Malaysian Health Technology Assessment Section

MAHTAS e-Newsletter

Volume 20 | *Advocating Informed Decision Making* | July-Dec 2016

INSIDE THIS ISSUE

Malaysian Health Technology Assessment Section (MaHTAS) is a non-profit section within Ministry of Health Malaysia. With a tagline of "Advocating Informed Decision Making", its main role is to provide technical input for decision making pertaining to health technologies and clinical practices. This is done through the conduct of health technology assessment (HTA), economic evaluation, the recently introduced horizon scanning and the development of clinical practice guidelines (CPG).

As the saying "Coming together is a beginning, staying together is progress, and working together is success" a successful organisation may have handful of partners sailing together in this challenging journey. Various internal and external partners come in tango with MaHTAS in the forms of voluntary cooperation, collaboration and engagement to maintain the high quality standard of its products.

Voluntary cooperation is strongly linked to intellectual and emotional recognition. When intellectual worth of a person is recognised, they feel inspired and are willing to trust, give commitment and share their knowledge as a return. MaHTAS has established such successful cooperation especially with various experts within the government and clinicians or academicians who serve in a technical advisory committee for each specific activities. In addition, experts from private sectors are also regularly invited as part of these committees. At present, four technical advisory committees have been formed and meet twice to thrice yearly to review and discuss various issues related to health technologies and clinical practices.

A close collaboration with experts from diverse fields is formed as part of a strategy to strengthen the work on economic evaluation. MaHTAS invites health economics experts both from public and private universities to train MaHTAS staff in economic evaluation and its applications. Subsequently, these experts will also be engaged in the related projects to provide continuous of guidance and expertise. External stakeholders also play an important role in strategy

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"Alone we can do so little, together we can do so much."

Therefore, MaHTAS would like to take this opportunity to congratulate and thank all of our partners, collaborators, and internal and external stakeholders for their unexceptional dedications and cooperation throughout these years. MaHTAS is very proud to have been given the opportunity to engage and work closely with the highly esteemed experts, and wishes for continuous successful collaboration in the future.

execution of MaHTAS activities and products. High commitment and cooperation from external stakeholders ensure the strategy runs smoothly. MaHTAS highly values its external stakeholders such as professional associations, and other government agencies for their active engagement and contribution in the matter. These organisations frequently offer their support in promoting the use of evidence-based information, such as the printing and launching of CPGs. These initiatives often taken place

in concordance with the national or international events with a targeted audience that would get the most benefit from the guidelines.

On the other hand, close collaboration with internal stakeholders such as other divisions within Ministry of Health, ensure the strategies and activities conducted by MaHTAS are in concordance with national strategic plan. At the same time, this will improve utilisation and uptake of recommendation in its reports and CPGs.

MaHTAS has also been working closely with various international organisations namely HTAsiaLink, International Network of Agencies for Health Technology Assessment (INAHTA), Health Technology Assessment International (HTAi), International Society for Pharmacoeconomics and Outcomes Research (ISPOR) and Guidelines-International-Network (GIN). Through these strong networkings, MaHTAS engages renowned experts in HTA, CPG, Horizon Scanning and

evidence search to come to Malaysia to share their knowledge and experience, thus improve the capability of its staff. Other than that, among the activities that MaHTAS regularly involves includes participating actively in their annual meeting, sharing information through presentations, emails and newsletter, reviewing conference abstracts and journal manuscripts, and becoming members of few working groups. From this active engagement, MaHTAS has received excellent support from other agencies in terms of evaluation and recognition of its products as source of references, capacity building, and dissemination of information. Establishing an effective non-profitable partnership is not an easy journey and a lot of challenges come along the way. Firstly, identification of ideal partners is a crucial step

as it symbolises an effective strategy planning by MaHTAS. Secondly, an open and frequent communication is the beating heart of any collaborative effort as partners need to be well informed and explained on their role and the mission. Thirdly, efficient execution ensures a successful outcome is achieved as expected.

- By Mdm Hasni &
Mr Lee SW

MaHTAS OUTPUT

- By Dr. Syaharatul

MaHTAS continues to actively provide input for decision and policy making on health technologies in Malaysia. In 2016, in addition to HTA, TR, Information Brief reports, CPG and its implementation tools, MaHTAS started producing Horizon Scanning reports. There are two types of Horizon Scanning reports, namely TechBrief and TechScan. TechScan is a brief overview (2-3 pages), whereas TechBrief provides a more in-depth overview (4-10 pages) of emerging health technologies.

In 2016

- 2 HTAs
- 22 TRs
- 13 IBs
- 10 CPGs
- 8 TechBriefs
- 5 TechScans

Total Number of Reports *(1997-2016)*

Health Technology Assessment (HTA) reports = **65** *(1997-2016)*

Technology Review (Mini-HTA) reports = **326** *(2001-2016)*

Clinical Practice Guidelines (CPGs) = **104** *(2001-2016)*

Information Brief (IB)= **100** *(2009-2016)*

TechBrief = **9** *(2015-2016)*

TechScan = **5** *(2016)*

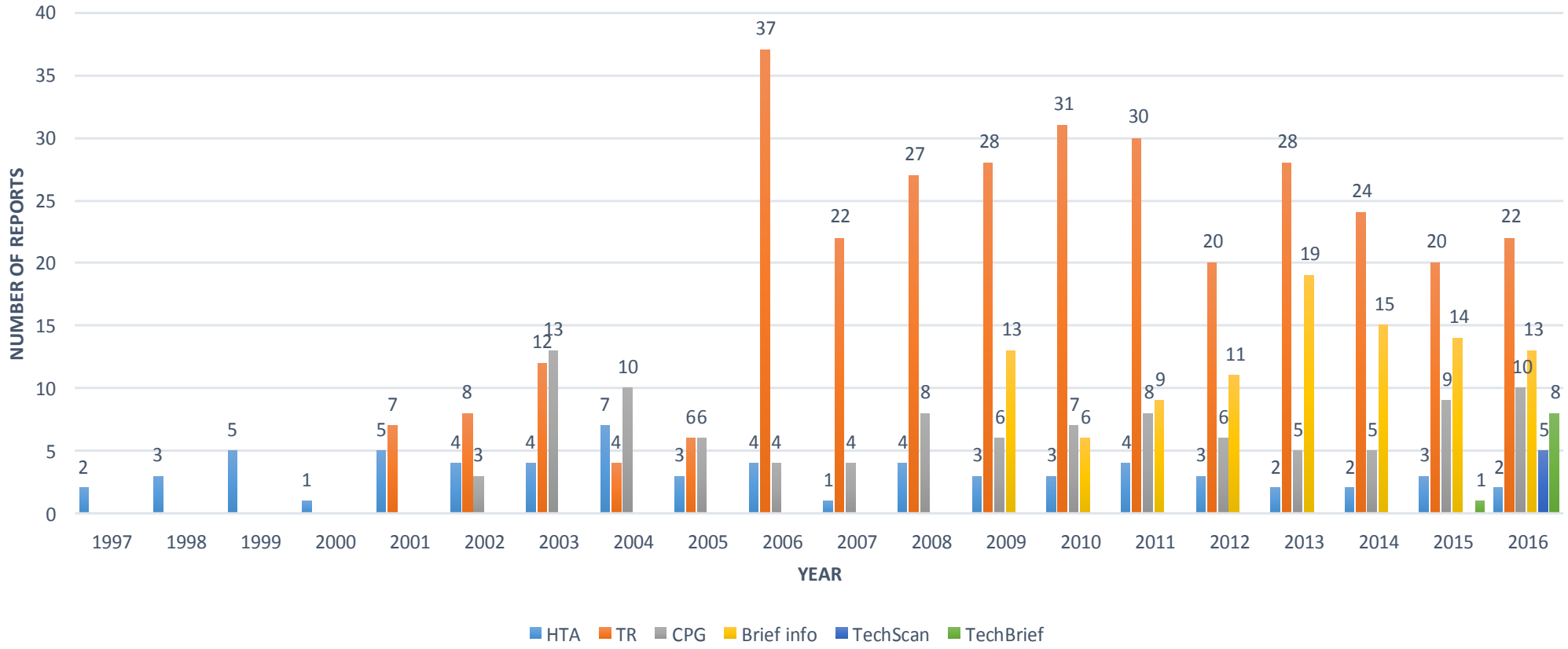


Figure 1: Number of reports produced by MaHTAS 1997-2016 (according to types of reports)

