Assunta, PJ		1	
	Puteri, Johor Baru		1	
	Kempas, JB		1	
	Lam Wah Ee, Penang		1	
	Adventist, Penang		1	
	Gleneagles, Penang		1	
	Perdana, Kota Bharu		1	

Current distribution:

	Consultants	Trainees
KKM	11	3
Public universities	6	-
Private universities	1	-
Private sector	13	-
TOTAL	**31**	**3**

2.2 Hospitals with previous resident Paediatric Surgical services but are currently unavailable and/or served by outreach service

NIL

2.3 Networking and outreach services

Provider hospital	Outreach hospitals	Clinics/OT sessions	Comments
HKL	Selayang	}	
	Serdang	} Emergency	
	Klang	} visits for ill cases	
	Sg. Buloh	}	
	Putrajaya	}	
	Ampang		
Kuching	Sibu	6 visits / year	} Unscheduled visits
	Miri	6 visits/ year	} for ill cases
	Kapit	3 visits/ year	}
Alor Star			} Unscheduled visits
	Hospital Kangar	Monthly	} for ill cases
	Hospital Jitra	Weekly	Daycare Session
Likas	Tawau	3 visits/ year	
	Lahad Datu	---as above—	
	Sandakan	---as above---	
	Beaufort	---as above---	
Johor Bahru	Batu Pahat	Monthly	Attempting to start services in Kulai and S.Ismail
Kota Bahru	Tanah Merah	Monthly	Since early 2007

In addition, there is an effective cross coverage in the absence of the resident Paediatric Surgeons or emergency cases e.g

Alor Star to Ipoh and Taiping HKL to Kuching

2.4 Outsourcing / Purchase of services

Hospital	Provider of service	Type of service	Reason for outsourcing	Options if not available
HKL	Ms. Zuraidah from Gleneagles	12 hour paid session weekly in Complex Reconstructive Paediatric Urology	1. Privileging and training issues 2. Need to concentrate expertise in single hand due to rarity of problem	i) Need for retraining of existing staff in HKL
Seremban	Prof. Ramesh from IMU	1. First line consultation 2. No payment involved	Training centre for IMU undergraduates	Cases will be referred to HKL
Kuching	Mr. Clarence Lei from Normah Specialist Centre	1. Consultations in Paediatric Urology 2. Covers on call when surgeon away	Use of expertise	i) Relief send from HKL if available. ii) Coverage by General Surgeons

2.5 MOU with external agencies or universities

Agency/ University	Type of understanding	Implementation	Problems
UMMC	Training in Masters in Paediatric Surgery (direct entry). Candidates will spend 2 yrs in KKM hospitals	Started in 2006	i) Inadequate trainers in UMMC ii) Quality of output uncertain iii) Trainers in KKM may be too busy with service matters

2.6 Major Gaps, Issues and Challenges

	Major Gaps	Possible problems	Solutions
1.	Maldevelopment of Total Surgical Services in Children esp. in other surgical disciplines eg Paediatric Neurosurgery/ENT/Vascular/ Cardiothoracic	Total surgical care compromised	i) Independent Children Hospital in tertiary and regional centres ii) Train more local surgeons with special interest in children iii) Employ overseas experts

2.	Lack of recognition as separate entity	i) Poor handling of statistics : Workload not fully appreciated ii) Stunted development	Create as an activity or sub-activity with separate code number
3.	Lack of consistent funding as shared with General Surgical Activity	Unable to develop fully	------as above-----
4.	Lack of recognition and knowledge amongst junior Paediatricians and General Surgeons of surgical conditions in children esp. neonates	i) Wrong diagnosis ii) Poorer outcome iii) Medico-legal issues	i) Compulsory posting for 3-6 months esp in Neonatal Surgery for Paediatricians and General Surgeons during gazettement period ii) Paediatric Surgery teaching at undergraduate levels
5.	Management of Paediatric Burns	Haphazard management	Need to develop National Policy on Care of Paediatric Burns
Issue and Challenges		**Possible problems**	**Solutions**
6.	Shortage of Paediatric Surgeons	i) Burn out syndrome and frustration ii) Migration to private sector	i) Short Term - Compulsory rest period - General Surgeons to spend 6 month rotation in Paediatric Surgery ii) Long Term - Promotion of speciality - Employ Private surgeons on sessional basis - Develop well planned and comprehensive training program esp. expansion of Fellowship program and extension (to 6 yrs) of Masters in Paediatric Surgery
7.	Inadequate staff at all levels: i) Trainees & Medical Officers ii) Nursing Staff iii) Clerical staff	 Solo practice with burn-out syndrome Overworked nurses Paperwork delayed if clinicians busy	 i) Core group of 4-5 Medical Officer at all times ii) Masters program in Paediatric Surgery Paediatric Surgery as a separate activity / sub-activity ----------as above----------

8.	Lack of ventilators/ICU beds/ wards in some hospitals esp HKL, JB and Kota Bahru	i) Need to send sicker babies further away ii) Delay of surgery for urgent or semi-urgent conditions iii) Overcrowding	i) Dedicated Neonatal Surgical ICU in all regional centres (as in HKL) ii) Dedicated Paediatric Surgical ICU / HDW in all regional centres iii) Multi-disciplinary surgical wards for children
9.	Poor transport system for sick children esp. in East Coast and East Malaysia	Babies arrive in poor conditions	Implement or improve retrieval system for children (with Paediatricians)
10.	Lack of dedicated Day Care Units for Children	i) Long waiting list for operations ii) Increase nursing wokload iii) Unnecessary admissions	Provision of Child Friendly Day Care Units to all hospitals with Paediatric surgical services
11.	Training opportunities for CPD	i) Lack of up-to-date knowledge ii) No career development	i) Sabbatical periods in developed centres ii) Staff exchange with other centres iii) Compulsory and sponsored attendance of international or regional meetings
12.	Credentialling and Privileging Issues esp. in private centres	Medico-legal concerns	Implementation of National Specialist Register

3. THE WAY FORWARD WITHIN 10TH MALAYSIAN PLAN

3.1 Proposed expansion of resident specialist services in next 5 yrs

Hospital without residents	Coverage area / reasons if currently available		Proposed numbers
Seremban	Negeri Sembilan Coverage from IMU inconsistent		1
Kuala Trengganu	-Whole of state north of Kemaman -South Kelantan		1
HTAR, Klang	West Coast of Selangor		1
Sibu	-Sibu & Miri -Interior of Sarawak		1
Sandakan	-East and South Sabah		1
Hospitals currently with residents	**Current no. of residents**	**Reasons**	**Proposed number (additional)**
HKL	3	i) Heavy workload of tertiary referral center ii) Teaching centre	5 (+2)
Alor Star	1	}	2 (+1)
Johor Bharu	1	}	3 (+2)
Ipoh	1	}	2 (+1)
Kota Bahru	1	} All in solo practice	2 (+1)
Kuching	1	}	2 (+1)
Likas	1		2 (+1)

PROPOSED EXTRA NUMBER NEEDED IN 10TH MP **12**

Priority of placement in descending order:

i) HSAJB, Johor
ii) Kuala Trengganu
iii) Kuching
iv) Likas, Kota Kinabalu
v) Klang
vi) Alor Star
vii) Kota Bahru
viii) Ipoh
ix) Sandakan
x) Sibu
xi) HKL

