

Vol.14 No.2 December 2018

Bulletin

NIH

National Institutes of Health, Ministry of Health Malaysia

Leading The Way To Medical Excellence

CRC

MINISTRY OF HEALTH MALAYSIA

Research that matter to patients



PUSAT PENYELIDIKAN KLINIKAL



IMR

INSTITUTE FOR MEDICAL RESEARCH MALAYSIA



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From THE DESK of Chief EDITOR

Ms. (Dr.) Theyveeka Selvy Rajoo

The Institute for Medical Research (IMR) and Clinical Research Centre (CRC) are under the wing of National Institutes of Health (NIH), Ministry of Health (MOH) Malaysia. This print features the history of IMR and CRC. Readers will be able to learn about the history and contributions of each institute towards the expansion and development of healthcare in Malaysia.

IMR consists of a storied history that dates all the way to 1900. Initially, as a centre for tropical diseases research, the institute has gone through several changes throughout the 20th century and has emerged as the forefront of the country's medical research and renowned for its tropical research and state of the art research facilities. Additionally, highlights regarding Southeast Asian Ministers of Education Organization - Tropical Medicine and Public Health (SEAMEO-TROPMED) Malaysia, Inter-Islamic Network in Tropical Medicine (INTROM) and Malaysian Herbal Monograph (MHM), which are under IMR, were elaborated in this bulletin. CRC established for past two decades to cater the need for clinical research in MOH facilities. To date, CRC expanded to 33 networks based in government hospitals nationwide. Despite carrying out research, CRC also creates a medium to share and exhibit the research findings with fellow researchers, collaborators and industries annually through National Conference for Clinical Research (NCCR).

This year CRC hosted 12th NCCR with the theme "Patient-Centered Research: Digital Health" together with 9th Public Health Conference with the event theme "Translating Health Policies into Effective Action" were covered in this biannual publication. Both events bring researchers, stakeholders and enthusiasts, timely topics within the field of patient centric research as well as signifying the pledge to utilise current policies on public health to produce significant results that will lead to the betterment of the health of society.

I would like to express my sincere gratitude to all the editors for their contribution to this bulletin. I sincerely hope that the information and content in this NIH Bulletin will adequately commemorate the rich history of the IMR and CRC as well as acknowledging the contributions of the both institutes and instil a sense of pride and accomplishment in the NIH workforce.





History of

IMR

INSTITUTE FOR MEDICAL RESEARCH MALAYSIA



It was the year 1885, following the resolution of the Conference of Berlin held in Europe to undertake activities promoting moral and material well-being of the native population and to explore the vast and unknown field of tropical medicine. The European colonial powers at the time namely the French, Dutch and English, moved almost simultaneously to establish new research institutions in the Colonies. In 1900, Sir Frank Athelstane Swettenham, the Resident-General of the Federated Malay States recommended the establishment of The Pathological Institute in Malaya to carry out scientific and sustained research into the causes, treatment and prevention of such scourges as beri-beri and malaria fevers. In addition, the institute was to serve as a research outpost for the London School of Tropical Medicine, established a year earlier in 1899 at about the same time as that of the Liverpool School of Tropical Medicine. The area which will later be known as Kuala Lumpur was chosen as the site for the new Institute because of its central position in the Malay Peninsula.

Sir Patrick Manson, who was the Medical Advisor through the British Colonial Office at that time, appointed Dr. Hamilton Wright, a pathologist at the London School of Tropical Medicine, to serve as the first director of the Pathological Institute of Malaya. During his first year, Wright spent most of his time planning for the new institute. When the buildings were completed, a formal opening ceremony was held in February 1901. The Pathological Institute of Malaya was renamed as the Institute for Medical Research, in August of the same year. The time was opportune as the country was beset by not only tropical diseases such as beri-beri and malaria, but also by dysentery, small pox, cholera, plague, rabies and other endemic, sporadic, infectious and contagious diseases.





