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National Conference on Research Priorities in the Health Sector for the 9th Malaysia Plan



On 26-28 July 2006, the National Conference on Research Priorities in the Health Sector for the 9th Malaysia Plan (9MP) was held at Sunway Lagoon Resort Hotel, Sunway, Selangor. It brought together more than 300 participants comprising policy makers, health managers, health care providers, researchers and academicians from public and private sectors, as well as representatives from professional and non-government organizations.

The Institute for Health Systems Research (IHSR), with assistance from other institutes under the National Institutes of Health (NIH), organized this Conference. The Conference was officiated by Director-General of Health, Y Bhg Tan Sri Datuk Dr Hj Mohd Ismail Merican, who also delivered the keynote address at the opening ceremony.

The 9MP primary goals are to further prevent and reduce the disease burden in the country as well as to enhance the health care delivery system. In accordance with these goals, the 8 disease groups with the highest disease burden in the country were identified as priority health problems in the 9MP. The 8 groups are cancers, cerebrovascular diseases including stroke, diabetes mellitus, infectious diseases, ischaemic heart disease, mental illnesses, respiratory illnesses and road traffic injuries. In addition, priority is also given to issues which cut across these areas, namely health policy and systems, medical biotechnology, pharmaceuticals and medical devices.

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FROM THE EDITORIAL DESK

Research is the core business of all NIH institutes. Foremost, the research undertaken should address needs and problems of the Ministry of Health. (MOH) In order for that to happen, effective communication between researchers and stakeholders is essential. One avenue for such communication is the recent exercise organized by the MOH to identify national health research priorities for the 9MP using the method of 'Combined Approach Matrix (CAM)'. That exercise marked another milestone in history of approaches for setting of national health research priorities in Malaysia. At the end of the day, the list of priorities will remain just a list unless a concerted and effective effort is undertaken by all health researchers, research managers and stakeholders, to make it work. Some stakeholders complain about the quality and appropriateness of health research. Researchers counter by lamenting the lack of proper research directions and funding. The MOH has been provided with RM 90 million to fund research in the 9MP. There is now DIRECTION and FUNDING. Its time to stop giving excuses and WALK THE TALK.

The Editor

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MOH RESEARCH GRANTS UNDER THE 9MP

The Ministry of Health (MOH) has been allocated RM90 million to fund health research in the 9th Malaysia Plan (9MP). This research allocation is under the responsibility of the Deputy-Director General of Health (Research and Technical Support) with the NIH Secretariat providing support in managing the allocation and processing applications for research funding.

There are 3 categories of research funding. The primary category is funding for identified national health research priorities for 9MP. A major exercise for the identification of National Health Research Priorities for 9MP has been completed. Since August 2006, recommended health research topics of high priority for the 9MP had been posted on the NIH website (www.nih.gov.my). These priority areas are in accordance with the 9MP Primary Goals of the Health Sector, i.e. to further prevent and reduce the disease burden, and to enhance the health care delivery system. This first category of funding will be allocated through a mechanism of competitive bidding from researchers from both within and outside the MOH. However, applications

from non-MOH researchers must have clear and active collaboration with NIH researchers. Please visit the NIH website for further details on this category of funding.

The second category is funding for research programmes of the NIH institutes. Each institute is responsible for the vetting and approval of research proposals. Approved research should be in pursuit of specific thrust areas of each institute to strengthen its capacity and capability.

The third category is funding for important research conducted by various MOH departments. Emphasis and financial support is for research that falls within the national health research priorities mentioned earlier, however, requests for research funding in other essential areas critical for improving the various programmes and services of the MOH will be considered.

FAREWELL

DATO' DR ZAKI MORAD BIN MOHD ZAHER - DIRECTOR CRC

Dato' Dr Zaki Morad bin Mohd Zaher retired from Ministry of Health (MOH) on 15 September 2006 after more than 30 years of exemplary service in both nephrology and clinical research. He joined Kuala Lumpur Hospital (HKL) in 1976 and has served as Head of the Department of Nephrology since 1987 and as **Director of Network of Clinical Research Centres (CRC)** since 2000.

