NATIONAL INSTITUTES OF HEALTH (NIH)

...the HUB for Health Research locally & globally
From the Chief Editor ...

Dear friends,

The end of the year is always filled with festivities and celebrations, and to add to this, NIH Secretariat, together with our group of editors, are giving you a special issue of NIH bulletin.

This special edition highlights the happenings in NIH during the last two years.

On behalf of the Editorial Board, allow me to wish you all the best for the coming year... make 2010 a year full of happy memories!!!

List of Contributors

1. Dr Ahmad Faizal Yusoff (IMR)
2. Ph Lim Yuh Koon (IPH)
3. Chek Wan Iatin (NIH Secretariat)
4. Anne A/P John Michael (CRC)
5. Ph Norridafizah bt Jaffer (IHRB)
6. En Wan Saisuddin bin Wan Mohamad (IHAM)
7. En Ahmad Razali bin Mohd Othman (IHSR)

"On Being Positive"

Once there was a man who was always positive. Whatever happened to him, he would say, "that is good". When the king heard about him, the king wanted this man to be part of his entourage. So the man travelled everywhere with the king. One day, while out hunting, the king handed his gun to this man to be loaded. The man had not done this before but decided to do it. He filled the gun with gun powder, compressed it with the iron rod, assembled the gun, then handed it back to the king. The king took aim and fired.

The gun exploded and blew off one of the kings' fingers. The king, amidst his pain yelling, "now what have you got to say for yourself?" and the man answered, "it is good that only a finger got blown off." The king was furious. He called his guards to throw the man into the dungeons, and called him a traitor.

One year passed, and the king went hunting again. This time he and his men decided to go further into the jungle. There they met a group of cannibals who ate them up. But when it came to the king's turn, they noticed his missing finger, and being superstitious, decided to let him go.

The king ran back to the castle and immediately ask the guards to release the man from the dungeon. The king apologized for locking him up because he had just saved the king's life. But the man just smiled and said that it was good that he was in the dungeon. The king was puzzled. "How can it be good when I had deprived you of your freedom for 1 year?" asked the king. The man replied, "if I had not been imprisoned, I would have been out hunting with you today...and I would not be here now, so it is good."
Mr Thavaraj was one of the pioneers in the Healthy Lifestyle Campaign, in the MOH in 1985. He was known for his role in getting the accreditation process for the post graduate course in Health Education in 1996, and also the development of the training modules for Risk Communication training in 1998.

Having used his vast experiences to contribute to the Government for 30 years, Mr Thavaraj retired at age 56, still considered in the prime of his life. We hope he will continue to contribute towards humanity and wish him all the best in his future undertakings.

Dr Yahya Baba, who headed IHP from December 2007 till 31 July 2009, before his transfer to the Health Promotion Board as Chief Executive Officer. Dr Yahya is always full of zest and spirit, and is a leader well liked and respected by all the IHP staff. He is always approachable to everyone regardless of category, color or creed. He is still remembered for instilling his motto of "being color blind" to everyone. During his tenure, he brought many changes to IHP. Under his leadership, the IHP also achieved more than 95% rating for the 3Ps (Finance Management Performance Evaluation System). The IHP's Quality Management System also maintained its ISO 9001:2000 certification status with zero non-conformity report (NCR) for three consecutive years. Dr Yahya was active in promoting religious activities and a healthy lifestyle. The sports and welfare club of IHP was actively revived to fulfil its purpose. We at IHP, wish him all the best in his future endeavours!

...Datuk Ir Dr. M.S. Pillay, who became the Deputy Director General of Health, Malaysia (RtTS) from 2003 to July 2008. 

Datuk Dr Pillay has always believed that research is about acquiring and developing new knowledge to fill the gaps in our health care delivery system, and that NIH has the potential to be the centre of excellence in research for the Asian region. It was through his effort and guidance that the NIH Secretariat was awarded and set up in 2006, to facilitate and coordinate the research management of the NIH Institutes. He was also instrumental in finalizing the setting up of IHB, and initiating the rebranding of the library at IHB into a knowledge management centre (MHC).