IMR Directors



Dr. Hamilton Wright
1900-1903



Dr. Charles Wilberforce Daniels
1903-1906



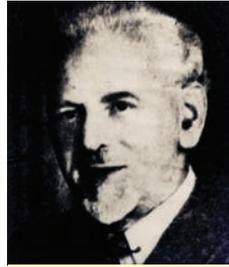
Dr. Henry Fraser
1906-1916



Dr. Ambrose Thomas Stanton
1920-1926



Dr. William Fletcher
1926-1927



Dr. Allen Neave Kingsbury
1927-1941



Dr. K. Sato
1942-1943



Dr. O. Kimura
1943-1945



Dr. Raymond Lewthwaite
1946-1949



Dr. John William Field
1949-1956



Dr. Thomas Wilson
1956-1959



Dr. Arthur Thomas Happle Marsden
1959-1960



Dr. James Anandan Chelliah
1960-1961



Dr. John Bright Duguid
1961-1964



Dr. Arthur Anantharaj Sandosham
1964-1965



Professor Dato' Dr. Ungku Omar Ungku Ahmad
1965-1969



Dr. Datuk Abu Bakar Ibrahim
1969-1971



Dr. Ranjeet Bhagwan Singh
1971-1975



Dr. George Francis De Witt
1975-1984



Datuk Dr. Lim Teong Wah
1984-1987



Dato' Dr. M. Jegathesan
1988-1993



Dr. Ismail Mohd. Noor
1993-1994



Dr. Mohamad Taha bin Ariff
1994-1996



Dr. Mak Joon Wah
1996-1997



Dr. Narimah binti Awin
1998-1999



Dr. Lye Munn Sann
1999-2004



Dr. Ng Kok Han
2004-2006



Dr. Shahnaz Murad
2006-2014



Dr. Jasbir Singh Dhaliwal
June 2015 - Dec 2015



Dato' Dr. Fadzilah Kamaludin
June 2016 - Present





Throughout The Years

1900 - 2017

Year	Research Milestones	Landmark Achievements
1900-1940	<ul style="list-style-type: none"> • Studies on beri-beri & mosquitoes • Studies on leprosy & melioidosis & influenza • Studies on dysentery, leptospirosis & scrub typhus • Studies on malaria vector • Studies on tuberculosis (TB) & typhoid fever 	<ul style="list-style-type: none"> • IMR Established • Mapped out link between beri-beri and thiamine deficiency • Discovered cause and treatment of beri-beri • First malaria control in the world (Watson) • Cancer noted • Clinical trial of anti-malarial drug • First described typhus and devised a simple culture medium (Fletcher Leptospira Medium Base) to confirm its diagnosis • Identified vectors of filariasis • Established Pasteur Institute in IMR producing rabies vaccine followed by small pox vaccine • Eradication of plague
1941-1980	<ul style="list-style-type: none"> • Studies on Bird Malaria • Studies on filariasis control • Research on drugs (antibiotics, antimalarial drugs (chloroquine & paludrine) and filariases treatment (diethylcarbamazine)) and nutrition • Dengue ecology in collaboration with University Malaya 	<ul style="list-style-type: none"> • Eradication of beri-beri • Discovered a new staining method for rapid identification of malarial parasites using thick blood films for malaria diagnosis • First use of Dichlordiphenyltrichlorethane (DDT) for malaria control • Demonstrated that antibiotic chloramphenicol could be used to treat scrub typhus • Malaria control by residual spraying • Isolation of dengue virus • Addressed the problems <ul style="list-style-type: none"> - Malnutrition, smallpox in Kedah; - Rabies in Province Wellesley, Kedah and Kelantan; and - Sporadic cholera throughout the country. • National Filariasis Control Program • Malaria eradication studies & program • Biocontrol of Trematodes • Ecology of dengue elucidated • Development of cancer registry • 120 new species of chiggers discovered by the Medical Zoology Division; rare blood types in Southeast Asia by Hematology Unit; and the existence of hemorrhagic fever in Malaya
1981-2000	<ul style="list-style-type: none"> • Seroprevalence study on dengue • Field evaluation of insecticide impregnated net for malaria control • In vitro culture of filarial worms • Studies to replace DDT by pyrethroids 	<ul style="list-style-type: none"> • Successful in vitro culturing of the human filarial parasite <i>Brugia malayi</i> from the infective larval (L3) stage to the fifth (L5) stage • Discovered local strain of <i>Bacillus thuringiensis</i> as new microbial control agents of mosquitoes • First Rapid Kit for insecticide resistance • Commercial production of microbial control agent <ul style="list-style-type: none"> - MOSBAC (aqueous suspension formulation containing the spore crystal complex of <i>Bacillus thuringiensis</i>) - IMR-BT-1 (biological control of mosquito larvae) - R-EST (test kit for rapid detection of insecticide resistance)
2001-2005	<ul style="list-style-type: none"> • Studies on simian malaria • Studies on malaria in Laos • Research on production of local food allergens for allergy skin testing 	<ul style="list-style-type: none"> • First Kit to detect dengue in mosquitoes • Maggot debridement therapy • First kit to detect enzyme in saliva • Chikungunya virus detection in mosquitoes • Nutrition software • Initiated Globinmed, a hub on integrated medicine with information on traditional medicine • Establishment of Malaysian Stem Cell Registry (MSCR) • Publication of Herbal Medicines Used in Primary Health Care in ASEAN



Year	Research Milestones	Landmark Achievements
2006-2010	<ul style="list-style-type: none"> • Confirmation of influenza in human during avian influenza outbreak • Biolarvicide, <i>Bacillus thuringiensis</i> H-14 (Bti) was field evaluated • Newborn screening of Inborn Error of Metabolism (IEM) 	<ul style="list-style-type: none"> • Transgenic mosquito • Global Information Hub on Integrated Medicine (GlobinMed) was officially launched • Establishment of Malaysian Epidemiological Investigation of Rheumatoid Arthritis (MyEIRA), an international medical research collaboration with Karolinska Institutet, Sweden • World first genetically modified <i>Aedes aegypti</i> • Maggot has been distributed to the government and private hospitals for treating diabetic ulcer • IMR Autocidal Trap device
2011-2015	<ul style="list-style-type: none"> • Tuberculosis diagnostics method (Nucleic Acid Lateral Flow Immunoassay) • Wolbachia research as vector control strategies • Development of quantitative measurements of salt iodine • Mass application of <i>Aedes</i> Autocidal traps in dengue outbreak areas-effective in trapping <i>Aedes aegypti</i> and <i>Aedes albopictus</i> 	<ul style="list-style-type: none"> • Development of Novel Dengue Control tool • Innovation Business Opportunities <ul style="list-style-type: none"> - Biopesticide for control of mosquito larvae - PAINTICIDE - an insecticide-impregnated emulsion paint • Reference Lab for Exotic diseases • Establishment of biospecimen bank to collect specimen for research • National Japanese Encephalitis - full accreditation by WHO • Development of rapid PCR and real time PCR methods for detection of <i>Mycobacterium tuberculosis</i> and the detection of <i>Bordetella pertussis</i> and <i>Brucella species</i> • Reference Laboratory for MERS-CoV • Malaysia Stem Cell Registry successfully facilitating three transplants from match unrelated registered donors • Reference Laboratory for Zika virus • 10 diagnostic laboratory were accredited with MS:ISO15189 by Department Standards Malaysia • Non-Clinical Research Facility (NCRF) IMR in compliance with OECD Principles of Good Laboratory Practice (GLP) and NPCB GLP Compliance Programme • Malaysian Herbal Monograph book
2016-2017	<ul style="list-style-type: none"> • Initiated Wolbachia study in collaboration with universities from UK and Australia • Reported the first local case of zika infection (Subsequently 7 more cases of zika infections were reported) 	<ul style="list-style-type: none"> • Reference Laboratory for Molecular Diagnosis of Rabies virus • Wolbachia carrying mosquito released to public • Wolbachia laboratory • Newton-Ungku Omar Fund: UK-Malaysia Bilateral Health Research Collaboration in Non-Communicable Diseases • Dengue, Zika and Chikungunya prevention programme and public engagement

Patents (2006-2017)

- Rapid test kit for the detection of insecticide resistance due to mixed function oxidases
- Rapid test kit for the detection of insecticide resistance due to insensitive acetylcholinesterase
- Process for preparation of *Labisia pumila* extract
- Method and test kit for rapid detection of insecticide resistance in an insect due to glutathione s-transferase enzyme
- Method and test kit for rapid detection of insecticide resistance in an insect due to non-specific esterases
- Rapid test kit for detection of dengue virus in mosquito vectors
- Kit for rapid detection of chikungunya virus in mosquitoes
- Production Process for a Malaysian isolate of mosquitocidal *Bacillus sphaericus*
- Anti-cancer toxins of Malaysian isolates of mosquitocidal *Bacillus thuringiensis*
- Electronic Mosquito Detector
- Method and use of plant extract to stabilise oil
- A Chip based on microarray assay for the detection, genotyping and analysis of antibiotic resistant strain of *Mycobacterium tuberculosis*
- Field house design for testing mating competitiveness of genetically modified mosquitoes
- Improved method of sterilising *Lucilia cuprina* used in maggot debridement therapy
- Composition for controlling mosquitoes
- Extraction of anti-bacterial agents from sterile medicinal *Lucilia cuprina* larvae
- Method for detection of Tuberculosis and Atypical Mycobacterial Infections
- Insecticidal coating composition
- Copper (II)-Mixed Ligand Complexes with Anticancer Properties
- A method and a system for packaging and delivering an insecticide or larvicide to target areas



THE STRATEGIC PLAN FOR IMR

IMR is the only biomedical research institute under the Ministry of Health Malaysia. In its 110 years since inception, IMR has contributed significantly to the knowledge, understanding, treatment and control of major tropical diseases including beri beri, filiriasis, scrub typhus, small pox, leprosy, tuberculosis and nutritional diseases. Over the years, the scope and function of IMR have expanded to include non-communicable diseases, cancers, herbal medicines and preclinical drug discoveries in line with the needs of country's health issues.

To become a world renowned biomedical research institute and remain competitive as well as to be relevant in global research, IMR has developed a strategic plan with identified four pillars for the period of 2019 till 2030 which are:

- 1. Impactful Research** to ensure research conducted is for the protection and promotion of health of the population through focus research areas, sustainable funding and excellent governance;
- 2. Precision Diagnostics** which is aimed at ensuring excellence in service provision for the nation and region;
- 3. Capacity Building** is to ensure the institute has a cadre of highly competent workforce that will become experts and consultants to relevant health and issues; and
- 4. Increase Visibility** as the last pillar is to ensure that the presence of IMR is making a mark in the scientific and public community.