During his tenure in nephrology service, Dato' Dr Zaki Morad has been heavily involved in the setting up

of various dialysis centres, training of nephrologists and development of guidelines and standards. His interests in dialysis and transplantation as well as the economics of renal replacement therapy led him to initiate the National Renal Registry (NRR) in 1993, that was followed by many other registries. While his achievements in nephrology are considerable, Dato' Dr Zaki Morad takes great pride in the progress made in clinical research under his guidance and leadership. The CRC has expanded into a network of 14 research centre and has gained considerable local and international recognition.

In his long list of publications, the one that Dato' Dr Zaki Morad is particularly proud of is "A randomized, multi-center, open label trial to establish the therapeutic equivalence between Carex® and Ultra® in patients on CAPD" published in *Peritoneal Dialysis International* 2003. In retrospect, the impact of the research was unanticipated as it saved millions of ringgit and more importantly, patient lives. His experience with the National Renal Registry best illustrated that clinical data would count for nothing if it is not translated into practice with positive impact on medical practice and patients.

CRC wishes Dato' Dr Zaki Morad bin Mohd Zaher happy birthday and good luck in his future endeavours.



DR NG KOK HAN - IMR DIRECTOR

Dr Ng Kok Han's retirement on 1 October 2006 as the 27th Director of the Institute for Medical Research (IMR) marks the close of a significant chapter in the Institute's history. Dr Ng has completed 29 years of dedicated service to the Institute as researcher and administrator. Dr Ng espouses a simple philosophy in that he believes all human-beings have a place in the scheme of things and that we should



help each other for it is in the collective institutional strength that the IMR of 106 years has survived and has excelled in facing new challenges. Being a gregarious person, Dr Ng enjoyed interactions with IMR staff at every level. In his way, he was looked upon as an inspiring and caring leader. From research in his chosen field of oral pathology,

he went on to cultivate a deeper understanding of human interactions so important in forging new directions in the various research disciplines. His excellent communication and networking skills endeared him to colleagues and friends. Most of us have hoped that he would stay longer with us. The values of dedication and commitment that he imparted should encourage us to sustain our quest for knowledge opening up new directions in medical and health research. His parting message for the younger generation of scientists has been to defend our national academic reputation as a premier research institution while forging ahead into the international arena secure in the knowledge that the 'giants' of IMR's past have left us a legacy to build upon. For this, the members of the staff at the IMR wish to express their gratitude and to bid him well in all his future undertakings.

Article contributed by Dr Sumitra Sithamparam

9TH NIH SCIENTIFIC MEETING



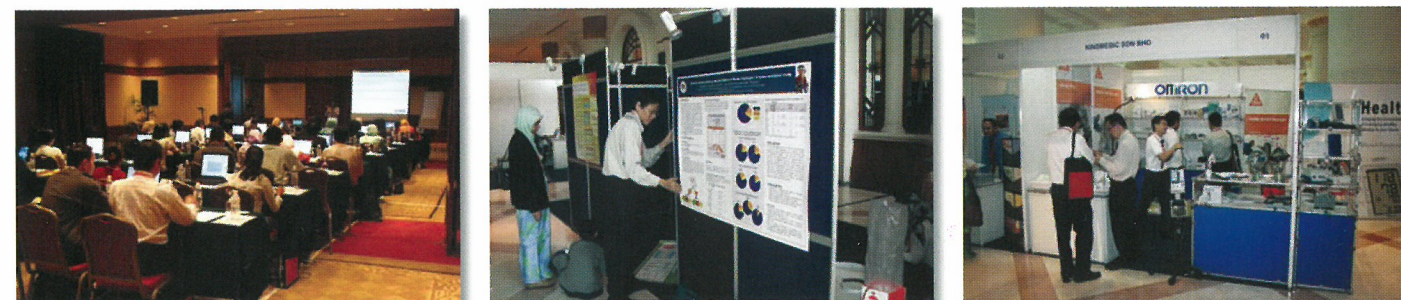
The NIH Scientific Meeting is an annual event of the National Institutes of Health (NIH). The 9th meeting was successfully held this year from 18–20 September 2006 at Putrajaya Marriott Hotel. The meeting was organized by the Institute for Health Management (IHM). The theme chosen for this year's was "GRIPP: Getting Research into Practice and Policy" as it expresses the importance of research in assisting the formulation of policies and making of evidence base decisions. This meeting was officiated by Y Bhg Tan Sri Datuk Hj Mohd Ismail Merican, the Director-General of Health, Malaysia, who also presented the key note address.