3.2 Proposed Expansion of Networking/Outreach services

Networked Hospital	Provider Hospital	Services	Frequency	Expected starting date
Serdang	HKL	Clinic & OT sessions	Twice / month	2010
Sg. Buloh	---as above--	---as above---	Twice / month	2010
S. Ismail	Johor Bahru	----as above---	Weekly	2010
Kulai	---as above---	---as above---	Monthly	2010
Taiping	Alor Star or Ipoh	---as above---	Monthly	2010
Pasir Putih	Kota Bahru	Daycare Services	Monthly	2010
Kuala Trengganu	----as above---	Clinic and OT session	Bimonthly	2010

3.3 Proposed Outsourcing / Purchasing of Services

	Services (all on sessional basis)	Paediatric Surgeon	Hospital	Receiving hospital	Reason
1.	Complex Reconstructive Paediatric Urology	Ms. Zuraidah Ibrahim	Gleneagles, KL	HKL	Unavailability of trained personnel in HKL

3.4 Proposed introduction of new services or programs

	Hospital	Services/ programs	Frequency	Justifications
1.	HKL	Minimally Invasive surgery	Weekly	Need for extra budget for consumables
2.	Serdang	Operating and Clinic Sessions	Twice monthly	Decentralise HKL with reduced waiting time
3.	Sungai Buloh	---as above---	--as above--	---as above----

3.5 Projects approved under RMK9

	Projects	Involved hospital	Starting date
1.	National Women and Children Hospital	HKL	?2011
2.	Ambulatory Care Centre, Hospital Alor Star (Multi-disciplinary)	Hosp. Alor Star	2008

3.6 Proposed projects for 9th MP Mid Term Review

	Proposed projects	Involved hospital	Justifications	Caveats
1.	Upgrading of Paediatric Burns Centre into National Paediatric Burns Centre	HKL	HKL is currently the only referral centre for Paediatric Burns in Klang Valley	Unnecessary if the National Women & Children Hospital can be ready by end of 9th MP
2.	Upgrading of Neonatal Surgical ICU	HKL	Systems and equipments has become obsolete	----as above----

3.7 Proposed replacement/ procurement of major equipment

	Equipment	Hospital	Quantity	Region	Current existing equipment
1.	Paediatric Ventilators	i) HKL	8	Central	Needs upgrading : 15 yrs old
		ii) Kuching	2	Sarawak	Inadequate numbers
		iii) Alor Star	2	North	----as above----
		iii) Kota Bahru	2	East	----as above----
		iv) Johor Bahru	2	South	----as above----
		v) Kuantan	2	East	
2.	Paediatric Incubators	i) HKL	8	Central	
		ii) Kuching	2	Sarawak	
		iii)Kota Bahru	2	East	Needs replacement
		iv) Johor Bahru	2	South	
		v) Alor Star	2	North	
3.	Ultrasound machine Ward work Intra-operative	i) HKL ii) Kuching iii) Alor Star	1 1 1	Central Sarawak North	New procurement to improve patient care
4.	Operating tables	i) HKL	4	Central	Needs replacement : 15 yrs
5.	Operating lights	i) HKL	2	Central	-----as above--------
6.	Paediatric Video Endoscopy System	i) HKL	1	Central	Needs upgrading : 8 yrs old
		ii) Kota Bharu	1	East	Not available
7.	Endo-urology & rigid bronchoscope systems	i) Alor Star	1	North	Upgrading
		ii) Likas	1	Sabah	Procurement
		iii) Kota Bahru	1	East	Procurement
		iv) Kuantan	1		New
		v) Melaka	1		New
8.	Laparoscopic system	i) Alor Star	1	North	Upgrading
		ii) Kota Bahru	1	East	Procurement
		iii) Johor Bahru	1	South	Procurement
		iv) Kuantan	1		New
		v) Melaka	1		New
9.	Paediatric General surgical set	i) HKL	2	Central	}
		ii) Johor Bahru	1	South	} Upgrading of existing
		iii) Alor Star	1	North	} system
		iv) Ipoh	1	Central	}
		iv) Kota Bahru	1	East	}
		v) Kuching	1	Sarawak	}
		vi) Likas	1	Sabah	}

10.	Microsurgery set	Alor Star	1	North	New procurement
11.	Urodynamic equipment	i) HKL ii) Alor Star	1 1	Central North	New procurement for management of complex Paediatric Urology cases
12.	Diathermy equipment	i) HKL ii) Kuching iii) Alor Star iv) Kota Bahru v) Johor Bahru vi) Ipoh	2 2 2 2 2 2	Central Sarawak North East South Central	Upgrading and replacement
13.	Multi-channel monitors for high risk cases	i) HKL ii) Alor Star iii) Kuching iv) Johor Bahru v) Kota Bahru	4 2 2 2 2	Central North Sarawak South East	New and upgrading
14.	Ward equipments BP monitors Trolleys Computers	All centres			Upgrading

3.8 Proposed Training

	Staff category	Training modules	Duration	Frequency
1.	Consultants > 10 yrs	i) Sabbatical or attachments ii) Attendance to regional and international meets	3 months 1 week	5 yearly Twice a year
2.	Consultants < 10 yrs	i) Attachments ii) Attendance to regional meetings	1 month 1 week	3 yearly Yearly
3.	Trainees in Fellowship program	i) Overseas attachment ii) Attendance to regional meetings	1 year 1 week	Currently ongoing Once during training period
4.	General Surgeons Paediatricians	i) Attachment in Paediatric Surgery ii) Updates in Paediatric Surgery	3-6 months 2-3 day courses organised by Dept. of Paediatric Surgery.	Once before entrance into National Specialist Register(NSR) Yearly

5.	Trained Nurses with Post Basic in Paediatric Care	i) Updates in Nursing of Surgical Patients	3-4 days	Yearly
		ii) Updates in specialised areas e.g Burns, Neonatal Surgery and Bowel management programs	3-4 days	Yearly

3.9 Recommended staff: workload

Ideal number of Paediatric Surgeons in KKM **60** based on current population, facilities and services

(Refer 3.10 for details)

Ratio of Paediatric Surgeon to population **1 :** 460 000 in KKM

Expected number in Universities and private sector 20 Ratio of Paediatric Surgeon to population **1 : 343 000**

3.10 Other proposals

Ideal distribution of Paediatric Surgical Services in Malaysia based on available facilities

Level	Centre	Region	No. of Consultants	Sub-subspeciality services
Tertiary	National Women & Children Hospital (currently HKL)	Central	8	i) Paediatric Transplantation Surgery ii) Paediatric Oncologic Surgery iii) Complex Hepatobiliary Surgery The centre should have the full complement of Surgical specialities (including Neurosurgery and Cardiac Surgery), support systems and will function as the main training centre.