Datuk Dr Pillay is known for his trust, kind support and empowerment of all his Directors and staff. He saw the need for them to be better qualified, and encouraged their continuing education for self development and improvement. NIH takes this opportunity to wish Datuk Dr Pillay all the best for his future.

...Mr Thavaraj Subramaniam, who became the Director of IHB from 2006 to 2008. Since his appointment, Mr Thavaraj had worked towards putting IHB to be at par with other Health Promotion Institutes around the world.

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**REACHING OUT TO RESEARCHERS...**

Making Health Research Easily Accessible... through  
National Medical Research Register (NMRR)

**GUIDELINES FOR RESEARCH IN MOH**

In line with international best practices, the National Medical Research Register (NMRR) was initiated as an online registration process requiring clinical trials to be registered in publicly accessible research registers.

A web-based tool, the NMRR supports the NIH guidelines on research involving personnel or facilities in MOH or funds from MOH research grants.

Registration on the NMRR ensures transparency and increases public trust in medical research. It also informs all Health Investigators and prospective volunteers about ongoing research they may wish to enroll in, helps reduce process time, enables easy access, captures data on research uncertain in the MOH, and allows management to track research progress.

In addition, passive information is compiled in a database as a Research and Investigator Directory. Pilot tested since early 2007, the NMRR is being rolled-out now to most of the 17 public hospitals nationwide under the Network of Clinical Research Centers as well as all six institutes under the NIH.

Using the accessibility provided by the worldwide web, users are able to login anywhere and at anytime for online submission and have their study reviewed and approved by the appropriate authority. As the NMRR is now linked to the Medical Research Ethics Committee (MREC), the system further reduces paperwork, enables greater efficiency and speeds up the process of review and approval.

Officially endorsed by the Director General of Health on 5 Sept 2007, an invitation has been extended to researchers from universities and private hospitals to register their studies online via the NMRR. With clearer procedures and shorter timelines for both institutional and ethical committees to review and approve research proposals, NMRR should encourage more medical research in Malaysia.

In line with national aspiration to reach developed nation status by 2020, the NMRR will propel the MOH to be at the forefront of all R&D efforts that will contribute towards advancing the health care sector.

The National Health & Morbidity Survey Scientific Conference 2007, was held on 8 -10 August 2007 at the JW Marriot Hotel, Putrajaya. The opening ceremony was officiated by YBhg Tan Sri Dato’ Seri Dr Hj Mohd Ismail Merican, the Director General of Health, Malaysia.

The conference was attended by more than 400 participants comprising of Policymakers, Program Managers, State Directors, NHMS III Committee members, research group members, Clinical Specialists from various disciplines, Public Health Physicians and Epidemiologists from government hospitals and private and public universities. The objective of this conference was to disseminate the preliminary findings from the NHMS III. A total of 32 oral papers and 20 posters were presented at this conference.

The session started with the Principal Investigator sharing the overall general findings from the survey. The other research topics presented included: 'Load of Illness', 'Dengue Prevention Practice', 'Health Expenditure', 'Health Information', 'Health Utilisation', 'Oral Health Practice, Utilisation and Cost Consumption', 'Asthma', 'Psychiatric Morbidity', 'Injury & Safety', 'Physical Disability', 'women’s Health', 'Nutritional Status', 'Infant Feeding', 'Smoking', 'Alcohol', 'Physical Activity', 'Sexual Behavior', 'Diabetes Mellitus', 'Hypertension', 'Hypercholesterolemia'.

Comments and suggestions from the conference participants were discussed and noted down, to be used for further analysis into the topics concerned. The conference was an essential step in facilitating preparations for the publication of the survey findings report. It was officially closed by the Deputy Director General of Health (Research and Technical Support) Malaysia, Dato’ Dr M.S. Pillay.

PTEN Mutation Studies in Malaysian Colorectal Cancer Patients

(Balraj P., and Ruhana S (2007)

Asian Pacific Journal of Molecular Biology and Biotechnology 15: 23-25

Institute of Medical Research

Abstract

Tumour suppressor gene, PTEN has been found to be altered in various type of tumours such as breast, glioblastoma, prostate, endometrial cancers and colorectal carcinoma (CRC). Alteration have been found to be common in sporadic colorectal tumours. Our objective was to identify PTEN mutations in colorectal tumours and blood samples from Malaysian patients. Genomic DNA from 27 paired normal and tumour tissue samples and 10 blood samples were analysed.