A total of 360 participants from all states, attended the three-day meeting. The number comprised both public and private health care providers, academia such as universities and colleges, as well as health related agencies and societies.

The programme of the meeting consisted of pre-meeting workshop, plenaries, symposia, free papers and poster presentations. Topics discussed were related to the core functions of the seven institutes under the NIH. Each institute was responsible for the conduct of their own related session. Renowned speakers, both local and international, were invited to enhance knowledge sharing among the participants.

The application for presentation of free papers and posters was overwhelming. The scientific committee had a tough time sorting and short-listing the applications.

The meeting was officially closed by Y Bhg Datuk MS Pillay, the Deputy Director-General of Health (Research and Technical support).



NATIONAL INSTITUTE FOR NATURAL PRODUCTS, VACCINES AND BIOLOGICALS (9BIO) GROUND BREAKING CEREMONY



Photograph courtesy of Sin Chew Jit Poh

The National Institute for Natural Products, Vaccines and Biologicals (9BIO), celebrated the groundbreaking for its new vaccine and natural products research facility at Techpark @ enstek, Negeri Sembilan on 4 September 2006. The Prime Minister of Malaysia, YAB Dato' Seri Abdullah Hj Ahmad Badawi officiated the groundbreaking ceremony to mark the start of construction on the 25.1 ha land.

The 50,000 square foot state-of-the-art R&D facility is the result of the Ministry of Health (MOH) Malaysia's vision to fulfill Malaysia's need for self-reliance in vaccine production and security, and the development of our natural products specifically in herbal medicines.

This facility, when completed, will be the region's latest and most advanced global R&D institute

dedicated to promote new sources of growth in natural products, and decrease Malaysia's dependence on essential vaccines from external sources. The institute will also be actively looking into implementing, promoting and monitoring rigorous research in the delicate yet up-and-coming area in medicine - Traditional and Complementary Medicine (T/CM).

Besides exploring new avenues to cater for newer vaccines required as per disease prevalence in the ASEAN region, and ensuring adequate supply of basic childhood vaccines, the new institute will bring together an alliance of expertise from within MOH, other local research institutions and private entities with the purpose of integrating research, development, clinical trials and commercialization of potentially useful natural products.

"I am confident to announce that Malaysia's formation of 9BIO will address some of the issues such as mitigating the shortage of vaccines in the developing world as well as contribute to the preparedness plans against emerging diseases, and maximizing our strength in biodiversity and directing our focus to include the development of our natural products specifically in herbal medicinal products," said YAB Dato' Seri Abdullah Hj Ahmad Badawi, in his commemorative speech.

According to the Prime Minister, there is a need to address inequity in access to existing and newly licensed vaccines, which have increased over the past two decades as new vaccines are being marketed at prices that most low-income countries cannot afford.

(Continued on page 6)

ACTIVITIES HIGHLIGHTS

(Continued from page 5)

As announced by The Prime Minister, YAB Dato' Seri Abdullah Hj Ahmad Badawi during the annual meeting of the OIC Self Reliance Vaccine production (SRVP) group in April 2004, one of the core functions of 9BIO will be the development of "halal vaccines", a term introduced then to indicate that vaccines produced by 9BIO will adhere to processes in line with requirements of purity which is an important issue for the Muslim community.

9BIO will house world class manufacturing and R&D facilities including the highest level containment laboratories that will assist research on avian influenza and be part of the ASEAN preparedness facility to deal with pandemic influenza.

The Prime Minister added that Malaysia is also undoubtedly rich in natural resources, making it an ideal investment for commercial-scale agro-based activities. The country has been named one of the 12 most bio-diversified places on earth, that promises rich opportunities in, amongst others, biotechnology and herbal-based pharmaceuticals.