Regional centres	Alor Star or Sultanah Bahiyah		North	5	i) Complex Neonatal Surgery ii) Complex Paediatric Urology iii) Rare conditions e.g Kasai operations Regional Centres should be equipped with Dedicated Neonatal Surgical ICU, Paediatric Burns Unit and Paediatric Day Care Surgical Services.
	Kuala Terengganu		East	5	
	Johor Bahru		South	5	
	Kuching		Sarawak	5	
	Likas		Sabah	5	
State	**Hospital**	**Coverage**			i) Basic Neonatal Surgery ii) Basic Paediatric Urology iii) General Paediatric Surgery The services provided will complement those from i) Paediatrics e.g shared facilities for DayCare services and Neonatal ICU ii) General Surgery : OT facilities and Burns Unit
	Penang	Taiping, S.Jaya, K.Batas	North	3	
	Ipoh	T. Intan, Sri Manjong	Central	3	
	Klang	Banting	Central	3	
	Seremban	Kuala Pilah	Central	3	
	Melaka	Muar, Batu Pahat	Central	3	
	Kuantan	Temerloh, Kemaman	East	3	
	Kota Bahru	K Krai, Tanah Merah	East	3	
	Sibu	Miri	Sarawak	3	
	Sandakan	Tawau	Sabah	3	
TOTAL				**60**	

		PRESENT STATUS	PROPOSED EXPANSION 10 MP
1.	Availability of resident services	**Specialist Palliative Care Unit:** Hospital Selayang **Basic Palliative Care (non-specialist)** All other State Hospitals and some major hospitals (situation variable depending on support of hospital admin)	**Development of new Specialist Palliative Care Units in:** 1. Hospital Pulau Pinang (specialist completing training) 2. Hospital RPB, Ipoh (specialist completing training)
2.	Networking/Outreach	Hospital Selayang specialist visits to HKL and HTAR Klang	HPulau Pinang – specialist visits to HBukit Mertajam and other hospitals in the north. HRPB, Ipoh – specialist visits to hospitals around Perak.
3.	Outsourcing / Purchase of Service	Nil	Nil
4.	Collaboration with Universities / other agencies	Collaboration with NGO hospice groups to provide community palliative care services. Collaboration with UMMC and HUKM in minor academic activities eg. Journal club, workshops.	Formation of **a "Technical Working Group for Palliative Care Development"** to encourage and coordinate better collaboration for national development of palliative care services.
5.	No. Of Specialists (& trainees in brackets)	3 (2 completing training in early 2010)	At least 6 new trainees
6.	Major gaps / issues	• Palliative Medicine is a relatively new sub-specialty and has yet to gain popularity amongst young physicians. • Lack of support from hospital directors and state health directors regarding development of palliative care services. • Funding and resourcing of palliative care services is given low priority.	• MOH to give priority to physicians interested to train in palliative medicine in terms of postings and positions. • State health directors and hospital directors to be made aware of the need to develop specialist palliative care services and to co-operate with development strategies and plans by MOH. • Centres with specialist palliative care services to be given increased allocation of funds for purchasing drugs and consumables unique to palliative care delivery.

7.	Other proposal	• Recruitment of specialists from abroad trained in palliative medicine and to expedite application processes and procedure. • Development of other regional centres in the East Coast, Southern Region, Sabah and Sarawak will depend on the availability of specialists from the region. At present there are none in training. Active recruitment drive to identify specialists from these regions will be the priority. Training of these specialists will take at least 3-4 years hence these centres will only develop towards the end of RMK10.	

NAME OF SPECIALTY / SUBSPECIALTY : PATHOLOGY

		PRESENT STATUS	PROPOSED EXPANSION 10 MP
1.	Availability of resident services	**Anat Pathology** 13 state hospitals, HKL and 5 major specialist hospitals (HSungai Petani, HMuar, HSelayang, HSerdang and Putrajaya) • 73 resident histopathologists **Chemical Pathology** 13 state hospitals, HKL, 25 major hospitals with specialist • 12 resident chemical pathologists **Haematology** 13 state hospitals and 1 HKL, 2 major specialist hospitals (HTaiping and HPandan) • 33 resident haematologists **Microbiology** 13 state hospitals and 1 HKL, HSg Buloh • 19 resident clinical microbiologist Not available in hospitals without specialist	To strengthen all services available and in lined with the proposed 8 keys areas in RMK10 **Anat Pathology** • Remote frozen section-HTaiping • Frozen section-22 centers • Molecular cytogenetics for tumour-HSerdang • Automated ISH-HKL, HIpoh • Tumor markers-all 12 centers **Chemical Pathology** • Trop T/I- all state and major specialist hospital • CKMB (Mass), BNP/ProBNP, tumour marker-all state hospitals • Molecular Profiling-HKL • Stem cell lab services-HPenang, HQE • Protein and molecular lab-HAmpang • Protein electrophoresis-HPenang, HKBahru, HQE, HPandan • Macroprolactin-HPenang, Putrajaya • Tumour marker-all state hospitals **Haematology** • Haemato-oncology: Leukemia/lymphoma immunophenotyping-HJB, HIpoh, HQE, HKBharu, Klang • Cancer genetic-HPenang • Oncology and Transplant-HLikas • Specialized Haemostasis & Trombosis-HPenang, HIpoh, HJB, HSeremban, HKuching,HKT, HKuantan, HSA, HKBharu

			Microbiology • Bacteriology (TB culture)-HMelaka, HKuching • Bact Identification-HIpoh, HSA, HPenang, HKT, HKuching • Anaerobic Diag-HKuching, HPenang, HIpoh, HAS, HKBahru • Mycology –Hkuantan, HSA, HQE • Immunology-Hkangar, HKT, HMelaka • Mol Microbiology-HSA, HJB, HQE, HKuching, HKBahru • Parasitologi-HSeremban **Scope of service** • Transfer drug screening/ comfirmation from Pathology to Forensic service • Transfer Therapeutic Drug Monitoring from Pharmacy to Pathology services
2.	Networking/Outreach	Centralization of PAP smear services and histopathology services in state level Coverage of microbiology services in non specialist hospitals by state hospital	4 specialties Anat Path, Haem, ChemPath and Micro will be developed within network zone
3.	Outsourcing/Purchase of Service	Outsource selected services/tests from: **Ana Pathology** Her2 testing-Subang Medical Center **Cytology** Pap smear- BP Lab **Haematology** Thal screening, BM Cytogen-BP Lab, Gribbles **Microbiology** HIV viral load, HBV, DNA load, HCV RNA, viral load and HCV Genotype-Gribbles	Continuation of present outsourcing arrangements and expand if needed on case by case basis

		Chemical Pathology Diabetes autoantibodies, Aldosterone, ACTH,Renin, IGF-1 and Trab (TSH Receptor Antibody)- Gribbles	
4.	Collaboration with Universities/other agencies	HUKM-Renin, Insulin, Endocrin HUSM-PTH IMR-Thal mol., Paed haem mol. UNIMAS-Haem malign immunophenotyp M'sian Liver Foundation-HBV, HCV, Viral load, Genotyp.	Continuation of present collaboration and expand if needed on case by case basis
5.	No. of specialists (& trainees in brackets)	Total no. 137 73-Histo,12-Chem, 33-Haem, Micro-19	To train more clinical microbiologist or chemical pathologist to be placed in major and minor specialist hospitals 102-Histo, 37-Chem, 44-Haem, 44-Micro
6.	Major gaps/issues	• Lack of operational budget to start new services • Uneven distribution of pathologists, Medical officer, Scientists and MLTs. • Lack of scholarship for allied health personnel • Inadequate funding for purchasing and replacement of equipments • Inadequate of space for expansion of services • Lack of funding for LIS/HIS and maintenance • Monitoring and feedback of QAP are still lacking • Inefficient of transportation within hospitals and interhospitals for delivering of services	• To centralize and regionalize special and low workload tests • To establish norms for all categories • To plan for shortcourse training on subspecialty • To propose project on replacement of equipments with lifespan more than 10 years by stages • To propose project for upgrading building and facility of lab • To strengthen the LIS/HIS linkage within hospitals and interhospitals • To establish an organization for strengthening the mechanism of funding, monitoring and feedback of QAP • To establish mechanical specimen transportation from critical wards to lab. • To establish efficient transport system within hospitals through courier service