Nineteen of these samples were from the previous study that had failed to identify APC and p53 cogen mutations. Both these genes are involved in early events related to colorectal carcinoma tumorigenesis. The entire coding region and the flanking sites of the 9 exons of PTEN gene was amplified and conformation sensitive gel electrophoresis (CSGE) and sequencing was done to identify alterations.

The findings showed that there were no PTEN alterations among the colorectal cancer samples examined and thereby the study concluded that there is a lack of PTEN involvement in the carcinogenesis of colorectal cancer in these patients.
IPH-Institute For Public Health

Vision: To be the centre of excellence in public health research so as to enhance health and quality of life for the nation.

Mission: To promote health, well being and quality of life for the community through public health research, training and consultancy services. This will be achieved by:
(i) Conducting, co-ordinating and assisting in research
(ii) Offering focused training and learning programmes
(iii) Providing consultancy services in Public Health
(iv) Fostering strategic partnerships with relevant organizations both nationally and internationally

Predictors of Malaria among Malaysian Aborigines

Gurpreet K.

Abstract

The Asia-Pacific region has at least 50 of its population at risk for malaria. In Malaysia, indigenous malaria is largely concentrated among the Orang Asli in Peninsular Malaysia. A cross-sectional study was conducted in 30 Orang Asli communities in the district of Raub, Pahang to determine the predictors of malaria.

Age, seldom/wear protective clothing while in the jungle, going out at night, everstaying in another village, and living in bamboo-walled houses were found to be associated with malaria ( crude OR 1.8-4.5: 95% CI 1.1-9.1). After adjusting for confounding, major predictors of malaria were age 4-12 years (adjusted OR 4.3: 95% CI 2.2-8.4), never/wear protective clothing while in the jungle (aOR 2.8: 95% CI 1.8-8.6), and going out at night (aOR 2.5: 95% CI 1.4-4.8). The findings show support for intensifying behaviour modification in this population.

Epidemiological Intelligence and Management Programme (EIMP)

This was the first of a series of planned courses organized by the Disease was to strengthen the practices of Control Division, IPH, in collaboration with the Institute for Health Management under the auspices of the Malaysian Technical Co-operative Programme. The Disease Control Division, Ministry of Health, has been recognized by ASEAN + 3 to be the reference centre for laboratory surveillance in infectious diseases, and Ministry of Health is to be responsible for vaccine development for OIC countries.

This course was a result of the government's response to the needs for an international health community, especially among the developing nations. The aim of the EIMP course was to strengthen the practices of control measures together with management skills and competency, to enhance public health surveillance and disease outbreak investigations. Aside from that, it aspired to develop broader perspective among participants, to appreciate social interconnectedness, and to understand public policies on health related behaviours and health status.

This EIMP course has been modeled on the highly successful Epidemic Intelligence Service (EIS) introduced through the Centre for Disease Control (CDC) Atlanta, USA in 1951. This EIMP

Status of Iodine Deficiency Disorders and Mental Performance of School Children: A Comparison Between GAZETTED and NON-GAZETTED AREAS

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Abstract

Iodine deficiency disorders (IDD) is a health problem that can and should be avoided in Malaysia. Siahah has been gazetted for universal salt iodization to overcome the endemic IDD problem since the year 1999, whereas some districts in Sarawak have been gazetted much earlier. However, IDD is still reported in gazetted and non-gazetted areas. The objective of this sub-sample study was to identify the status of IDD among the school children in Sarawak, which represent the gazetted area, and compare it with Negeri Sembilan, which represent the non-gazetted areas.

This cross-sectional comparative study was conducted on school children aged 8 to 10 years old, in Siahah and Negeri Sembilan, from schools selected to be sub-sample population of the National IDD Survey 2008. Data on socio-demography, anthropometric measurement, urinary iodine, urinary thyroxine, thyroid stimulating hormone (TSH) and mental performance (IQ) were obtained.