IMR as the Secretariat for the Inter-Islamic Network in Tropical Medicine (INTROM) Technical Cooperation

IMR has been the focal point and secretariat to steer and conduct activities for the Inter-Islamic Network in Tropical Medicine (INTROM). INTROM is the 8th Inter Islamic Network in the Ministerial Standing Committee on Scientific and Technological Cooperation (COMSTECH) established in 1987 under the Organization of Islamic Countries (OIC). The member countries of INTROM include Algeria, Egypt, Iraq, Kingdom of Saudi Arabia, Malaysia, Niger, Pakistan, Senegal and Turkey. Its mission is to strengthen the individual and collective capacity of OIC countries in COMSTECH through mutual cooperation, collaboration and networking resources for socio-economic development and rapid industrialization of member countries.



Participants of INTROM knowledge - exchange technical workshop
18-27 Sept 2018

INTROM has organized several technical training workshops in tropical medicine in collaboration with the Malaysian Technical Cooperation Programme (MTCP) which was launched in 1980 to focus on human resource development with regards to Malaysia's commitment to South-South Cooperation. INTROM organises a mix of field work, laboratory attachment and lectures. Some of the workshops are as follows:

- 18-27 September 2018: "Laboratory Identification and Detection of Zika Virus from Human and Mosquito Vectors" due to large Zika Virus outbreak at Brazil in 2015.
- September 2016: "Epidemiology and Diagnosis of Middle East Respiratory Syndrome Coronavirus (MERS-CoV)" due to the outbreak of MERS-CoV.
- August 2014: "Epidemiology and Identification of Dengue Vectors and Detection of the Virus in the Vectors and Humans".



Laboratory work by INTROM participants
18-27 Sept 2018



Fieldwork by INTROM participants
18-27 Sept 2018



Briefing during the launch of INTROM workshop 18-27 Sept 2018

SEAMEO is a regional intergovernmental organisation established at a meeting held among the Ministers of Education of Lao People's Democratic Republic (PDR), Malaysia, Singapore, Thailand and Republic of (South) Vietnam in Bangkok on the 30th November 1965. The consensus of the meeting was to improve the quality of life of people in Southeast Asia through regional cooperation in education, science, technology and culture.

Currently the members of SEAMEO are Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam and Timor-Leste. Its Associate Members are Australia, Canada, France, Germany, Netherlands, New Zealand, Spain and United Kingdom. SEAMEO affiliate members are International Council for Open and Distance Education, University of Tsukuba and British Council.

SEAMEO's highest policy making body is the SEAMEO Council (SEAMEC), which is composed of the Ministers/Secretaries of Education of the Member Countries. SEAMEO's administrative functions are performed by the Secretariat (SEAMES) located in Bangkok, Thailand. SEAMEO has 21 Centres, specialised institutions that undertake training and research programmes in various fields of education, science, and culture. SEAMEO TROPMED Network is one of them.

SEAMEO TROPMED Network

SEAMEO TROPMED was established on November 1966 with the coordinating office, the TROPMED Central Office at Bangkok, Thailand. The Network serves as a focal point in education and research in tropical medicine and public health with an overall role in promoting health and tropical diseases and public health problem, prevention and control. Its mission is to develop the capacity of individuals and institutions in delivering quality healthcare with objectives as follow:

- to train health workers in quality healthcare managements at different levels of the health system, with due regard to diversities in culture, needs and expectations of people for whom these services are intended;
- to support research on endemic and newly emerging diseases associated with changing environments;
- to advocate relevant health policies that are compatible with equitable and sustainable development;
- to empower communities with the necessary knowledge and skills for understanding and finding solutions to health problems; and
- to encourage the use of traditional and modern-day tools for health promotion and disease prevention whenever and wherever applicable, and to minimise the economic burden of health.

INTERNATIONAL COLLABORATION

Southeast Asian Ministers Of Education Organization (Seameo) Tropical Medicine And Public Health Network (Tropmed)



SEAMEO TROPMED NETWORK MALAYSIA Regional Centre for Microbiology, Parasitology and Entomology

SEAMEO TROPMED Network Malaysia is situated at IMR and functions as the Regional Centre for Microbiology Parasitology and Entomology, which conducts two post graduate diploma courses:

1. Diploma In Applied Parasitology and Entomology (DAP&E)

DAP&E was initiated in IMR, 1970 and annually conducts the course from July to December. Since then, 667 candidates from 53 countries have graduated until today.

2. Diploma in Medical Microbiology (DMM)

DMM was initiated in Saigon, Vietnam and later transferred to Philippines. In 1978, it was handed over to IMR. The course annually commence from February to July. Since then, 500 candidates from 60 countries have graduated until today.

These programmes focus on practical syllabus in either laboratory analysis and field experiments.





Malaysian Herbal Monograph : A National Initiative

The number of herbal and traditional products registered in Malaysia is increasing reflecting the growing demand and acceptance by consumers. Therefore, it is important to ensure that the local herbal and traditional products produced are of high quality, safe and comply with international standards through sustainable good quality raw materials. An herbal monograph is defined as a document that describes botanical drug or raw material and provides information that allows for its proper identification using a list of analytical tests and tests specifications. Many countries such as United States, United Kingdom, Europe, China, Japan and India developed herbal monographs as it is important to the industry where the pathway for local products to enter global and international market will be easier and more accessible.

Malaysian Herbal Monograph (MHM) was produced as part of national level initiatives to support the government through producing high value herbs. The objective is to provide proper documentation for raw material authentication, safety and efficacy data of local herbs plants and their product to support the industrial needs in compliance with general international requirement. The MHM Technical Committee consists of seven agencies involving Institute for Medical Research (IMR), National Pharmaceutical Regulatory Agency (NPR), Forest Research Institute Malaysia (FRIM), Malaysian Agricultural Research and Development Institute (MARDI), Universiti Sains Malaysia (USM), Universiti Kebangsaan Malaysia (UKM) and Universiti Putra Malaysia (UPM). The Technical Committee is answerable to the Main Committee that is co-chaired by IMR and NPR.



Monographs that have been developed and endorsed by the committee can be obtained via two resources:

- A. Online (GlobinMed website) - www.globinmed.com.
- B. Book Publication

IMR RESEARCH HIGHLIGHT

In 2018, Dr Nazni Wasi Ahmad and her team won the “Dr Lee Jong-Wook Memorial Prize for Public Health” for the Maggot Debridement Therapy (MDT) at the 71st World Health Assembly Which was held on 21-26 May 2018 in Geneva, Switzerland.

MDT : A simple, affordable, accessible and painless alternative for diabetic ulcer, amputation & revival of maggot therapy. MDT research is successfully translated into national policy and strategy for health and easily accessed wound care at primary health care setting.