NAME OF SPECIALITY / SUBSPECIALITY : PSYCHIATRY

		PRESENT STATUS	PROPOSED EXPANSION 10 MP
1.	Availability of resident services	▪ 4 Institution HBahagia HPermai HBukit Padang HSentosa ▪ HKangar ▪ HAlor Star ▪ HSungai Petani ▪ HPulau Pinang ▪ HBukit Mertajam ▪ HIpoh ▪ HTaiping ▪ HTeluk Intan ▪ HSri Manjung ▪ HSlim River ▪ HTAR Kelang ▪ HSelayang ▪ HKajang ▪ HSungei Buloh ▪ HSerdang, ▪ HAmpang ▪ HKuala Lumpur ▪ HPutrajaya ▪ HSeremban ▪ HKuala Pilah ▪ HMelaka ▪ HSA JB ▪ HSI Johor Bahru ▪ HMuar ▪ HBatuPahat ▪ HSegamat ▪ HTAA Kuantan ▪ HTemerloh ▪ HKuala Terengganu	▪ HTawau ▪ HKemaman ▪ HKuala Lipis ▪ HKulim ▪ HTanah Merah ▪ HSri Aman ▪ HSarikei

		▪ HHulu Terengganu ▪ HRPZII Kota Bharu ▪ HKuala Krai ▪ QEH Kota Kinabalu ▪ HSandakan ▪ HUS Kuching ▪ HSibu ▪ HMiri **TOTAL: 4 INSTITUTIONS** **37 HOSPITALS**	
2.	Networking / Outreach	The nearest resident psychiatrist visits: - all district hospitals with specialist - some district hospitals without specialists - some Health Centres	To continue in 10 MP
3.	Outsourcing / Purchase of Service	Services of private clinical psychologists in centres with child and adolescent psychiatrist services, e.g. HPulau Pinang, HKuala Lumpur	(1) To get posts for purchase of services of Clinical Psychologist in the following psychiatric hospitals:- - HPulau Pinang - HKuala Lumpur - HSelayang - HSA JB - HKuala Terengganu - HUS, Kuching - Hospital Bukit Padang, KK - Hospital Bahagia Ulu Kinta - Hospital Permai JB (2) Outsourcing services of Private Psychiatric Nursing Homes (approved & licensed under the Mental Health Act 2001)

4.	Collaboration with Universities / other agencies	Master Program Psychiatry in collaboration with the 3 universities; Nursing student's attachment in psychiatric nursing from public and private colleges.	(1) To enhance the collaboration of the Master's Program. (2) To collaborate with the universities of setting up of a Conjoint Board for subspeciality training in Child & Adolescent Psychiatry.
5.	No. Of Specialists (& trainees in brackets)	Private Psychiatrists = 43 Universities (private & public) = 69 + (7) Armed Forces = 3 + (1) Ministry of Health = 109 + (81)	Need more trainees in the Masters in Psychiatry Program
6.	Major gaps / issues	Shortage of human resources - hospital based community psychiatry services. - To open up psychiatrist services in hospitals with specialists - rehabilitative programs in psychiatry Poor funding for psychiatric rehabilitations.	1. To give opportunities for development of Human Resources in Psychiatry. 2. To provide funding for the setting up and enhancing of Hospital Based Community Psychiatry Services. 3. To open up more resident psychiatry services in specialist hospitals. 4. Need funding for Psychiatric Rehabilitation programs.
7.	Other proposals	Implementation of the Mental Health Act 2001	To approve the Regulations for Mental Health Act (MHA) 2001 to be enforced. Once enforced then MOH must set up the other 2 facilities provided for under the MHA, 2001, i.e. Government Psychiatric Nursing Homes & Government Community Rehabilitation Centres.

NAME OF SPECIALTY / SUBSPECIALTY : RADIOLOGY

		PRESENT STATUS	PROPOSED EXPANSION 10 MP
1.	Availability of resident services	Available in 39 hospitals • HKangar • HSungai Petani, HAlor Star • HPulau Pinang, HSeberang Jaya • HIpoh, HTaiping, HTeluk Intan, HSeri Manjong • HTAR, HSg Buluh, HSelayang, HAmpang, HSerdang, HKajang • HKL, HPutrajaya • HSeremban, HKuala Pilah • HMelaka • HSAJB, HSIJB, HMuar, HBatu Pahat • HKuantan, HTemerloh • HKuala Terengganu, HKemaman • HKota Bharu, HKuala Krai, HTanah Merah • QEH Kota Kinabalu, HTawau, HKeningau, HSandakan, HLikas • HKuching, HMiri, HSibu	To place radiologists in all remaining hospitals with specialists: • HKulim • HLangkawi • HBukit Mertajam • HKepala Batas • HSlim River • HBanting • HPort Dickson • Kluang • HSegamat • HKuala Lipis • HBintulu • HLahad Datu • HLabuan
2.	Networking / Outreach	1. HIpoh, HTaiping, HTeluk Intan to 9 other hospitals in the state of Perak. 2. HKL to HUS Kuching (for Interventional Radiology) 3. HKuching, HMiri, HSibu to 18 other hospitals in the state 4. QEH Kota Kinabalu, HTawau, HKeningau, HSandakan to 18 other hospitals in the state. 5. HPutrajaya to HSerdang for MRI. 6. HKajang to HSerdang for Fluoroscopy, MRI and CT. 7. HSerdang to UPM for interventional radiology services.	1. Expand interventional radiology services to regional centres as submitted under RMK10. 2. Equip hospitals with necessary equipment as submitted under RMK10. 3. Place radiologists in all specialist hospitals.

3.	Outsourcing / Purchase of service	• **HPulau Pinang**: interventional radiologist recently posted to HPP. Outsourcing MRI and CT only when these machines are down. • **HKL and HSAJB**- UKM for NeuroInterventional Radiology services. • **HKota Bahru:** HUSM for Angiogram and Interventional Radiology. • **HQE KK and HLikas**: Sabah Medical Centre for Angiogram and MSCT • **HUS Kuching:** UKM and HKL for Interventional Radiology, Normah Medical Centre	• Expansion of interventional radiology services to regional centres (as submitted under RMK10) to K.Trengganu, Johor Baru, Sabah and Sarawak. • Upgrade existing centres in HKL, HSg Buloh and HPP.
4.	Collaboration with Universities / other agencies	MoU for the training of Masters student, Medical students and Radiographers • HPulau Pinang with Penang Medical College, UKM, UMMC,UiTM, KSKB – KKM Sg Buluh • HIpoh with Royal College of Medicine Perak, UiTM, PPUM (UMMC), KSKB-KKM Sg Buloh, Kolej Radiografi-KKM Johor Bahru. • HTAR with UMMC, UiTM, KSKB – KKM Sg Buluh • HSg Buluh with UiTM • HSelayang with UMMC, UiTM, UKM, KSKB – KKM Sg Buluh, MasterSkill College of Nursing • HSerdang with UiTM, UPM, MasterSkill College of Nursing • HKL with UKM, UPM, KSKB – KKM Sg Buluh • HSeremban with IMU, UiTM • HMelaka with MMMC	

		• HSAJB with Kolej Radiografi, Monash University (medical undergraduates), MAHSA College, UiTM (radiographer). • HKuantan with IIUM, USM, UiTM • HKuala Terengganu with UiTM, MAHSA, KSKB – KKM Sg Buluh, UDM, UMMC, Kolej Radiografi, JB dan SEDAYA college. • HKota Bharu with USM, KIST • QEH Kota Kinabalu with UMS • HKuching with UNIMAS	
5.	No. of Specialists (&trainees)	160 specialists (including on no-pay leave and 2 contract officers)	40-45 trainees per year.
6.	Major gaps / issues	**Human resource** <u>1.Radiologists</u> • Inadequate both general and subspecialties. • Maldistribution in placement with shortage in Sabah, Sarawak and Johor • Attrition- continuous brain drain to the private sector and universities • "Open System" for Master Radiology had a late start. <u>2.Radiographers</u> • Inadequate numbers. • Maldistribution with too many in the East coast. • Some staying too long at district hospitals and Klinik Kesihatan. • Not consulted in posting of new radiographers and those on promotion. • Rapid development in imaging technology requires more specialized training.	2.<u>Radiographers</u> • Need for more equitable distribution.. • More post-basic courses to be created / implemented (trauma and advanced mammography to kick off). • Radiographers to undergo specialty training.