The study involved a total of 731 respondents in which 370 respondents were from Negeri Sembilan. The findings showed that the mental performance of the school children in Negeri Sembilan was significantly higher than Siahah in terms of score average and above average, and also in terms of mean score (Full Scale IQ (FSIQ) (p<0.05). Among the non-geostylyte subjects, mean FSIQ was significantly higher in Siahah as compared to Negeri Sembilan (p<0.007). The non-geostylyte school children in Siahah showed comparable mean FSIQ with their counterpart in Negeri Sembilan; however the non-geostylyte in Negeri Sembilan showed significantly higher level of mean FSIQ as compared to their counterpart in Siahah. Negeri Sembilan subjects showed a reduction in mean FSIQ as their age increases; however, the mean FSIQ were comparable in all age groups in Siahah. No significant correlation was noted with urinary thyroxine levels. FSIQ showed moderate to strong positive with academic performance of the school in both states.

This sub-sample study indicated that mental performance is affected by multiple factors and not just by iodine level alone. However, iodine supplementation is strongly beneficial in improving the mental performance of the severe iodine deficient subjects.
CRC: Clinical Research Centre

**Vision:** To be the leading clinical research organisation in Asia

**Mission:**
1. To improve patients' health outcomes through ethical and quality clinical research
2. To contribute to the development of Malaysia as a clinical hub for the contract research outsourcing industry.

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**DR LIM TECK ONN**
Director CRC

Dr Lim Teck Onn, a graduate of MBChB University of Glasgow, MRCP (UK), FRCP (Edinburgh) holds a Master of Medical Statistics from the University of Newcastle, Australia. As Director of the CRC Network, a position he has held since 2007, one of Dr Lim's primary tasks is to develop the clinical research capacity in Malaysia, especially the professional human resources, and the infrastructure for clinical research. To date there are 17 CRC in the MOH.

In line with CRC’s mission, Dr Lim reformed the research units in CRC to promote and support investigators to initiate clinical research, epidemiological and healthcare research, as well as contract clinical research on behalf of pharma & biotech industry clients. In CRC’s strive to ensure the availability of quality data resources to support research and other applications, he has initiated the development of patient registries and healthcare statistics in Malaysia.

Dr Lim is in the National Committee for Clinical Research as well as the Ministry of Health Research and Ethics Committee. Dr Lim is a principal speaker and facilitator for the immensely popular GCP workshops conducted by CRC. His experience is sought overseas as he has been invited as GCP consultant for universities and research organisations in China, Vietnam, Brunei, Saudi Arabia and Pakistan.

In addition to his research duties, Dr Lim is an active clinical investigator with over 70 publications to his name, many of which are in high impact international journals. His research work has earned him two prominent awards i.e. the Honorable Mention for the Peter Reitenstein Prize from the International Journal for Quality in Healthcare in 2002 and the Second Prize for Best Research Paper Award from the Singapore Medical Journal in 2004.

Dr Lim's busy research schedule has not deterred him from his clinical duties and academic pursuits. He is the Consultant Nephrologist at the Department of Nephrology, Hospital Kuala Lumpur, an Adjunct Associate Professor at International Medical University, President of the Malaysian Society of Clinical Economics, Vice-President of the Association of Clinical Registries Malaysia, and Subject Editor for the Nephrology journal. He is also a Member of Association of Clinical Research Professionals (ACRP) US's Editorial Advisory Board (EAB) and member of the Drug Information Association.

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**CRC: Promoting Malaysia as Asia’s uniquely resourceful clinical research location**

* Expanding the range of clinical research in Malaysia was the theme in the recently concluded National Conference for Clinical Research 09 (NCCR 09) in Penang, Director-General of Health, Y.Bhg. Tan Sri Dato' Seri Dr Hj Mohd Ismail Merican, in his keynote address, identified several exciting initiatives by the Ministry of Health to boost the clinical research industry. It was a gathering of various clinical research professionals (355 participants). NCCR 2010 (29-30 June) will focus on the next stage of clinical research in Malaysia.

* One of the most important events of the year was the establishment of Hospital Ampang for clinical development facilities in the country. CRC will partner Veeda Clinical Research, an international clinical research organisation. This significant move will generate job opportunities for science graduates and further enhance Malaysia's competitiveness for clinical research activities in Asia.