Readers' link:
<https://www.thestar.com.my/news/nation/2018/05/25/imr-team-receives-prestigious-award-for-wound-healing-with-maggots/>

PENCETUS INSPIRASI
Dr. Nazni saintis pakar serangan

Dr. Nazni Wasi Ahmad, DPMSc, PhD, FRCGS, FRCR, FRCR (S), FRCR (C), FRCR (D), FRCR (E), FRCR (G), FRCR (H), FRCR (I), FRCR (J), FRCR (K), FRCR (L), FRCR (M), FRCR (N), FRCR (O), FRCR (P), FRCR (Q), FRCR (R), FRCR (S), FRCR (T), FRCR (U), FRCR (V), FRCR (W), FRCR (X), FRCR (Y), FRCR (Z)

MAGGOT DEBRIDEMENT THERAPY

Dr. Nazni Wasi Ahmad, DPMSc, PhD, FRCGS, FRCR, FRCR (S), FRCR (C), FRCR (D), FRCR (E), FRCR (G), FRCR (H), FRCR (I), FRCR (J), FRCR (K), FRCR (L), FRCR (M), FRCR (N), FRCR (O), FRCR (P), FRCR (Q), FRCR (R), FRCR (S), FRCR (T), FRCR (U), FRCR (V), FRCR (W), FRCR (X), FRCR (Y), FRCR (Z)

Dr. Nazni Wasi Ahmad, DPMSc, PhD, FRCGS, FRCR, FRCR (S), FRCR (C), FRCR (D), FRCR (E), FRCR (G), FRCR (H), FRCR (I), FRCR (J), FRCR (K), FRCR (L), FRCR (M), FRCR (N), FRCR (O), FRCR (P), FRCR (Q), FRCR (R), FRCR (S), FRCR (T), FRCR (U), FRCR (V), FRCR (W), FRCR (X), FRCR (Y), FRCR (Z)



CRC

MINISTRY OF HEALTH MALAYSIA

Research that matter to patients



Figure 1: 20 Years Journey of CRC

Clinical Research Centre

A Detailed Look

Clinical research has not evolved in a big way in both public and private hospitals despite the wealth of clinical material that is available in hospitals in Malaysia. Some of the contributing factors were insufficient funding, shortage of human resources, busy work schedules of doctors and lack of proper training for clinical research. Additionally, numerous diseases that are more common in our region were still poorly understood as they were not researched upon. Hence, the Ministry of Health (MOH) took a lead in conducting research in these areas and contribute to the understanding of these diseases. Therefore, the Clinical Research Centre (CRC) was established in 1998 at Kuala Lumpur Hospital to provide the opportunity to conduct clinical research in a more structured, dedicated and coordinated manner.

The centre functions as the clinical research arm of the MOH to coordinate and conduct clinical research to provide evidence for clinical practice. CRC was then restructured into National CRC (NCRC) with a network consisting of 33 hospital CRCs (Table 1). Currently, NCRC is one of the six research institutes under the National Institutes of Health (NIH). NCRC is located at Level 3, Dermatology Block, Kuala Lumpur Hospital and the hospital CRCs are located at the respective hospitals throughout Malaysia. The CRC network is delivering thousands of investigative sites from the integrated network of public hospitals and clinics for clinical trials and research.

Directors of NCRC



Dato' Dr. Zaki Morad bin Mohd Zaher
2000 - 2006



Dr. Lim Teck Onn
2006 - 2010



Dato' Dr. Goh Pik Pin
2010 - present

Establishment of CRC Network

No.	Name of CRC	Year of establishment
1.	CRC, Kuala Lumpur Hospital, Kuala Lumpur	1997
2.	CRC, Raja Perempuan Bainun Hospital, Perak	2001
3.	CRC, Pulau Pinang Hospital, Pulau Pinang	2003
4.	CRC, Kuching General Hospital, Sarawak	2003
5.	CRC, Tengku Ampuan Afzan Hospital, Pahang	2004
6.	CRC, Sultanah Bahiyah Hospital, Kedah	2006
7.	CRC, Selayang Hospital, Selangor	2006
8.	CRC, Tuanku Jaafar Hospital, Negeri Sembilan	2006
9.	CRC, Melaka Hospital, Melaka	2006
10.	CRC, Sultanah Aminah Hospital, Johor	2006
11.	CRC, Sultanah Nur Zahirah Hospital, Terengganu	2006
12.	CRC, Raja Permaisuri Zainab II Hospital, Kelantan	2006
13.	CRC, Queen Elizabeth Hospital, Sabah	2006
14.	CRC, Tengku Fauziah Hospital, Perlis	2007
15.	CRC, Ampang Hospital, Selangor	2007
16.	CRC, Serdang Hospital, Selangor	2008
17.	CRC, Tengku Ampuan Rahimah Hospital, Selangor	2008
18.	CRC, Cheras Rehabilitation Hospital, Kuala Lumpur	2008
19.	CRC, Sg. Buloh Hospital, Selangor	2010
20.	CRC, Putrajaya Hospital, Putrajaya	2010
21.	CRC, Sibiu Hospital, Sarawak	2010
22.	CRC, Seri Manjung Hospital, Perak	2011
23.	CRC, Queen Elizabeth II Hospital, Sabah	2011
24.	CRC, Likas Hospital, Sabah	2011
25.	CRC, Taiping Hospital, Perak	2011
26.	CRC, Seberang Jaya Hospital, Pulau Pinang	2011
27.	CRC, Miri Hospital, Sarawak	2012
28.	CRC, Sultan Ismail Hospital, Johor	2012
29.	CRC, Sultanah Fatimah Specialist Hospital, Johor	2014
30.	CRC, Sultan Abdul Halim Hospital, Kedah	2014
31.	CRC, National Cancer Institute, Putrajaya	2014
32.	CRC, Duchess Of Kent Hospital, Sabah	2014
33.	CRC, Shah Alam Hospital, Selangor	2016