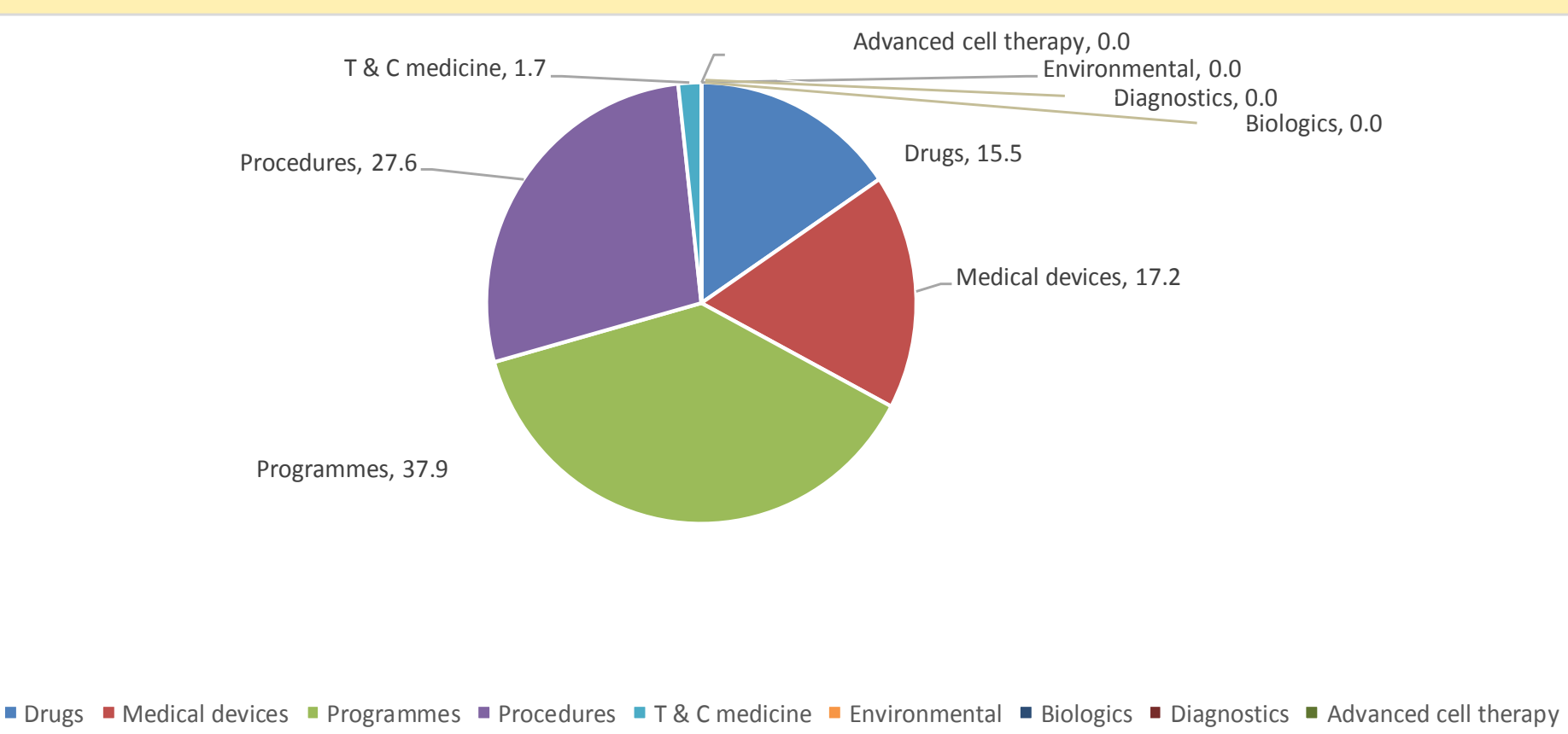


Figure 2: HTA reports by types of health technologies (1997-2016)

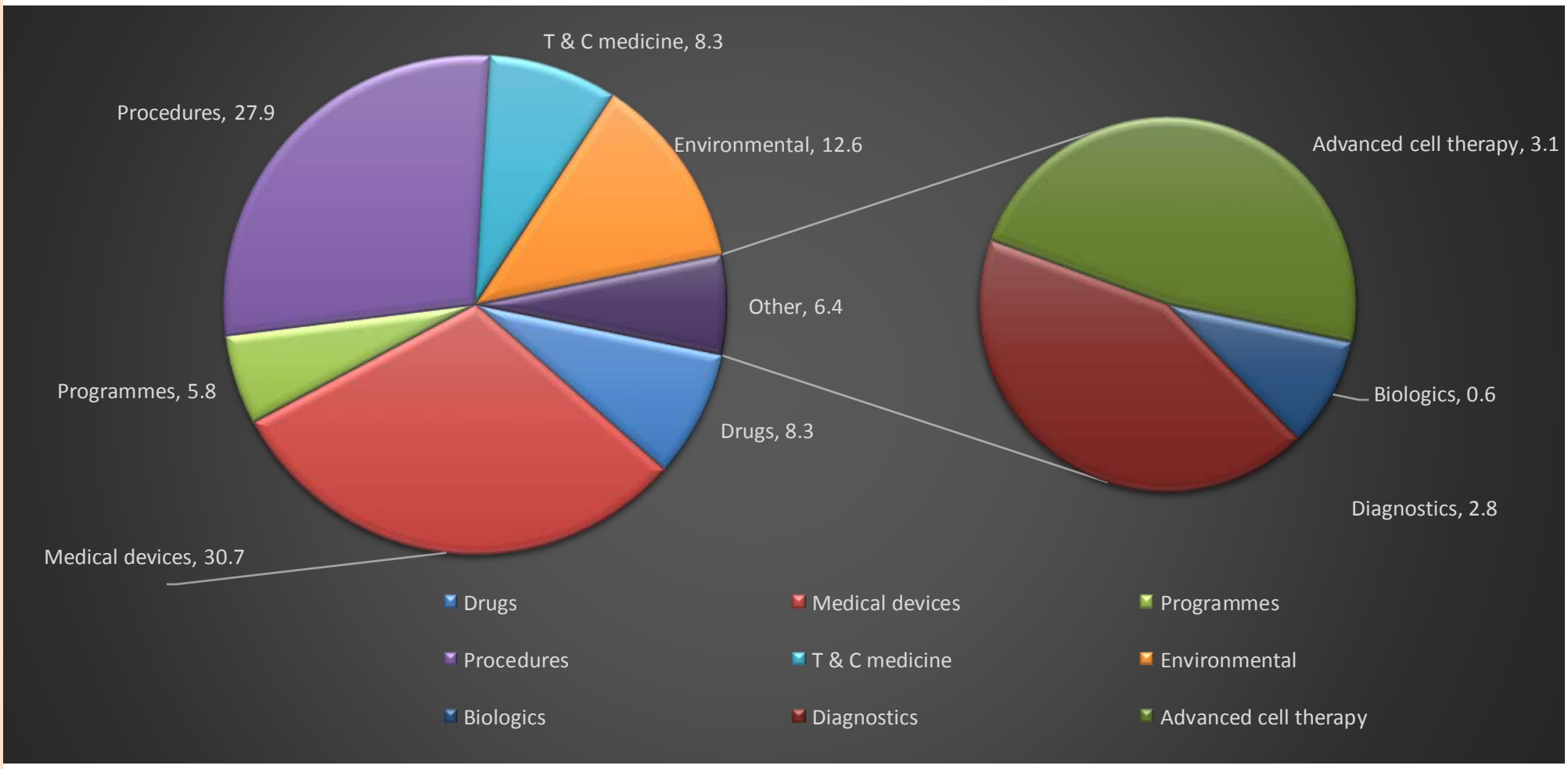


Figure 3: TR reports by types of health technologies (1997-2016)