		3.Nurses • No specific posts in Radiology, nurses are from the pool and given least priority. 4.Medical Officers • No specific posts in Radiology Department. Posting to Radiology sometimes given low priority in some hospitals. **Equipment** Late replacement for old equipment. **MOU with universities** – Poor commitment of university radiologists to clinical duties Level of collaboration / undertaking by universities and role of university radiologists not clearly spelt out.	3.Nurses • Request for posts in radiology departments for the whole country have been submitted to Bahagian Sumber Manusia, KKM. 4.Medical Officers • More posts and placement to be done. **Equipment** List of equipment for replacement as well as new services already submitted to KKM under RMK 10 planning.
7.	Other proposal		**Subspecialty training** To develop all fields of subspeciality (interventional radiology, musculoskeletal, neuroradiology, uroradiology, gastrohepatobiliary radiology, women's imaging, paediatric radiology, cardiac radiology) in order to enhance clinical support and better patient care.

NAME OF SPECIALTY / SUBSPECIALTY : REHABILITATION MEDICINE

		PRESENT STATUS	PROPOSED EXPANSION 10 MP
1.	Availability of resident services	1. HPulau Pinang 2. HRPB Ipoh 3. HKL 4. HSg Buluh 5. H. Serdang 6. HTAR Klang 7. HTJ Seremban 8. HSI JB 9. HRPZ II Kota Bharu 10. HQE Kota Kinabalu	• Creation of rehabilitation medicine complexes in each state hospital with present resident service except HKL (Cheras Hospital being built) • H. Serdang to downgrade to visiting • HTAAKuantan, HSNZ Kuala Terengganu, HMelaka, HSB Alor Setar, HUSKuching, H. Kangar, HKuala Pilah, HTaiping, HMuar, HoSAS Temerloh, H. Sibu, HDOK Sandakan
2.	Networking / Outreach	Services offered in these hospitals via networking: HKuala Pilah, HJelebu, HPort Dickson, HTaiping, HMelaka, HSA JB, HTAA Kuantan, H.Slim River, HBeaufort	• HSerdang, HSeberang Jaya, HTeluk Intan, HBanting, HKuala Kubu Bharu, H.Mersing, HKerteh, HTawau
3.	Outsourcing / Purchase of Services	Hospital Support Services, MMProsthetic & Orthotic Services	Biomedical Engineering Services Clinical Psychology Services Plastic Surgery Services
4.	Collaboration with Universities / Other agencies	University Malaya – postgraduate training	UKM, USM – for postgraduate training
5.	No of Specialist (& trainees in brackets)	HTJ Seremban 4 (4 trainees) HKL 4 (0 trainees) HSg Buloh 2 HSerdang 2 HTAR Klang 3 HPulau Pinang 1 HRPB Ipoh 1 H. HSI JB 1 HQE Kota Kinabalu 1	H HTJ Seremban 4 (4 trainees) HKL 4 (0 trainees) HSg Buloh 2 (2 trainee), HSerdang 2 HTAR Klang 3 (1 trainee) HPulau Pinang3 HRPB Ipoh 3 H. HSI JB 3 HQE Kota Kinabalu 1 HMelaka 2 H. HSI JB 3 HTAA Kuantan 3 HSNZKuala Terengganu 2 HRPZII Kota Bharu 2 HQE Kota Kinabalu 3 HUS Kuching 3 All new proposed smaller hospitals 1 specialist.

6.	Major gaps / Issues	▪ Gaps in implementation of JDPKK 1/2008 ▪ Need for facilities of rehabilitation medicine complexes in state hospitals ▪ Clinical Psychology services, Prosthetic & Orthotic Services, Wheelchair services, Biomedical engineering services & Independent Living centers needed on site of rehabilitation medicine services	▪ Building of proposed rehabilitation medicine complexes in all state hospitals with present resident specialists. ▪ Hospital Tuanku Ja'afar Seremban Rehabilitation Medicine Complex to become National Institute of Rehabilitation Medicine ▪ Full Implementation of JDPKK 1/2008 including speech therapy services.
7.	Other proposal	▪ Old and outdated equipment to be replaced. ▪ All facilities do not meet disabled access issues ▪ Hydrotherapy facilities not available at all state hospitals. ▪ Inadequate funding for complex rehabilitation services – need for funding on site for assistive devices and environmental modification procurement	▪ Annual allocation of RM6 million needed for equipment purchase and replacement. ▪ All facilities at state hospitals or rehabilitation complexes to be equipped with hydrotherapy. ▪ All facilities to comply with MS1184 and MS1186 standards, and all wards to be air-conditioned. ▪ Formal audit process of service via functional score attainment mechanism monitoring at central agency ▪ Funding provision on facility site to facilitate funding for assistive devices procurement and environmental modification. ▪ Creation of National Registries for Spinal Injury, Amputee, Stroke & Traumatic Brain Injury Rehabilitation.

NAME SPECIALTY / SUBSPECIALTY : RESPIRATORY MEDICINE

A.	PRESENT STATUS	PRESENT STATUS	PROPOSED EXPANSION 10MP
1.	**AVAILABLITY OF RESIDENT SERVICES**	Residential Chest Physicians are available in 1. Institute of Respiratory Medicine, 2. HRPB, Ipoh 3. HSB, Alor Setar 4. HSAHSungai Petani, 5. Hospital Pulau Pinang 6. Hospital Taiping, 7. HTJ Seremban 8. HAS Johor Bahru, 9. HRPZ ll Kota Bahru, 10. HNZ Kuala Terengganu 11. HQE Kota Kinabalu. State hospitals without residential Chest Physicians are Selangor, Pahang, Melaka and Sarawak, but in HMelaka and HTAA Kuantan, respiratory services are run by senior general medicine specialists with special interest in Respiratory Medicine. Presently 2 specialists from Sarawak are being trained in respiratory medicine in Kota Kinabalu Queen Elizabeth Hospital. Selangor refers most of the cases to IPR.	• All state hospital • 40% of specialist hospital will have residential chest physicians.
2.	**NETWORK / OUTREACH**	IPR is working very closely with IJN and Serdang Hospital for thoracic surgery services. All chest clinic work together with local MAPTB in TB treatment program	To enhance collaboration with MAPTB and general practitioners on DOTS (Directly observed treatment Strategy) program for TB
3.	**OUTSOURCING / PURCHASE OF SERVICE**	1. IPR : IJN for thoracic surgery, Gribbles Laboratory for additional histopathology services . Tawakal and Sentosa Hospital for urgent CT scans (requested and paid by patients). 2. HQE, Kota Kinabalu presently placed and practiced in Sabah Medical Centre while Q.E is being up graded.	To develop thoracic surgical services in the 5 regions where the “centre of Excellence” respiratory services are: • Pulau Pinang • Kuala Terengganu • Johor Bahru • Sabah Need to outsource cardiothoracic surgical facilities wherever available in some states e.g Ipoh, Sabah