Roles of NCRC

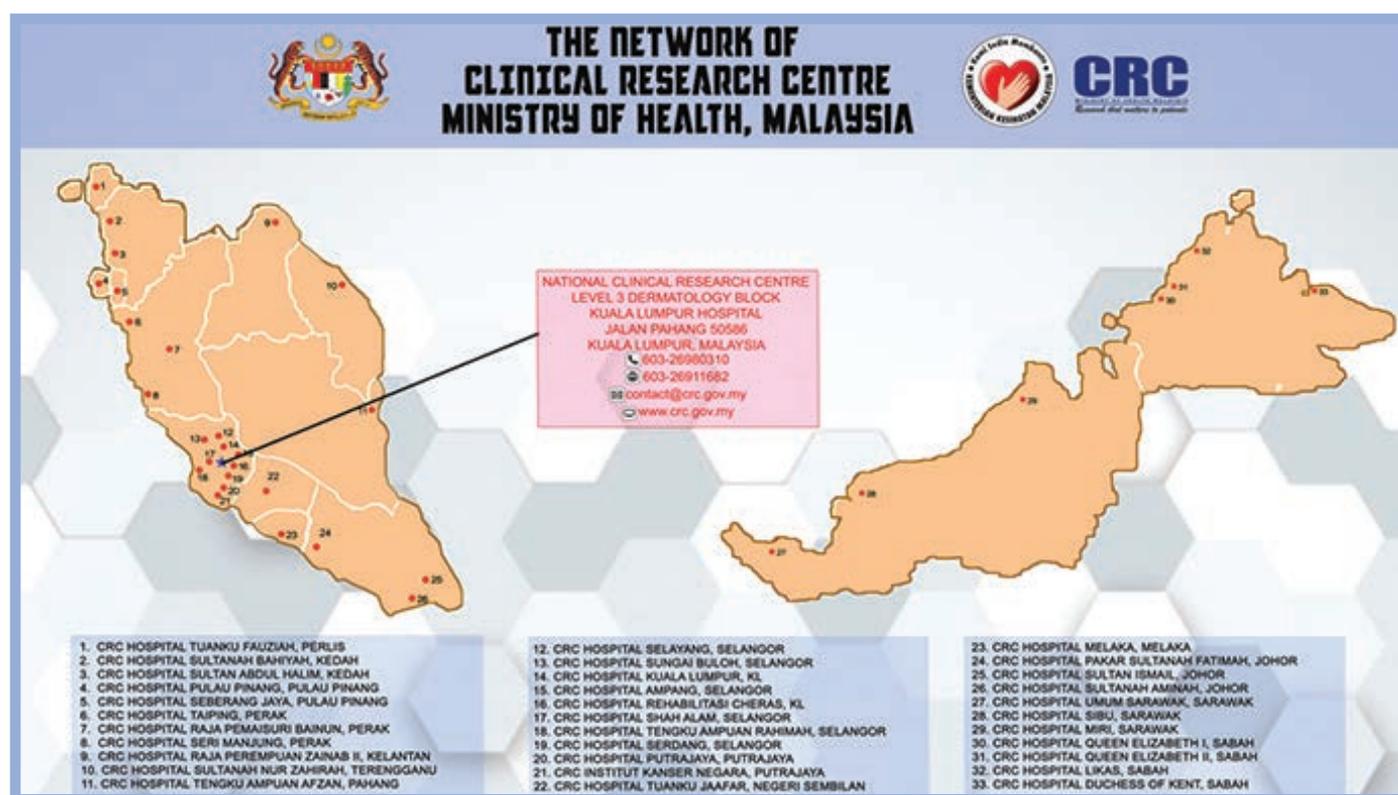
1. Lead the development and strengthening of MOH's clinical research capacity
2. Facilitate the establishment of hospital clinical research centres and provide technical support to the network of hospital CRCs
3. Promote and support the conduct of Investigator Initiated Research (IIR) among MOH staff
4. Coordinate the conduct of Industry Sponsored Research (ISR) at MOH facilities
5. Establish and maintain clinical database for the MOH
6. Establish collaboration with local, regional and international research organisations in the pursuit for excellence in clinical research in the country

Roles of Hospital CRCs

1. Support and facilitate research activities in the hospital through the provision of:
 - a) Database on clinicians interested in research, records of Industry Sponsored Research (ISR) or Investigator Initiated Research (IIR) and publications
 - b) Technical support such as statistical analysis
 - c) Administrative support such as research assistants and study coordinators
 - d) Facility support such as IT, statistical software and others
2. Assist in NMRR (National Medical Research Register) research protocol registration and grants application
3. Participate in clinical trials and other research initiated or coordinated by NCRC
4. Promote research through capacity building in:
 - a) Training courses like Good Clinical Practice (GCP), Introduction to Clinical Research (ICR), Research Method and Statistics
 - b) Regular in-house Continuous Professional Development (CPD) programmes
 - c) Research clinics – providing consultation on research methodology, study design, and statistical analysis

Programs and Accomplishments

1) Expansion of Network



2) IIR

The Clinical Trial Unit aids IIR in MOH by providing training, research support during study initiation, monitoring and closeout and other services such as data management and medical writing. The aim is to develop **world class researchers** capable of producing research that matters to patients in Malaysia. The following are two examples:

- Local researchers in a continuous ambulatory peritoneal dialysis study, compared twin-bag systems from two different manufacturers and found that one had more product defects. After conveying this to the manufacturer, the researchers found that fewer defects were later reported.
- Local researchers found that Cumulative Sum (CUSUM) analysis, an objective long-term evaluation of performance which is compared to a set standard, can be used to monitor and promptly identify adverse events and unacceptable outcome trends in cataract surgery. Their findings prompted the MOH to adopt the CUSUM competency monitoring in its Ophthalmology programme.

3) From One-Stop-Centre to Clinical Research Malaysia (CRM)

The NCRC launched the One-Stop Centre (OSC) in April 2007 to better manage and monitor clinical trials in the MOH. As the point of contact for the hospital CRCs network, OSC offers pharmaceutical and contract research outsourcing companies easier access to government hospitals and clinics for sites and investigators for their clinical trials. The OSC also helps to conduct feasibility assessments, start-up services such as contract and financial administration, institutional approvals, ethics and regulatory submissions, and provide site coordinators and other site resources.

In 2010, plans to expand OSC's role was set in motion. As Malaysia becomes a favourable destination for clinical trials, OSC was touted to emerge as CRM. It will be a national entity that will focus on ways for Malaysia to be a bigger player in the globalisation and off-shoring of contract research. CRM was established to ensure transparency in financial processes, reduce timelines, and be a single marketing platform. Details on the government of Malaysia inclusion of clinical research as one of its economic drivers are covered in chapter 6 of the Economic Transformation Programme: A Roadmap for Malaysia.



4) Clinical Epidemiology & Patient Registries

The NCRC established a patient registry in all significant clinical disciplines in Malaysia. Individual patient's data from a patient registry aggregated to the population level can address important healthcare information that will strengthen the evidence-based for healthcare and health policy decision making. The CRC has supported or helped to establish 29 disease registries.



SCAN ME

5) Healthcare Statistics

NCRC established the National Healthcare Statistics Initiative (NHSI) to provide statistical support for evidence-based healthcare policy making and research in Malaysia. The NCRC together with several divisions in the MOH namely, Medical Development Division, Family Health Development Division, Planning & Development Division, Pharmaceutical Services Division, National Pharmaceutical Control Bureau, Engineering Services Division, and Medical Device Bureau have initiated surveys for healthcare establishment and workforce, medicines use, medical device and medical care.



SCAN ME

National Medicine Use Survey

Collects data on the supply, procurement, prescription, dispensing and use of medicines in Malaysia

National Medical Device Survey

Collects data on the supply, procurement, inventory and use of medical devices in Malaysia

National Healthcare Establishment and Workforce Survey (Hospital)

Collects data about the organisations and providers that supply healthcare

National Healthcare Establishment and Workforce Survey (Primary care)

Collects data about the services rendered by healthcare organisations/providers, the supporting healthcare facilities and workforce

6) Phase 1 Clinical Trial Ward

The clinical trial ward, a 46-bed unit conducts phase I, II, bioequivalence and bioavailability studies for pharmaceutical companies. In addition, it offers quality assurance and quality control, project management, data management and other support.

Clinical trial ward



7) National Medical Research Register (NMRR)

The web-based NMRR is the first research register in the world that links research proposal registration to ethical review and research grant application. It was developed to ensure research transparency and to increase public trust in the conduct of medical research. Since its inception, NMRR has undergone various improvisations to develop its utility and versatility. With the industry and research community calling for efficiency in the review process and transparency in clinical research information, Malaysia is on the right track with its online research register. The NMRR is well utilised in the MOH and there are efforts to encourage its use among private and university research organisations. The involvement of these institutes can enhance NMRR's worth and significance and confirm its role as a national register.