* Clinicians, researchers, pharmacists, regulatory personnel and other clinical research professionals gathered in an informal meeting to discuss the formation of a society to promote pharmaceutical medicine as a discipline in Malaysia. The idea was to establish the Association of Pharmaceutical Medicine Malaysia (APPM) and membership would include various clinical research professionals.

* CRC conducts annual dialogues with industry sponsors. The Industry Dialogue in 2008 discussed feasibility, submissions to Medical Research Ethics Committee (MREC) and changes in the clinical trial agreement (CTA). Similar issues were covered this year. This open forum is indeed a good platform for the pharmaceutical industry personnel and investigators to get regular updates from CRC and Regulatory bodies.

* CRC has been part of many local and international exhibitions. One significant exhibition was at the 45th Drug Information Association (DIA) Annual Meeting (21–25 June 2009). It was CRC’s first time participation in this global gathering of international regulators, industry professionals, academics, patients groups and exhibitors.

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Judges viewing poster presentation
Visitors signing attendance at CRC Booth
Participants at the dialogue session
Promoting CRC through marketing
Selling CRC through exhibitions
NCCR participants having lunch with Y.Bhg Tan Sri Dato' Seri Hj Mohd Ismail Merican and Dato' Dr. Masnahah A Hamad

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The 12th NIH Scientific Meeting was incorporated into the 8th Ministry
17 & 18 August 2009, with the theme...
of Health Malaysia, Academy of Medicine's Scientific Meeting held on
"Building A Safety Culture Through Accountability."

This meeting was hosted by HSR in collaboration with the Academy of Medicine, Malaysia.
It was attended by more than five hundred participants, with a hundred and fifteen of them participating in the induction and Fellowship graduation ceremony.
It encompasses 5 plenary sessions, 5 symposia, 2 such satellite talks and a competition on poster presentation. It ended with a seminar on National Ethics.

Panel Discussion Following Seminar on National Ethics.

Y.Bug Tan Sri Dato' Sert Dr Hj. Mohd Ismail Merican signing the Guidelines, witnessed by Dr Hj Azman Abu Bakar

Dato Dr. Mazinazah DEG (R&T) receiving a winner of the poster competition

Panel members for Symposium session on:
Patient Safety in a Primary Care Setting

8th MOHM-AMM &

12th NIH Scientific Meeting

VIPs, Guests and Graduants at the 8th MOHM-AMM and 12th NIH Scientific Meeting

Participants at the meeting
A PATIENT SAFETY INITIATIVE: VACCINE STORAGE PRACTICES IN PRIVATE PRACTICE


Vaccines are crucial in preventing deadly diseases especially in children. As vaccines are produced from biological material, their cold chain storage must be absolutely stringent to ensure the quality is maintained. Improper storage of vaccines is not only ineffective but also harmful. Considering that 5 to 44% of the Malaysian population seek vaccination in private health clinics, proper storage of vaccines must be upheld.

The development of the intervention package, the research team emphasized practicality, sustainability and the provision of incentives to achieve improvement. Adequate training and advice were given to the staff of private health clinics, emphasizing on the important aspects of vaccine storage such as the temperature charting of refrigerators and crutches actions to be taken during system breakdown. Reminder cards, WHO booklet, dil thermometer, chart sheets, CD-ROMs of PowerPoint presentations in English and Bahasa Malaysia, to-do lists and stickers with imperative messages were supplied to the staff once consent was obtained.

In addition to that, a certificate was awarded on relevant criteria after the third audit was completed. Overall, the survey's findings strongly indicate a need to improve the knowledge and quality of vaccine storage in private health clinics. Vaccine storage guidelines should be enforced strictly within all healthcare institutions to ensure the safe storage and use of vaccines.

The intervention package used and implemented during the survey is able to significantly improve vaccine storage practices. If this package is implemented in Malaysia, it would result in a tremendous improvement in the quality of vaccine storage to prevent adversities and enrich patient safety.
IHM-Institute For Health Management

Vision: To be the centre of excellence in health management.