4.	**COLLABORATION WITH UNIVERSITIES/ OTHER AGENCIES**	IPR : collaborates closely with UITM Respiratory Services in Selayang- for training of EBUS, and training of their trainees in Tuberculosis. WITH MSU and UITM for training of their medical and Biotechnology students. Hospittal Pulau Pinang : Works closely with USM Penang for researches on TB and smoking related topics. Kota Bahru Chest Clinic also complemented its TB services with that of USM chest clinic.	To work closely with Universities / CRC in research projects especially in the area of needs. Need to work with them due to lack of time and workforce trained in research methodology
5.	**NUMBER OF SPECIALISTS AND TRAINEES (brackets)**	14 gazetted chest physicians 10 trainees at different levels of seniority.	To increase the number of trainers and centers for training. Johor Bahru, Kota Bahru, Ipoh Sungai Petani and Taiping Training centers can complement each other by sharing facilities.
6.	**MAJOR GAPS / ISSUES**	1. The small number of chest physicians slowed the advancement of Respiratory medicine in Malaysia as all of them have to focus on all areas , i.e TB, Lung Cancers, Sleep medicine, Asthma, COPD, Pulmonary hypertension and lung transplant, and interventional pulmonology leaving little time to develop these areas individually to the level suited and optimum to be recognized. 2. Some state hospital still do not have complete set of respiratory equipments to run the whole services ; full LFT, polysomnography machine, pleuroscopy, oncology support, surgical support for interventional pulmonology.	To identify champion in each area and to develop all areas of respiratory medicine equipped with facilities in term of equipments and trained staff. To equip all the respiratory unit of state hospitals with requirements and equipments to run the basic specialist respiratory (tertiary) services and training of respiratory specialists.

		3. IPR is not able to develop the interventional Pulmonology fully because of the physical distance from emergency surgical support if ever needed. 4. Lack of thoracic surgical services to support the respiratory medical service in most of the states. 5. Lack of permanent trained staff especially doctors in Respiratory Department/ Unit to ensure optimum continuity of services especially in hospital where Respiratory Unit is still under General Medicine.	
7.	**OTHER PROPOSAL**	1. To built a new 4 storey Institute of Respiratory Medicine near or in the vicinity where Thoracic Surgical Service is available without compromising the Tuberculosis treatment and control programme. Presently IPR has 110 bed inclusive of 6 HDU beds and 4 negative pressure rooms, one 2 bedded endoscopy suite, one minor operation theater, supporting radiography and level 2 laboratory support services. 2. To complement the respiratory services of Sultanah Bahiyah Hospital, Alor Star with upgrading of the Chest/TB clinic and wards in the old hospital and to use the old wards as sanatorium for Northern territory (Penang, Kedah, Perlis and Northern Perak).	

NAME OF SPECIALTY/SUBSPECIALTY : RHEUMATOLOGI

		PRESENT STATUS	PROPOSED EXPANSION 10MP
1.	Availability of resident services	1. Hospital Pulau Pinang 2. Hospital Ipoh 3. Hospital Kuala Lumpur 4. Hospital Putrajaya 5. Hospital Selayang 6. Hospital Serdang 7. HTJ, Seremban 8. Hospital Melaka 9. HNZ KualaTerengganu 10. Hospital Sultan Ismail 11. Hospital Sultanah Aminah,JB 12. Hospital Kuantan 13. HUS Kuching, Sarawak 14. Hospital Queen Elizabeth, KK	Hospital Alor Setar, Kedah Hospital Kangar, Perlis Hospital Kota Bharu, Kelantan Plan: Initial establishment of regional centres. Eventually every state hospital should have established Rheumatology Services.
2.	Networking /Outreach	Hospitals without Rheumatology services are presently networking with the nearest available hospital with Rheumatology service. Hospital Selayang and Hospital Serdang to the Kelantan and Perlis Hospital Klang is covered by Hospital Putrajaya	To continue with the present arrangement
3.	Outsourcing / Purchase of services	Nil	May need to outsource if expert advice is required in areas of musculoskeletal ultrasound or specialised muscle biopsy pathology.
4.	MOU with external agencies/ universities	Nil	Nil
5.	No of specialists & trainees	No of Rheumatologists: 19 No of Trainees undergoing 3 year subspecialty training: 3 No of Trainees completed 3 year training awaiting final exit viva exam: 3 Candidates awaiting acceptance into Rheumatology Training, July 2010: 5	

6.	Major gaps /issues / challenges	1. Inadequate rheumatologists who are competent to manage all forms of rheumatological diseases and their associated complications 2. Budget for rheumatology drugs 3. Equipment for rheumatology services 4. Incentives for sub-specialists including promotions and opportunity for training and advanced courses	
7.	Other Proposals	**Priority Issues To Be Faced In 2011-2015** 3.1 Manpower Development and Training Needs Issues • Inadequate rheumatologists who are competent to manage all forms of rheumatological diseases and their associated complications.	

3. OTHER PROPOSALS

The disease burden is increasing and trend is expected to further aggravate with the increase of the aging population. As a result of greater patient awareness, more patients are seeking treatment in the hospitals. A significant number of the patients outside the coverage of the referral centres are currently handled by primary practitioners and non-rheumatology specialists.

Recommendations

Rheumatology training: It is hoped that an appropriate number of scholarships for Rheumatology be made available to successful applicants per year.

One-Year Overseas Sub-Speciality Training

Year	Number of Scholarships Required
2011	3
2012	5
2013	3
2014	3
2015	3

Short Courses Overseas Training (1-3 Months)

Year	Number of Scholarships Required
2011	2
2012	2
2013	2
2014	2
2015	2

Issues

- Inadequate specialised nurses

Specialist Rheumatology Nurses

Presently there are locally trained Rheumatology Nurses. There is a need to create this category of specialised nursing care. The nurses should also be exposed and trained overseas to develop a core team of trainers in Rheumatology. Subsequent training of nurses will be carried out locally with the assistance of the core team.

Recommendations

Overseas Rheumatology Specialist Nurse Training Scholarships for One-Year

Year	Number of Scholarships Required	Total Number of Trained Rheumatology Specialist Nurses
2011	2	2
2012	2	4
2013	2	6
2014	2	8
2015	2	10

Other Training Needs

As Rheumatology is still developing, training of medical officers, paramedics, allied health workers and the public is also necessary and important. In order to coordinate this, necessary reference books/journals, equipment and training budgets for local travel will be needed. In view of the inadequate coverage for Rheumatology services throughout Malaysia, regional coverage will need to be implemented. Rheumatology services will be provided via regular state visits. To enable this service to be implemented, a special budget is needed as follows :

1.	Rheumatology courses "Modal Insan"	RM 200,000
2.	Journals / e-journals / Books	RM 300,000
3.	Computers	RM 60,000
4.	LCD Projectors	RM 100,000

3.2 Incentives for Sub-Specialists

Issues

- Adequate incentives for sub-specialists including promotions and opportunity for training and advanced courses.

The justification is to increase incentives for doctors undertaking this sub-speciality and the years that have been spent in the training of the sub-speciality. It is also to retain them so that they will remain in government service as the number of sub-specialists in this country is still very small. The plan is to have adequate posts and promotion opportunities in the sub-speciality.

Projection of Promotional Posts for Rheumatologists

Rheumatologist	2010	2011	2012	2013	2014
Jusa C	6	7	9	11	13
Jusa B	2	4	5	6	7
Jusa A	-	1	2	3	4

3.3 Equipment

Issues

- Equipment for Rheumatology services

The purchasing of equipment is one-off.