The Minister of Health, YB Dato' Seri Panglima Dr Chua Soi Lek said in his speech "Vaccines and drugs against diseases, which are peculiar to our region, and which are considered unattractive in terms of market potential, have long been either neglected or marginally taken into consideration by large pharmaceutical manufacturers. We must bridge the gaps in the R&D of new vaccines required for diseases prevalent in our region. Also, natural products have for centuries, offered a vast

and virtually unlimited source of new agents for pharmaceutical industries".

9BIO is expected to produce its first vaccine by 2010 and this initial production will be for the local market and will cater for export within five to ten years of its opening. As a member of the SRVP group, 9BIO is expected to assist the supply of halal vaccines to OIC countries.

In his closing remarks YAB Dato' Seri Abdullah Hj Ahmad Badawi encouraged collaboration of both local and foreign researchers, with 9BIO on vaccine R&D in Malaysia to prevent duplication of effort and to ensure optimization of resources.

Construction of 9BIO will begin immediately and is expected to be completed by 2008.

VACANCIES

The Institute for Public Health has the following vacancies:

- (a) 1 post of an Assistant Environmental Health Officer (U32)
- (b) 1 post for a Nurse (U32)
- (c) 1 post for a Nursing Tutor (U41)

Interested candidates are invited to contact:

**Director,
Institute for Public Health,
Jalan Bangsar,
50590 Kuala Lumpur.**

VACANCIES

The Molecular Pathology Unit, Cancer Research Center, Institute for Medical Research, is looking for suitable candidates for the positions of Medical Officers Grade U41. Candidates must be energetic, self motivated and interested to have a career in cancer research.

Interested candidates please contact :
**Head of Molecular Pathology Unit
Institute for Medical Research (IMR)
Jalan Pahang, 50588 Kuala Lumpur
Tel : 03-2616 2728 (Office) / 03-2616 2731 (Lab)
Email : alankhoo@imr.gov.my**

ACTIVITIES HIGHLIGHTS

National Conference on Research Priorities in the Health Sector for the 9th Malaysia Plan

(Continued from page 1)



Preceding the Conference, the NIH Secretariat had obtained the approval of the Director-General of Health (DGoH) to use the Combined Approach Matrix (CAM) developed by the Global Forum for Health Research, as the approach for setting national health research priorities for the 9MP. A group of experts was appointed by the DGoH for each of the 8 disease groups and 3 cross-cutting issues. The experts comprised Ministry of Health (MOH) and non-MOH clinical and public health specialists; researchers; and representatives of health related professional organizations, non-governmental organizations (NGOs), and public interest groups. The expert groups used the CAM methodology to collect and consolidate into matrices, the best available information on each of the diseases and issues. From those matrices, gaps in information and evidence were identified, and were subsequently translated into research scopes/topics for the 9MP. The groups then facilitated by the IHSR, went on to rank these scopes/topics using the Criteria-Led Priority Ranking methodology. Recommendations and findings of the expert groups were used as resource materials for the Conference.

The objectives of the Conference were thus to review and validate the recommendations of the expert groups, and to take the next step of developing calls for 'Letters of Intent (LOIs)' and 'Research Proposals (RPs)'. The Conference programme started with plenary presentations on matters related to 9MP health priorities, national research and development directions, as well as aligning resources for research. That was followed with

concurrent group discussions where participants deliberated the priority lists of research scopes/topics for the 9MP. At the end of the Conference, participants had drafted more than 90 calls for LOIs and RPs.

After the Conference, calls for LOIs and RPs were posted on the NIH web-site (<http://www.nih.gov.my>); these will be funded by MOH research grants. MOH and non-MOH researchers are invited to submit LOIs and RPs. The priority setting process and its outputs can also be viewed on the NIH website.

The priority lists of research scopes/topics will also be formally disseminated by the MOH to health agencies within and outside the MOH to encourage all health and grant agencies to align their resources in answering the country's research priority needs for the 9MP.