Mission:
1. Boldly explore and inculcate through research and training, innovative ways of leading and managing the health care system.
2. Be a source of internal management consultancy to the health care system.
3. Be a learning organisation that actively encourages continuous learning and access to information.
4. Adopt positive work value especially teamwork, professionalism and caring culture so that the health sector in the country can emerge as one that is led and managed effectively to benefit the health of all Malaysia.

Knowledge Management Center (KMC)
Knowledge Management Center (KMC) which is located at the Institute for Health Management, is an initiative of re-branding the existing library of IHM. This initiative was inspired by Y.Bhg Dato' Dr M.S Pillay, the Deputy Director General of Health (Research & Technical Support) in 2005. Hence, in 2007 the development of knowledge management center was started. The center was established with the knowledge management (KM) philosophy embedded in its infrastructure and processes. In line with IHM's vision of becoming the center of excellence in health management, KMC's vision is to Galvanize MOH towards becoming a Learning Organization by becoming a Knowledge Management Hub that is at par excellence with all world class health management.

To achieve the above, KMC's missions are:
- Evolve into a Knowledge Management "Think Tank" to provide MOH with a wide Knowledge Management capability in the context of the 6 KM deliverables - capture, acquire, utilize, share, retrieving and create knowledge.
- Become MOH Knowledge pipeline to deliver the right knowledge to the right person at the right time for effective decision making;
- Inculcate a culture of continuous learning, unlearning and relearning, in tandem with becoming a "Knowledge Based Organization".

The following are objectives of KMC to enhance MOH Learning Organization capabilities:
- To provide options for effective decision making
- To acquire and disseminate relevant knowledge to MOH employees
- To increase utilization of knowledge in improving work quality
- To enhance creation and sharing of new knowledge to increase employee capabilities and decrease redundancy.

Knowledge differs from organization to organization. In recognition of this fact, the following KMC's strategies will focus on:
- Inculcating the Learning Organisation-Knowledge Management (LO-KM) culture at all levels of MOH by adopting both top-down and bottom-up approach.
- Conducting KM analysis on the 6 NHM institutes to unlock and empower their KM capabilities.
- Re-identify KM clients and their expectations periodically.
- Be able to interpret the value of knowledge for continuous work and service delivery improvement.
- Be able to continuously update, upgrade and re-scope KM capabilities & responsibilities.
- Adopting the 5 KM pillars to provide user-friendly and people centric KM mechanism and environments.
- A Knowledge Management System (KMS) is currently being developed and implemented which will act as the enabler to measures the progress of the 6 KM deliverables. This platform allows sharing of knowledge among health care providers and researchers. Currently, this system can be accessed at the following URL address: www.ihm.gov.my/kmc.

Registration is free and all MOH Staff is welcome to join us. Once registered, all are welcome to share their knowledge. Should there be any inquiry, please do not hesitate to write to: kmchmo7@gmail.com.

DR. ROSLAN JOHARI
DIRECTOR IHM

I’ll just give you a local anesthetic”, said the doctor.

"Don’t worry about it,” the patient said, “get the best, use imported”.

Gordon Sloan.

Mother to school teacher, "my son Harold, is a very sensitive child. If you need to punish him, just slap the boy in the next seat. That will frighten Harold”.

James Mcewen

A young man realized that couples who have been together for a long time have their own way of communicating. He overheard this exchange between his uncle and aunt.

Uncle: what are you looking for down there?

Aunt: nothing

Uncle: well, you won't find anything down there. Look under your desk.

The Reader Digest
Vision: To be a centre for health behavioural research.

Mission: To set best practice standards that will improve Malaysians' health through applied multidisciplinary health behavioural research.

COMMUNITY PERCEPTIONS ON INFLUENZA A (H1N1), KUALA LUMPUR & KLANG VALLEY 2009

Project leader: Hj Zawawi Hj. Iskandar
Project team: Siti Sa’adiah Hassan Nudin, Sulaiman Che Rus, Noraziah Jaafar, Kamaludin Zaman Sulher, Abu Bakar Rahman, Edwastij Ujang, Mohammad Zakri Johari, Mohammad Iramuddin Sa’din, Muzaffar Mokhtar, Fazilawati Othman

1. Institute for Health Behavioural Research

Introduction
A study on community perception regarding influenza A (H1N1) was implemented in several localities around KL and the Klang Valley, covering the National Services Training Center (PLKN) camp, International Airport (KLIA), Low Cost Carrier (LCCT), KL Sentral, shopping malls, hospitals, and other relevant public places from June 27 to July 10, 2009.