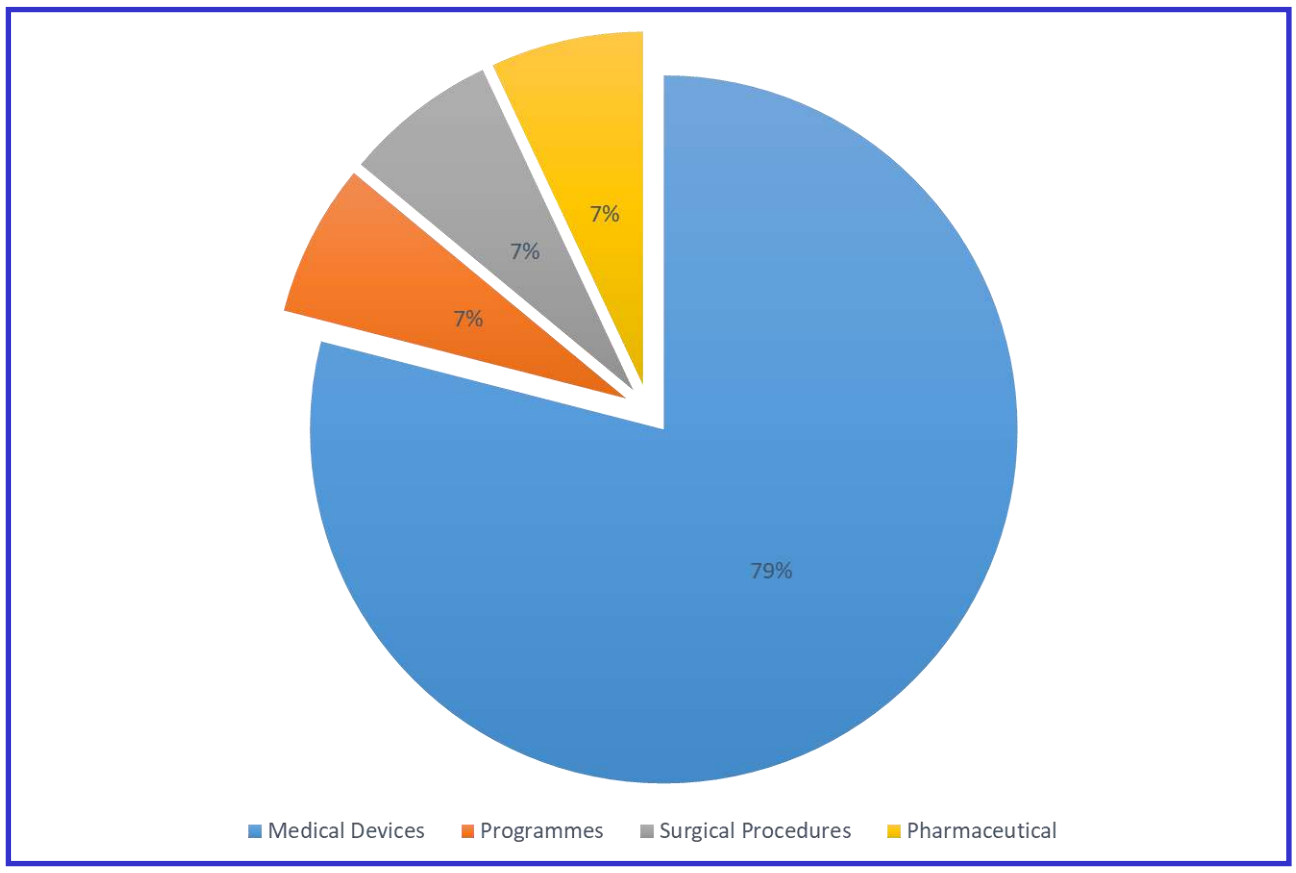


Figure 4: TechBrief and TechScan reports by types of health technologies (2015-2016)

Out of 336 health technologies assessed, 39% of the health technologies were not recommended for use, 34.2% were recommended for use and 26.8% were recommended for research purposes (Table 1).

HTA & TR Reports recommendation	Total Number	Percentage (%)
For routine or selected use	115	34.2
For research purpose	90	26.8
Not recommended	131	39.0
Total	**336**	**100**

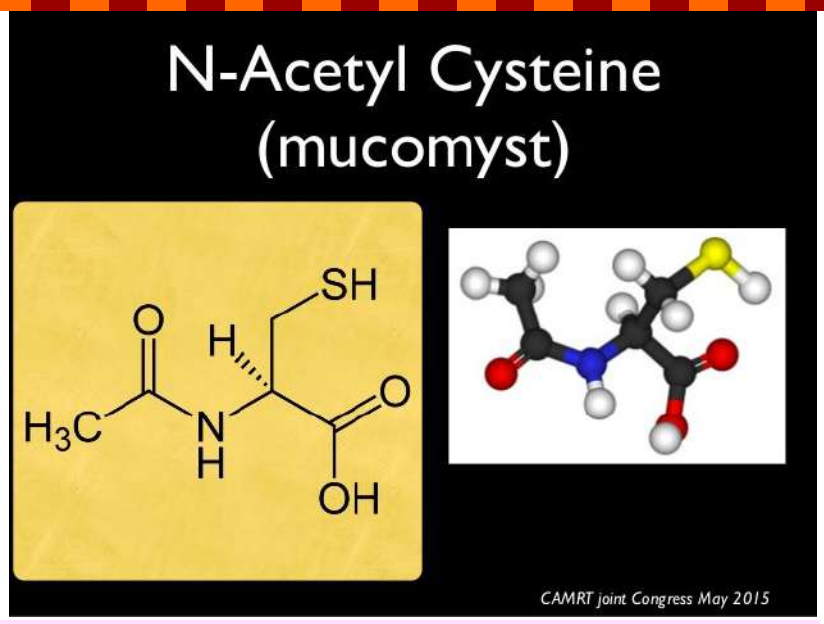
Table 1: Number of HTA and TR reports based on recommendation

HTA in BRIEF

N-ACETYLCYSTEINE

in the prevention of contrast - induced acute kidney injury

-By Mdm Maharita



Contrast-induced acute kidney injury (CIAKI) is an acute kidney injury caused by iodinated contrast agents used during radiology procedure. CIAKI is uncommon among people with normal kidney function. However its frequency increases with declining kidney function, ranging from 5% in those with mild kidney impairment to 50% in those with diabetes and severe renal insufficiency.

Usually the condition is defined as a rise in serum creatinine (srCr) of ≥ 0.5mg/dl (≥ 44µmol/l) or a 25% increase from baseline value, assessed at 48 hours after a radiological procedure. Although it sounds bad to the kidney, it is actually preventable or at least the CIAKI risk can be reduced. The prevention can be either pharmacological or non-pharmacological methods. Currently N-acetylcysteine (NAC) and hydration with normal saline are the treatment of choice. Unfortunately, there is no standard operating procedure for the prevention of CIAKI during and after radio-contrast procedure in MOH. Moreover, NAC has been used off-label. Thus, an HTA on the topic was conducted to assess the efficacy/ effectiveness, safety, economic implications, ethical, legal, and organisational implications related to NAC in the prevention of CIAKI.

As part of the HTA process, a systematic search was conducted. Studies related to the usage of NAC in CIAKI prevention were screened. Finally, ten studies that fulfilled the inclusion and exclusion criteria were selected. In patients with renal insufficiency, oral NAC may reduce CIAKI incidence compared with placebo.

However, the optimum dose of NAC required cannot be determined. Meanwhile in diabetes patients, use of NAC had no significant effects in CIAKI prevention. As for patients undergoing cardiac angiography, the role of NAC in CIAKI prevention was inconsistent. In these patients, high dose NAC was more effective compared with low dose. Combination used of NAC with low osmolar contrast media (LOCM) showed better outcome in CIAKI prevention compared with NAC with iso-osmolar contrast media (IOCM). Finally, using NAC only had no significant difference in prevention of CIAKI compared to combination of NAC with other alternatives.. There was no retrievable evidence on cost-effectiveness of NAC in CIAKI prevention.

No adverse events were reported with the use of oral NAC but intravenous NAC was associated with mild adverse events such as itching, flushing and rash. In Malaysia, NAC is not indicated for CIAKI prevention and it has been used off-label which require approval from the Director General of Health. In the meantime, oral NAC is not listed in MOH Drug Formulary, thus patients have to buy the medication from a retail pharmacy.

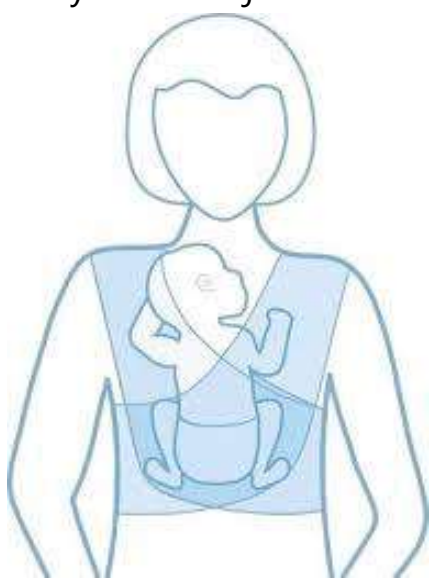
Based on the available evidence, oral NAC may be used in prevention of CIAKI in renal insufficiency patients. Other factors that may influence CIAKI incidence should be considered in patients undergoing radio-contrast procedure such as types of contrast media and patients' hydration status.

TR in BRIEF

Paediatrics is a special age group which differ from adults in many aspects as their bodies are still growing. They have different types of health issues such as diseases which are congenital in nature, genetic variance or developmental issues which need specific treatment or prevention to ensure full potential of the children is achieved. In 2015, Under Five Mortality Rate was 7 per 1000 live births in Malaysia (according to the World Bank data). This rate is recognised as an indicator of wellbeing of the child population of a country. Hence, MaHTAS has conducted Technology Review on a few health technologies pertaining to paediatrics with aim to assess their benefits in this group.

KANGAROO MOTHER CARE

– by Dr. Khadijah



Worldwide, an estimated 13 million babies are born prematurely, while about 20 million infants are born with low birth-weight (LBW), every year. Both prematurity and LBW are associated with increased risk of neonatal morbidity and mortality, and may even be important risk factors for adult diseases. Conventional neonatal care has been proven to lower the burden of both neonatal morbidity and mortality. However, it is expensive and, requires trained personnel and permanent logistic support.

In the past three decades, kangaroo mother care (KMC) has been used as a method of infant care. The key components of KMC are 1) skin-to-skin contact between the mother and her baby, which is the hallmark of KMC, 2) exclusive breastfeeding (ideally), and 3) early discharge from hospital in kangaroo position, with strict follow-up. In essence, the mothers act as "incubators" to maintain the infants' body temperature and, as the main source of food and stimulation for LBW and premature infants while they mature enough to face extra-uterine life in similar conditions as those born at term.

In a Technology Review (TR) by MaHTAS, compared to conventional care, KMC increased breastfeeding rate, duration and exclusivity up to at least six months post-birth, promoted better infant growth, and was associated with reduced risk of mortality and certain aspects of morbidity. It improved maternal satisfaction and bonding/attachment between mother and infant. KMC also reduced the length of hospital stay by 2.2 days in stabilised LBW infants. There were no reported adverse events or negative outcomes on KMC in the studies retrieved.