*Article contributed by:
Haniza Mohd Anuar
Rozita Halina Tun Hussein
Maimunah A. Hamid*



LAUNCHING OF CLINICAL DATABASES AND DISEASE REGISTER

In 2006, the Clinical Research Centre (CRC) supported the launching of following 2 Clinical Databases and 1 Disease Register in Malaysia:

- **eNCVD (National Cardiovascular Disease Database)**

31 March 2006 was a day that shall go down in the history of Malaysia's health care. It was the day of the launch of the first nationwide database on Cardiovascular Disease starting with Acute Coronary Syndrome (ACS). The National Cardiovascular Disease Database (NCVD) was officially launched by Y Bhg Dato' Dr Ghani Mohamed Din, the Deputy Director-General of Health Malaysia, at 10th Annual Scientific Meeting of the National Heart Association of Malaysia. The online data submission to NCVD was initiated on 1 January 2006 in 6 pilot sites and will be expanded over the years, to all cardiac care providers through out Malaysia.

- **National Trauma Database (NTrD) Web Application**

A soft launch of NTrD web application was held on 25 April 2006 at the Institute for Health Management (IHM). Y Bhg Dato' Dr Zaki Morad Mohd Zaher

officialiated the launching and in his welcome speech, gave a briefing about the database and its importance in facilitating research on trauma. Attending the launch were representatives from Emergency and Neurosurgery departments comprising doctors and paramedical staff from 5 pilot hospitals namely Kuala Lumpur Hospital, Selayang Hospital, Alor Setar Hospital (Kedah), Penang Hospital and Sultanah Aminah Hospital (Johor Bahru). With the advent of this database, all major trauma cases will be notified thereafter.

- **Diabetes in Children and Adolescents Registry (DiCARE)**

DiCARE was successfully launched by Dr Fuziah Md Zain, a Paediatric Endocrinologist from Putrajaya Hospital, on 30 August 2006. Data on diabetes mellitus among children and adolescents, will be captured using online submission from all registered centres in Malaysia. DiCARE commenced on 15 April 2006 in 4 pilot sites that include paediatric and adult medical departments. Key data sources identified for this registry are all paediatricians and physicians who are currently working in the government sector and will later include the private sector and armed forces in the country.

16TH POST-GRADUATE COURSE IN HEALTH EDUCATION

The course was officially opened on 10 July 2006 by Y Bhg Datuk Ir Dr MS Pillay, Deputy Director-General of Health (R&TS). This post-graduate health education programme has been conducted since 1975 and so far 148 Health Education Officers (HEO) have been trained. Eight participants have signed up for the current session. This is a service oriented rather than an academic programme and is tailored specifically for HEOs attached to the Ministry of Health.

The course content was reviewed jointly with the relevant stakeholders in 2005, and now incorporates all the latest elements of health promotion. This is a comprehensive 18 months course where participants are exposed to a wide range of subjects covering the

substantive and procedural aspects of health promotion and its application. Participants are taught skills required for effective functioning of the participants in national, state and hospital settings.

The course was first conducted by the Health Education Unit (HEU), Institute for Public Health (IPH) in 1975. With the establishment of the HEU as the IHP, this course has become one of the core functions of IHP. IHP is best placed to continue with this training programme with resources available from all the other NIH institutes in particular IPH (the main collaborating partner), *Universiti Kebangsaan Malaysia* (UKM), and the MOH Health Education and Communication Centre.

NEW PREMISE FOR IHP

The Institute for Health Promotion has moved to its new premise at Jalan Rumah Sakit, Bangsar, 59000 Kuala Lumpur. Currently, the Institute is made up of 4 Units, namely the Unit of Behavioral Research and Health

Promotion, the Unit of Evaluation and Intervention Study, Unit of Training, and the Unit of Information Technology and Support.