It is crucial to obtain equipments to enable the development of the sub-speciality in the hospitals that offer tertiary services. It is hoped that this request is given due consideration to support the development of a developing sub-speciality.

Equipment Needed for Rheumatology Services

Equipment	No	Price/unit (RM)	Total(RM)
Polarised light microscope with camera attachment (upgrade & new new purchase)	8	50,000	400,000
Ultrasound machine (upgrade & new new purchase)	8	500,000	4,000,000
DEXA scan (upgrade & new new purchase)	6	500,000	3,000,000
Joint injection Model (shoulder, knee, hands, etc.)			500,000
Cappilaroscope	6	180,000	1,080,000
Total			8,980,000

3.4 Drugs Issues

- Budget for Rheumatology drugs

Recommendation

Availability of drugs is important in the treatment of rheumatological diseases. These drugs should be used appropriately. It is hoped that this request can be considered to enable optimum patient care.

Drugs Used in Rheumatology

No.	Drugs	Cost/Per Year (RM)
1	DMARDs and immunosuppressive agents (i.e. sulfasalazine, hydroxychloroquine, methotrexate, azathioprine, cyclosporin, cyclophosphamide, leflunomide, mycophenolate mofetil)	5,000,000
2	Biologic agents (Anti TNF)	15,000,000
3	COX-2 inhibitors	2,000,000
4	Drugs for treatment of osteoporosis	5,000,000
5	Prostacyclin analogue (i.e. iloprost/ ilomedin)	200,000
	Total *To be divided amongst all hospitals providing Rheumatology services	27,200,000

SUMMARY

1. The Rheumatology sub-speciality deals with a wide range of diseases which have social and economic impact on both the patient and country.

2. The sub-speciality is still developing and will need support in terms of:

    a. Manpower – rheumatologists

    b. Support services – e.g., physiotherapists, occupational therapists, specialised nurses and including laboratory services especially in immunology.

    c. Incentives for sub-specialists including promotions and opportunity for training and intermittently attending up-dated courses.

    d. Financial support in areas of:

        - Equipment
        - Drugs
        - Training

3. The Rheumatology sub-speciality is still developing and should continue to progress to provide an efficient, effective and up-dated rheumatology care to patients and public. The aim is to improve health care delivery in Malaysia. It is hoped that the request will be considered and included in the planning of the delivery of medical services in Malaysia.

NAME OF SPECIALTY/SUBSPECIALTY : SPORTS MEDICINE

	ISSUES	PRESENT STATUS	PROPOSED EXPANSION 10MP
1.	Availability of resident services	▪ HKL ▪ H Serdang ▪ HTAR Klang ▪ H Sungei Buloh ▪ HQE Kota Kinabalu	▪ HUS Kuching ▪ H Pulau Pinang ▪ HIS Johor Bahru ▪ HRNZ KTrengganu
2.	Networking/Outreach	Nil	All Hospitals with Sports Physicians should do regular visits to nearby centres identified based on their need to provide such services so as to provide appropriate care and decongest tertiary hospital referrals
3.	Outsourcing/ Purchase of service	Nil	Nil
4.	Collaboration with Universities/other agencies	Letter recently sent to KKM to allow Sports Physicians to network with institutions requiring their expertise provided it does not interfere with their core duties in their respective hospitals. Identified Institutions: • Institut Sukan Negara Malaysia • UMMC • UPM	
5.	Number of Specialists	There are presently 5 sports medicine Specialists serving in 5 government hospitals:	In 2010, 2 candidates are expected to complete their Masters program in UMMC 2011 - 1 candidate 2012 – 3 candidates 2013 – 4 candidates *Require at least 2 medical officers in Sports Medicine This will enable holistic management of Orthopaedic injuries

6.	Major gaps/issues	<u>Budget</u> No budget allocation since 2003. Budget is required to cater for activities by Sport Medicine As Sports Medicine Unit is under Orthopaedic department, the unit will infringe into Orthopaedic budget and this would affect both administrative and clinical service. <u>Equipment</u> Lack of equipment solely run by the sports unit so as to assist in preop and post operative management of Orthopaedic patients as the Sports Physician and Orthopaedic surgeon have to work together to bring about the best outcome measures <u>Physiotherapy Support</u> Present physiotherapy services are unable to cope with the heavy work load for in-patients and outpatients	<u>Manpower</u> ▪ Sports conditioner ▪ Sports Nutritionist (These additional manpower will assist the unit to provide inward and outpatient services related to BACK TO WORK ISSUES and Nutritional issues with repect to Metabolic condition in Orthopaedic and sports
7.	Other proposal	<u>Subspecialty training</u> Application for subspecialty training Overseas has been turned down in 2009	Sports Physician must be encouraged to pursue sub-specialty training overseas as it is a new and rapidly Evolving field and this specialty must not remain idle Areas of focus that is deemed relevant to the field: ▪ Musculoskeletal medicine ▪ Individualized Exercise prescription

NAME OF SPECIALITY / SUBSPECIALITY : UROLOGY

		PRESENT STATUS	PROPOSED EXPANSION 10 MP
1.	Availability of resident services	Ten (10) hospitals ▪ H Kuala Lumpur ▪ H Selayang ▪ H Pulau Pinang ▪ H Sultanah Aminah, Johor Bahru ▪ H Umum Sarawak, Kuching ▪ H Queen Elizabeth, Kota Kinabalu ▪ H Tengku Ampuan Afzan, Kuantan (new unit, started 2009) ▪ H R P Zainab II, Kota Baru (new unit, started 2009) ▪ H Sultanah Bahiyah, Alor Star (*provided by contract General surgeon) ▪ H Serdang (*rostered weekly specialist coverage from Selayang)	To expand Urological services to the following hospitals, in line with objective of MOH Urology services in 10 MP (from regionalization of service to Urology services in every state) ▪ H Serdang (2011) ▪ H Sultanah Bahiyah, Alor Star (2011) (to cover Kedah and Perlis) ▪ H R P Bainun, Ipoh (2011/2012) ▪ H Melaka (2011/2012) ▪ H Sultanah Nur Zahirah, Kuala Terengganu (2013/2014) ▪ H Tuanku Jaafar, Seremban (2013/2014)
2.	Networking/Outreach	Coverage on regional basis: ▪ HSelayang & HKL to HIpoh – monthly visit ▪ HKL to HQE Kota Kinabalu – monthly visit to assist in management of difficult cases. ▪ HSelayang to HSerdang – weekly rostered specialist ▪ HUS Kuching to HSibu and HMiri- monthly visit	To continue existing regional and to start within a state framework provided adequate manpower and facilities available ▪ Daycare Urological services at Hospital Sultan Ismail, Johor Bahru ▪ HTAA Kuantan to HSAS, Temerloh (Pahang) visit ▪ HRPZII Kota Baru to H Pasir Puteh (Kelantan) visit ▪ HSA Johor Baru to H Batu Pahat (Johor) visit ▪ Both HTAA Kuantan and HRPZII Kota Baru networking with H Sultanah Nur Zahirah, Kuala Terengganu until resident Urologist sent to Kuala Terengganu