PULSE OXIMETRY SCREENING

for critical congenital heart disease in newborn

- By Dr. Syaharatul

Congenital heart disease (CHD) is the most common group of congenital malformations and one of the leading causes of infant death in the developed world. Early detection of CHDs may improve the prognosis. Current routine screenings to detect CHD, which include antenatal ultrasound and physical examinations, have a relatively low detection rate causing undiagnosed CHD babies being discharged from hospital. A proportion of these patients may die or present in poor clinical condition that compromised the outcome despite treatment.

Pulse oximetry has been developed as a screening method to detect heart defects in newborn babies. Its usage is based on the rationale that clinically undetectable hypoxaemia is present, to some degree, in most potentially life-threatening cases. From the Technology Review conducted, many of the studies retrieved showed that pulse oximetry had good specificity compared to sensitivity when used alone. Sensitivity increased when it's used together with clinical examination. There was no evidence retrieved regarding the safety issues of its use.

AUTOMATED AUDITORY BRAINSTEM RESPONSE (AABR) AND OTOACOUSTIC EMISSIONS (OAE) DEVICES

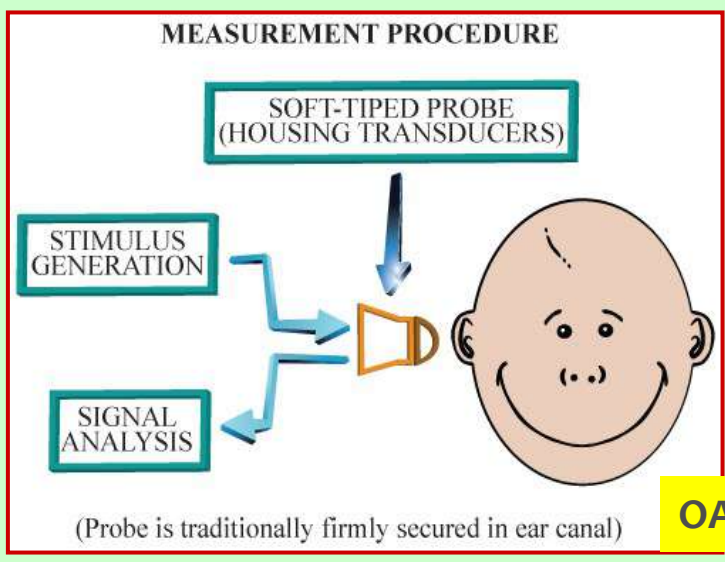
in universal newborn screening

- by Mdm Maharita

TR in BRIEF

Hearing loss is one of the most common major abnormalities that presents at birth. Late management will impair speech, language and cognitive development. Therefore, a neonatal hearing screening is one the options to minimise the adverse effects of hearing loss. In MOH, the high risk neonatal hearing screening program (HRNHS) has been introduced in hospitals since 2001 and now MOH is moving towards universal newborn hearing screening (UNHS) involving two different screening methods; automated auditory brainstem response (AABR) and otoacoustic emission (OAE).

A technology review which included 12 studies showed that, for OAE alone, the referral rate and false positive rate was lower when screening was done after two days of life compared to within two days of life. However, it varies according to the frequency used. As for AABR alone, limited evidence suggested that double screening steps with AABR before discharge was effective to lower the referral rate. Comparing OAE and AABR, limited evidence suggested that initial screening with AABR had significantly reduced the referral rate compared to initial screening with OAE for newborns younger than 48 hours. Nevertheless, the evidence showed that combination of OAE and AABR was the best protocol compared with the single device alone and was considered cost-effective for long-term.



ZINC SUPPLEMENTATION

as an adjuvant therapy in management of diarrhoea in children younger than 5 years old

- by Mdm Maharita

Diarrhoea remains the leading cause of death among infants and young children in low- and middle-income countries. In Malaysia, acute diarrhoea is still a major public health concern and it is mostly under-notified. In 2004, the World Health Organization (WHO) and the United Nations Children's Emergency Fund (UNICEF) issued a global recommendation advocating oral zinc supplementation in addition to oral rehydrating salt (ORS) to decrease diarrhoea deaths in the world's most vulnerable children.

From the Technology Review conducted, evidence showed that zinc supplementation shortened the duration of acute diarrhoea by about 10 hours and persistent diarrhoea by about 16 hours. An overall 26% reduction in the risk of diarrhoea lasting beyond three days was observed among zinc-treated children as well as reduction in the stool output and stool frequency. In children with signs of moderate malnutrition, the effect was greater, whereby the duration of diarrhoea was reduced by around 27 hours. However, the evidence on benefit for children less than six months of age was inconclusive.

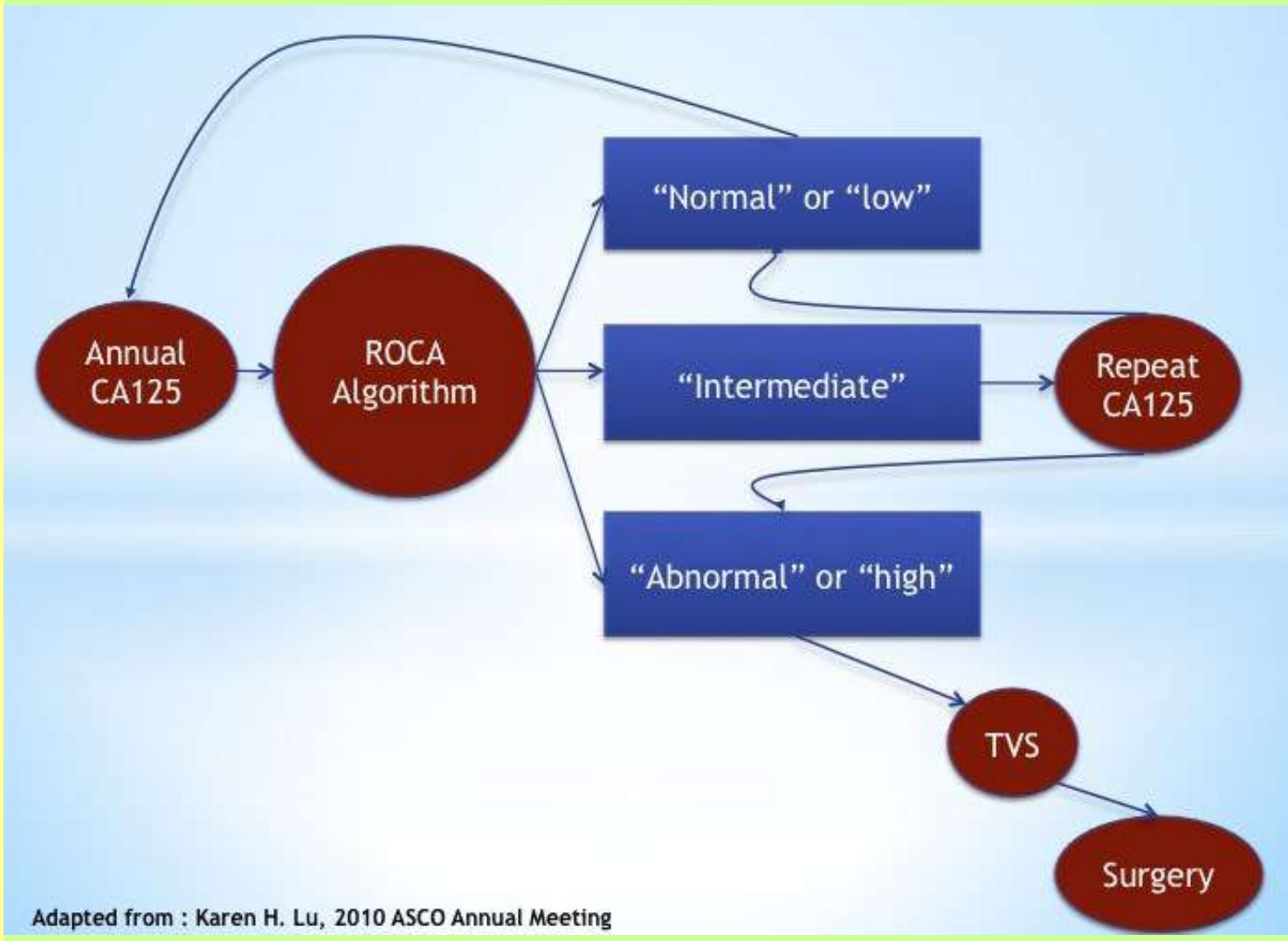
The limited good level of evidence suggested that zinc supplementation was associated with increased use of ORS and decreased use of antibiotics during acute diarrhoea. Although there was insufficient evidence to suggest that zinc supplementation during acute diarrhoea reduced mortality,its use as an adjunct in the management of diarrhoea in children younger than five years old was found to be more cost-effective than the standard treatment.

HS in BRIEF

Risk of Ovarian Cancer Algorithm (ROCA) using SERIAL CA 125

– By Dr. Izzuna

The United Kingdom Collaborative Trial of Ovarian Cancer Screening (UKCTOCS), a randomised controlled trial of more than 200,000 post-menopausal women, started in 2001 to assess the Risk of Ovarian Cancer Algorithm (ROCA) as a screening tool to improve the yield of ovarian screening. The algorithm incorporates a woman's age, her serum CA125 value (and changes in this value over time) and a pelvic ultrasound in selected women deemed to be at high risk.