MOLECULAR DIAGNOSIS OF ENTAMOEBIA INFECTIONS

Amoebiasis is defined as intestinal or extra intestinal infection with the protozoan parasite *Entamoeba histolytica*. Persons with amoebiasis may experience a wide range of symptoms, including diarrhoea, fever, and cramps. The disease may also affect the intestines, liver, or other parts of the body. It is found in all parts of the world most frequently in tropical and subtropical region where socio-economic status and environmental sanitation are poor. Morphologically *E. histolytica*, the invasive form, shares same characteristics with the nonpathogenic form, *E. dispar*. A study published in the June 2006 issue of *Tropical Biomedicine*, used Nested Polymerase Chain

Reaction and Restriction Enzyme Digestion to differentiate the 2 species at the molecular level. Reports of many previous studies in Malaysia do not distinguish between the 2 species and infection was generally reported as *E. histolytica*/*E. dispar*. This study was conducted among more than 200 aborigines in Cameron Highland. Results showed that 31 samples were positive for *E. histolytica*/*E. dispar* by microscopic examination. However molecular investigation found 28 (13.2%) samples were positive for *E. histolytica* and 12 (5.6%) samples were positive for *E. dispar* by molecular tools.

EARLY AND RAPID DETECTION OF LEGIONELLA

A report in volume 27 of the *Malaysian Journal of Pathology*, 2005, stated that *Legionella pneumophila* should not be overlooked as one of the causative agents of pneumonia and rapid techniques of urinary antigen and DNA detection should be utilized for an early diagnosis of the infection. The finding was based on a study of a 38-year-old male patient who was admitted to a private hospital in Kuala Lumpur presenting with fever, symptoms of respiratory infection and diarrhoea. On admission, he was febrile, toxic looking, dehydrated with hypotension and tachycardia. No clinical sign of respiratory infection was detected on admission. Initially he was treated as a

case of septicaemia with fluid therapy and intravenous antibiotic (Perfloxacin). Subsequently, he was noticed to have pneumonia in the right lower zone of the lung. His sputum, stool and blood were sent for culture and the results were negative. Sputum culture for *Legionella* and serological tests for *Mycoplasma* and *Legionella* were also negative. Sandwich ELISA performed on his urine sample, detected *L. pneumophila* antigen. *L. pneumophila mip* gene was also detected in his urine by polymerase chain reaction. The patient was treated with erythromycin and responded favourably to the treatment.

INTERLEUKIN-1 BETA GENE AND SYSTEMIC LUPUS ERYTHEMATOSUS

Systemic lupus erythematosus (SLE) is a multisystemic autoimmune disease of unknown aetiology. Many studies have shown that multiple genes and environmental factors are responsible for the pathogenesis of the disease. Volume 13 of the *International Medical Journal*, 2006, reported the findings of a study to investigate the frequency of the IL-1 β gene polymorphism in Chinese SLE patients and to evaluate the relationship between IL-1 β gene polymorphism and disease susceptibility and pathogenesis. Ninety two SLE patients and 60 normal controls were genotyped at the promoter and exon-5

regions. Target DNA was amplified using the polymerase chain reaction and further digested using restriction enzymes, *Ava* I and *Taq* I respectively. No association was found in allele or genotype frequencies between SLE patients and controls. There was also no association of the IL-1 β promoter and exon-5 genotypes with clinical manifestations in SLE patients. It is concluded that IL-1 β gene polymorphism at the promoter and exon-5 regions, do not play a role in susceptibility and pathogenesis of Malaysian Chinese patients with SLE.

P14ARF-P53-MDM2 PATHWAY IN ORAL SQUAMOUS CELL CARCINOMA

A major portion of global incidences of oral cancer occurs in Asia. The aetiology of oral cancer in Asia is different from that in the West. While there is a growing understanding of the molecular mechanism of oral cancer progression in the West, there is little progress in this understanding in Asia. In particular, the role of the p53 pathway in modulating cancer progression in Asian oral cancer remains unclear. It was reported in volume 14 of *Oncology Reports*, 2005, that in Malaysia, inactivation of the p53 pathway is a frequent event in oral squamous cell carcinoma that occurs by an aberration in one of a number

of players in the p53 pathway. 20 well-differentiated oral squamous cell carcinoma specimens were micro-dissected and analyzed for alterations in the p53 pathway. 6/20 samples contained mutations in the p53 gene which occurred in three hotspots, at codon 203, 218 and 296. Furthermore, 6/20 samples had a homozygous deletion of p14ARF, but notably p14ARF deletion and p53 mutation events were often independent and mutually exclusive. Strikingly, MDM2 was upregulated in 20/20 samples, but not in 3/3 normal tissue specimens.