SCAN ME

8) Training & Consultancy

Training has always been a priority in NCRC and the hospital CRCs network. Two years after the National Committee for Clinical Research developed the Malaysian Guidelines for Good Clinical Practice (GCP), CRC began the workshops. As interest in research rose, so did the number of workshops. By 2010, GCP workshops were held monthly and across the country. Other training courses (evidence-based medicine, research ethics, research methodology, biostatistics, SPSS, pharmacoepidemiology, pharmacoconomics, medical writing, registry management, clinical trial management, project management, etc) were also developed to improve research skills; some of these in collaboration with universities, research organisations and the pharmaceutical industry. The CRC also offered weekly Research Consultation Clinics to assist new researchers with protocol development, research methodology and data analysis.

9) National Conference for Clinical Research (NCCR)

This pivotal clinical research event provides a platform for industry players from countries in Asia to promote clinical research opportunities available in their respective nations. This annual event attracts speakers and delegates from both local and international clinical research industry. Other attractions are the extensive exhibition by industry players eager to make their presence felt in the Asian region, and the pre-conference workshops.



SCAN ME



NCCR 2018

12TH NATIONAL CONFERENCE FOR CLINICAL RESEARCH

**PATIENT-CENTERED RESEARCH:
DIGITAL HEALTH**

24 - 25 SEPTEMBER 2018 | HOTEL ISTANA, KUALA LUMPUR, MALAYSIA

The 12th NCCR with the theme “**Patient-Centered Research: Digital Health**” brings clinical researchers, stakeholders and enthusiasts, timely topics within the field of patient centric research. The bridge between patient care and the advancements of digitalisation in healthcare is continuously being improved, leading to an era of medicine that far surpasses the boundaries of traditional patient centric care.

Disruptive innovation theory was first developed in 1995. From its original meaning, the words “disruptive innovation” has morphed into a “buzz word” in the field of business and technology to mean innovative ideas that successfully develop into models that overturn existing and well-established norms. For more than a decade, digitalization has been making waves in the healthcare industry with innovations that have challenged and changed the delivery of patient care, placing patients’ needs fully within its core.

With medical technology, large and creative strides to bring new ways of doing things must be based on evidence. Evidence based medicine that is peer-reviewed is the foundation in which delivery of healthcare rests upon. Therefore, clinical research must embark into gathering evidence to ensure that the practical applications of digitalized healthcare provide relevant, effective and safe patient care.

Y.B. Dr. Lee Boon Chye, Deputy Minister of Health Malaysia, officiated the 12th NCCR on 24 to 25 September 2018 at Istana Hotel, Kuala Lumpur. Video recordings of speeches delivered by Y.B. Dr. Lee Boon Chye, Y.Bhg. Datuk Dr. Noor Hisham Abdullah, Director General of Health Malaysia and Y.Bhg. Dato’ Dr. Amar Singh HSS can be accessed by scanning this QR Code.



Y.B. Dr. Lee Boon Chye officiating the 12th NCCR (From left: Dr. Kalaiarasu M. Peariasamy, Datuk Dr. Shahnaz Murad, Dr. Lee Boon Chye, Dr. Akhmal Yusoff, Dato’ Dr. Goh Pik Pin)



FOLLOW US



Madam Allison Chong Nyuen Yin, representative of Dr Wu's family and Vice-President of Dr. Wu Lien-Teh Society, Penang and Dr. Hor Chee Peng, Secretary General of Dr. Wu Lien-Teh Society, Penang



12th NCCR 2018 photo with Y.B. Dr. Lee Boon Chye, Datuk Dr. Shahnaz Murad, NIH Directors, Organizing and Scientific Committees



The 12th NCCR gathered a diverse group of around 400 delegates



Y.Bhg. Datuk Dr. Noor Hisham Abdullah presented the 1st plenary - "Digital Health Transformation - Connected Healthcare"

Winners of the Young Investigator Awards (YIA)

Prize	Title	Presenter
First	Outcomes And Cost-Effectiveness Of Chemotherapy Induced Nausea And Vomiting In Malaysia	Chan Huan Keat, CRC, Sultanah Bahiyah Hospital
Second	Chemotherapy And First Generation Tyrosine Kinase Inhibitors (TKIs) In Non-Small-Cell Lung Cancer (NSCLC)	Mohd Naqib Zainal Abidin, National Cancer Institute
Third	Membrane Sweeping Versus Transcervical Foley Catheter For Induction Of Labour In Women With Previous Caesarean Delivery	Wong Xiu Sing, Sibiu Hospital
Merit	HLA-B*58:01 Allele Detection By The High Resolution Melt (HRM) Method	Anusha Devi Nawoor, University, Malaysia
Merit	First Line Pazopanib In Metastatic Renal Cell Carcinoma: A 'Real-World' Experience At National Cancer Institute	Nik Nuradlina Nik Adnan, National Cancer Institute
Merit	Dna Quantity & Quality Of Specimens In Long Term Storage At Bioarchiving Facility	Jerry Anak Gerunsin, CRC Sarawak General Hospital & CRM

Winners of the Research Poster Competition

Prize	Title	Presenter
i. Research Category		
First	Measurement Error And Health Literacy Among Caregivers In Sibiu Hospital	Chuo Sing Hong, Sibiu Hospital
Second	Association Of High Baseline Platelet Reactivity, Obesity, And Smoking With Aspirin Resistance In Severe Coronary Artery Disease Patients	King Teck Long, CRC Sarawak General Hospital
Third	Weighing Pressurised Metered Dose Inhaler (PMDI) As Dose Counting Method	Gobi Hariyanagam Gunasekaran, Seri Manjung Hospital
Merit	Impact Of Pharmacist-Led Home Visit On Management Of Medicine Among Patients In Muar District	Tan Chun Ming, Muar Heath Office
Merit	The Compliance Of Pre-Operative Test In Minor Elective Surgery: A Single-Center Experience	Law Kian Boon, NCRC
ii. Case Report/ Clinical Audit Category		
Case Report	H Syndrome: The First Report In Malaysia	Tang Min Moon, Kuala Lumpur Hospital
Clinical Audit	SLE In A Young Nale: A Diagnostic Challenge	Hairul Hadi Ariff, Putrajaya Hospital

9th NATIONAL PUBLIC HEALTH CONFERENCE

15-18 July 2018
Royale Chulan Hotel
Seremban, Negeri Sembilan

TRANSLATING HEALTH POLICIES INTO EFFECTIVE ACTION



Y.Bhg. Datuk Dr Azman bin Abu Bakar, Deputy Director General of Health Malaysia delivering his opening speech



The 4th Batch Members of The Malaysian Public Health Physicians' Association Fellowship



Y.Bhg. Datuk Dr Azman bin Abu Bakar Deputy Director General of Health Malaysia viewing research posters



Royal Malaysian Armed Forces Booth



The 9th Public Health Conference was held from 15th to 18th of July 2018 at the Royale Chulan Hotel in Seremban, Negeri Sembilan. The participants were from the Ministry of Health as well as personnel from the Royal Malaysian Armed Forces and representatives from the academic community. The Malaysian Public Health Physicians Association and Negeri Sembilan State Health Department were involved in planning and organising the event.