The long-term study showed good sensitivity and specificity of 82.8% and 99.8% respectively for ovarian and fallopian tube cancer. Although the initial mortality result was promising, more data is required to ensure the actual impact of the screening method.

In terms of safety, psychological morbidity may be elevated by more intense repeat testing following abnormal annual screens and after surgical treatment of ovarian cancer. The false positive surgeries due to ROCA were less compared to ultrasound screening. Cost-effectiveness study is required to ensure the value of this screening method.

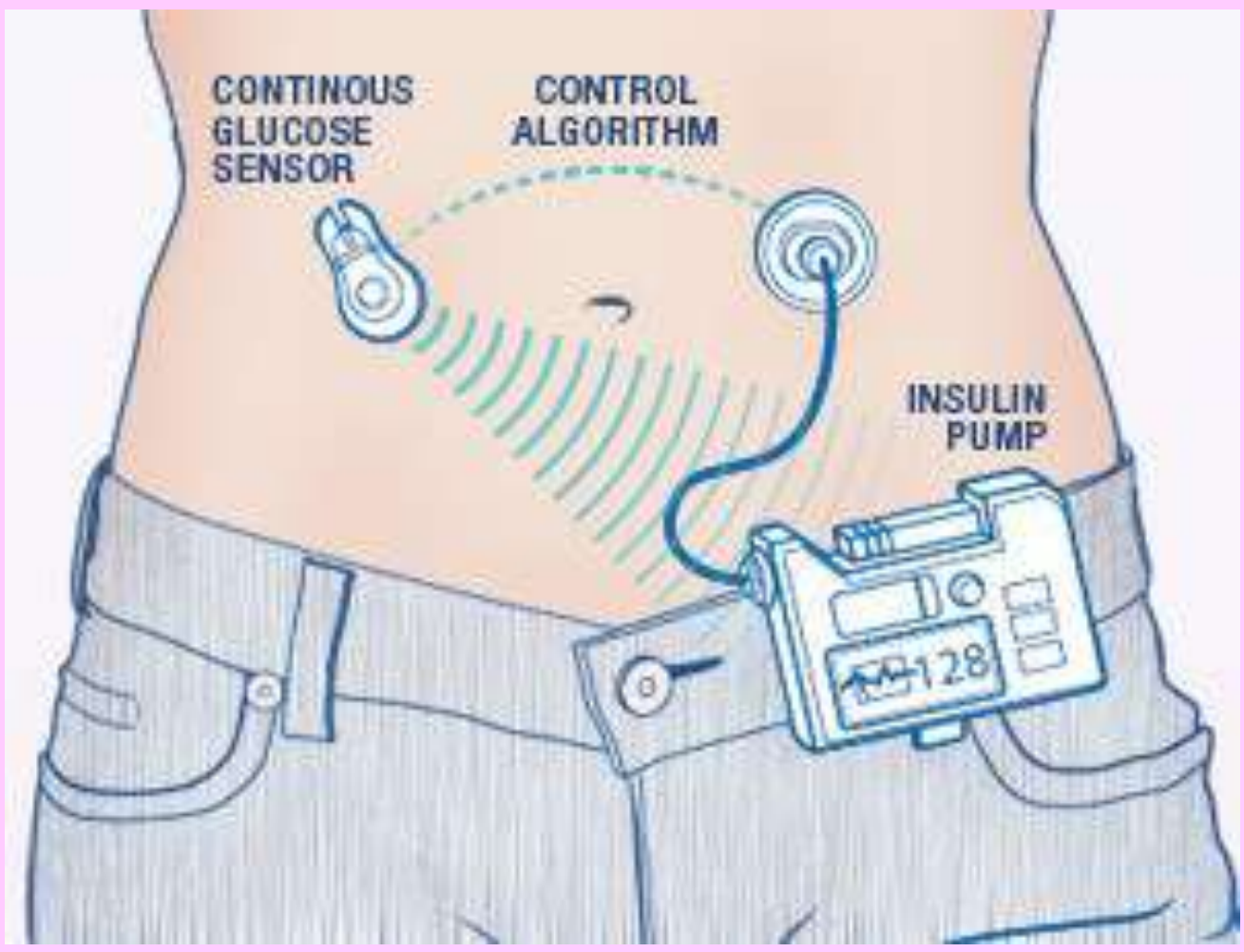
ARTIFICIAL PANCREAS

for type 1 diabetes mellitus

– By Dr. Izzuna

Artificial pancreas closed-loop system comprises of a continuous glucose monitor (CGM), an insulin pump and a control algorithm. The size of the insulin pump is like a smartphone that wirelessly connected to the CGM. The CGM measures blood sugar every five minutes and the pump automatically administers or withholds micro-doses of insulin to keep patients in their target range of blood glucose.

The short-term evidence showed that the closed-loop system had the potential to improve glucose control and reduced the occurrence of hypoglycaemia in adolescents and adults with Type I Diabetes Mellitus. It also showed positive user acceptance towards the system.



HS in BRIEF

Magnetic Resonance Imaging (MRI)-Guided Laser Interstitial Thermal Therapy for BRAIN TUMOUR

- By Mdm Maria

MRI-guided laser interstitial thermal therapy (LITT) is a new technology which functions at a wavelength of 980 nm and indicated for primary and recurrent brain tumour especially the ones located in areas of eloquence.

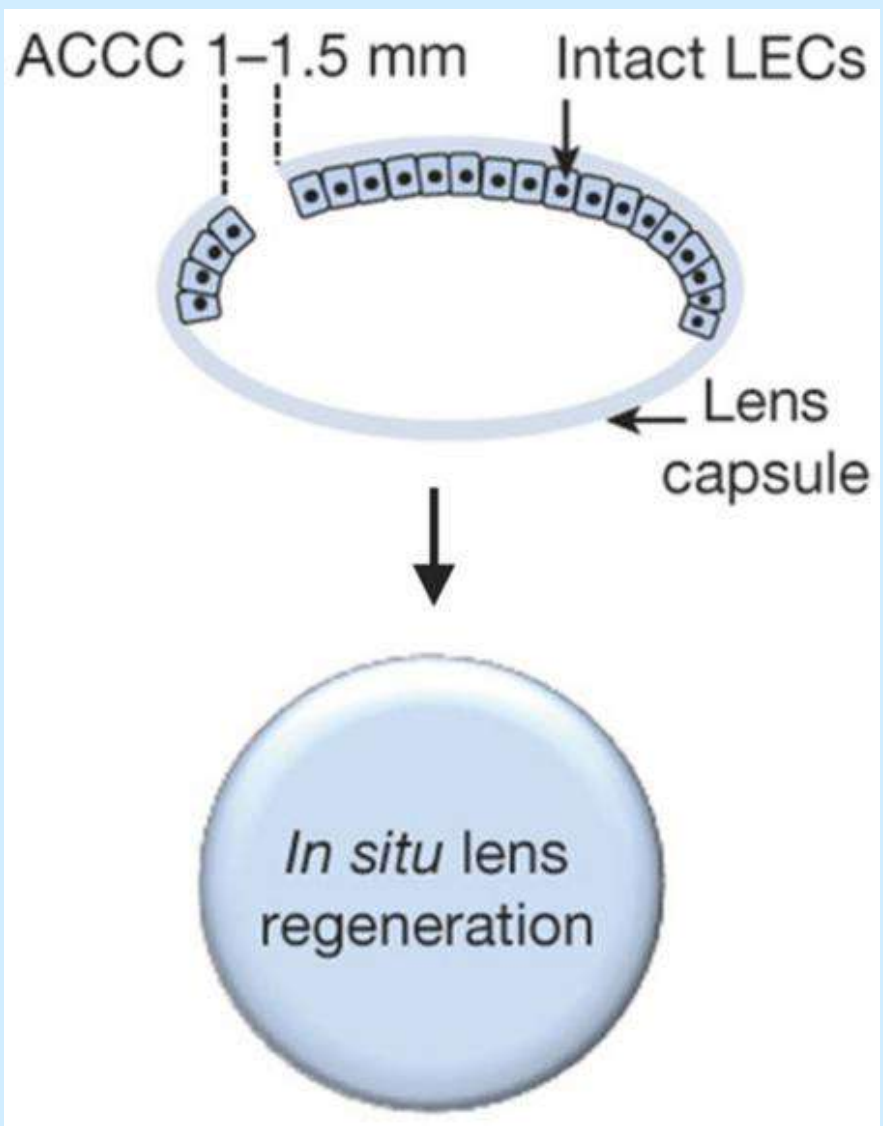
A systematic search was conducted and identified seven case series with small sample sizes (less than 20 patients).

The results showed that in metastatic brain tumour, the LITT prolonged survival with the mean overall survival of 17.4±3.5 months. All patients were discharged within 24 hours. While for recurrent glioblastoma, there was no improvement in survival. No major adverse events during the treatment were reported. Cost-effective analysis study showed that the overall survival improved by 3.07 months on additional cost of USD7,508 (USD2,930 per life-year gained). Overall, LITT has a potential in improving survival in patients with metastatic brain tumour and reducing the length of hospital stay.