MONOCLONAL ANTIBODIES AGAINST LEGIONELLA PNEUMOPHILIA

Infection caused by *Legionella pneumophila* may be difficult to diagnose. Several studies indicate that detection of *L. pneumophila* urinary antigen is a promising tool for rapid diagnosis of the infection. Research was undertaken to produce monoclonal antibodies (Mab) against *L. pneumophila* serogroup 1 and to assess the ability of the Mab to detect the bacterial antigens. Findings of the research was published in volume 13 of *International*

Medical Journal, 2006. *d Methods:* Mab were generated using a mouse system. Four clones secreting IgM Mabs were generated that reacted specifically with homologous antigens of *L. pneumophila* serogroup 1 in the indirect ELISA as well as sandwich ELISA; no cross-reaction was detected with other bacterial antigens. This in-house sandwich ELISA using the Mab has potential for the diagnosis of *L. pneumophila*.

CYSTICERCOSIS IN SABAH

A study conducted in Ranau, Sabah, found evidence of exposure to cysticercosis infection among the rural population. Findings of the study was published in *The Southeast Asian Journal of Tropical Medicine and Public*

Health, Vol. 37, January 2006. A total of 135 serum samples were analyzed. The seroprevalence of cysticercosis antibodies was 2.2%. There was no significant difference in seroprevalence between age groups and sexes.

PCR DETECTION OF GIARDIA DUODENALIS

Giardia duodenalis is an intestinal parasite that causes diarrhoea and malabsorption in children. The parasite also infects AIDS patients with weak immune systems. Researchers from the IMR reported in volume 27 of the *Malaysian Journal of Pathology*, 2005, that a polymerase chain reaction (PCR) assay could detect *G. duodenalis* specifically to the genus and species level. The study was carried out on six local isolates of *Giardia duodenalis*

(110, 7304, 6304, M007, 2002 and 6307) from faeces of Orang Asli patients admitted to Gombak Hospital. WB, a reference pathogenic strain from human and *G. muris*, from a wild mouse, were used as controls. All the isolates were cultured axenically in TYI-S-33 medium. Two sets of primers (LP1, RP1 and LP2, RP2) were used. The primers amplified giardine genes of 171 bp and 218 bp respectively.

PROJECT TITLE	PRINCIPAL INVESTIGATOR/ INSTITUTE	START-END
Towards elimination of Iodine Deficiency Disorders (IDD) and other malnutrition deficiencies amongst aborigines in selected areas in Ulu Selangor, Malaysia.	Mr Lim Kuang Kuay and Ms Husniza Hussein, IMR	2006-2008
Gene expression profiling in breast cancer.	Dr Zubaidah Zakaria, IMR	2004-2007
Cellular cloning and genetic characterization of malaria parasites present in a naturally occurring mixed population.	Mr Mohd Ridzuan A Razak, IMR	Mar 2005-Jan 2007
Suppression of multidrug resistant gene in acute myeloid leukaemia cells by small interfering RNA (siRNA).	Ms Lim Moon Nian, IMR	2005-2007
Mechanism of antivirals against nasopharyngeal carcinoma at the molecular level.	Ms Pauline Balraj, IMR	Jun 2005-Dec 2007
To study immunogenetic parameters influencing HIV disease progression among Malaysians.	Ms TS Saraswathy Subramaniam, IMR	Mac 2005-Dec 2007
Environmental risk factors of rheumatoid arthritis: a hospital-based case-control study (Taiping Hospital).	Ms 'Abqariyah Yahya @ Ahamd Noor, IMR	Jun 2005-Mac 2007
Environmental risk factors of rheumatoid arthritis: a hospital-based case-control study (Ipoh Hospital).	Ms 'Abqariyah Yahya @ Ahmad Noor, IMR	Jun 2005-Mac 2007
Development of new tools and strategies for the surveillance and control of dengue vectors.	Dr Lee Han Lim, IMR	Mac 2006- Dec 2007
The use of proteomics in the identification of novel proteins as markers of dengue infection and dengue disease severity.	Mr Ravindran Thayan, IMR	Mac 2006-Dec 2007
A cross-sectional investigation of a cohort of patients with early rheumatoid arthritis in Malaysia and Vietnam to identify epidemiology and genetic risk factors.	Dr Shahnaz Murad, IMR	Mac 2006-Dec 2007
Iodised salt supplementation amongst children and child-bearing age female Orang Asli in Ulu Selangor, Malaysia.	Mr Lim Kuang Kuay, IMR	Mac 2006-Dec 2007
Production of recombinant surface antigen of <i>Toxoplasma gondii</i> and its application in diagnosis of Toxoplasmosis.	Dr Raden Sharmila Radin Hisam, IMR	Mac 2006-Dec 2007
Application of multiple antigen expression techniques for the study of tumour cell lineage and biological properties.	Ms Tan Lu Ping, IMR	Mac 2006-Dec 2007
Prevalence of metabolic syndrome and diabetes mellitus and associated risk factors in adult female orang asli of Ulu Selangor, Selangor.	Ms Husniza Hussein, IMR	Mac 2006-Dec 2008
Alterations of p53 and RB/p130 genes in Malaysian nasopharyngeal carcinoma samples.	Ms Susan Hoe Ling Ling, IMR	Jul 2006-May 2007
Plasmodium falciparum Malaysian Clones: Genotyping using restriction fragment length polymorphism-polymerase.	Mr Mohd Ridzuan bin Abd Razak, IMR	Jun 2006-Dec 2007
Innovative approaches for diagnosis and management of dengue virus infection.	Dr Norshahidah Khairullah, NINPVB	2005-2008