The event theme was “Translating Health Policies into Effective Action” signifying the pledge to utilise current policies on public health to produce significant results that will lead to the betterment of the health of society. The conference was officiated by Y.Bhg. Datuk Dr. Azman bin Abu Bakar, the Deputy Director General of Health Malaysia and graced by the presence of Y.Bhg. Datuk Zainuddin bin Mohd Ali, State Health Director, Negeri Sembilan and Dr Wan Mansor bin Hamzah, President of the Malaysian Public Health Physicians Association.

The three-day event consisted of various workshops, symposiums and plenary sessions that addressed the latest developments in the field of public health. The pre-conference workshops covered topics such as public health surveys using mobile apps and patient classification. Symposium sessions touched on various topics such as adolescent health and non-communicable diseases. Plenary sessions focused on current issues such as big data analytics and the development of the Industrial Revolution 4.0.

A total of 10 organisations - Ministry of Health-related institutions and life science companies set up exhibition booths to promote their research findings and products. Research institutions such as the Institute for Public Health, Institute for Health Management and Institute for Medical Research displayed their published work and award-winning research posters whereas companies such as Medifeet Orthocare and Agricultural Chemicals exhibited laboratory safety equipment and chemical reagents, respectively.

Top Six Poster Presentations

No.	Title	Presenter
1	The Hazard Ratio of Stroke in Adult Population 25 Years and Above: A Prospective Cohort Study 2011-2-17 In Bogor, Indonesia	Dr. Woro Riyadinah, Ministry of Health Indonesia
2	The Relationship of Eating Habits and Stress Among Undergraduate Medical Students In IIUM, Kuantan	Dr. Hafizah Parsi, International Islamic University Malaysia
3	Spatial Distributions and Social Demographic Characteristics of Leptospirosis Cases in Kuala Lumpur	Dr. Mohd Amierul Mahmud, Institute for Public Health, MOH
4	Fish Consumption Pattern and Genetic Polymorphism Among Pregnant Women in Petaling District, Selangor	Dr. Amirah Abedinlah, Universiti Putra Malaysia
5	Factors Associated with Bullying, Victimization Among Adolescents in Malaysia	Dr. Lee Ann Tan, Institute for Public Health, MOH
6	Body Weight Misperception and Their Action Among Malaysian Adolescents: Findings from Adolescents Nutrition Survey 2017	Dr. Nur Shahid Abd Aziz, Institute for Public Health, MOH

Top Six Oral Presentations

No.	Title	Presenter
1	Does Knowledge Translate into Postpartum Family Planning Practice?	Dr. Hafizah Ibrahim, Universiti Sains Malaysia
2	Multimorbidity In Older Adults: More Than Just Chronic Illness	Dr. Awatef Amer Nordin, Universiti Malaya
3	Prevalence of Hand-Arm Vibration Syndrome Among Tyre Shop Workers in Kota Bharu Kelantan	Dr. Asraf Ahmad Qamruddin, Universiti Sains Malaysia Hospital, Kubang Kerian
4	Domiciliary Healthcare Service in Klang District: Factor Affecting Functional Outcomes of Bedridden Patients	Dr. Ho Bee Kiau, Bandar Botanik Health Clinic, Klang District Health Office,
5	Is Chronic Kidney Disease on The Rise in Malaysia: Findings from A Nationwide Study	Dr. Thamil Arasu Saminathan, Institute for Public Health, MOH
6	Rotavirus Outbreak in A Hot Spring Recreational Centre In Baling, Kedah 2017	Dr. Tan Seok Hong, Kedah State Health Department



Prestigious Awards

Award • 2018 Leadership Award, Global Submit for Intellectual Property and Access to Medicine in Marrakesh, Morocco, 15-17 January 2018

At the recent Global Submit for Intellectual Property and Access to Medicine in Marrakesh, Morocco, MOH was awarded the 2018 leadership award for its effort in getting the world first compulsory license for Sofosbuvir, one of the direct acting antivirals (DAA) to treat Hepatitis C.



There are a few activities that MOH had done which led to this award. One of them is the IIT on Hepatitis C at 4 MOH sites i.e. Selayang Hospital, Ampang Hospital, Tuanku Ampuan Afzan Hospital and Sultanah Bahiyah Hospital. The principal investigator

(PI), Dr Tan Soek Siam of Selayang Hospital and Co-investigator, Dato' Dr Radzi Abu Hassan, CRC Sultanah Bahiyah Hospital contributed to the trial. The contributions by NCRC and Hospital CRCs network in this Hepatitis C IIT have become "agent of change" that indirectly lead to the compulsory licensing of Sofosbuvir in Malaysia.

Award : **Dr. Lee Jong-Wook Memorial Prize for Public Health for Healing Diabetic Wounds and Preventing Limb Amputation, at 71st World Health Assembly, 21-26 May 2018**

PI /Officer : **Dr Nazni Wasi Ahmad**

Unit/Centre : **Entomology Unit, Infectious Disease Research Centre (IDRC), IMR**

Location : **Geneva, Switzerland**



Recognition Award

Award : Asia Pacific Academic Consortium For Public Health (APACPH) Public Health Recognition Award, in conjunction with the 50th edition of the APACPH

PI /Officer : Dr.Tahir bin Aris

Unit/Centre : Institute of Public Health (IKU)

Location : Kota Kinabalu, Sabah



Awards

Award : Bronze Medal for Salt Iodate Micro-Method (SIMM) Kit, at Malaysian Technology Expo (MTE 2018), 22-24 Feb 2018

PI /Officer : Ms Husniza Hussain & Hj Mohd Zainuldin Taib

Unit/Centre : Nutrition Unit, Cardiovascular Diabetes and Nutrition Research Centre (CDNRC) & Information Technology Unit, Medical Resources Research Centre (MRRC), IMR

Location : Kuala Lumpur



Award : Bronze Medal for IMR Forensic Entomology Kit to Improve the Quality of Crime Scene Investigation (CSI), at Malaysian Technology Expo (MTE 2018), 22-24 Feb 2018

PI /Officer : Dr Nazni Wasi Ahmad

Unit/Centre : Entomology Unit, Infectious Disease Research Centre (IDRC), IMR

Location : Kuala Lumpur

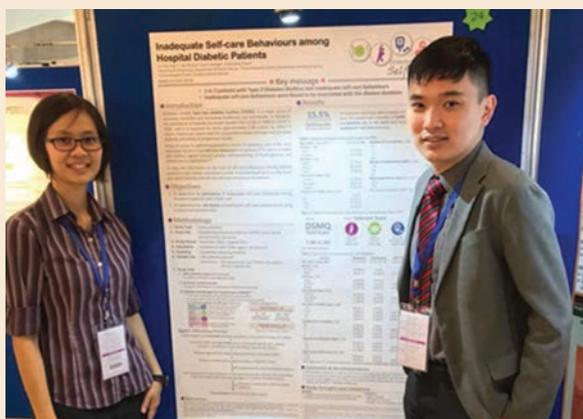


Award : 1st place for poster presentation entitled "Inadequate Self-care Behaviours among Hospital Diabetic Patients" in the 10th National Pharmacy R&D Conference 2018