Minimally Invasive Surgery for CONGENITAL CATARACT

– By Dr. Syaharatul

The minimally invasive capsulorhexis surgery is a modification of a surgical technique innovated by a collaboration of researchers from universities in China and United States of America.



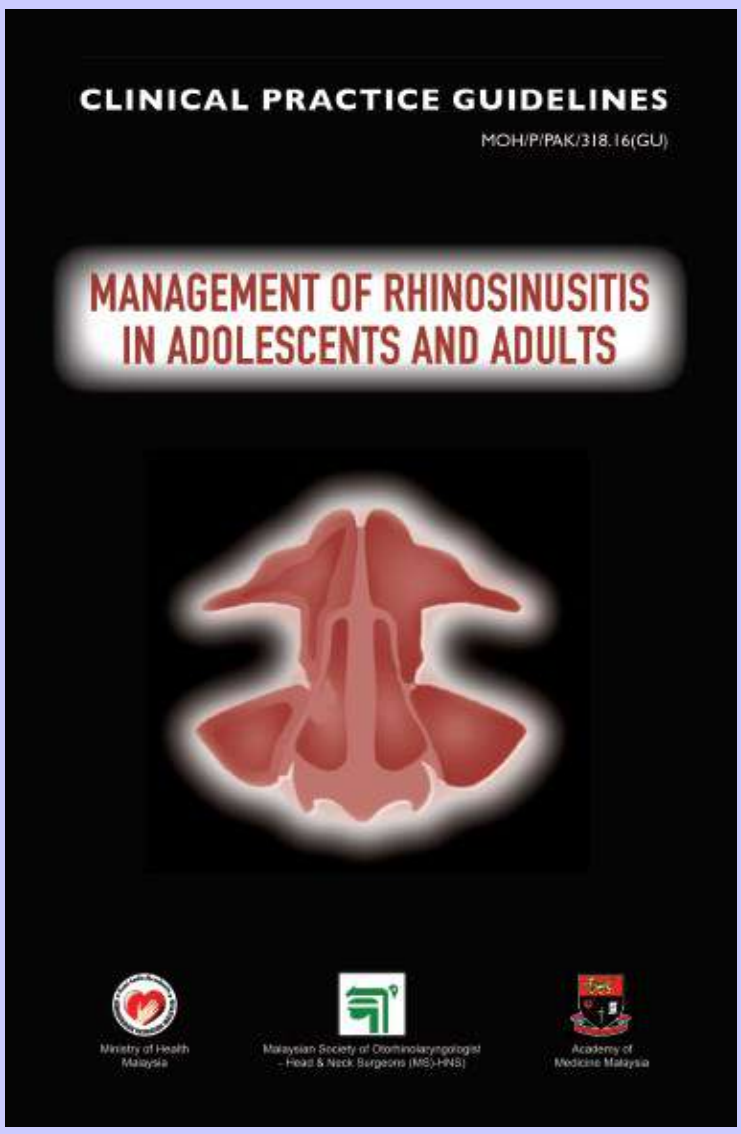
It is indicated for cataract removal in infants with congenital cataract. It differs from the current surgical techniques in terms of smaller and peripheral location of the incision.

Early and sole evidence showed a promising result. The surgical technique could preserve the integrity of the lens capsule and associated endogenous lens epithelial stem/ progenitor cells (LECs) hence promoting functional lens regeneration. Children who undergo this minimally invasive surgery may have potential to restore eyesight as good as the children who have conventional surgery and most importantly with much lower surgery related complication. Hence, the cost related to the treatment for post-surgical complication as well as the cost to the family in taking care of disabled child possibly can be reduced.

CPG KEY MESSAGES

Management of RHINOSINUSITIS in Adolescents and Adults

- By Dr. Aminuddin

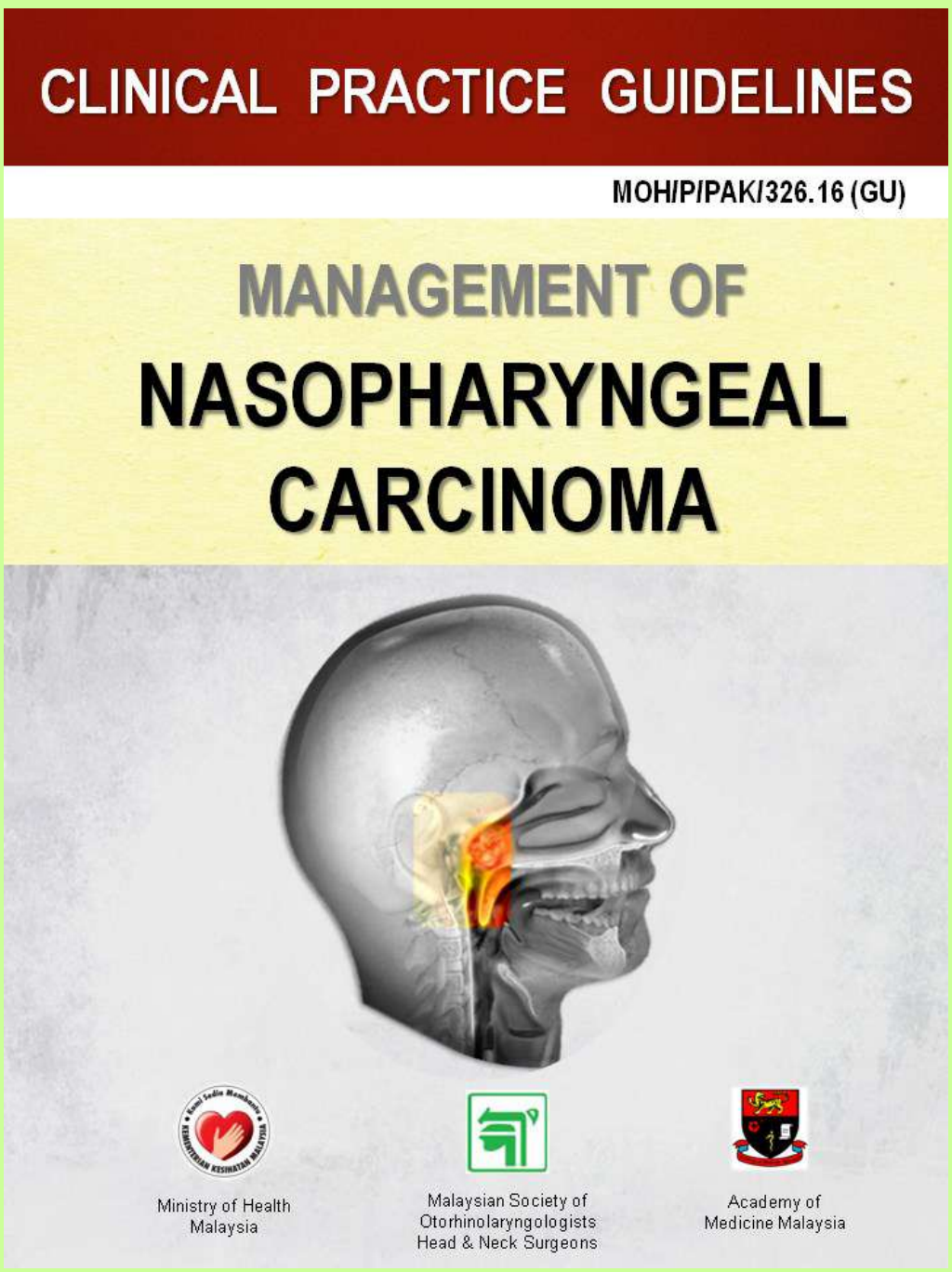


- Rhinosinusitis is a common health problem characterised by mucosal inflammation of the nose & paranasal sinuses.
- Important risk factors for rhinosinusitis are active & passive smoking, family history, asthma & gastroesophageal reflux disease.
- In acute rhinosinusitis (ARS), the duration of symptoms is <12 weeks.
- Majority of ARS cases are viral in origin, with only 0.5 - 2.0% are complicated by bacterial infection.
- Anterior rhinoscopy should be performed as part of clinical assessment of suspected ARS in primary care setting.
- Plain radiography has no role in the routine management of rhinosinusitis.
- Endoscopically-directed middle meatal culture should be used in diagnosing acute bacterial rhinosinusitis & chronic rhinosinusitis (CRS), instead of nasal swab culture.
- Intranassal corticosteroids & nasal saline irrigation are the mainstay treatment of rhinosinusitis.
- Antibiotic should be considered in patients with severe ARS.
- Surgery is indicated for ARS with orbital or intracranial complications & CRS not responding to optimal medical therapy.