Objective
To assess the level of public knowledge regarding the disease and control of influenza A (H1N1) and their perception on the control measures taken by the Ministry of Health.

Methodology
A structured questionnaire was used to gather information through interviews or by self-administered questionnaire. The interviews were carried out on 753 respondents, while 1549 respondents used the self-administered questionnaire.

Study results
Most of the respondents (61%) who completed the self-administered questionnaire were from the trainees of three PLKN’s camps in Selangor. Most of the respondents were Malays (50-70%). Those below 20 years old use self-administered questionaries while the adults were interviewed. The level of concern regarding influenza A (H1N1) was wide spread, covering 92% of the society. The main reason for this was (i) it was spreading (36-47%), (ii) causing death (9-30%), and (iii) it was harmful to those who suffer from the disease (17%).

The level of knowledge on influenza A (H1N1) was high, as 68-90% of respondents were able to identify fever and cough as the main symptoms. However, many of the people thought the main method of transmission was by air (96-66%), therefore, more people prefer using masks to protect their nose and mouth (77-85%) as a way of preventing a major outbreak rather than the washing of their hands (75-77%), avoidance of traveling overseas (68-70%) or closing the mouth when sneezing (58-65%). Most of the respondents (90-95%) understood the information that had been distributed by the Ministry of Health, via television (90-95%) and newspaper (80-88%). Overall, 84% of the community considered the actions taken by the MOH as sufficient.

Conclusion
This study showed that most of the local communities are alert to the risk of influenza A (H1N1). However, accurate knowledge about the disease, especially the mode of transmission needs to be disseminated, and more effective preventive actions need to be taken by the public as it is still not satisfactory. Therefore, health teaching applying to risk communication approach should be intensified to further prevent the spread of influenza A (H1N1).

Cleanliness status among school canteens of the Ministry of Education in Kelantan

Zawawi HJ, Siti Saadiah HN, Sulaiman CH, *Hani Mat Hussin, Che Mohd Khalil Omar

1. Institute for Health Behavioural Research, 2State Health Department Kelantan

Objective
To assess the cleanliness among school canteens of the Ministry of Education in Kelantan.

Methodology
This is a comparative cross-sectional study which was adapted from the Food Premise Inspection check-list form (KMHP/52) of the Ministry of Health (MOH). Assessment was also made through direct observation by the Environmental Health Officer Assistant, involving 29 schools with past food poisoning cases (schools with cases) and 29 schools which had no past cases of food poisoning (schools without cases). Marks were given according to the standard set by the MOH.

Study results
Overall, the cleanliness status among schools with cases and without cases was very low. The overall cleanliness for both group of schools were (41.03%) for food samples, 13(22.4%) among food handlers, 15(25.4%) for utensils, 21(34.3%) for drainage, 12(20.7%) for hand washing facilities, 22(37.9%) for refuse disposal and food waste, 21(36.2%) for floors and interiors and 11(17.7%) for overall premise. However, the cleanliness for water supply were better than other studied components with 26(89.7%) schools with cases and 19(65.5%) schools without cases having clean water supply. A total of 18(62.1%) schools with cases and 17(58.6%) schools without cases obtained grades below the standard set by the MOH (less than 70%). Among those that scored below standard, 6(20.7%) schools with cases and 5(17.2%) schools without cases had very poor cleanliness status (Grade C).

Conclusion
Overall, only 12(37.9%) schools with cases and 12(41.4%) schools without cases obtained A grade (71-100 marks).
## VACANT POSTS IN NIH

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<td>Nurse</td>
<td>U32/U29/U11</td>
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<td>Med. Lab. Tech.</td>
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<td>Public Health Assist./Malaria/Attendant</td>
<td>U17/U13/U3</td>
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<td>Adm. Assist.</td>
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<td>Admin. Assist.(Finance)</td>
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<tr>
<td>Driver</td>
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<td>Office Assistant</td>
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</tr>
</tbody>
</table>

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