PI /Officer : Chan Huan Keat and Ang Ju Ying

Unit/Centre : CRC

Location : Kuala Lumpur

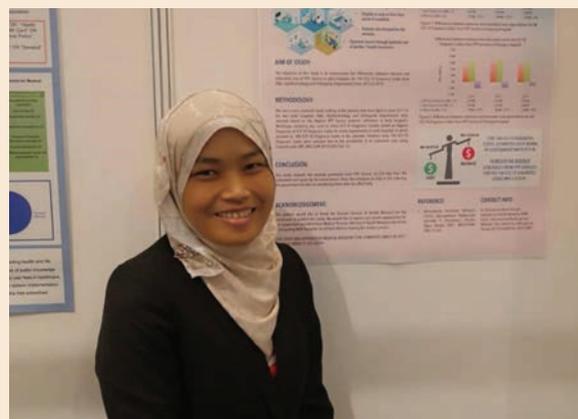


Award : Best presenter award for poster presentation entitled "Full Paying Patients Service: How Much Differences Between Revenues And Estimated Costs", in the 7th International Public Health Conference, at Hotel Putrajaya

PI /Officer : Hairusnizan binti Hamzah

Unit/Centre : Institute for Health Management (IPK)

Location : Putrajaya



Award : Bronze Medal for Organ Transplant and Encephalitis Quick and Accurate Diagnosis Using Herpes Viruses Fourplace, at Malaysian Technology Expo (MTE 2018), 22-24 Feb 2018

PI /Officer : Dr. Ravindran Thayan

Unit/Centre : Virology Unit, Infectious Disease Research Centre (IDRC), IMR

Location : Kuala Lumpur

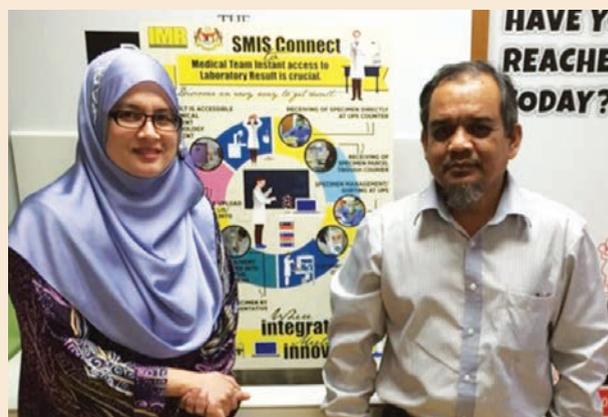


Award : 1st Place Primer Category: Service Improvement Creative and Innovative Convention and Innovation Award National Level, Ministry of Health 2018 for Development of Specimen Management Information System (SMIS) for Management of Diagnostic Services Specimen and Result for IMR

PI /Officer : Pn. Nik Awatif Kamil & En. Zaidi Dat

Unit/Centre : Specimen Management Unit (SDC) & Stomatology Unit (CaRC), IMR

Location : Kuala Lumpur



Award : Best poster presentation award for research entitled “Ageing Generation: Online Health Seeking Behaviour in Malaysia” in the 4th Health Promotion Conference, Hotel Premiera, 3-4 October 2018

PI /Officer : Masitah A., Normawati A, Teresa Yong, Komathi P, Nurashma J, MZ Johari.

Unit/Centre : Institute of Health Behavioral Research (IHBR)

Location : Kuala Lumpur

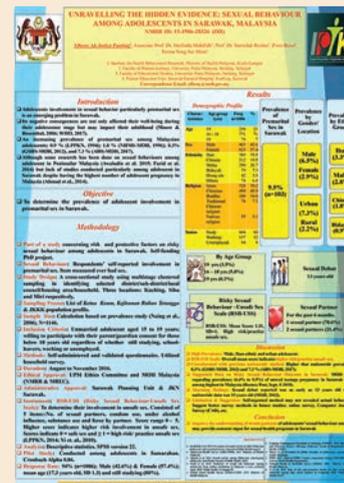


Award : 2nd best poster award for research entitled “Unraveling the Hidden Evidence: Sexual Behaviour Among Adolescents in Sarawak, Malaysia” in the 10th Sarawak State Health Department Research Day 2018

PI /Officer : Albeny Joslyn Panting

Unit/Centre : IHBR

Location : Sarawak



Award : 6th best poster award for research entitled “Knowledge VS Altruism: Towards Organ Donation Among Final Year Students, Faculty of Medicine, UKM Kuala Lumpur” in the 21st Scientific Meeting Malaysia Society of Transplantation, 4-5 Mei 2018

PI /Officer : Normawati Ahmad

Unit/Centre : IHBR

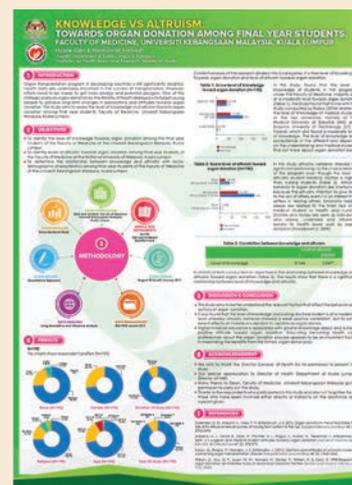
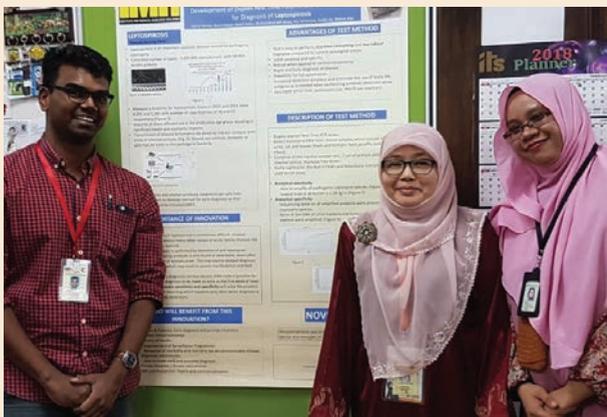
Location : Kuala Lumpur

Award : Silver Medal for A Duplex Real Time Polymerase Chain Reaction Assay for Rapid Diagnose of Leptospirosis, at Malaysian Technology Expo (MTE 2018), 22-24 Feb 2018

PI /Officer : Dr. Fairuz Bt. Amran

Unit/Centre : Bacteriology Unit, Infectious Disease Research Centre (IDRC), IMR

Location : Kuala Lumpur



Upcoming EVENTS



Diploma in Applied Parasitology and Entomology (DAP&E)

SEAMEO-TROPED Regional Centre for Microbiology, Parasitology & Entomology,
Institute for Medical Research (IMR)
Kuala Lumpur, Malaysia.



Diploma In Medical Microbiology (DMM)

SEAMEO-TROPED Regional Centre for Microbiology, Parasitology & Entomology,
Institute for Medical Research (IMR)
Kuala Lumpur, Malaysia.

2019

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