Management of NASOPHARYNGEAL CARCINOMA

- By Dr. Hanin

- In Malaysia, nasopharyngeal carcinoma (NPC) is the fourth most common cancer. NPC is predominant among Chinese, followed by natives of Sabah and Sarawak (especially Bidayuh) and Malay.
- Tobacco smoking is one of the important risk factors for NPC.
- NPC is usually diagnosed late due to trivial presentation which leads to poor survival outcome.
- In patients presenting with cervical lymphadenopathy, full head and neck assessment and fine needle aspiration cytological examination of the nodes should be done.
- NPC should be diagnosed by histopathological examination of the nasopharynx.
- Staging of NPC is by using the tumour node metastasis (TNM) system American Joint Committee on Cancer or AJCC Cancer Staging Manual 2010 (7th Edition).
- Primary treatment for NPC is radiotherapy. Intensity modulated radiotherapy is the preferred radiation technique.
- Concurrent chemoradiotherapy should be offered in Stage II, III, IVA and IVB.
- In recurrent NPC, nasopharyngoscopy or re-irradiation may be offered.



- Multimodality treatment including dental, supportive and palliative care should be considered in the management of NPC.

LAUNCHING of Clinical Practice Guidelines (CPG)

- By Dr. Ainol

Implementation of the CPG is as important as its development. This is to ensure utilisation/adherence of the CPG. MaHTAS facilitates the implementation at national level via numerous strategies such as CPG launching which helps to create awareness of its existence among the stakeholders.

MaHTAS, in collaboration with hospitals and professional societies, had successfully launched four national CPGs from July until November 2016. The ceremonies were officiated by the Director General of Health or his representatives. The guest-of-honour also presented CPGs packages consisting of the CPG and Quick Reference to representatives from the state health departments, medical faculties and professional societies. This is a symbolic mandate for them to implement the CPGs at their respective institutions.

The launching ceremonies were preceded by continuous medical education on selected topics of the CPGs. It was delivered by the CPGs development group members themselves. The ceremonies were also featured in electronic and print media, which also helped in achieving the aim of the launching.

18 July 2016
Hospital Sungai Buloh

CPG Early Management of Head Injury in Adults

Officiated by:
YBhg. Datin Dr. Nor Akma Yusuf
Deputy Director,
Medical Development Division
on behalf of Director General of Health

19 August 2016
KLCC Convention Centre

CPG Management of Multiple Sclerosis

Officiated by:
YBhg. Datuk Dr. Jeyaindran
Tan Sri Sinnadurai
Deputy Director General of Health (Medical)
on behalf of Director General of Health

28 August 2016
Auditorium, Institut Kanser Negara

CPG Management of Cervical Cancer (2nd Edition)

Officiated by:
YBhg. Datuk Dr. Noor Hisham Abdullah

3 November 2016
Auditorium, Hospital Putrajaya

CPG Management of Type 1 Diabetes Mellitus in Children & Adolescents

Officiated by:
YBhg. Dato' Dr. Hj. Azman Abu Bakar
Director, Medical Development Division
on behalf of Director General of Health

Training of Core Trainers on CPG

LOCAL ACTIVITIES

- By Mdm Mariam

In 2016, four Training of Core Trainers (ToT) on four topics of CPGs were conducted by MAHTAS as part of the implementation strategies. The overall goal of these trainings was to familiarise the participants with the content of the CPG. The lectures and case discussions were delivered by the members of the Development Groups themselves. The active participation of the participants during the trainings were designed to give opportunities for them to improve their understanding and share their experiences in managing the diseases in their clinical practices.

A total of 254 participants consisting of specialists and allied health professionals from various specialties attended these trainings including the lecturers from local universities. The participants from MOH are required to conduct echo training among the healthcare provider in their respective states to enhance the utilisation of the CPG among the healthcare providers. At the same time, the lecturers from the universities are highly encouraged to use the CPG in the teaching of their students.

ToT CPG Early Management of Head Injury in Adults

Date : 19 July 2016
Venue: Hospital Sungai Buloh
No. of participants : 70

ToT CPG Management of Multiple Sclerosis

Date : 2 August 2016
Venue : Hospital Rehabilitasi Cheras
No. of participants : 54

ToT CPG Management of Cervical Cancer (2nd Edition)

Date : 29 & 30 August 2016
Venue: Institut Kanser Negara
No. of participants : 60

ToT CPG Management of Type 1 Diabetes Mellitus in Children & Adolescents

Date : 7 November 2016
Venue : Hospital Tuanku Jaafar, Seremban
No. of participants : 70

Systematic Review Workshop

on Evidence-based CPG Development & Implementation

- By Dr. Aminuddin

Systematic Review Workshop on Evidence-based CPG Development and Implementation for 2016 was successfully conducted on 19 - 21 September 2016 at Kings Green Hotel, Melaka. This training was attended mainly by multidisciplinary Development Group members for the CPG on Management of Diabetic Foot (Second Edition) and Management of Haemophilia. Other participants included members of other CPG groups as well as new staff of MaHTAS.

Various lectures and group works on CPG development (such as methodology, literature search, critical appraisal and writing aspects and its implementation were delivered/ conducted for the participants. This workshop also served as a platform for the Development Group members to get to know each other since the CPG development process will takes 18 - 24 months to be completed. As the saying goes, "Coming together is a beginning; keeping together is progress; working together is success."

INTERNAL TRAINING *for MaHTAS' Staffs*

- By Mr Lee SW

Capacity building is always a priority at MaHTAS in ensuring its staffs capable to perform their daily task. From July to December 2016, eight internal trainings were conducted. The topics included formulation of research/clinical question, search strategy for Medline and Embase database and, critical appraisal of randomised controlled trial, systematic review, cohort study and case-control study. It is hope that the trainings will improve their knowledge and skills to enable them produce quality reports.

ISPOR | International Society for Pharmacoeconomics and Outcomes Research 7th Asia-Pacific Conference

- Mr. Lee SW

The ISPOR 7th Asia-Pacific Conference was held in Singapore Suntec Convention Centre from 2-7 September 2016. This year, the theme was "Pharmacoeconomics and Outcomes Research in Asia-Pacific: Challenges, Opportunities and Future Direction". Three delegates from MaHTAS attended this conference and presented two posters on oncology entitled "A Systematic Review of Tyrosine Kinase Inhibitors as First Line Treatment for Advanced Non Small Cell Lung Cancer" and "Economic Evaluation of First Line Treatment For Advanced Non Small Cell Lung Cancer Using Tyrosine Kinase Inhibitors in Malaysia". The topics discussed in this conference included risk-sharing/performance-based scheme for drugs and medical devices and, the use of economic evaluation within countries and how to incorporate the value, culture and institutional in the decision making.

HTAi

Asia Policy Forum 2016

- By Dr. Izzuna

Kuala Lumpur was chosen as the venue for HTAi Asia Policy Forum 2016, which was held from 17-18 November 2016. The theme of the forum was "Assessing Value, Budget Impact and Affordability to Inform Discussions on Access and Reimbursement: Principle and Practice, with Special Reference to High Cost Technologies". This annual event was organised by HTA International (HTAi) to provide a unique opportunity for leaders and senior management team from public and private sector organisations that utilised HTA to meet together. Strategic discussions on specific issues or organisational policies were conducted with HTA experts. A total of 46 delegates from countries within Asia including Japan, Korea, Singapore, Vietnam, Thailand, Taiwan and Malaysia participated in this forum. Malaysia was represented by the Director of Medical Development Division and senior officials from MaHTAS and Pharmaceutical Services Division. YBhg. Datuk Dr. Noor Hisham Abdullah, the Director General of Health Malaysia and Professor Guy Maddern, HTAi President delivered the welcome speech. The forum discussed about defining and assessing value, budget impact and affordability from various perspectives. As part of the forum, YBhg. Datuk Dr. Noor Hisham Abdullah delivered a dinner presentation on "The Role of Collaboration and HTA in Malaysian Health System Transformation".

INTERNATIONAL ACTIVITIES

Monash Health Economic Forum 2016

- By Mdm Hasni

Monash Health Economic Forum 2016 was organised by School of Pharmacy, Monash University Malaysia from 23-24 November 2016 at PJ Hilton Hotel. The theme for this year was "Evidence-Based Pricing and Access Schemes for New Pharmaceuticals: Future for Malaysia". The forum featured highly esteemed speakers and panelists from various academic institutions and policy-makers. A plenary session by Professor Dr. Michael Drummond, a Professor of Health Economics at the Centre for Health Economics, The University of York received overwhelming attendance from various organisations. Among interesting topics presented in the forum were "Adapting Overseas Economic Assessments to the Malaysian Context", "Assessing Precision Medicine Strategies" and "Value-based Pricing for Drugs". Five delegates from MaHTAS gained a lot of information and knowledge in the current issues and challenges on the patient access to medicine from this yearly event. It was an honour to MaHTAS when the Head of Horizon Scanning and Communication Unit, Dr. Izzuna Mudla Mohamed Ghazali being invited to give a talk on "Horizon Scanning of Emerging Health Technologies in Malaysia" and participated as a panelist in the forum discussion.

MaHTAS ACHIEVEMENT

OCCUPATIONAL HEALTH AND SAFETY WEEK

- By Dr. Ainol

Medical Development Division organised the Occupational Health and Safety Week from 19 - 23 September 2016. A lot of activities were conducted throughout the week. Malaysian Health Technology Assessment Section (MaHTAS) was actively involved in innovation and safe workplace competition. It was an exciting week for MaHTAS as it was announced as the winner of the competition. Three innovation projects namely 'Strech Alert, Wrist Rest and De-stress Corner' submitted by MaHTAS won all the prizes offered by the organiser. Representative from MaHTAS was also one of the members of the treasure hunt winner. Strong teamwork showed by every staff steered MaHTAS to the success.