LIST OF ONGOING RESEARCH PROJECTS

PROJECT TITLE	PRINCIPAL INVESTIGATOR/ INSTITUTE	START-END
Molecular characterization of a Malaysian Nipah virus isolate.	Dr Norshahidah Khairullah, NINPVB	2005-2008
Under-Five Deaths In Malaysia.	Dr Wong Swee Lan, CRC	May 2005- Apr 2007
Berlin Questionnaire as a screening tool to identify patients with Obstructive Sleep Apnoea (OSA) – the Malay language version.	Dr Ashari Yunus, CRC	Jan 2005 – Dec 2007
A study of the implementation of National Mental Health Policy at Ministry of Health hospitals and clinics.	Dr Roslan Johari Dato' Mohd Ghazali, IHM	Jan 2006 – Feb 2007
Health Policy Research in the Western Pacific Region (EVIPNet Asia).	Dr Maimunah A Hamid, IHSR	2005 - 2009
The Application of Data-Mining Technique in Managing Long Waiting Time In the Putrajaya Clinic.	Mr Zulkarnain A Karim, IHSR	2006 - 2007
Food poisoning in Kelantan.	Ms Zawaha Hj Idris /Cik Hasimah Ismailb, IHP	2006-2007
Study on lifestyles of senior citizens.	Mr Thavaraj Subramaniam, IHP	2006-2007
Survey on use of traditional and complementary medicine.	Ms Zaikiah Mohd. Zin, IHP	2006-2007

VACANCIES

Clinical Research Centre (CRC) in Kuala Lumpur Hospital, has the following vacant positions:

- Epidemiologist (Master Clinical Epi, MOH or equivalent)
- Research Manager/ Associate (BSc (Life sciences), CCRP)
- Clinical Research Coordinator (SRN)
- Research Coordinator (BSc Life sciences)
- Safety surveillance associate (degree/master in pharmacy)
- Consultant Economist (PhD Econ)
- Economist (Master Econ)
- Consultant Biostatistician (PhD statistics)
- Statistician (Master in Stats)
- Statistical Assistant (BSc Stats)
- Database Manager/ Programmer (BSc Computing, CCDM or industry certification)
- Network Engineer (BSc Computing or industry certification)
- Temporary Research Officer (BSc)
- Temporary Assistant Research Officer (general diploma)
- Clinical Research Manager/ Associate (clinical trial) (CCRP)
- Clinical Data Manager/Associate (CCDM)
- Safety Surveillance Associate (Pharmacy degree)

Interested candidates are invited to e-mail detailed resume to :

Ms CS Loh csloh@crc.gov.my