3.	Outsourcing/ Purchase of Service	Nil	On a needs basis only (*when MOH Urologists not available e.g. conferences, leave) Renal Transplant (both cadaveric procurement and transplant surgery) by appointed experienced private Urologists (on recommendation of MOH renal transplant surgeons)
4.	Collaboration with University/other agencies	Nil	Collaboration in terms of multi centre studies especially in the Klang valley area (HKL, H Selayang, H Serdang with HUKM and UMMC.
5.	No. of Specialists (&trainees in brackets)	Consultant Urologists (up to 2010 present) – total 12 (2 resigned in 2010) HKL (4), H Selayang (2) HPP (1), HSA JB (1), HUS Sarawak (1), HQE KK (1), HTAA Kuantan (1), HRPZII Kota Bahru (1) Trainee Urologists (up to 2010 present) – total 16 1st year – 5 2nd year – 3 3rd year – 3 4th year - 5	Projected 28 Consultants (additional 16 Consultants to 12 provided all trainees completed training and no existing Consultants resigning) Projected trainees 15 for 2011-2015 (based on a minimum trainee intake 3 per year)
6.	Major gaps/ issues	**Major gaps:** Most centres with only 1 Consultant Urologist. No resident Urologist at H Serdang. Services at H Alor Star provided by contract General Surgeon. **Issue:** Shortage of Consultant Urologist due to high resignation rate soon after completion of training	**Major Gaps**: No major gaps since with compulsory 2 years experience at consultant level required as prerequisite for Urology NSR, it is highly likely to have the numbers to expand services to every state. **Issue:** However, retention of specialists would still be a problem due to resignation and this may hamper development of Urological subspecialties.

		Challenge: Retain Consultant Urologist in service in order to maintain and expand services at each centre and to help further develop subspecialties within Urology	**Challenge:** Retain Consultant Urologist in service such that each centre would have a minimum of 2 consultants which would help in development of Urological subspecialties. Develop Urological subspecialties centres on a regional basis.
7.	Other proposals	1. Enhance networking between all the MOH Urological centers and with private hospitals. 2. MOH contribution and participation in yearly Board of Urology Examination and yearly public awareness campaign for prostate (men) and urinary incontinence (women) 3. Human Resources Planning & Development Credentialing and Accreditation of Urological centers.	Proposals for Urological service "cutting edge surgical and technological advancement". This is important since technological advancement in Urology is occurring at a rapid stage and there is a need to keep ahead with the rest of the world. Previously, it took 10 years for Endourological stone procedures to establish in Malaysia. 1. Upgrading of all Urological departmental facilities and infrastructure to incorporate CME/ Research and dry lab training facilities 2. Laparoscopic Urology training (dry / animal lab facilities and courses including fellowships (with certification) for all new Consultant Urologists in line with increasing trend worldwide towards minimally invasive surgery. 3. All MOH Urological departments being training centres should have access to laparoscopic equipments and to the latest Endourological equipments including laser. 4. In relation to 1 and 2, to work towards getting international accredited training centres for Endourology status for the main MOH Urology centres 5. Upgrade of existing Da Vinci Robots (1st generation) at HKL and HU Sarawak which will be phased out by 2013.

			6. 3rd Robotic Urology facility at Selayang Hospital (after HKL and HU Sarawak). To be multi disciplinary in usage with HPB and colorectal surgery. 7. To commence Brachytherapy for prostate cancer for indicated patients in HKL 8. To conduct a HIFU for indicated prostate cancer patients at Selayang Hospital. **Proposals for improvement in Renal transplantation services** 1. More allocation / resources for increased cadaveric workload in existing centres (HKL and H Selayang) 2. At least 1 Urological Trainee to go for overseas Renal Transplantation Fellowship every 2 years 3. All present MOH Consultant Urologists to have training in cadaveric renal procurement
		Urological Training 1. Formal 4 years training in Urology (since 2000) fully recognized by MOH under the Board of Urology to be continued. 2. Compulsory Block Lectures for all Urological trainee once every 2 months or 6 times a year with regular in service assessment. 3. Regular workshop and in service training for all level of staff	**Proposals for Urological Training** 1. Development of Urological Nursing as a specialty for paramedics. (2011/2012) 2. Recommend that formal Urological Training in MOH can commence as early as 1 year post Masters of Surgery qualification or 6months post Gazettement as surgeon 3. Enhancement of Trainee exit assessment with conjoint examination between Malaysian Board of Urology (Chairman and majority MOH members) with Royal College of Physicians and Surgeons of Glasgow with the awarding of FRCSG Urol and MBU Certification. 4. Further collaboration with the Selayang Hospital and the Malaysian Board of Urology hosting the yearly FRCSG Urol exam for interested qualified ASEAN trainees

NAME OF SPECIALTY/SUBSPECIALTY : VASCULAR SURGERY

		PRESENT STATUS	PROPOSED EXPANSION 10MP
1.	Availability of resident services	▪ Hospital Kuala Lumpur ▪ Hospital Serdang	▪ Hospital Pulau Pinang ▪ Hospital Umum Sarawak
2.	Networking/Outreach	▪ Hospital Alor Setar ▪ Hospital Kota Bharu ▪ Hospital Umum Sarawak ▪ Hospital Kota Kinabalu ▪ Hospital Temerloh ▪ Hospital Kepala Batas/ Seberang Jaya	▪ Hospital Terengganu
3.	Outsourcing / Purchase of Service	Hospital Pulau Pinang	No future plans
4.	Collaboration with Universities / other agencies	Training of one(1) lecturer from UIAM Attachment of Masters Trainees	Continue same
5.	No. of Specialist (& trainees in brackets)	7 (4)	1-2 trainees / year
6.	Major gaps/ issues	Support services - Radiology - Anesthesia	Similar problem in hospital outside HKL
7.	Other proposal	Previous plans (9MP) **Proposed replacement / procurement equipment** • Involving 6 hospitals i.e. HKL, HQE KK, HKota Bharu, HAlor Star, HUS Kuching, HTemerloh • Equipment include OT table, portable CW Doppler U/S devices, abdominal vascular set, peripheral vascular set, electrosurgical machine, transcutaneous oxygen monitoring device, ECG machine, treadmill, thoracoscopic instruments, Endovascular Suite in OT – related equipments(refer to details in Vascular Surgery Blueprint)	Continuation of proposal under 9 MP

		TRAINING **Local Courses:** • Annual HKL vascular workshop and seminar • Thoracic Sympathectomy Workshop • Echo Vascular Diseases seminar • Ultrasonography Diploma Course for MA • Vascular Access Workshop and seminar • Wound Care and rehabilitation of Diabetic foot for nurses. **Overseas Courses**: • Attachment in Royal Perth Hospital, Australia for Endovascular training for 1 team (2 Consultant surgeon, 2 Nurses, 2 staff nurses) for 2- 4 wk • Clinical attachment 4 weeks in Australia/UK/USA for 1 Consultant Surgeon • 1 overseas scholarship per year for 1 trainee • Accreditation examinations for Consultant and MA (vascular technology) in Australia / USA	

NAME OF SPECIALTY/SUBSPECIALTY : HPB SURGERY

		PRESENT STATUS	PROPOSED EXPANSION 10 MP
1.	Availability of resident services	HSelayang, HSB Alor Setar HPulau Pinang HMelaka HUS Kuching	HTAA Kuantan HQE Kota Kinabalu
2.	Networking/Outreach	Clinics in HQE, Kota Kinabalu monthly	Clinics in HAS, Johor Bharu
3.	Outsourcing/Pruchase of Service	-	-
4.	Collaboration with Universities /other agencies	-	-
5.	No. Of Specialists (& trainees in brackets)	7 (+ 7 Trainees)	14 (+ 5 trainees)
6.	Major gaps/issues	i. Inadequate funding to improve services and equipment ii. High attrition rates	No research assistants to help with research
7.	Other proposal	i. Create new posts – transplant Coordinate research assistants ii. Short training courses to expand and skills in laparoscopic & robotic surgery	