HTA & CPG COUNCIL MEETING 2/2016

- By Dr. Norrina

The second HTA and CPG Council Meeting for 2016 was successfully held on 21 November 2016. This meeting was chaired by Dr. Junainah Sabirin, Deputy Director of Medical Development Division (Health Technology Assessment Section) on behalf of the Director General of Health. One HTA report, nine mini-HTAs, six CPGs and four Horizon Scanning TechBrief reports were presented as listed below:

HTA report

1. N-acetylcysteine in the Prevention of Contrast Induced Acute Kidney Injury

TR reports

Neoplasm

1. Colorectal Cancer Screening Using Colonoscopy and Economic Evaluation

Infectious disease

2. Zinc Supplementation as an Adjuvant Therapy in Management of Diarrhoea in Children Less Than 5 Years Old
3. Facepiece Respirator for Filtering Nanoparticles
4. Flocculants-disinfectant for Point-of-use Water Treatment

Health System

5. Virtual Reality Systems for the Training of Ophthalmic Surgery
6. Home Based Health Record
7. Barcode Medication Administration System

Traditional and Complementary Medicine

8. Homeopathy for Rheumatoid Arthritis, Bronchial Asthma and Allergic Rhinitis
9. Homeopathy for Eczema, Psoriasis and Seborrheic Dermatitis

CPGs

1. Diagnosis, Management and Prevention of Infective Endocarditis
2. Management of Nasopharyngeal Carcinoma
3. Management of Tobacco Use Disorder
4. Management of Drug Resistant-Tuberculosis (Third Edition)
5. Management of Periodontal Abscess (Second Edition)
6. Management of Acute Orofacial Infection of Odontogenic Origin in Children

Horizon Scanning TechBrief Reports

1. Intra-Atrial Shunt Device to Treat Heart Failure with Preserved Ejection Fraction
2. Artificial Pancreas for Type 1 Diabetes Mellitus
3. Minimally Invasive Surgery for Congenital Cataract
4. Wearable Dialysis Device (Wearable Artificial Kidney)

RESEARCH ACTIVITIES

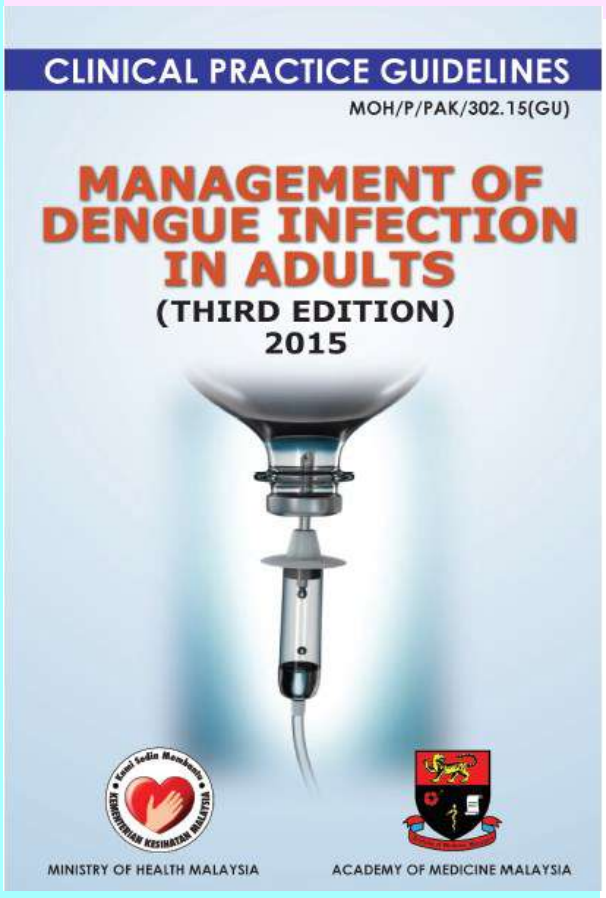
ADHERENCE TO CPG Management of Dengue Infection in Adults

(Revised 2nd Edition) (NMMR ID: 20233) -By Dr. Roza

The Malaysian Dengue Clinical Practice Guidelines (CPG) has been developed to provide evidence-based guidance in the management of dengue infections. The use of this guideline is essential to ensure its recommendations are being practiced. However, adherence to the Guideline for Management of Dengue (revised 2nd edition) by healthcare providers' still remains unknown.

Therefore, a retrospective cohort study was conducted to evaluate the proportion of adherence to the key recommendation of this Dengue CPG among the healthcare providers. To the best of our knowledge, this is the first study that evaluates adherence to CPG using objective measurements among our local healthcare providers. This study was approved by the University of Malaya Medical Centre Ethical Committee (MEC ID: 201412-902). This project has been supported by the University Malaya Research Grant 'Geran Bantuan Kecil Penyelidikan Universiti Malaya'; BK029-2014. Working group members were from relevant Divisions in Ministry of Health, public hospitals, Ministry of Higher Education and headed by an Internal Medicine Physician. The researchers reviewed case notes of dengue cases registered from 1 January 2014 to 1 June 2015 in public hospitals and health clinics in Selangor, Putrajaya and Kuala Lumpur.

A total of 326 cases were included in the study where 261 cases were from hospitals (inpatient) and 65 cases were from health clinics (outpatient). Overall, the proportion of adherence in the measured components for inpatient versus outpatient settings were as in Table 1. The proportion of adherence to the dengue CPG varied widely across the different settings and measured clinical components. Although these measurements may not truly reflect the actual clinical practice during dengue case management compared to direct observations, it highlights the importance of accurate and complete record documentation by healthcare providers and the need to enhance Dengue CPG utilisation at all level of care.



Components	Proportion of Adherence (inpatient versus outpatients)	
	Inpatient	Outpatient
History taking	10.1 to 100.0%	7.7 to 73.8%
Physical examinations	6.7 to 100.0%	12.3 to 60.0%
Assessment of warning signs	18.4 to 100.0%	23.1 to 83.2%
Assessment of haemodynamic status	0.6 to 100.0%	12.3 to 87.7%
Diagnosis	60.0 to 100.0%	27.7 to 40.0%
Case notifications	46.6 to 80.0%	52.3 %
Performing specific laboratory investigations	73.2 to 100.0%	89.2 to 96.9 %
Monitoring	7.9 to 100.0 %	21.5%

Table 1: The proportion of adherence in the measured components for inpatient versus out-patient settings

Evaluation on Impact/Influence of Health Technology Assessment (HTA)/Technology Review (TR) Reports

-By Dr. Roza

Monitoring on impact or influence of disseminated HTA/TR reports was started by MaHTAS in 2016. This was conducted by biannual monitoring survey among the requestors of HTA/TR topics endorsed in the HTA and CPG Council meeting approximately a year before. This postal survey uses pre-tested Evaluation of Impact/Influence of HTA/TR reports, MOH forms which was adapted from International Network of HTA Agency (INAHTA) HTA Impact Framework.

For second half of 2016, 11 HTA/TR topics were included in the survey. Data was analysed descriptively according to the type of HTA/TR recommendation (recommended, recommended for research and not recommended) for both indication and level of impact. From the five reports with 'recommended' recommendation, in terms of indication of impact, 80% respondents agreed with the recommendation. Whereas for level of impact, 80% of respondents reported the HTA/TR reports gave impact on informed decision, and 20% reported some consideration of HTA/TR given by decision maker. For the other five reports which were 'recommended for research', 100% of respondents agreed with the recommendation and reported that the HTA/TR reports had major influence in decision making. For the only one report not recommended, 100% incorporated into policy/decision and used as reference material for indication of impact, and for level of impact, 100% of respondents reported that the HTA/TR reports had major influence in decision making.

EDITORIAL BOARD

COURSES & WORKSHOPS

Conducted from July-December 2016

- **Intermediate and Advanced Applied Bio-Statistics for Medical Research Workshop :** *25 -27 July 2016*
- **Systematic Review on Evidence-Based CPG Development & Implementation Course 1/2016 :** *19 -21 Sept 2016*

Planned for January-June 2017

- **MS Excel 2010 Workshop :** *13-14 March 2017*
- **Workshop on Application of Decision-Analytic Modelling in Health Economic Evaluations :** *15-16 March 2017*
- **Systematic Review on Evidence-Based CPG Development & Implementation Course 1/2017 :** *20-22 March 2017*

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TURNOVER OF MAHTAS STAFF

We are pleased to

Mdm. Atikah Shaharuddin
Pharmacist UF48
Joined on 25.7.2016

Dr. Ainol Haniza Kherul Anuwar
Dental Officer UG44
Joined on 1.8.2016

Mdm. Wong Wai Chee
Nurse Manager U36
Joined on 15.8.2016

Mr. Abd Hafiz Abd Hamid
Medical Assistant U32
Joined on 22.8.2016

Dr. Norrina Jamaluddin
Medical Officer UD48
Joined on 19.9.2016

Dr. Erni Zurina Romli
Medical Officer UD52
Joined on 5.10.2016

CONTRIBUTION

Dr. Nafisah Ahmad Lutfi
Medical Officer UD48
Left on 26.8.2016